HISTORICAL GEOLOGY.

The fossil plants of the Dunvegan group of northern Canada (north of 55° N.) contain, according to Dawson, species of Magnolia, Laurus, Ficus, Quercus, Fagus, Betula, Sequoia, and Cycads, and are referred to the age of the Niobrara. The plant-bearing Mill Creek beds overlying the Lower Cretaceous of the Queen Charlotte Islands are made Dakota in age; and the Coal-measures of Vancouver Island are, on the same authority, of the age of the Montana group. Dawson refers to this time Heer's Patoot flora of Greenland. He compares this flora with that of Georgia, and from the general resemblance in genera infers that the temperature of the region may have been, like that of Georgia, about 65° F. The Laramie flora, he observes, is most remarkable for its Conifers, Taxites, Sequoia, Thuia, etc., and for the great development of the genus Platanus; also for containing some modern species of Ferns, as Onoclea sensibilis, Davallia tenuifolia.

References to all papers and reports on fossil plants published before 1884 will be found in Ward's Sketch of Palaeobotany, U. S. G. S. Ann. Rep., vol. v.

ANIMALS. — Invertebrates. — The shells of Rhizopods, or Foraminifers, are abundant in many of the beds in New Jersey, and still more so in those of Texas. Sponges are thus far rare fossils in the beds. Corals are not numerous.



CORAL. — Fig. 1877, Hindeastræa discoidea. BRACHIO-PODS. — Fig. 1878, Terebratella plicata ; 1879, Terebratula Harlani. Fig. 1877, C. A. White ; 1878, 1879, Morton.

One from the Ripley beds of Texas, described and figured by C. A. White, is represented in Fig. 1377. No coral reefs have been reported; but they may possibly exist underneath the Tertiary of some part of the Gulf or Atlantic border. Echinoids occur of the genera *Cidaris*, *Salenia*, *Cassidulus*, *Holaster*, *Hemiaster*, and others. Less than 35 Upper Cretaceous species are known from all North America, while Great Britain has afforded nearly 150.

Brachiopods are few in species. The two here figured, *Terebratella plicata* (Fig. 1378), and *Terebratula*

Harlani (Fig. 1379) of Morton, are quite common in New Jersey. Meek described only one Lingula, *L. nitida*, from the Upper Cretaceous of the Continental Interior, and this was from the Fox Hills group. The contrast in species between the closing period of the Mesozoic and that of the Paleozoic is in no tribe more marked.

Of the characteristic Lamellibranchs there are, in the Oyster family, the genera Ostrea (Figs. 1380, 1381), Gryphwa (Figs. 1384, 1385), and Exogyra (Fig. 1383); and in the Avicula family, Inoceramus, I. labiatus (Fig. 1386) being very common.

The Rudistes, one Neocomian species of which is figured on page 835 (Fig. 1361), are very rare fossils in America in the Upper Cretaceous. Fig. 1387 represents one species described by C. A. White from the Wallala section of the Chico beds of California. Other Gastropods of modern forms are represented in Figs. 1388-1392.