N. lat.) 136 species of fossil plants have been named by Heer. But the latest English Arctic expedition brought to light a bed of coal, black and lustrous like one of the Palæozoic fuels, from 81° 45′ N. lat. It is from 25 to 30 feet thick, and is covered with black shales and sandstones full of land-plants. Heer notices 30 species, 12 of which had already been found in the Arctic Miocene zone. As in Spitzbergen, the conifers are most numerous (pines, firs, spruces, and cypresses), but there occur also the Arctic poplar, two species of birch, two of hazel, an elm, and a viburnum. In addition to these terrestrial trees and shrubs, the lacustrine waters of the time bore water-lilies, while their banks were clothed with reeds and sedges. When we remember that this vegetation grew luxuriantly within 8° 15′ of the North Pole, in a region which is now in darkness for half of the year, and almost continuously buried under snow and ice, we can realize the difficulty of the problem in the distribution of climate which these facts present to the geologist.

India.—The Oligocene and Miocene deposits of Europe have not been satisfactorily traced in Asia. As already stated, the upper part of the massive Nari group of Sind may represent some part of these strata. The Nari group is succeeded in the same region by the Gaj group, 1000 to 1500 feet thick, chiefly composed of marine sands, shales, clays with gypsum, sandstones, and highly fossiliferous bands of limestone. The commonest fossils are Ostrea multicostata, and the urchin Breynia carinata. Some of the species are still living, and the whole aspect of the fauna shows it to be later than Eocene time. The uppermost beds are clays with gypsum, containing estuarine shells and forming a passage into the important Manchhar strata. The Manchhar group of Sind consists of clays, sandstones, and conglomerates, sometimes probably 10,000 feet thick, divisible into two sections, of which the lower may possibly be Miocene, while the upper may represent the Pliocene Siwalik beds (p. 1672). As a whole, this massive group of strata is singularly unfossiliferous, the only organisms of any importance yet found in it being mammalian bones, of which 22 or more species have been recognized. All of these occur in the lower section of the group. They include the carnivore Amphicyon palæindicus, three species of Mastodon, one of Deinotherium, two of Rhinoceros, also one of Sus, Chalicotherium, Anthracotherium, Hyopotamus, Hyotherium, Dor-