

has converted the carbon into graphite. The little-altered Huronian beds of Wisconsin still contain much carbonaceous material, as remarked by Brooks and Chamberlin. The former stated, in 1876, that "the considerable amount of carbon distributed through the Huronian indicated much organic life, and leads to the hope that" those imperfect fucoidal impressions reported by Julien, in the second volume of the Report on the Geology of Michigan, may not prove delusive.

The earliest plants were, beyond doubt, Algæ, water species, which grow, like most plants, by taking carbon from carbonic acid; and after these, the microscopic Fungi related to the Bacteria (Microbes), which take their carbon for growth chiefly from organic products; for these minute plants are essential to the process of decay of organic matters and also to the production of many mineral changes, as already explained.

The chert of the limestone in the Penokee belt of Huronian, and the jasper associated with the iron ore of the belt, consist partly of opal-silica, and are probably from silica-secreting Algæ (Irving, Van Hise). It is probable that plants related to those that are now secreting limestone and silica in the hot waters of Yellowstone Park, below temperatures of 185°, were already doing geological work in the making of limestones and silica deposits during the later Archæan. One species of supposed "seaweed" has been named *Archæophyton Newberrianum* by N. L. Britton. The specimen, from a New Jersey crystalline limestone, consists of graphite arranged in narrow

parallel stripes, with a regularity that suggests organic origin; but the arrangement may well be an effect of the pressure attending metamorphism.

ANIMALS. — *With regard to animal life*, the supposed fossil, *Eozoon Canadense* of Dawson, is regarded by some as proof of the existence of Rhizopods (Foraminifers), while others believe it to be of mineral origin. It occurs in coral-like masses which are sometimes several feet in diameter. Fig. 503 represents, natural size, a section of a specimen from Grenville, Canada. The white bands are the calcareous layers supposed to have been secreted by a layer of the Rhizopods, while the dark bands correspond in position to the layer of Rhizopods, and are made up of mineral material



*Eozoon Canadense.* Dawson.

(serpentine generally, sometimes pyroxene, loganite, etc.) that, after the death of the animals, filled the cells. Dilute muriatic acid removes the limestone, and opens the rest to examination.

Localities occur in the third or Grenville stratum of limestone near Grenville, and in the Petite Nation Seignory; also in Burgess (where the calcareous part is dolomite), and at the Grand Calumet, in a limestone whose place in the series is not determined; and at Tudor in Hastings County. *Eozoon* has also been reported from Archæan rocks in Bavaria