

Geographic Influences, Changes in Bloomington, Indiana

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The widespread disagreement as to the importance of environmental factors reflects inadequate recognition that as man's technology evolves and as other areas develop, radical changes often occur in the significance of local environmental factors. One consequence of the fact that the human factor is in the long run far more significant in cultural development than are geographic factors in nearly all well-populated parts of the world is that historians have almost ignored them. Even voluminous accounts of the history of Indiana have very little on the geographic environment. Histories of arid regions, or of rugged or cold regions or even of coastal regions cannot so fully ignore geographic influences, and of course accounts of battles and wars pay attention to the terrain, and sometimes to the weather. A major objective of this paper is to call attention to the fact that at different times specified environmental factors have been highly significant even in inland, peaceful Indiana, and surely should not be ignored in studies of local history. The need for repeated evaluation of their significance can be illustrated by a study of Bloomington. Contributing to Bloomington's suitability for this purpose are its university, its moderate size, and its considerable variety of environmental factors.

Here are discussed the changing significance of Bloomington's location in the state, of its rolling topography, of its site on a drainage divide in a depression between more rugged land, of its being underlain by an exceptional limestone, and of its situation in a wooded, unglaciated area. Considered also are its accessibility, quality of the soil, feasibility of dams to create reservoirs, and its attractiveness as a residence city.

Bloomington was established where it is largely because of the selection of the site for the "Seminary township." The Federal Government provided in the enabling act that created Indiana for a donation of a township of public land in support of an institution of higher learning.¹ The seminary established in that township in 1824 has grown into Indiana University. The committee appointed to select the township made its recommendation in time for President Monroe to designate it on July 10, 1816.² The county created two years later including and surrounding it was named after President Monroe. The township later was named after Commodore Perry.³

The selected township was near the northern margin of the part of Indiana which had been surveyed in 1812 into townships and sections.⁴ Nearly all of central and northern Indiana remained Indian territory until 1818, when "The New Purchase" was made of much of that region.⁵ The selected township was nearly midway between the northern parts of the lower Wabash Valley, at the southwest, and of the Whitewater Valley at the southeast. In July, 1816, most of the people of Indiana lived in or near those valleys, south from near Terre Haute and Richmond respectively, or else near the Ohio River at the south,⁶ partly because those rivers were then the chief highways of travel.⁷ The selected township is about 20 miles west of the middle longitude of Indiana. South-central Indiana is mostly rather rugged partly because it was not glaciated.⁸

However, in the midst of this generally hilly region is a broad shallow depression or valley, the so-called Limestone Belt, which extends from near Louisville, Ky., north-northwestward to beyond Bloomington.⁹ Moreover, this Limestone Belt is generally well-drained and has many large springs, fed by underground streams, the most famous of which is Lost River, which emerges near French Lick.

The township selected them had no settlers, while more southern townships already had at least a few, and hence were not all federal land.¹⁰

Promptly after the township was set aside in support of a state institution of higher learning, Bloomington was started just north thereof.¹¹ Although the actual site of the "seminary" was not fully determined until 1820,¹² its probable location was evident in 1816 when Bloomington's first settlers came, because the most favorable site in the designated township was by a large spring on a slight elevation in a valley believed not to be subject to flooding, a quarter mile from the center of Bloomington. Monroe County was organized early in 1818, with Bloomington as its county seat.¹³ The town was plotted in April, 1818, and the first lots were soon sold by auction, some of them at the surprisingly high price of \$200 a lot.¹⁴ The prospectus of the auction, published in newspapers of Vincennes, Louisville, and Cincinnati, listed among the advantages of the townsite that it had many fine springs, that the soil was fertile, and that it was at the head of navigation on Clear Creek down which flatboats could descend via Salt Creek, and the White, Wabash, Ohio, and Mississippi rivers.¹⁵ Bloomington was established on the northern margin of the "Seminary township" because on the other margins the land is distinctly more rugged.¹⁶ Another advantage of the site in the flatboat era was that five miles north is Bean Blossom Creek which flows into the West Fork of the White River, affording additional flatboat possibilities. Indeed during several years in the 1830's and 1840's, as many as a dozen flatboats which were loaded on Bean Blossom Creek near Bloomington descended to the Wabash, Ohio, and Mississippi rivers.¹⁷

Hence, at first locational factors were of prime significance. However, soon Bloomington ceased to be near the center of the State's population, which center has moved farther away each decade, stimulated, for example, by the establishment of the State Capitol at Indianapolis near the center of the state in 1825,¹⁸ and the construction of the National Road from Richmond to Terre Haute soon thereafter,¹⁹ and the Michigan Road, from Indianapolis to Michigan City.²⁰ Important also was the conspicuous increase in the usefulness of central Indiana, much of which had been of little value because of poor drainage.²¹ Also, Bloomington's situation as to navigation became much less significant as roads were constructed, and became unimportant when railways appeared. Bloomington's location in the shallow depression of the Limestone Belt became increasingly significant for a time as settlers came by the thousands along this route from Kentucky, the Carolinas, and elsewhere. After a railway was constructed from Louisville to the northern end of the Belt in 1853 and thence to Chicago in 1854,²² many additional people travelled this route, and much freight. But later, after railways became numerous, and good roads were constructed in many parts of the state, the transportation significance of the Limestone Belt declined. At present no national road follows it, nor is it followed by an airplane route, and only locally by a pipeline. Thus a

belt which during a few decades had been exceptionally favorable for transportation chiefly because of its less than average ruggedness and its possession of few streams which were difficult to cross (the latter due largely to the underground drainage in the soluble limestone) became far less significant.

Bloomington's location on a drainage divide had distinct advantages in early years partly because divides are seldom subject to floods. Divides were favored sites for early roads also because they entail fewer stream-crossings, which were difficult before there were bridges or ferries.²³ An early road followed the divide near Bloomington, as does the town's second railway.²⁴ Situation on the divide long facilitated storm-water drainage and sewage disposal, but when the city expanded onto the north slope, as it has recently, much sewage has to be pumped over the divide before it can flow to the city's sewage disposal plant. Location on the divide also became a handicap when Bloomington's water supply had to be pumped from reservoirs located at a notably lower altitude (about 230 feet).

The forest which originally occupied the Bloomington area retarded its development because laborious land-clearing was necessary before crops could be grown, and Bloomington long depended primarily upon agriculture. Some of the trees removed were useful for fuel, building materials or fencing, but most of them had so little value in the early years that they were burned. During the second half-century of Bloomington's history, however, much furniture was manufactured largely from local supplies of hardwoods. For several years in the 1920's, a Bloomington furniture factory was reputed to be the largest in the nation. It then sold most of its output to Sears, Roebuck and Co. When local supplies of suitable lumber were nearly depleted, by 1930, the increasing costs associated with importing lumber contributed to the withdrawal of Sears, Roebuck and to a sharp decline in the local furniture industry.

The soils of the Bloomington area generally were productive when first farmed, but in this rather hilly, unglaciated area, most upland soils soon deteriorate badly, partly because even during the cooler months, torrential rains often fall. In recent decades little of the upland has been farmed; much is pastured or abandoned to brush, and hence local crop-growing has contributed relatively little to the support of Bloomington, possibly less than five percent. The decline in local agriculture reflects also the great increase in agricultural production in other areas, for example in relatively level central Indiana, in the prairies, and in the Great Plains.

The limestone upon which Bloomington rests was little used during the town's first half century, but soon thereafter it became significant. This followed the discovery of methods which take advantage of the relative ease whereby it can be sawed and grooved. Important also was the availability of large amounts of stone which possess comparable qualities. From about 1900 to 1933 limestone played a highly significant role, as then the Bloomington-Bedford area was the world's largest producer of cut building stone. During recent years, however, the stone industry has declined as a result of increased competition of artificial substitutes, increased labor and transportation costs, and partial depletion. Whereas about 1925 perhaps a fifth of Bloomington's income flowed

from stone quarries and mills, in recent years less than five percent has come thence.²⁹

Bloomington's location on soluble limestone has played a significant role but a varying one. During early years, one of the assets stressed by promoters was the numerous springs; but as the area became settled, the springs fed by rain which entered sinkholes at higher levels became contaminated, and for decades Bloomington had a relatively high death-rate from typhoid.²⁷ Moreover, because of the cavernous limestone, no safe water was obtainable from wells in the limestone. Below the limestone, the strata contain little water, and that is mostly bitter or saline.²⁸

Furthermore, leaks soon developed after dams were constructed. The city erected a series of dams at increasing distances southwest in 1894, 1907, 1909, and 1915, each to take advantage of a large spring and a very small natural lake. But each reservoir soon leaked when the increased water pressure cleared the accumulated mud from some solution opening in the cavernous limestone.²⁸ The water famine became severe enough in especially dry seasons to induce State-wide consideration of moving the University to another city.²⁹ Moreover, the only industries which could prosper were those that required little water, notably furniture, basket-making, quarrying and stone-cutting, and, recently radio and electronic equipment. Fortunately for Bloomington, the Limestone Belt's eastern margin is only a short distance east of the city, and reservoirs constructed in the shale beyond the limestone do not leak. The first reservoir there was built by the University in 1910. The city constructed a sizable reservoir nearby in 1924, and notably increased the dam's height in 1940. In 1953 a dam located a dozen miles northeast across Bean Blossom Creek forms a reservoir large enough to supply the city's need for a long time.

Bloomington's attractiveness for residence has also fluctuated. In early years, its being well-drained made it considerably more attractive than most of the State, a large share of which was poorly-drained and rendered unhealthful partly by malaria and partly by a common herb in wet land, the water hemlock or white snakeroot, which caused many deaths by poisoning the milk of cows which ate it.³⁰ Later, after extensive ditch and tile drainage, the virtual extermination of malaria, and the building of many bridges, the level land of central Indiana and elsewhere increased greatly in value and attractiveness for residence, while sloping land deteriorated as a result of soil erosion. Hence until relatively recently, the fact that Bloomington is in a rolling-to-rugged area was increasingly unfavorable.

Recently, however, Bloomington's site has been rendered increasingly attractive for residence by three developments, first by the great growth of the University, which for many years was tiny but recently has attracted many thousands of students and numerous faculty members, service personnel and others. The money brought into Bloomington annually now as a result of the University is many times as much as from all other sources combined except its two largest industries. Its largest present industry, electronics, grew up there because its talented founder (an immigrant) heartily appreciated Bloomington's recreational and educational opportunities. He also was attracted by the scenic beauty of the rolling landscape, with its exceptionally fine autumn and spring-time

colors. The recreational attractiveness has been increased recently by the creation of several nearby artificial lakes and recreational areas, including two state parks and two state forest parks, and the construction of several excellent state highways. Bloomington's residential attractiveness also has been increased by the apparent solution of the long-troublesome water-supply problem. The taking over by the Radio Corporation of America of a huge building unused when the furniture industry collapsed (when Sears, Roebuck withdrew) has also contributed by affording many positions, especially for women. At present Bloomington is reputed to have in that building the largest color TV factory in the world.

In brief, it is apparent that environmental factors fluctuate in significance. In Bloomington's beginning, locational factors were predominant; their significance, and that of soil, forest, and underlying rock have declined; topography has increased in importance; climate, favorable most of the year, has become notably less significant; drouths have been partly counteracted by adequate water-supply reservoirs; air-conditioning has alleviated the hot spells, and furnace heating the cold spells. The damage done by the frequent torrential rainfalls has been decreased by storm-sewers, paving, and by the use of most sloping land for grass or trees rather than for tilled crops.

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12. BANTA, 18.
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14. GOODSPEED, 455.
15. BOWEN, 369.
16. This is clearly revealed by the U. S. Geological Survey topographic map, Bloomington Quadrangle.
17. GOODSPEED, 491.
18. BARNHART and CARMONY, *Indiana*, 1, 171, 191-193.
19. LEE BURNS, "The National Road in Indiana," *Indiana Historical Society Publications*, VII (1923), summarized in Barnhart and Carmony, *Indiana*, 1, 289, 290.
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