

GEOGRAPHIC ASPECTS OF INTER-AREAL TRANSITION¹

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ABSTRACT

Although studies of geographic regions are well known, many of us may be much less familiar with the boundaries which separate such regions or areas. For the sake of convenience man² draws a boundary in the form of a line. Such a boundary, however, is technically incorrect because nature does not delimit her regions sharply. In effect, the boundary is always a zone—a belt of inter-areal transition partaking of the characteristics of the two areas which it separates.

Such an inter-areal transition zone exists in Southeastern Missouri and separates the Corn and Winter Wheat Region to the north from the Cotton Belt to the south. A north-south strip of land cutting across this zone and also across the boundary line drawn by O. E. Baker brings out many aspects of transition. Included in the strip are Perry, Bollinger, Cape Girardeau, Scott, Stoddard, Mississippi, New Madrid, Pemiscott, and Dunklin Counties.

Two important features of transition are manifest after some study. In the first place, the characteristics of each crop region prescribe an order of decrease across the counties of the transition zone and the boundary line. Those features which characterize the Corn and Winter Wheat Region present a trend-of-decrease southward across the transition zone and the boundary line. The features are (1) the acreage of wheat; (2) the acreage of hay; (3) the size of the farm unit; and (4) the number of owner-operated farms. Antithetically, those features which characterize the cotton belt form a trend-of-decrease northward across the transition zone and the boundary line. These features are (1) the acreage of cotton, (2) the acreage of corn, (3) the number of tenant-operated farms, and (4) the number of mules. All of these decreasing phenomena are actually fringes projecting from the respective crop regions. The fringes are irregular in nature, of unequal lengths, and are asso-

ciated together in overlapping fashion. Cotton, corn, and wheat are all important crops in the same counties in the middle of the transition zone. The second important feature of transition is that a new regional entity of local dimensions is perceivable in the middle of the transition zone where certain of the associated fringes from the two great crop regions become of nearly equal value. Wheat, corn, and hay from the north and cotton from the south occupy important acreages. This new region has an east-west extent following Baker's boundary line. This small region is truly an area of struggle, for corn and wheat grown as cash crops together with livestock farming attempt to expand southward; but they must compete with cotton which attempts to move northward. Being a peripheral zone, variations in climate, labor, and market conditions cause readjustments in the land-use pattern. Thus, this Corn, Cotton, and Wheat Region has a dynamic nature and its boundaries may shift.

The general agricultural utilization of the great crop regions is based primarily on climate and particularly on the two elements, temperature and precipitation. Precipitation does not vary enough between the Cotton Belt and the Corn and Winter Wheat Region to be a deciding factor in the land use. Temperature or latitude, however, is a deciding factor in the land use. It sets the northern growth-limit of cotton at approximately the line of the 200-day growing season. Cotton growth north of this line is hazardous. In this strip Caruthersville in the south has an average growing season of 211 days, Sikeston in the middle has 190 days, and Jackson in the north has 183 days. Corn and wheat in their southward drive are limited not so much by climate as by inability to compete economically with cotton. Thus, climate is the basis of general land use; however, other factors provide bases for local land use.

¹ Six illustrations accompanied the original paper, but it is impossible to print them with this abstract.

The best utilization for a particular piece of land is based, largely, on edaphic conditions of (1) soils and (2) topography. These edaphic boundaries, in contrast to climatic ones, are frequently of an abrupt nature. To these are due many of the local irregularities in the land-use pattern and in the pattern of transition.

The soils occur in general north-south patterns with land utilization adjusted to soil types. In the north commercial wheat farming occupies most of the fertile, loamy, upland soils which are rich in lime, while farming based on corn is concentrated on the valley bottom soils and poorer upland soils. In the southern part of the province cotton holds sway on the light soils of the uplands and terraces while corn is most important on the heavier, bottom soils.

Topography is a factor of considerable importance in local land use. An obvious influence is through development of soils and erosion of soils. Soils developed on undulating to slightly rolling topography reach greater degrees of maturity than do those developed on steep slopes or flat topography. Those soils developed on the steepest slopes are thin, stony, infertile, and subject to great erosion. As a result of this plus the difficulty of using farm machinery, the steepest slopes are relegated to pasturelands and woodlands or eventually abandoned to sassafras and persimmon bushlands if cleanly cultivated. Oftentimes, the next steepest slopes are given to wheat and other small

grain, while the slopes of smallest degree are devoted to cotton or corn, which are cleanly-plowed crops and promote the greatest amounts of erosion. Throughout much of the flat bottomlands in the southern part of the strip, erosion is inoperative, but poor drainage becomes the paramount problem. Thus, topography influences local land use through erosion, drainage, development of soils, and effect on use of farm machinery.

Other factors of a historic-geographic nature have some influence on the local land use. The farming systems of certain immigrant peoples reflect their imported cultures.

In conclusion, certain pertinent aspects of inter-areal transition are manifest. In the first place, the two crop regions actually are separated by a zone partaking of the characteristics of the adjacent regions; however, for convenience sake, man utilizes a lineal boundary-of-separation. Secondly, the features typical of each region occur as fringes or trends-of-decrease across the transitional zone. Edaphic factors offer partial explanation for irregularities in this pattern. Thirdly, a regional entity of local dimensions is discernible between the two great crop regions. This is formed near the middle of the transitional zone where the associated fringes are all of great importance. Corn, cotton, and wheat are widely grown and are in constant competition. Thus, the true unit of transition is dynamic. Several factors operate to determine its character and boundaries at any given time.