A MAP AND NINE MAKERS

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Aaron Arrowsmith's *Map Exhibiting all the New Discoveries in the Interior Parts of North America,* published in 1795, adhered to Enlightenment standards of cartography developed over the previous century.[1] Its spatial representation was anchored in mathematical coordinates, the features inscribed on it were precisely located using the latest navigational tools, and its claim to universal validity – that its scientific exactness surpassed and rendered obsolete all other systems of spatial representation – was a claim of European intellectual superiority. Hence its continuing importance and interest: present-day cartographers espouse the same principles.

Arrowsmith's map was a compilation of other maps. For the next two decades after its initial publication, the London cartographer relied on the work of seven explorers: Philip Turnor, David Thompson, Peter Fidler, Samuel Hearne, George Vancouver, Alexander Mackenzie and William Clark – all trained surveyors, most of them more than competent.[2] The work of a ninth cartographer was also forwarded to Arrowsmith.[3] The ninth mapmaker was not at all like the others. He was a Siksika leader who drew the Missouri watershed for Peter Fidler. His name was Akkomokki.

In 1801 Fidler asked his Siksika visitor for information about what lay beyond Chesterfield House, built at the southwestern limit of the fur trade's continental expansion. Akkomokki answered this question by drawing a map. He drew a line of landmark mountains, a Missouri River network, and two large rivers on the other side of the Rockies. Akkomokki also located thirty-one "tribes" inhabiting the territory of his map and traced the route of a raiding party. In 1802 Fidler requested four new maps: another from Akkomokki, one each from Siksika leaders Kioocus and Akkoweeak, and a fourth from an unnamed cartographer thought to be Atsina. Fidler's special interest in Native cartography may have begun with these maps. Right away he realized that the simplicity of Native maps was deceptive: they could be very informative if one made an effort to understand them, as he explained in a covering note to the company directors: Native mapmakers "conveys much information where European maps fail … though they are utterly unacquainted with any proportion in drawing them."[4]

The Hudson's Bay Company directors allowed Arrowsmith to consult Fidler's documents. Arrowsmith incorporated Akkomokki's sources of the Missouri as thirteen short solid lines, and linked them in a hypothetical Missouri watershed. The dotted lines reflected his uncertainty: for this region Akkomokki's map was all the London cartographer had to work with. Since it was not drawn according to the conventions of scientific cartography, Arrowsmith translated its features as best he could into his own idiom. His interpretation led to approximation, even invention.

Translation operates on the premise that communication can take place despite formal change. What knowledge can be maintained in shifting from one cartographic idiom to another? What if anything is lost in translation? Arrowsmith's 1802 states show a line of mountains and a fictional watershed. All the tribes, all but one of the hill features in the plains, and all but four of the mountain landmarks on Akkomokki's map have disappeared. Most important is the transformation of space from whatever it signified on Akkomokki's map to the astronomically determined coordinates of Arrowsmith's. Anyone familiar with European cartography will try to read Akkomokki's map in the same way. Two exercises in cartographic translation are helpful in understanding Akkomokki's map: they are June Helm's pioneer analysis of two Chipewyan maps and Ted Binnema's account of the landmark peaks on Akkomokki's map.[5]

Helm indicates what is involved in the process of

spatial translation as she struggles to understand Chipewyan maps antedating Hearne's exploration of the Coppermine River. Helm remarks that "scale and relative directions become progressively skewed. … One yearns to transfer [the maps'] features onto an elastic surface that could be stretched into directions, proportions and distances that accord with the actual lay of the land." She redraws features of one map as they would be configured in European cartographic space, thus correcting its original "distortions" and "confusions."

Binnema rejects any suggestion that Akkomokki's map is crude or unrepresentative. He maintains, that "the key to understanding [this] map is the assumption that [it] is accurate." Accurate yes, but not universally understandable. Binnema considers Arrowsmith's "perplexity" when he was faced with the menorah-like structure of streams on the Native map and Meriwether Lewis's famous distrust of Fidler's "varacity." Like Arrowsmith and Helm, Binnema solves the problem by redrawing Akkomokki's map. The original straight line of mountains bends to join up the landmark peaks in the right directions, and tributaries of the Missouri follow recognizable courses from the mountain edge to the main stream. Binnema concludes: "Now translated, [Akkomokki's] map can be used to greater advantage to extract the valuable evidence it holds."

The "valuable evidence" of any map is its capacity for representation. Helm's translation exercise is based on her assumption that the "proportions and distances" operative on European maps depict "the actual lay of the land." Binnema suggests that we must acknowledge the accuracy of Akkomokki's map (and by extension other Native maps) – that however confusing its features are to us, they also represent "the actual lay of the land." We need to take Binnema at his word: Native maps are "accurate." At the same time, their capacity for representation is so radically different from scientific cartography that efforts to replot their "evidence" in European terms miss more than they gain. Unlike Helm and Binnema, I think we can begin to understand Native maps only if we resist translating them into European map space: if we consider instead, without reference to scientific cartography, how they are constructed, how they operate as route-finding guides, and how they are carriers of cultural values.

Looking again at the Chesterfield House maps and the Chipewyan maps of Helm's analysis, we can recognize a salient, shaping feature common to them all. On each map an essentially straight line represents a key landform that is both a barrier and a guide to travel in the region: the Arctic coast and the eastern edge of the mountains. This line acts like a magnet to pull the other map features into its field. Cardinal directions are not operative; as readers of European-style maps we are literally disoriented. Other features also exert an attractive field: the curving river patterns of the Missouri drainage, the large triangle of Great Slave Lake. Since the lake and river lines are joined to the dominant straight line, the effect is to strengthen, not weaken, the attractive power of each feature. They act in concert, not opposition, and the result is a balanced, unified design.

For explorers Native maps repeatedly proved their usefulness as practical route-finding guides. On the version of Akkomokki's map copied into Fidler's journal, a line indicates a trail looping past the Sweetgrass Hills to the Gates of the Mountains, then around the Little Belt Mountains, down the Smith River to the Missouri, and back to the Sweetgrass Hills. You can follow Akkomokki's map if you forget about cardinal directions and move from feature to feature, keeping the succession of landmark peaks to your right. The routes shown on Native maps of the region were well travelled and evident on the ground. William Clark followed the trail through the Gates of the Mountains that Akkomokki and Kioocus had drawn a few years before. A year later he followed the same loop through "a gap in the mountain" that Akkomokki and Kioocus had traced around the Big Belt Mountains. Fifty years later an Assiniboin drew a map at Fort Buford showing exactly the same trail. Kioocus also indicated a road that ran close to the Bearspaw Mountains, over the Cypress Hills and across the North Saskatchewan River. Crazy Mule's map, drawn in 1880 and found among the papers of US Cavalry officer John Gregory Bourke, shows a trail from the Yellowstone River to the Bearspaw Mountains.[6]

Where do the roads on these maps lead? What do they connect? What social landscape do they reveal?

Akkomokki's map provides some clues. Small circles along the line of mountains indicate "all the tribes" who lived there. Binnema consolidates their often colourful names – "wrinkled ... Hairy... scabby ... Wolf ... Blue Mud ..." – into recognizable present-day nations: Flathead Salish, Shoshone, Crow, Cheyenne, Arapaho. Akkomokki and Kioocus were drawing road maps of their war raids among these nations. Fidler's journals record the departure and return of two winter war parties, absent 49 and 62 days. Both groups of young men moved south beyond the relative safety of their home ground and searched for comparable war parties from hostile nations. They moved quickly, up to fifty kilometres a day, and then roamed back and forth hoping for a fight. "[Those] that never killed an Enemy," remarked Fidler, "are looked upon by their Countrymen as little better than Old Women."[7] After long talks with the Mandan chief Sheheke, Clark showed the "war path of the Big Bellies Nation [Atsina]" on his 1805 map.[8] Lewis was convinced that "no part of the Missouri [west of the Mandan villages] furnishes a perminent residence for any nation, yet there is no part of it but what exhibits appearances of being occasionally visited by some nation on hunting excursions."[9] Nations living at the edge of this vast deserted region were hunting all right – hunting each other.

Delimiting this no-man's-land were places of spiritual energy and strength. Before they crossed the Milk River, war parties following Akkomokki's path would have visited the image-covered hoodoos of Writing-on-Stone. Along the front ranges, rock-art sites around Flathead Lake would not have been far away. Beyond the Gates of the Mountains a wide-mouthed cave was an important source of ochre and of "furious" Blackfoot-Flathead conflict for the right to mine it. Dozens of sites along the Yellowstone and Musselshell rivers lay in territory dominated by Crow enemies. Rock-art sites are not evenly distributed but occur in clusters. The trail on Akkomokki's map would have brought war parties close to each of these zones of concentration, the power centres of the plains nations and their mountain neighbours.[10]

Native maps and rock art expressed a common belief in such power. Both forms ignore, even defy, the surfaces on which they were created. There are no consistent measurements on Native maps; their component features are related to each other, not to the space on which they are drawn. It is as if the drawing surface were there and not there. Similarly, rock surfaces encourage a play between massiveness and permeability. The energy lines of certain figures trail away into cracks and fissures. Favorite locations for rock art are caves and overhangs, where the face is porous and uneven – where images can suggest their transitional status and otherworld connections. On exposed faces such as the hoodoos of Writing-on-Stone images fade "into" the rock as they are weathered. Intense meditation allows access to the spirit world via the layers of figures built up on this permeable wall. The surface dissolves and disappears, leaving a web of images as landmarks and routes on a spiritual journey, just as lines and figures form the design of Native maps, leaving the space on which they are drawn undefined and insignificant.[11]

In Arrowsmith's time and for a century after, Native maps were seen as providing what the Royal Society called "local knowledge," in contrast to the universally valid "useful knowledge" reported by and to its members. They had provisional value for route-finding, nothing more. Of course this assumption masks its own cultural limitations and leaves no room for values from anywhere else. Like all maps, those drawn at Chesterfield House were saturated with the cultural aims and values of their makers, chief of which was a conviction that spiritual power and insight must be expressed as virtuous action. For young men of the great plains societies, war was the only road to virtue. Akkomokki's maps and other Native maps of the region recorded the lines of force operative among certain Plains societies, connecting their centres of spiritual intercession, directing the raids which proved the courage of their young men. The social organization of this landscape did not suddenly reflect a new reliance on guns and horses, nor was it a response to white men appearing over the horizon. Instead it expressed a spiritual tension emanating from clusters of traditional sites that had been venerated since time out of mind. River lines, mountain lines and roads on the Native maps make sense only by their intersection and consequent connectedness. The roads on these maps trace a pattern of human conflict and its justification: they are links to spiritual power.

Given the importance of visual imagery in the life-world of plains societies, it is surprising how seldom reference to it can be found in traders' and explorers' journals. Exceptionally, Clark reported on rock drawings several times, Fidler at least once, and both explorers awed onlookers when they used scientific instruments. They suspected that Fidler was a shaman, able to see into the future and detect enemy movements far away. When it was his turn to ask about the country that lay beyond his own knowledge, Fidler may or may not have been aware that his curiosity resembled theirs. I like to think he was. Native maps, he wrote to London, "conveys much information where European maps fail ..." He forwarded Akkomokki's map though it was bound to be misunderstood. Arrowsmith salvaged what information he could from it: a line of mountains and thirteen watershed sources. Thus translated, the map misled Lewis who doubted Fidler's "varacity." But Lewis overlooked an aspect of cartography that profoundly interested Fidler: the fact that every map is limited as much as enabled by its premises and techniques. There is no universally valid way to map the world. Arrowsmith did not record "all the New Discoveries" on his map. Instead he recorded only those he understood, or thought he understood. Akkomokki's map was a curiosity, a makeshift, a possible source of error requiring correction by scientific surveys or at least translation into a familiar cartographic idiom.

NOTES

[1]. LAC NMC 97818: Aaron Arrowsmith, *A MAP Exhibiting all the New Discoveries /in the Interior Parts of / NORTH AMERICA, /Inscribed by Permission /To the Honorable Governor and Company of Adventurers of England /Trading into Hudsons Bay, /In testimony of their liberal Communications ...* London, 1795-96.

[2]. HBCA G.2/32: Philip Turnor, "... MAP /of Hudson's Bay and the Rivers and Lakes /BETWEEN the Atlantick and Pacifick OCEANS." 1794, reproduced in Belyea, *Dark Storm Moving West* (Calgary: University of Calgary Press, 2007), 42-43; see also Richard I. Ruggles, *A Country So Interesting* (Montreal: McGill-Queen's University Press, 1991): 52-60 and plate 18 (Turnor's cartouche); Aaron Arrowsmith, A Map of Mackenzie's Track from FORT CHIPEWYAN to the NORTH SEA in 1789, and A Map of Mackenzie's Track from FORT CHIPEWYAN to the PACIFIC OCEAN in 1793, in *The Journals and Letters of Alexander Mackenzie,* ed. W. Kaye Lamb (Toronto: Macmillan, 1970), facing 67 and 239; George Vancouver, *A Voyage of Discovery to the North Pacific Ocean and Round the World,* 4 vols. (Amsterdam and New York: N. Israel and Da Capo Press, 1967); William Clark and Samuel Lewis, *A /Map of /LEWIS and CLARK'S TRACK /Across the Western Portion of /North America* ..., 1814, www.davidrumsey.com (9 March 2013).

[3]. HBCA G.1/25: Akkomokki, "An Indian Map of the Different Tribes that inhabit on the East & west Side of the Rocky Mountains with all the Rivers & other remark[able] Places ...", 1801; HBCA B.39/a/2: Peter Fidler, rough journal of Chesterfield House, 1801-02, ff. 85v-86r, 92v-93r; HBCA E.3/2: Peter Fidler, journal of several explorations, 1792-1793, ff. 104v-105r, 106v-107r.

[4]. HBCA A.11/52: Peter Fidler to the Hudson's Bay Company Governor and Committee, 10 July 1802.

[5]. June Helm, "Matonabbee's Map," *Arctic Anthropology* 26 no 2 (1989): 28-47; Theodore Binnema, "How Does a Map Mean?" in *From Rupert's Land to Canada*, ed. Theodore Binnema, Gerhard J. Ens and R. C. Macleod (Edmonton: University of Alberta Press, 2001): 201-24.

[6]. Smithsonian Institution NAA INV 8691100/MS 2600-B-1. "Map of the North Side of the Missouri river from Fort Union ... to Fort Benton ... drawn by an Assiniboine warrior at Fort Union Dec. 27, 1753" ; Glen Fredlund, Linea Sundstrom and Rebecca Armstrong, "Crazy Mule's Maps of the Upper Missouri, 1877-1880," *Plains Anthropologist* 41 no. 155 (1996): 5-27 – the maps are in the Jocelyn Art Museum, Omaha.

[7]. HBCA B.34/a/1: Peter Fidler, Chesterfield House journal, 1800-01(19 December 1800).

[8]. Clark, "A MAP of part of the Continent of NORTH AMERICA," 1805, in *The Journals of the Lewis and Clark Expedition*, ed. Gary E. Moulton, 13 vols. (Lincoln: University of Nebraska Press, 1983-2001), Atlas: plate 32a.

[9]. Lewis, *The Journals of the Lewis and Clark Expedition,* ed. Moulton, 4: 222-23 (30 May 1805) and 8: 131 (26 June 1806).

[10]. James D. Keyser, "Writing-on-Stone: rock art on the northwestern plains," *Canadian Journal of Archaeology* 1 (1977): 15-80; Keyser, "A Lexicon for Historic Plains Indian Rock art: increased interpretive potential," *Plains Anthropologist* 32 no. 115 (1987): 43-71; Julie E. Francis and Lawrence L. Loendorf, *Ancient Visions* (Salt Lake City: University of Utah Press, 2002); 16-17, 39, 130; Stuart W. Conner and Betty Lu Conner, *Rock Art of the Montana High Plains* (Santa Barbara: University of California Art Galleries, 1971): list of sites; Keyser, "Turner Rockshelter: a Blackfeet redoubt in the heart of Crow country," *Plains Anthropologist* 53 no. 201 (2007): 9-27.

[11]. Michael A. Klassen, "Áísínai'pi (Writing-on-Stone) in Traditional, Anthropological and Popular Thought," in *Discovering North American Rock Art,* ed. Lawrence Loendorf, Christopher Chippindale and David S. Whitley (Tucson: University of Arizona Press, 2005): 15-20, 29-33; J. David Lewis-Williams, "Rock Art and Ethnography: a case in point from South Africa," in *Talking with the Past: the ethnography of rock art,* ed. James D. Keyser, George Poetschat and Michael W. Taylor (Portland: Oregon Archaeological Society, 2006): 35; cf. Francis and Loendorf, Ancient Visions, 20-32, 39, 180-83.