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"A CHART IN HIS WAY"

INDIAN CARTOGRAPHY AND THE LEWIS AND CLARK EXPEDITION

JAMES P. RONDA

The sixteenth of January 1805 was not the kind of day Lewis and Clark would have chosen for calm deliberation and the thoughtful exchange of cartographic information. On that cold Dakota day, Fort Mandan was the scene of angry words and hostile gestures as Mandans and Hidatsas traded jeers and insults. While Lewis and Clark watched helplessly, Hidatsa warriors from the village of Menetarra charged Mandans with spreading malicious rumors designed to breed fear and keep Hidatsas away from the expedition. As the tough talk flew higher, the expedition’s hopes for diplomacy sank. But in the midst of the bitterness and harangue a remarkable event took place—something both important for the immediate needs of the expedition and symbolic of one of the most valuable relations between native people and the explorers. Among the Hidatsas at Fort Mandan was a young war chief intent on mounting a horse-stealing raid against the Shoshonis. Most of what passed between the eager warrior and the edgy explorers centered on an attempt to dissuade him from the proposed raid. Almost as an afterthought, William Clark noted that "this War Chief gave us a Chart in his Way of the Missourie,"1

That map and the telling phrase "in his Way" typify the substantial cartographic contribution made by native people to the Lewis and Clark expedition. Throughout its nearly two and one-half years in the field, the expedition actively sought out Indian maps and map-makers. That search brought Lewis and Clark more than thirty of what Malcolm Lewis has so aptly termed "cartographic devices."2 But more important than the quest for Indian maps was the effort by the Corps of Discovery, and especially William Clark, to understand both the structure and substance of those documents. Lewis and Clark did not pursue Indian map-makers just to obtain travel information from native sources. They knew Indian maps represented a vital part of a broader encounter, an attempt to communicate important ideas and experiences across the cultural divide. This essay seeks to evaluate expedition Indian maps

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within the framework of that encounter. The questions posed here are aimed at illuminating the maps, their makers, and the ways Lewis and Clark struggled to use those cartographic devices.

When the Hidatsa warrior offered Lewis and Clark a chart of the upper Missouri, he did it "in his Way." That way may have been a relief map constructed with heaps of dirt and marks on the ground or a river channel drawn with charcoal on a piece of hide. But whatever means were employed, we are reminded that native cartographic information came to and was preserved by Lewis and Clark in a variety of ways: described in words, drawn on hides or on the ground, or constructed topographically in sand—and preserved or redrawn by Lewis and Clark as distinctly Indian productions, or incorporated wholly within Lewis and Clark maps.

First, there were maps created by Indians either verbally or graphically and then drawn or traced by Lewis and Clark as distinctively Indian maps. This describes a murky historical and cartographic process that can be clarified with two examples.

Early in January 1805, the Mandan chief Sheheke, or Big White, made one of his frequent visits to expedition quarters. After dinner, Big White offered what Clark described as "a Sketch of the Country as far as the High Mountains, and on the south side of the River Rejone [Yellowstone]" (fig. 1). Big White may well have drawn an outline of the Yellowstone and its tributaries and then the map was copied by Clark. But "sketch" does not necessarily mean

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**FIG. 1. Big White's map of the Yellowstone River and tributaries, 1805. See list of Indian maps, no. 2. (Western Americana Collection, the Beinecke Rare Book and Manuscript Library, Yale University)**
a graphic representation. Big White might have given Clark simply a verbal description of the Yellowstone country. In fact, Clark records just such a description, noting the Indian’s words about the tributaries of the Yellowstone, the general character of the terrain, and the presence of “great numbers of beavers.” And of course, it is equally possible that Big White produced both a graphic map and a verbal description of the river. But whatever the process, the map that emerged was plainly an Indian production and recognized as such by the explorers.

A second example of an Indian map produced either verbally or graphically and then drawn or traced by Lewis and Clark was received at the end of April 1806, when the expedition was in present-day eastern Washington with the Walula, or Walla Walla, Indians. The Walula chief Yelleppit had been especially friendly to the explorers on their westward trek, and now on the return journey he offered food, horses, and vital route information, part of which came in a map prepared by Yelleppit for the captains. Bearing Lewis’s notation, “Sketch given us by Yellept the principal Chief of the Wallah wallah Nation,” the map portrays the region around the Columbia-Snake confluence. The maps that Big White and Yelleppit produced, in either verbal or graphic form, were preserved by the explorers as distinctively Indian products. Along with the maps of the Willamette River obtained from Multnomah Indians and the charts drawn by Nez Perce headman Hohots Ilppilp, these maps represent the first category of native cartography made available to Lewis and Clark.

When William Clark and Nicholas Biddle talked about native maps and map-making techniques in 1810, Clark suggested a second category. Indian maps, he explained, were “sometimes in sand, hills designated by raising sand, rivers by hollow.” Characterizing these maps by their ephemeral nature, Clark observed that “Indian maps made on skins or mats may be given to you, by individuals, but are not kept permanently among them.” On at least nine occasions Lewis and Clark obtained such ephemeral maps from native sources. They ranged from simple charcoal-on-hide outlines of river channels to the very elaborate relief map of the Willamette country constructed by an elderly Multnomah Indian. Such maps presented a unique challenge to expedition patience as well as intellect; they brought the expedition face to face with traditional cartographic practices and conventions. Three examples of ephemeral maps tell us important things about the ways native people made maps and about how the expedition used them.

The most short-lived of the ephemeral maps produced for Lewis and Clark were those drawn on the ground. Such maps were not hastily made scratches in the dirt. Rather, they were often elaborate relief creations portraying mountain ranges and river systems. William Clark learned about the complexity of those maps firsthand on 20 August 1805. Camped with a northern Shoshoni band along the Lemhi River in what is now Idaho, Clark prevailed on the band headman, Cameahwait, to instruct him “with respect to the geography of his country.” Cameahwait’s lesson was enhanced by a superb map, constructed on the ground, depicting the courses of the Lemhi and Salmon rivers. With heaps of sand the Shoshoni skillfully laid out the “vast mountains of rock eternally covered with snow.” What Cameahwait’s tutorial in geography revealed was not especially good news for the expedition. Yet the map itself was a masterful and largely successful attempt to communicate complex geographical realities across cultural barriers. But no matter how accurate the map, its physical structure destined it to a short life.

Clark also knew that there were ephemeral maps having some chance for a longer life. Maps of that kind were drawn on hides or whitened skins. The expedition had perhaps its first look at such a map in late September 1805. While camped temporarily at Weippe Prairie outside present-day Weippe, Idaho, Clark convinced the Nez Perce chief Twisted Hair to draft a map of the Clearwater River down to the Snake-Columbia confluence and as far west as Celilo Falls. Working with what Clark described as
"great Cherfulness," Twisted Hair marked a white elk skin with the appropriate river courses. The Indian's map evidently impressed Clark and persuaded him to seek additional native cartography for the region. The explorer pursued several Nez Perce elders, all of whom gave "maps of the Country and river with the Situation of Indians [and] Towns." When Clark carefully compared the maps, he found little variation among them—something he took as a sign of their accuracy.7

Perhaps the best documented hide map made available to the explorers came to them in mid-October 1805. As the Corps of Discovery tarried a day or two at the Snake-Columbia junction, resting and preparing to challenge the Great River of the West, Lewis and Clark spent considerable time with Yakima and Wanapam Indians. It was from these people that the captains learned much about the physical and human geography of the middle Columbia. On 18 October, the Wanapam chief Cutssahnem, one of the Nez Perce guides (either Tetoahrosky or Twisted Hair), and an unnamed Yakima drew an elaborate map of the Snake-Columbia confluence, the middle reach of the Columbia, and the Tapeteet, or Yakima, River. Cutssahnem and the others drew the map on a piece of hide with charcoal. Sufficiently impressed with the map for both its cartographic and ethnographic significance, Clark made a special point to copy the chart and save the original. That original hide map survived until 1895 when it was consumed in a fire at the University of Virginia.8

Indian maps plainly labelled as such by Lewis and Clark as well as those ephemeral productions mentioned in the journals make up the two largest categories of native cartographic devices. But there is a third category—more elusive—but nonetheless real. These are maps and verbal descriptions that have wholly disappeared within existing Lewis and Clark maps—Indian components incorporated within expedition maps. These elements are sometimes recognizable, either by structure or quality of information, as distinctively Indian in origin. In the process of gathering data and drafting his 1805 map of western North America, Clark noted that he was employing "the information of Traders, Indians, and my own observation & Ideas." That range of sources was verified by the North West Company trader François-Antoine Larocque who noted that the explorers were busy with maps and charts founded on information "they had from the Indians."9

Clark made his telling comment acknowledging his sources on the same day that Big White offered his sketch of the Yellowstone but before the Hidatsa Missouri chart was available. Big White's contribution is readily identifiable in the way Clark drew the Yellowstone and its tributaries. But Clark's own words can lead us to other, now lost, Indian contributions. That information may well have come from Nor' Wester Hugh Heney. In December 1804 Heney gave Clark sketches he had obtained "from the Indians to the West of this place."10 Today, just who those western Indians were, what the sketches portrayed, and their very nature are all unclear. What is plain is that Clark praised Heney as "a Verry intelligent man," eagerly sought him out, and promptly incorporated whatever Heney presented into expedition maps.

Lewis and Clark were not the only North American explorers to employ Indian maps as an essential part of the exploratory process. Explorers from Champlain to Coronado, from John Smith to the Vérendryes, all made use of native cartography. But it may be fair to say that no other expedition so actively looked for and attempted to use Indian maps. The Lewis and Clark search for native charts went far beyond what one might expect from an expedition already charged with so many complex missions.

There appear to be four distinct reasons for what amounted to a very productive quest for Indian maps. First, Lewis and Clark readily recognized that Indians as first-comers to the land had an unparalleled grasp of the terrain. The explorers knew that in the western wilderness native people held the key to understanding the face of the land. Indian maps could facilitate expedition travel. Maps like the
upper Missouri chart from the Hidatsas, and the relief maps produced by Cameahwait and expedition guide Old Toby, allowed Lewis and Clark to make intelligent route decisions—decisions that would have been much more difficult without the maps. Employing Indian cartography to expand their own maps and observations was a second reason for Lewis and Clark to seek native map-makers. Because the expedition did not venture far from Fort Clatsop during the winter of 1805–6, a map of the Oregon coast from the Columbia down to Tillamook Bay made by a Clatsop Indian furnished Clark with important geographic and ethnographic information (fig. 2). Having such maps gave the Corps of Discovery an extra reach to its mapping arm.

But gathering and evaluating Indians’ maps was based on more than the expedition’s need for native route and travel information. If exploration is a programmed enterprise—discovery by design—then much of what Lewis and Clark accomplished was the result of specific instructions from Thomas Jefferson, a third reason for their search for Indian maps. The president never directly ordered his explorers to collect Indian maps, but two sections in the instructions do suggest that sort of activity, at least by implication: “Altho’ your route will be along the channel of the Missouri, yet you will endeavor to inform yourself, by enquiry, of the Character & extent of the Country watered by it’s branches, & especially on it’s Southern side.” Two phrases stand out in that order. The explorers were specifically commanded to engage in geographic inquiry, an undertaking that was certain to include maps. At the same time Jefferson was especially interested in tributaries south of either the Missouri or the Columbia. Clark’s search for the
Multnomah, or Willamette, and the several Indian maps he obtained of the Willamette country were a direct response to Jefferson’s instructions. 13

Finally, also reflecting a concern of Jefferson’s, the expedition was to gather Indian maps for their ethnographic significance. A line in Jefferson’s instructions to Lewis about Indian “language, traditions, [and] monuments” does not specify cartographic devices, but Nicholas Biddle, Lewis and Clark’s first editor, understood that maps were included in that sequence. Writing about the Wanapam–Nez Perce–Yakima hide map that the explorers carefully traced on paper, the editor observed that “it exhibited a valuable specimen of Indian delineation.”14

Lewis and Clark had at their disposal a substantial body of native geographical information. Much of that data was solicited by and offered to the expedition in the form of maps. That the explorers had such materials can be plainly demonstrated; what remains more important and more challenging is understanding the ways in which Lewis and Clark struggled to find meaning in those maps. Cameahwait’s relief map, Cutsahnem’s hide chart, and the verbal descriptions of many unnamed informants challenged the skill and imagination of the expedition’s leaders.

In their recent book The Nature of Maps, Arthur Robinson and Barbara Petchenik devote considerable space to the notion of maps as communication systems. If maps are “a way of graphically expressing mental concepts and images,” then all maps, map-makers, and map users are conditioned by cultural values, concerns, and life experiences.15 Indian maps were as much a cultural product as any ritual or object. When Euro-Americans tried to use such maps they were confronted with something both familiar and yet strangely unsettling. Unlike the stick maps from the Pacific Marshall Islands that record complex ocean currents, Indian maps were readily identifiable to non-Indian eyes as maps. At the same time, Indian maps represented conceptions of distance, space, and time that were often fundamentally different from those commonly held by the bearded strangers. Equally bewildering were the symbols and conventions used to express those cultural considerations. In this context the map becomes not only a communication system but an arena for yet another part of the American encounter.

When Lewis and Clark sought to interpret and then use Indian maps, they faced a whole battery of problems. On one level the physical structure and expression of many Indian maps may have daunted someone like William Clark. As a young officer in Gen. Anthony Wayne’s Legion of the United States, he was schooled in the conventions of European cartography, in which flat maps have North at the top, locations are plotted by a system of latitude and longitude grid lines, and distances are measured in miles or leagues. But when Clark examined a native chart, he saw a device at once recognizable as a map and yet unfamiliar in structure and expression. As Malcolm Lewis’s research has shown, Indians often oriented their maps along sunrise and sunset lines or toward the direction of travel. Distances were measured in terms of travel time, the term “sleeps” or “days” often appearing in expedition records when Clark copied an Indian map. Language itself posed a problem since the translation of simple words like “above,” “below,” “to,” and “from” could be critical for interpreting a map or verbal description.16

As expedition cartographers soon learned, the symbols Indians used to express map information were often quite different from those found in Euro-American maps. While Western cartography in general was moving toward the use of mimetic pictures to indicate mountains, rivers, or settlements, Indian map-makers continued to rely on arbitrary symbols to communicate meaning. Lines drawn in the sand or on a hide might mean creeks,
Sketch given us May 3d 1806 by Mr. Col. Monroe and the brother of the Governor

[Map details and annotations]
game trails, or often-used war trails. Those arbitrary symbols stood for a general perception of reality: they were not meant to express every twist and turn of the trail. Because Indians mapped what had relevance in their own lives, the concerns of an exploring party bent on neither hunting nor raiding must have sometimes seemed bewildering. As land travelers, Hidatsas could give a good account of their raiding paths to Three Forks, and Clark dutifully noted that route in his map of 1805. But the Hidatsas must have found it difficult to respond to questions about navigation on the Missouri or the amount of time necessary to portage heavy baggage around the Great Falls of the Missouri. As always, perspective and experience are everything.

William Clark confronted more than strange symbols and unfamiliar conventions in Indian maps. Beneath those lines, marks, and heaps of sand was a different way of seeing the material world. Seeing has long been understood as something more than a physical, optical act. Seeing is organizing and giving meaning to disparate and disconnected bits of shadow and substance. Thus the meaning and graphic depiction of a terrain feature will differ markedly from culture to culture. When that Hidatsa warrior gave Clark "a Chart in His way," the map was grounded in native concepts of time, distance, and space. Because all that now survives of most Lewis and Clark Indian maps are the redrawings done by the explorers, we can only guess at how those ideas were expressed, or at the process of converting them to suit expedition needs.

Despite arbitrary symbols not part of their learning and lore, and despite divergent ways of understanding the physical world, Lewis and Clark did succeed in gaining important information from Indian maps. Big White's portrayal of the Yellowstone found its way into Clark's map of 1805; the relief maps made by Cameahwait and Old Toby became part of several maps showing routes across the Continental Divide; maps of the Willamette country drafted by Multnomah Indians plainly influenced Clark's 1810 master map of western North America. As the expedition's leading cartographer, William Clark obviously made a major effort to comprehend Indian maps, which surely expanded his imagination and tested his talents.

What can be described with less certainty are the ways native cartographers understood their part in cartographic cultural contact. If Clark had to alter his angle of vision to cope with that Hidatsa chart, what was involved when the young warrior tried to comply with the explorer's request? Did his methods change to meet the needs of the bearded stranger? Was the map he constructed for Clark different from those he had done before or was this his first attempt to graphically depict land he knew from previous raids? Or what of Hohastillpilp, Lewis and Clark's fractured rendering of the name of the Nez Perce diplomat and warrior better known as Hohots Ilppilp, or the Bloody Chief? This map-maker gave the expedition a fine large map in two parts of routes over the Great Divide and on to the plains. This map reflected the experiences of a man widely traveled in the plateau world. Did it also mirror a long tradition of Nez Perce mapping? In what ways did the Bloody Chief struggle to fit his perceptions to the needs of the expedition? There do not seem to be ready answers to these questions. What we do know about the significance of Indian maps for Lewis and Clark is implicit in William Clark's important observation about the whole body of Indian information given to the expedition: "Our information is altogether from Indians collected at different times and entitled to some credit."

The story of Lewis and Clark Indian cartography has a curious and revealing epilogue. On 11 May 1806, Lewis and Clark undertook a full day of diplomacy with Nez Perce chiefs and elders. The negotiations began when the explorers drew a map of the Clearwater country to help explain American policy. But this was no ordinary map. It was made with charcoal on a mat, as Lewis put it, "in their way." The mapping ways of Hidatsas and Nez Perces had become at least partially an expedition way. Maps once formidable in structure and design could now be made and understood by the explorers themselves. Effort and understanding had made map encounters into common ground.
INDIAN MAPS IN THE RECORDS OF THE LEWIS AND CLARK EXPEDITION

This list represents maps that are plainly Indian productions as well as those having identifiable native components. Maps mentioned in expedition journals are included even if they did not survive.

Abbreviations:
- Moulton: Gary E. Moulton, ed., *Atlas of the Lewis and Clark Expedition*
- Thwaites: Reuben Gold Thwaites, ed., *Original Journals of the Lewis and Clark Expedition*

1. 17 December 1804
   "Some Sketches from him [Hugh Heney], which he obtained from the Indians to the West of this place." Thwaites, 1:239.

2. 7 January 1805
   The Sheheke map of the Yellowstone River and its tributaries. Printed: Thwaites, vol. 8, map 12; Moulton, maps 31a and b. (See Fig. 1.)

3. 16 January 1805
   "This War Chief gave us a Chart in his Way of the Missourie." Thwaites, 1:249.

4. 20 August 1805
   Relief map by Lemhi Shoshoni chief Cameahwait. Thwaites, 2:380.

5. 23 August 1805
   Two sand relief maps of the Salmon River country made by expedition guide Old Toby. Thwaites, 3:27; "Biddle's Notes," Jackson, Letters, 2:545.

6. 21 September 1805

7. 22 September 1805
   Twisted Hair's map of the Clearwater and Snake River country. Thwaites, 3:85. Note: Information from the 21 and 22 September Nez Perce maps is contained in a sketch printed in Thwaites, 3:102.

8. 22 September 1805

9. 10 October 1805
   Sketch map drawn by William Clark from Nez Perce sources showing the Clearwater and south fork of the Snake River. Printed: Thwaites, 3:102.

10. 14 October 1805
    Sketch map drawn by William Clark from Nez Perce sources showing Indian camps along the Clearwater and Snake rivers. Printed: Thwaites, 3:114.

11. 18 October 1805

12. September–October 1805

13. 10 October 1805
    A sketch of Plateau Indian locations along the Snake and Columbia rivers. Printed: Thwaites, 3:184.

14. Mid-October 1805

15. Early 1806
    Map of the Pacific coast from the Clatsop villages to Tillamook Bay, by a Clatsop Indian. Printed: Thwaites, vol. 8, map 39; Moulton, map 94. (See Fig. 2.)

16. 2 April 1806
    A map of the Willamette country by two Multnomah Indians. Thwaites, 4:235–36.

17. 3 April 1806
    A map of the Wilamette country and Indian sites drawn by an elderly Multnomah
Indian. Thwaites, 4:241. Note: Maps 16 and 17 may be the basis for map 18.

18. 2–3 April 1806
“A Sketch of the Moltnomar River given by several different Tribes of Indians near its entrance into the Columbia.” Printed: Thwaites, vol. 4, facing p. 242. Note: In the period 17–20 April, when the expedition was at The Dalles, William Clark gathered a number of important Indian maps.

19. 17 April 1806
“A Sketch of the Columbia as also Clarks River.” Thwaites (4:292) notes that this is his map 40. April 17, however, is not the date found on the map.

20. 18 April 1806
Indian map of the Plateau-Dalles region. Printed: Moulton, map 95. This is a preliminary stage of Thwaites, vol. 8, map 40, and Moulton, map 96.

21. 18 April 1806
“This Sketch was given by a Skaddot chief, a Chopunnish and a Skillute Several other Indians at the Great Narrows of Columbia.” Printed: Thwaites, vol. 8, map 40; Moulton, map 96. Note: This is evidently an earlier and simpler version of the following map.

22. 20 April 1806

23. ca. 27 April 1806
“Sketch given us by Yellept.” Printed: Allen, Passage through the Garden, p. 340.

24. 8 May 1806
A preliminary draft of the following map. Printed: Moulton, map 97.

25. 8 May 1806
“The relation of the Twisted Hair and Neeshneparkkeook [Cut Nose] gave us a sketch of the principal water courses West of the Rocky Mountains a copy of which I [William Clark] preserved.” Thwaites, 5:5. Printed: Thwaites, vol. 8, map 41; Moulton, map 98. (See Fig. 3.)

26. 29 May 1806
Map of trails over the Continental Divide by Hohots Ilppilp. Printed: Thwaites, vol. 8, map 42; Moulton, map 99.

27. 29 May 1806
An Indian sketch of the Snake River country. Moulton notes that this is by Hohots Ilppilp. Printed: Thwaites, vol. 8, map 44; Moulton, map 100. Note: The two Hohots Ilppilp maps have recently been found to be two parts of one large map.

28. Late May 1806
Possibly a sketch preliminary to the following map. Printed: Moulton, map 102.

29. 29–31 May 1806
“This Sketch was given by Sundry Indians of the Chopunnish Nation.” The map shows trails and villages from the Clark Fork to the Three Forks of the Missouri. There are two stages of this map. The earlier version is printed in Thwaites, vol. 8, map 43 and in Moulton, map 101. The second stage is printed in Thwaites, vol. 5, frontispiece.

30. Late 1806
A map by William Clark of Indian trails from Three Forks to the Yellowstone River. This map has native information in it although Clark’s returning party met no Indians on this leg of the journey. Printed: Thwaites, vol. 8, map 48; Moulton, map 106.

NOTES

The author gratefully acknowledges the valuable information provided for this paper by Gary E. Moulton.


3. Thwaites, Original Journals, 1: 245. The maps are printed in Thwaites, Original Journals, vol. 8, map 12, and in Gary E. Moulton, ed., The Atlas of the Lewis and Clark Expedition


