XXVII. THE EASTERN BOUNDARY OF THE GREAT PLANS IN NORTH CENTRAL OKLAHOMA

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Abstract

A review of recent publications dealing with the Great Plains indicates that there is no good agreement as to where the eastern boundry of the province should be drawn. An additional boundary, extending along the western edge of the

Flint Hills in Southern Kansas and thence southward through Guthrie and a few miles east of Oklahoma City and Norman is proposed. This line approximately follows the line of the Santa Fe Railroad in North Central Oklahoma.

The line suggested marks a rather sharp transition between broad undulating plains of moderate to high elevation to the west into which the sand choked "plains streams" have cut valleys which are but slightly below the general elevation, and the more dissected and usually more degraded lands to the east. The line also marks the western limit of decidious "forest" although trees are found farther west, notably along the streams and on loose textured soils. The boundary is justified not only on the basis of topography and native vegetation, but also on the basis of stage in the soil cycle and upon agricultural responses.

Under the proposed classification the "Break in the Plains" would be looked upon as a transition belt between the High Plains and a less elevated portion of the Great Plains lying to the eastward for which the term "Stripped Plains" is proposed. The suggestion is made that the hill country to the east of the proposed boundry be considered the Southwestern Hill Section of the Central Lowland Province. Correspondingly hilly lands such as the Cross Timbers of Central Texas would probably be corelated with this new section.

The proposed boundary is believed to be a better solution of the "Problem of the Plains Border"[1] than either the Gypsum Hills Escarpment or the line recently proposed by Fenneman which makes the eastern boundaries of the Great Plains and High Plains practically identical. It also is believed to be a more satisfactory boundry than the one proposed by C. F. Marbut and O. E. Baker based on lime accumulations in the sub-soil, which divides the peneplain and wheat region developed on the Enid formation into two parts.

Moreover there seems to be a well defined layer of lime accumulations in the subsoil, at least locally, in Cleveland County as far east as Norman.

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[1]Fenneman, N. M., Physiographic Provinces and Sections in Western Oklahoma and Adjacent Parts of Texas. United States Geological Survey Bulletin 730 D.

[2]Baker, O. E., "Agriculture of the Great Plains Region," in Annals American Geographers, Vo. 13, p. 114, Sept. 1923.

[3]Adams, George I., Physiog. Div. of Kansas. Bull. of Am. Geog. Soc., Vol. 34, 1900.

[4]Hill, R. T., Topograhic Atlas, U. S. G. S., Folio 76, p. 1.