

the Niagara limestone to a depth of from twenty to fifty feet. The small alluvial deposits at the tips of the present tongues show that lateral cutting has not entirely ceased. The hill on Tongue No. 2 may possibly be due to a cut-off formed at about the 660-foot level. The possible course of the stream at about the 670-foot level need not then have been very crooked. Most of its tortuousness has been developed since it struck the Niagara limestone. The nomenclature of the subject is somewhat unsettled. The land enclosed by a meander is called a neck, point or tongue. I propose that the word *tongue* alone be used to designate that feature; that the name *neck* be reserved for the often narrow portion where the tongue joins the mainland, and the name *point* be used only for the tip or extremity of the tongue. In cases where the point is high, as on the Osage River, the term *headland* is natural and descriptive of the whole tongue. For those tongues which slope regularly from an elevated mainland or neck to a low point I propose the analogous term *tailland*.

Taillands are probably not peculiar to the Muscatatuck. I have observed good specimens on Sand Creek at Brewersville and on Laughery Creek at Versailles. The subject is now broached, as far as I am aware, for the first time in Indiana and would probably repay further investigation.

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OLD VERNON—A GEOGRAPHICAL BLUNDER. BY CHAS. R. DRYER.

The town of Vernon, the county seat of Jennings County, Indiana, was founded in 1816 at the forks of the Muscatatuck River, which was the head of flat-boat navigation. It is located upon a high, rocky tongue of land, surrounded by the gorge of the river, except at one point, where a neck 130 feet high and just wide enough at the top for a roadway connects it with the mainland. The area enclosed is about one-fourth of a square mile, which is bounded, except at a few points, by perpendicular bluffs from 40 to 90 feet high. It rises at the center in a double-peaked hill 100 feet above the river. As a site for a medieval castle with a cluster of cabins around it, designed primarily for defense, it is unrivaled. It is a Hoosier Ehrenbreitstein. As a site for a modern commercial town it is a failure. In 1850 the Ohio & Mississippi Railroad passed about two miles north of it, and the business center was soon transferred to its station, North Vernon. Other railroads have come to North Vernon since,

but on account of engineering difficulties, only one touches Old Vernon, and, by a long fill and double bridge 80 feet high, crosses the river at the forks. The population of North Vernon is 3,000; of Old Vernon, 650. The courthouse and jail seem to be the only reason for its existence, but its quaint and picturesque beauty give it a charm which no smart business town can possess.

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#### TERRACES OF THE LOWER WABASH. BY J. T. SCOVELL.

The valley of the Wabash, while much like many others, has some peculiarities. It was dug out through the sand and gravel that partially filled an ancient drainage channel. The old channel in Vigo County is from four to six miles wide, and at Terre Haute the bed of the present river is 100 feet above the rock bed of the old river. A long, narrow island whose southern extremity extends a mile or so into Vigo County divided the old river into two channels. The main channel, on the west of the island, now occupied by the Wabash, is about two miles wide. Near the county line it received a tributary channel about one-half mile wide, now occupied by Bronillet's Creek. The eastern channel is about a half mile wide, and is occupied by the lower course of Raccoon Creek. Near the county line this channel received the tributary channel of Old Raccoon Creek, about a half mile wide. Thus the old valley in Vigo County was formed by the union of four broad channels. The flood plains and the terraces of the present river rise to different elevations above low water, and vary considerably in width. Some of these variations are shown by cross sections of the valley made on different lines along its course.

The first section is along the north line of the county. The datum, low water in the river, is about 452 feet above tide. The flood plains on the west rise from 12 to 20 feet, a flood of 16 to 18 feet covering much the greater part with water. The second bottom rises about 30 feet above low water, and the bottoms of Bronillet's Creek are continuous with those of the river. The bluff on the west rises abruptly from Bronillet's Creek to an elevation of about 600 feet. On the east a rise of about 50 feet reaches the edge of a heavy gravel terrace, which rises gently toward the east, reaching an elevation of 520 feet at the foot of the island bluff one mile from the river. Thence across the island, whose higher points are about