An Old Shoreline. By D. W. Dennis.

The Elkhorn is a small tributary to the Whitewater River from the east, some four miles south of Richmond, Ind. There is in this stream a falls some twenty feet in height that has receded and left a gorge of about that depth for a distance of a half mile or more; this gorge is cut through strata of the same age as those through which the Niagara gorge passes. At the Elkhorn the surface rock is the Niagara limestone; it is massive and some twelve feet thick; it is underlaid by the uppermost layers of the Lower Silurian formation, consisting of alternating layers of thin flagstones and clay. This clay and fragile flags wear faster than the overlying massive rock, and so it shelves over; one can pass behind and around the falls just as he can parts of the Niagara Falls. The fossils in the Lower Silurian strata are the same one finds in the gorge at Richmond. In the uppermost stratum, however, they are beach-worn, ground in many instances to unrecognizable fragments; a half dozen species can, however, be made out—enough to settle the question of its age without dispute; it is Lower Silurian; it is an ancient coquina rock; it crops out for a distance of half a mile; tons of it can be examined; its story is as interesting as it is unmistakable; here was the beach of the Cincinnati Silurian Island; the wearing of the stones has not been in recent geological times, for they are restratified and are overlaid by the Niagara rock, which bears glacial striæ on its surface. After these rocks were beach-worn, the sea deepened, the shore line moved eastward and remained there long enough for the twelve feet of Niagara rock to form in a clear—clayless—sea.

Two Cases of Variation of Species with Horizon. By D. W. Dennis.

The east fork of the Whitewater River has worn a gorge in the upper strata of the Lower Silurian limestone, near Richmond, Ind. This gorge is about 75 feet deep, is terminated by a falls a half mile above the city, and for a distance of some two miles below the falls the river bluffs are generally precipitous. This Lower Silurian formation consists of flagstones four inches or less in thickness, alternating with clay strata of about the same thickness. The flags are made up chiefly of the shells