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Recency of Origin of Upper Des Moines River

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REGENCY OF ORIGIN OF UPPER DES MOINES RIVER

CHARLES R. KEYES

Of all of Iowa's drainage features a seemingly unique phase is the gorge of the upper Des Moines River, on that stretch of stream above the Capital City. As is well known, this part of the Valley is a deep, V-shaped gorge gashed in the upland prairie, a canyon, in fact, with short lateral canyons instead of the normally long, widely dendritic tributaries. This gorge has bed-rock walls and bed-rock bottom, attesting its extreme recency of formation. In these respects it contrasts strongly with the valley of the lower Des Moines River, between Des Moines city and the mouth of the stream at Keokuk, which is a wide, flat-bottomed trench, with old bed-rock channel 150 feet below the level of the present flood-plain.

The gorge of the upper stretch of the Des Moines River is a brand new drainage-line. It is seemingly one expression of the last glaciation, when the Des Moines lobe of the Ashawa ice-sheet was in retreat, with the new river determined by supra-glacier drainage, and the concentration of that drainage towards a single median trench, which soon reached down to the bed-rock surface where it had never before been sculptured by stream. If this interpretation be correct, a new type of river genesis is presented.

DES MOINES, IOWA.

DAKOTA SANDSTONE AS A BASINAL BASILIUUM

CHARLES R. KEYES

Meek and Hayden's type-section of the Cretaceous Dakota sandstone is directly across the Missouri River from Sergeant Bluff, below Sioux City. Neither this outcrop, nor the fine exposure at Sergeant Bluff, which latter is commonly considered as Iowa's best section of the formation, are complete to top or to bottom. Drill-core records have shown the Dakota sandstone to extend nearly 200 feet below the base of the exposed section named; and erosion has removed perhaps as many more feet from the top.