

the fact of the great continental elevations of the same time. The Coral Island subsidence, announced by Darwin in 1839, recognized such geosynclines; and they were long since set forth by Dana as the counterpart of the continental movements. The subsidence is thus a real event in geological history; and if marvelous, equally so is that of the world's so recent elevations.

"Gondwána-Land," connecting India with southern Africa (page 737), continued to exist, according to Oldham (1894), from the Carboniferous period throughout Mesozoic time, and "sank beneath the sea in the Tertiary era," leaving some volcanic and coral islands in its course, including to the northward the sunken atoll of the Chagos bank. The extension of "Gondwána-Land" over the Indian Ocean is not here in view, because it is not believed to have ever been a fact.

A paper by Haddon, Sollas, and Cole (*R. Irish Acad.*, 1894), after mentioning the observation of Jukes that the eastern mountain range of Australia, extending for 35° of latitude from Tasmania to the northern cape, Cape York, is continued in islands across Torres Strait to New Guinea, and describing the straits and the lands beyond, concludes that this southern continent lost its border lands of New Zealand, New Caledonia, and New Guinea and the intermediate islands "possibly during the great Alpine and Himalayan revolutions" of the Tertiary period.

*Igneous eruptions during the Tertiary.*—An eruptive period in the earth's history commenced in the Later Cretaceous (page 875) and passed its maximum in the course of the Miocene. Eruptions through fissures covered vast areas of the Pacific slope with igneous rocks, and volcanic eruptions made great volcanic cones, which added largely to the outflows and ejections. The eruptions continued through the Pliocene, and some of the cones are not yet extinct. The loftiest of the volcanoes are situated along the Coast region, from Washington to northern California, the heights varying from 10,400 to 14,500; and those farther south along a belt through Mexico—the highest three, Orizaba 18,200 feet, Popocatepetl 17,500 feet, and Ixtaccituatl 16,770—are probably of like Miocene origin.

Some of the regions of fissure eruptions have been already described. South of Lassen's Peak, in northern California, the southernmost of the cones of the Pacific border, the region of the Sierra Nevada had its outflows of broad streams of basalt from fissures which were later cut up into Table Mountains; and similar floods occurred over Nevada, New Mexico, and Arizona.

The higher western slopes and summit region of the Rocky Mountains also had their cones. The Yellowstone National Park and its vicinity was one of the volcanic centers. Electric Peak and Sepulchre Mountain are two denuded cones in the Park, as described by Iddings; Emigrant Peak, on the Yellowstone, 16 miles north of the boundary, is another, where dacyte and quartzose porphyry are the igneous rocks; Haystack Mountain, 12 miles north of the east corner of the Park, is another, its cone consisting of gabbro and dioryte; and another stands just east of the east corner of the Park,