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Re-exploring the Missouri

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RE-EXPLORING THE MISSOURI

By Thompson Mylan Stout

It is not the arrival,
it is the journey that matters.

Montaigne

Prepared for the Second Field Conference, Nebraska Geological Society,

on Friday, May 22, 1970

An Excursion aboard Corps of Engineers Inspection Boat,

"The Sergeant Floyd", from Omaha to Rulo, Nebraska

RE-EXPLORING THE MISSOURI

By Thompson Mylan Stout¹

Those who would travel the Missouri, the Rhine, or any other great river, must realize that many have preceded them in their journey, and that many peoples have laid claim to the lands marginal to it. In the case of this river, the earliest-known inhabitants were the Mammoth-hunters, and before the White Man, the Indians. Those who have built the "tradition", even the geological tradition, have survived in spirit, much as the Indian in the woodcut reproduced here (Plate 1, from Swallow, 1855) hovers over the Missouri.

It must have been a thrilling experience to have taken a steamboat up or down the Missouri in the early days, an experience each of us can share as we read the old accounts. One most interesting diary was written by a young man named Thaddeus Culbertson of his journey to the Upper Missouri in 1850; his vivid account of the Indians and of the sights is now available in printed form from the Smithsonian Institution. This same institution has recently issued a portfolio of the Indian paintings of George Catlin, but some other fine paintings are now on view at the Joslyn Art Museum in Omaha.

Geologically, the Missouri is interesting too. The beds at Nebraska City were the center of the struggle between Jules Marcou and F. B. Meek over the Carboniferous-Permian boundary, whereas those at Omaha and Missouri Valley have figured prominently in discussions of the Pleistocene. Some of the exciting new work now being done along the river concerns the possibility of applying the cycles of sedimentation seen in both the Pleistocene and Carboniferous to the development of a common model.

¹ Department of Geology and State Museum, The University of Nebraska.

Selected References for Period before 1900

- Aughey, S.
1876. The superficial deposits of Nebraska: In Hayden, F. V., Annual Report, United States Geological and Geographical Survey of the Territories, vol. 8 (for 1874), pp. 241-269, illustration (of "Arrows found in the Loess").
1880. Sketches of the physical geography and geology of Nebraska. Omaha, Daily Republican Book and Job Office, pp. 1-326.
- Barbour, E. H.
1904. Mineralogical and fossil specimens deposited with the American Philosophical Society: In Thwaites, R. G., Original Journals of the Lewis and Clark Expedition, vol. 6, pp. 159-164.
- Beede, J. W.
1898. Preliminary notice on the correlation of the Meek and Marcou section at Nebraska City, Nebraska, with the Kansas Coal Measures. Kansas University Quarterly, vol. 7, pp. 231-233.
1899. On the correlation of the Coal Measures of Kansas and Nebraska. Transactions, Kansas Academy of Science, vol. 16, pp. 70-84.
- Broadhead, G. C.
1872. Geology of northwest Missouri. Preliminary Report (Iron Ores and Coal Fields, for 1872, no. 2), pp. 376-388.
- Calvin, S.
1898. The interglacial deposits of northeastern Iowa. Proceedings, Iowa Academy of Science, vol. 5, pp. 64-70.
- Condra, G. E., and E. C. Reed
1943. The geological section of Nebraska. Publications, Nebraska Geological Survey, Bulletin, no. 14, pp. 1-82, figs. 1-25. (Revised as no. 14-A).
- Culbertson, T.
1851. Journal of an expedition to the Mauvaises Terres of the Upper Missouri in 1850. Annual Report, Smithsonian Institution (for 1850), vol. 5, pp. 84-132. (Reprinted in 1952, as Bulletin no. 147, Bureau of American Ethnology, Smithsonian Institution).
- Darton, N. H.
1898. Underground waters of a portion of southeastern Nebraska. Water Supply Papers, United States Geological Survey, no. 12, pp. 1-56, figs. 1-14, pls. 1-21.
- DeLand, C. E.
1914. The Verendrye explorations and discoveries. South Dakota Historical Collections, vol. 7, pp. 99-323, map, illustrations.
- DeVoto, B.
1947. Across the wide Missouri. Boston, Houghton Mifflin Company, pp. xxvii + 483, pls. 1-81.
- Diller, A.
1955. James Mackay's journey in Nebraska in 1796. Nebraska History, vol. 36, no. 2, pp. 123-128.

- Egleston, T.
1866. A geological and agricultural survey 100 miles west of Omaha by the American Bureau of Mines, pp. 1-44.
- Evans, J., and B. F. Shumard
1854a. Descriptions of new fossil species from the Cretaceous formation of Sage Creek, Nebraska Territory. Proceedings, Academy of Natural Sciences, Philadelphia, vol. 7, pp. 163-164.
1854b. Descriptions of new species of fossils from the fresh water Tertiary formation of Nebraska Territory. Ibid., vol. 7, pp. 164-165.
1857. On some new species of fossils from the Cretaceous formation of Nebraska Territory. Transactions, Academy of Science, St. Louis, vol. 1, pp. 38-42.
- Fremont, J. C.
1845. Report of the exploring expedition to the Rocky Mountains in the year 1842, pp. 1-693, map, tables.
- Hafen, L. R.
1965-69. The mountain men and the fur trade of the Far West. Glendale, California, Arthur H. Clark Company, vols. 1-7.
- Hall, J., and F. B. Meek
1854. Descriptions of new species of fossils from the Cretaceous formations of Nebraska. Memoirs, American Academy of Arts and Sciences, new ser., vol. 5, pp. 379-411, illustrated.
- Hammond, G. P. (Editor)
1940. Narratives of the Coronado Expedition 1540-1542, pp. xii + 413.
- Harlan, R.
1822. On a new fossil genus of the order Enalio Sauri (of Conybeare). Journal, Academy of Natural Sciences, Philadelphia, vol. 3, no. 2, pp. 331-337.
- Hayden, F. V.
1856. Geological notes etc., on Nebraska: In Warren, G. K., Explorations in the Dakota country in the year 1855. Senate Executive Documents, United States 34th Congress, 1st session, vol. 76, pp. 66-79, tables.
1858. Explanations of a second edition of a geological map of Kansas and Nebraska, based on information obtained in an expedition to the Black Hills. Proceedings, Academy of Natural Sciences, Philadelphia (for 1858), pp. 139-158.
1859. Catalogue of the collections in geology and natural history obtained by the expeditions under command of Lieut. G. K. Warren: In Warren, G. K., Preliminary account of explorations in Nebraska and Dakota in the years 1855-56-57. Annual Report, United States War Department (for 1858, House Executive Document 2, 2nd session, United States 35th Congress), pp. 59-125. (Reprinted in 1875).
1861-62. On the geology and natural history of the upper Missouri. Transactions, American Philosophical Society, new ser., vol. 12, pp. 1-218, map, illustrations. (Also separate).

- Hayden, F. V.
1867. Remarks on the Cretaceous rocks of the West known as No. 1 or the Dakota group. *American Journal of Science*, ser. 2, vol. 44, pp. 34-40.
1869. Notes on the geology of the Tertiary formations of Dakota and Nebraska. *Journal, Academy of Sciences, Philadelphia*. ser. 2, vol. 7, pp. 9-21, map.
1872. Final report of the United States Geological Survey of Nebraska and portions of the adjacent territories. House Executive Document, 1st session, United States 42nd Congress, vol. 19, pp. 1-264, map, pls. 1-11.
- Jackson, D. D. (Editor)
1962. Letters of the Lewis and Clark Expedition, with related documents 1783-1854. Urbana, Illinois, University of Illinois Press, pp. xxi + 728, illustrated.
- James, Edwin
- 1822-23. Account of an expedition from Pittsburgh to the Rocky Mountains, performed in the years 1819 and '20, by order of the Hon. J. C. Calhoun, Sec'y of War: under the command of Major Stephen H. Long. . . . Philadelphia, vol. 1 (1823), pp. iv + 503; vol. 2 (1823), pp. v + 442, with appendix (1822), pp. i-xciii; atlas (1822), pp. 1-4, 11 unnumbered plates.
- Marcou, J.
1864. Une reconnaissance geologique au Nebraska. *Bulletin, Societe geologique de France*, ser. 2, vol. 21, pp. 132-146, 2 figures.
- 1867a. Le terrain cretace des environs de Sioux-City, de la Mission des Omahas, et de Tekama, sur les bords du Missouri. *Ibid.*, ser. 2, vol. 24, pp. 56-71, map.
- 1867b. Le Dyas au Nebraska. *Ibid.*, ser. 2, vol. 24, pp. 280-299. map.
- Meek, F. B.
1867. Remarks on Prof. Geinitz's views respecting the Upper Paleozoic rocks and fossils of southeastern Nebraska. *American Journal of Science*, ser. 2, vol. 44, pp. 170-187, 282-283, 327-377.
1872. Report on the paleontology of eastern Nebraska with some remarks on the Carboniferous rocks of that district: *In* Hayden, F. V., Final report of the United States Geological Survey of Nebraska, House Executive Documents, 1st session, United States 42nd Congress, vol. 19, pp. 83-239, illustrated.
- Meek, F. B., and F. V. Hayden
1859. On the so-called Triassic rocks of Kansas and Nebraska. *American Journal of Science*, ser. 2, vol. 27, pp. 31-35.
- Merrill, G. P.
1924. The first one hundred years of American geology. New Haven, Connecticut, Yale University Press, pp. 1-773, 130 figs., 36 pls.
- Nasatir, A. P.
1952. Before Lewis and Clark; documents illustrating the history of the Missouri, 1785-1804, vols. 1-2, pp. xv + 853, maps, facsimiles.

- Nicollet, I. N.
1843. Report intended to illustrate a map of the hydrographical basin of the upper Mississippi River, ... Senate Documents, 2nd session, United States 26th Congress, vol. 237, pp. 1-237, 2 numbered tables.
- Nuttall, T.
1821. Observations on the geological structure of the valley of the Mississippi. Journal, Academy of Natural Sciences, Philadelphia, vol. 2, pp. 14-52.
- Oglesby, R. E.
1963. Manuel Lisa and the opening of the Missouri fur trade. Norman, Oklahoma, University of Oklahoma Press, 246 pages, illustrated.
- Owen, D. D.
1852. Report of a geological survey of Wisconsin, Iowa, and Minnesota, and incidentally a portion of Nebraska Territory. ... Philadelphia, Lippincott, Grambo, and Company, vols. 1-2, pp. v-xxxviii, 41-638, pls. 1-19, maps, sections.
- Sandoz, M.
1964. The beaver men; spearheads of empire. New York, Hastings House, pp. xv + 335, illustrated.
- Stout, T. M., V. C. Dreeszen, and W. Caldwell
1965. Central Great Plains. Guidebook, Field Conference "D", International Conference for the Study of the Quaternary (INQUA), pp. 1-124, 62 figs.
- Swallow, G. C.
1855. First and second annual reports of the Geological Survey of Missouri. Jefferson City, Missouri, pp. 1-239, maps, pls. 1-15.
- Thwaites, R. G.
1904. Original journals of the Lewis and Clark Expedition, 1804-1806, ... New York, Dodd, Mead, and Company, vols. 1-7.
- Todd, J. E.
1886. Quaternary volcanic deposits in Nebraska. Science, ser. 1, vol. 7, p. 373.
1892a. Volcanic dust from Omaha, Nebraska. American Geologist, vol. 10, pp. 295-296.
1892b. (Same title). Proceedings, Iowa Academy of Science, vol. 1 (for 1891), pt. 2, p. 16.
1895. Volcanic ash bed near Omaha. American Geologist, vol. 15, no. 2, p. 130.
- Wheat, C. I.
1957. Mapping the Transmiss^{iss}issippi West: vol. 1, the Spanish Entrada to the Louisiana Purchase, 1540-1804. San Francisco, Institute of Historical Cartography, pp. xiv + 264, maps.

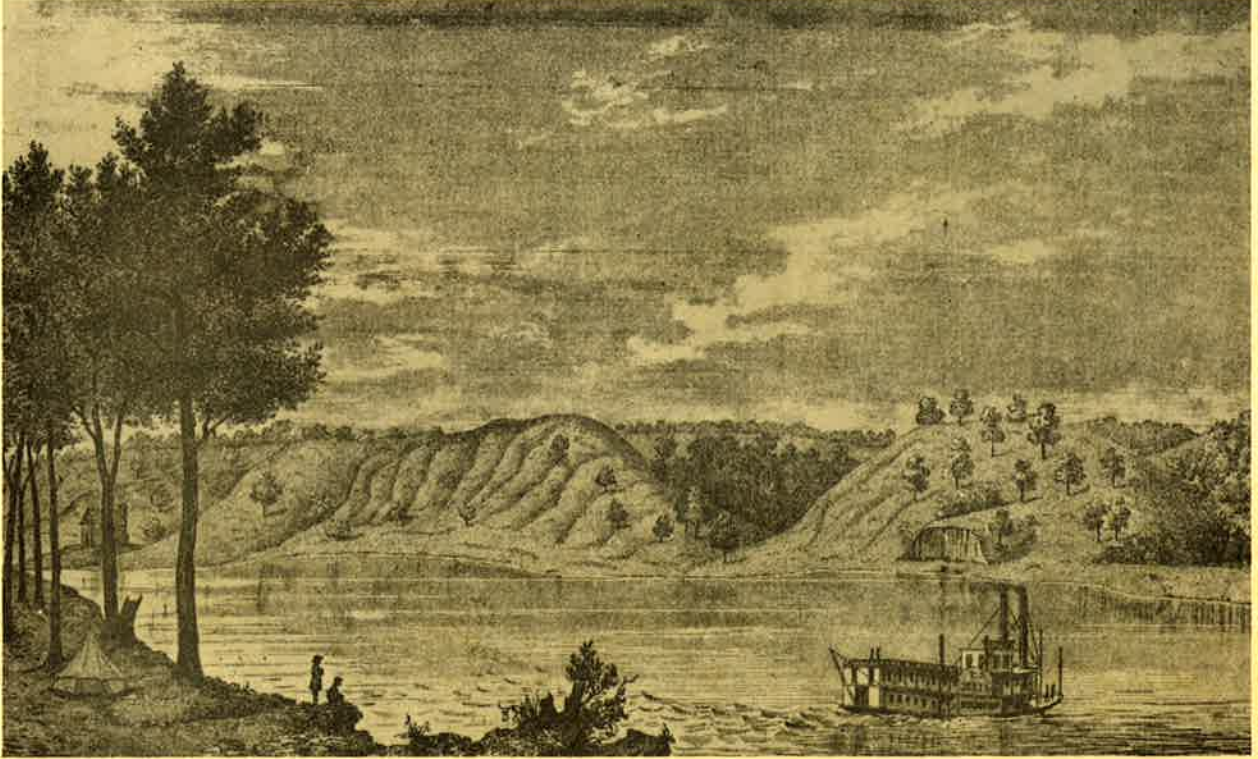
Exploration Chronology before 1900

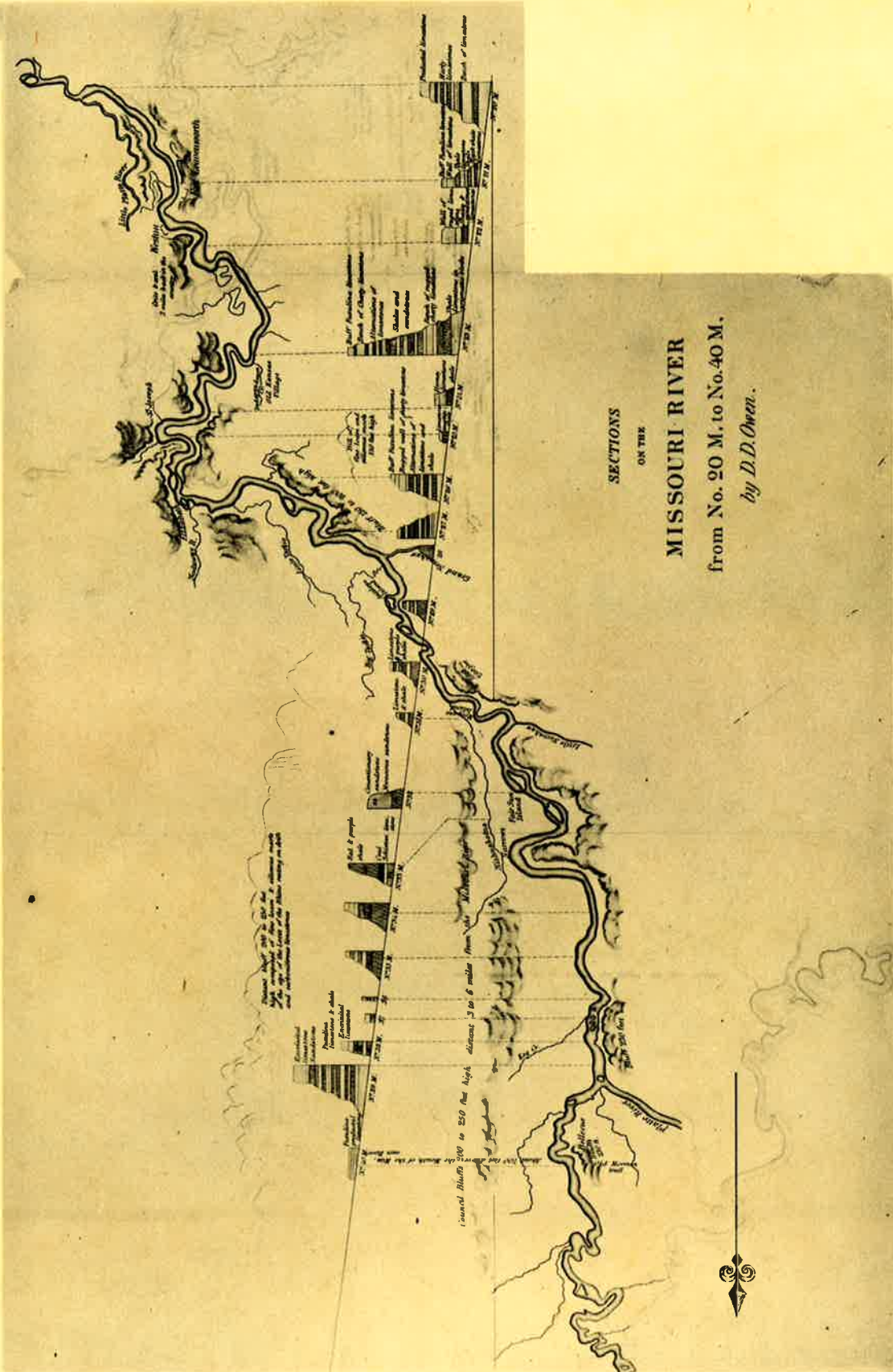
1542 (Coronado)
1601 (Onate)
1706 (Ulibarri)
1723-24 Bourgmont
1738-39 la Verendrye (Father)
1739 Mallet Brothers
1742-43 la Verendrye (Sons)
1794-96 Truteau
*1796 Mackay and Evans
1804-06 Lewis and Clark
1810 Nuttall
1819-20 James (Long Expedition)
1839 Nicollet
1843-44 Fremont
1849 Owen and Evans
1850 Culbertson
1853 Swallow
1853-67 Meek and Hayden
1854-57 Evans and Shumard
1855-57 Hayden and Warren
1863 Marcou and Capellini
1866 Egleston
1867 White
1869-77 Aughey
1891-1900 Barbour and Associates:
Condra, Knight, Gould, Fisher
1895-1900 Darton and at about the same period:
Todd, Prosser, Beede, Keyes

(For additional information, consult article by
G. H. Smith in INQUA Guidebook "D", and the
Selected References following)

*First recorded geological observations

Note concerning the Plates. The two following (Plate 1 above
2 below) are from Swallow (1855); a lens is necessary to see the
Indian rising from the Missouri in the upper woodcut. The
illustration on the back (Plate 3) is from Owen (1852).





SECTIONS
ON THE
MISSOURI RIVER
from No. 20 M. to No. 40 M.
by D. D. Owen.