TOUGH TIMES AT THE BAD RIVER

James Ronda on Lewis & Clark’s near disaster with the Teton Sioux

The Corps of Discovery parleys with Indians on the middle Missouri during the summer of 1804.

PLUS: MISSOURI BREAKS GEOLOGY, “SUGARING” AT CAMP DUBOIS
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**On the cover**  
*Peace Pipe,* John F. Clymer’s 1979 depiction of Lewis and Clark in their roles as diplomats to the tribes along the Missouri, captures them in a moment relatively free of tension—unlike their encounter with the Teton Sioux, described in the extended essay by James Ronda beginning on page 10. Courtesy Doris Clymer and The Clymer Museum of Art.
Seaman may have differed from today's breed

Recently I was looking through a book about the Lewis and Clark Expedition and came across an illustration of a Newfoundland, a breed represented by Seaman, the dog that Lewis took with him to the Pacific. Modern Newfoundlands, however, appear to bear little resemblance to the breed of 200 years ago.

When I began research on Seaman for a program aimed at grade-school children, I too thought any photo of a Newfoundland would be satisfactory. But when I spoke to the owner of a Landseer (a modern black-and-white offshoot of the Newfoundland), he told me I should look at some of the older engravings in a Newfoundland breed book that he was happy to lend me.

Based on the pictures in this book, I concluded that Lewis's Seaman most likely had a black-and-white coat and was less bulky than the current breed, with longer legs and shorter hair. He might also have been shorter, although this is hard to tell. I have enclosed an illustration (below) from the book.

JOYCE JENSEN
Billings, Mont.

Phenology volunteers wanted

Lewis and Clark made phenological observations as part of their scientific work during the expedition. Phenology is the study of periodic occurrences in nature, such as the migration of birds, the budding of flowers or ripening of fruit, the time of ice breakup on rivers, and the relation of all these to climate. Thomas Jefferson instructed Lewis to record such phenological observations as "the dates at which particular plants put forth or lose their flowers, or leaf, times of appearance of particular birds, reptiles or insects."

The captains made observations at three main sites—Camp Dubois, Fort Mandan, and Fort Clatsop—where they were encamped during the transition from winter to spring. In addition, they also made phenological observations while en route. For example, while waiting at the mouth of the Clearwater River for the snow to melt on the return trip, Lewis wrote that "the Indians inform us that the present rise of the river is the greatest which it annually takes, and that when the water now subsides to about the hight it was when we arrived here the mountains will be passable."

We have extracted from the journals a compilation of phenological observations and will share it with anyone interested in making similar observations along the L&C Trail during the expedition's bicentennial. Observations submitted to us will be compared to those of Lewis and Clark as part of a U.S. Geological Survey study.
of possible climate changes in the 200 years since the expedition. For more information, please contact us at the USGS, 3215 Marine St., Suite E-127, Boulder, CO 80303 (e-mail: jamoody@usgs.gov or damartin@usgs.gov).

John A. Moody
Deborah A. Martin
Boulder, Colo.

Donna Reed as Sacagawea, Charlton Heston as Clark, and Fred MacMurray as Lewis in the 1955 classic Far Horizons.

Film portrayals of L&C
With the Lewis and Clark Expedition’s bicentennial rapidly approaching, I am concerned as an educator about the type of production that will probably be forthcoming from Hollywood to commemorate the event. Hopefully, it will be considerably more accurate than Far Horizons, the 1955 movie recommended by the National Education Association. My students howl with laughter at such scenes as the keelboat being hauled around the Great Falls or Charbonneau and Clark engaged in a knife fight over Sacagawea, played by Donna Reed.

Ken Burns’s 1997 PBS documentary about the expedition was excellent, and any commercial movie that might be made should be done so with equal concern for authenticity.

It would be wonderful if someone like Steven Spielberg made a movie about Lewis and Clark in the same tradition as his productions of Schindler’s List and Saving Private Ryan.

Howard A. Kent
Bonners Ferry, Id.

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On the go for Lewis and Clark

To date, 2002 has been fast-paced beyond belief. Lewis and Clark Bicentennial fever is spreading throughout the country. Plans are almost complete for events commemorating the bicentennial’s five-day kickoff beginning next January 18 at Monticello. Newspapers from Richmond, Virginia, to Portland, Oregon, are featuring travel articles to attract visitors to sites along the Lewis and Clark Trail. Articles are appearing in National Geographic and Smithsonian and many other publications. The Foundation’s revamped Web site has had more than a million hits since January 1. In Portland, the Bicentennial Council is generating such enthusiasm for the Lewis and Clark experience that all persons even marginally involved in communities across America are spending untold hours doing what it takes to “be ready.”

Bringing the Foundation into readiness for the bicentennial is an undertaking that could totally overwhelm many executive directors, but not Carol Bronson. Carol, who came on board in January, is already handling this challenging job like an old hand, pulling together her staff of five to march the Foundation forward at top speed.

On March 23-24 in St. Charles, Missouri, a team of current and past LCTHF leaders met with Jane Weber, chair of the Long Range Planning Committee, to compile suggestions to the board for ways the Foundation can “be ready,” not only for the bicentennial years of 2003-2006 but for those that will follow.

A Fund Raising Task Force has been assembled to investigate our financial needs, our potential for funding those needs, and ways to bring those funds into our coffers. The board heard a report from the task force at its April meeting in Lewiston, Idaho, and will present a plan to the membership at the July 28-31 annual meeting, in Louisville.

A thousand copies of the revised Lewis and Clark Curriculum Guides for Middle and Junior High Schools have been published and are being shipped out daily to cover back orders and new requests.

The Foundation has written letters to Congress or to appropriate state and local agencies advocating projects such as Corps II, removal of a cell tower along the L&C Trail, and “willing seller/willing buyer” legislation to allow parts of the trail to be purchased by public-lands agencies. In February, we hosted a reception for members of Congress featuring Hal Stearns’s lecture on the Corps of Discovery. At the invitation of the Department of Interior, Hal gave a week-long series of lectures at various sites in Washington, D.C., including the Pentagon and the Capitol.

In January, I flew to Great Falls to meet Carol and to attend the annual meeting of the Portage Chapter (temperature was a mild minus 16). I also spoke at a meeting of the Carolinas Chapter in Greensboro, North Carolina, on January 12. February found me at the Capitol reception. In March, I was in Charleston, South Carolina, spreading Lewis and Clark stories at a meeting of the Association of Partners For Public Lands. In April it was Lewiston for the Bicentennial Council’s spring workshop and a Foundation board meeting. I missed the April 20th premiere of the National Geographic Society’s Lewis and Clark Imax film, in Omaha, Nebraska, but president-elect Larry Epstein represented us.

Am I still having fun? You bet. More important, How is bicentennial fever affecting you? If you haven’t caught it yet, get busy. Join a chapter, read one of the new L&C books, plan a trip this summer to an Eastern Legacy site, come up with an idea for a bicentennial project and e-mail it to the office or to me (MLewis Nut@aol.com), and send in your registration for the meeting in Louisville.

See you along the trail!

—Jane Henley
President, LCTHF
Media buzz and unheralded work

If the world didn’t know about Lewis and Clark before, it sure will this spring, when the media buzz rolls across America. Yes, the National Council’s media partners, and others, will be sure that the secret is out! Between the National Geographic Society’s articles in National Geographic Traveler and its flagship magazine, its IMAX film Lewis and Clark: Great Journey West, Smithsonian magazine’s first of four advertorials (this one focusing on the entire trail), a feature in Time magazine planned for July, and advertorials in Sunset, the word is out, and we should all expect exponential increases in inquiries and explorations. All this is grand publicity for the inaugural event in Monticello next January 14-18—you’ve all marked calendars, I’m sure—and other signature events that will punctuate the next three years.

Safeguarding the L&C name
Less newsworthy but absolutely critical to the authenticity, ethical framework, and honor of this observance is the National Council’s little-heralded public service work. We have been fighting the good—and very expensive—fight over domain names to ensure that the traveling public is directed to appropriate, information-rich sites along the L&C Trail and protecting the heralded phrases “Lewis and Clark” and “Lewis and Clark Bicentennial.” This aspect of our work focuses on ensuring that these simple phrases remain in the public domain, available for every Bev, John, and Jane to use for their products and programs. It may surprise you to know that there are individuals who wish to legally capture these phrases for their own products and purposes, thus preventing others from doing so without paying fees to them. The National Council has invested thousands of dollars in the effort to protect those phrases so these public treasures will continue their unfettered use by vendors and keepers of historic sites along the trail. In safeguarding these phrases we have not asked for financial assistance but have invested our scarce resources for the good of all.

The same can be said of our work with Native Americans. Four years ago, we created the Circle of Tribal Advisors (COTA). Our number-one priority has been to encourage tribal involvement in the bicentennial, and through the efforts of our leadership, staff, and bicentennial partners, we appear to be succeeding. The consequences of Lewis and Clark’s encounters with the many tribes they met along the trail still reverberate, and we owe it to those tribes that wish to observe the bicentennial to be as helpful as we can.

Thanks to COTA, the tribes are now more aware of the National Council and the Foundation and the good work they do. With continued encouragement, tribal members are joining our ranks in increasing numbers and assuming positions of leadership. We hope these trends continue throughout the bicentennial and beyond.

Looking ahead
It is what we do now that will create the legacies we wish to be known for. The work is not always glamorous, and we will not always be embraced, liked, or rewarded for it, and it certainly does not often rise to the level of a media buzz. Nevertheless, the National Council’s board and staff appreciate the importance of being part of a team that serves with integrity, honesty, inclusiveness, respect, and courage. So please join us for the journey.

—David Borlaug
Michelle Bussard

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The mission of the LCTHF is to stimulate public appreciation of the Lewis and Clark Expedition’s contributions to America’s heritage and to support education, research, development, and preservation of the Lewis and Clark experience.

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Advice to trail stewards: Thinking “small” can yield big results

This is about as green as it gets along the Lewis and Clark National Historic Trail. Take a good look as you are out on the trail this spring and summer. Let’s hope that at the end of the Lewis and Clark Bicentennial we have more than memories of these special places along the trail. Let’s hope we’ve done the work to preserve and protect the trail and still made it possible that millions of visitors had the vacation of a lifetime.

There is still time to plan, find the resources for, and carry out local stewardship projects that will contribute to the overall well-being of the trail and that will give visitors the “sense of place” it is so famous for.

Come to think of it, there’s enough time to say to heck with trail stewardship; time enough to leave it up to another chapter or the local Lewis and Clark Bicentennial Committee or the Signature Event Committee or what have you. That attitude will guarantee the most damage to the trail. It will guarantee a lousy time for visitors, headaches and conflict for private property owners along the trail and for the communities planning commemorative activities for 2003-06.

In the last two years, I have come to appreciate most of the activities, projects and events planned for the bicentennial. Ideas and existing projects range from clean and simple to grand and detailed. There are several large visitor centers under construction and hundreds of thousands, if not millions, of people will see them.

That’s all well and good, but I want to think small today. I want to talk about individual Foundation members and local chapters. I want you to think about neighborhood projects. Thinking small is the key to a successful bicentennial trail-stewardship project. I’m not putting down big trail museums, but there aren’t going to be new visitor centers around each bend in the Missouri, Clearwater, Snake, and Columbia rivers.

Wherever I travel along the trail I am fascinated to learn the local details of the Lewis and Clark story. I’m not alone. Visitors pretty quickly tire of Lewis and Clark when each time they stop someone is retelling the complete story of the expedition. Providing the local flavor of Lewis and Clark is one of the primary ways Foundation members and local chapters and communities can maximize the positive experience visitors have. It’s also a perfect opportunity to convey the stewardship message.

Stewardship checklist
One of the first suggestions I can make, especially to a new chapter along the trail, is to scout out the places you believe will attract visitors. Is this public or private property? If it’s private, have you made it part of the Private Lands Inventory Initiative, interviewed the landowner, and reported the results to the trail stewardship office?

Can visitors at this site get a drink of water? Is there a restroom at hand? Where can they empty the litterbag?

If this is a public site, is the local park board or other governmental unit ready for visitors?

Find out who is in charge at this site, visit with them, and in consultation with other Foundation and chapter members ask how you can help them offer a better visitor experience with a strong stewardship message.

Along the lines of expounding on the local story of Lewis and Clark, members of the Blackfoot River Chapter in Montana are working on a self-guided tour map of the Blackfoot River corridor. Chapter President Ron Cox and other members are documenting the most visitor-friendly routes to important Lewis and Clark sites and will lay out that information on a new satellite image map produced in partnership with a local group called Blackfoot Challenge, based in Lincoln, Montana.

By partnering with Blackfoot Challenge, the Blackfoot chapter is also making the most of limited resources—another key to getting stewardship messages out to the traveling public. There are lots of public-service groups in every corner of the county, and many will jump at the chance to do a project with LCTHF members and chapters. When making a list of partners, don’t forget Girl Scouts and Boy Scouts. Girl Scouts in North Dakota are working with the state’s historical society to spiff up a statue of Sacagawea at the state capitol. In Montana, several Boy Scout troops have expressed an interest in hiking and camping along the Lewis and Clark Trail, and they have a lot of public-service merit badge and Eagle Scout work to do.

There are many more project ideas out there that we would love to hear about. Please share them. Just drop me a note or e-mail and I’ll pass it along to the other chapters.

—Jeff Olson
Trail Coordinator

Jeff Olson can be reached at trail@lewiscoclark.org (P.O. Box 2376, Bismarck, ND 58502; Tel: 701-258-1809 or 701-258-1960).

Foundation seeks candidates for board

The Lewis and Clark Trail Heritage Foundation needs people with ability to serve on its board of directors and in other leadership positions. The Nominating Committee encourages anyone interested to submit a résumé or brief statement of qualifications to Patti Thomsen at W281 N3464 Taylor's Woods Road, Pewaukee, WI 53072-3350 (FAX 414-691-2666, e-mail phthomsen@data tek.net). The committee is also interested in recommendations for candidates.
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“SUGARING” AT CAMP DUBOIS

How the expedition members made one of the important, if seldom cited, provisions for the journey ahead

by PATRICIA B. HASTINGS

In February 1804, the Corps of Discovery was in residence at Camp Dubois, north of St. Louis on the Illinois side of the Mississippi River. Late in the previous fall, the explorers had built their winter quarters on a 400-acre tract owned by a French fur trader named Nicholas Jarrot. The property was well timbered and full of game, and William Clark declared the location “as comfortable as could be expected in the woods on the frontier.”

The Missouri joined the Mississippi opposite Camp Dubois, and in another three months the expedition would be heading up the big river, bound for the Pacific. In the meantime, there was much to do in provisioning for the journey ahead. Meriwether Lewis was gone much of the winter, attending to matters in St. Louis, but under Clark’s supervision the men parched corn, rendered fat into tallow and lard, and made sugar from the sap of maple trees.

Tapping the trees and boiling the sweet, watery sap until it crystallized into sugar could begin as soon as the days warmed enough to get the sap rising in the trees. Sap dripping from a cut in the bark indicated when this was happening. In his weather journal Lewis recorded rising sap on February 11 and 13. Tapping probably began immediately and was well underway by February 20, when he wrote in the day’s detachment orders that the “four men … engaged in making sugar will continue in that employment until further orders, and will receive each a half a gill of extra whiskey pr. day and be exempt from guard duty.” The special consideration given the four unnamed men may suggest the importance of their work. Two months later, as the explorers were making their final preparations, Clark noted that the supplies included two bags of sugar weighing a total of 50 pounds. Probably all of this was the product of their labors at Camp Dubois.

As with most everyday tasks of the Corps of Discovery, Lewis and Clark failed to mention any details of sugar making. For these we must turn to contemporary sources. The sugaring handbook of the times, An Account of the Sugar Maple Tree of the United States, was published in 1792. Its author was none other than Dr. Benjamin Rush, the nation’s leading physician and one of the Philadelphia sages who oversaw Lewis’s pre-expedition training in the field sciences. [For more on Rush, see pp. 29-32.—Ed.]

We don’t know if Lewis or any other member of the
expedition had read Rush’s book, and it is doubtful they would have needed his instructions. Sugaring was a common practice on farms across America, and most of the men would have been familiar with the practice.

Then as now, the favored species for tapping was the sugar maple (Acer saccharum, also known as the hard or rock maple), whose range extends from New England south to North Carolina and Tennessee and west to Missouri and Iowa. The silver maple (Acer saccharinum, a.k.a. soft or white maple), red maple (Acer rubrum), and black maple (Acer nigrum) also yield sweet sap.

SUGAR AND GEOPOLITICS

European Americans had been making maple sugar since learning how from woodland Indians in the 1600s, and by Rush’s day it was regarded as a patriotic way to avoid importing cane sugar from the British West Indies. Lewis’s mentor, Thomas Jefferson, believed the nation’s abundance of maple trees could meet half the world’s demand for sugar.8 Jefferson himself planted sugar maples at Monticello, and at his table he insisted on serving maple sugar exclusively. In 1808 he wrote, “I have never seen a reason why every farmer should not have a sugar orchard, as well as an apple orchard. The supply of sugar for his family would require a little ground, and the process of making it is easy as that of cider.”9 His friend and correspondent Dr. Rush declared the sugar maple a gift to Americans “from a benevolent Providence.”10

Rush’s book and other early documents tell us how farmers of two centuries ago—and presumably the men at Camp Dubois—went about making sugar. Start by cutting the bark with an axe, making a slanting incision one to three feet from the ground. The incision should be three inches deep and six to twelve inches wide. Next, insert a spill or “spile” into the lower end of the incision to direct the seeping sap. The spile can be a narrow shingle or a tube fashioned from an elder or sumac stem whose pith had been reamed out with a piece of wire.11 The sap drips into a bucket set on the ground.

Once the bucket has filled, pour its contents into a larger container—Rush mentions “troughs or large cisterns in the shape of a canoe, or a large manger made of white ash, linden, basswood, or white pine.”12 Whiskey or molasses hogsheads cut in two could also serve this purpose. We know that the expedition’s supplies included one copper and at least 14 brass kettles, and we can assume that some of these were probably used for gathering and boiling sap.13

Boiling the sap took place over an open fire built against a stout back log or stone wall. The kettles were hung from a pole suspended between posts.14 A shed roof
often covered the hearth, protecting it from rain, snow, or blowing ashes. Three kettles of different sizes were usually fixed in a row, the largest at one end and the smallest at the other. Freshly tapped sap was boiled in the large kettle until it thickened enough for transfer to the medium kettle, where it was boiled some more and transferred to the small kettle for rendering into a thick syrup. Next, the syrup was taken off the fire and partially cooled, then briskly stirred with a wooden spoon until it granulated.

Forty gallons of sap made one gallon of syrup, which in turn converted to seven pounds of sugar. If the 50 pounds of sugar recorded by Clark all came from the sugar works at Camp Dubois, the men assigned to the task might have tapped 285 gallons of sap, so we can assume there were plenty of maple trees on Monsieur Jarrot’s property. Sap runs from the first thaw until leaf budding and flows best when day and night temperatures fluctuate between 40 and 20 degrees. The season generally lasts four to six weeks. If sugaring began at Camp Dubois in mid-February, it must have continued at least until mid-March and perhaps into early April.

The 50 pounds of sugar recorded by Clark would not have been very much for such a large party (44 men when it headed up the Missouri), especially one bound on an expedition that wound up lasting more than two years. The captains must have rationed it as carefully as the whiskey. In fact, the sugar outlasted the corps’ supply of grog: the whiskey was gone by the time the explorers left Fort Mandan in the spring of 1805, but when Clark tallied the remaining provisions the following December, he listed an unspecified amount of sugar still in inventory. It must have been completely consumed by September 1806, however, for as the returning explorers approached St. Louis they encountered a trader who gave them, according to Clark, “Some Buisquit, Chocolate Sugar & whiskey.”

**Sacagawea’s Gift**

The journal’s few references to sugar on the trail tell us that it was used at least occasionally for Indian diplomacy. Clark states that on October 12, 1804, the captains presented gifts to several Arikara chiefs of “Sugar Salt and a Sun Glass.”

Another reference relates to Sacagawea and speaks to her feelings toward her brother, the Shoshone chief Cameahwait, with whom she had recently been reunited after five years’ separation. On August 22, 1805, while among the Shoshones on the Continental Divide, Lewis wrote that he presented Cameahwait with some Mandan squashes, which after boiling and eating he declared “the best thing he had ever tasted,” except for a gift from his long-lost sister: a lump of Camp Dubois sugar.

_Foundation member Patricia Hastings lives in Stevensville, Montana. As one of “The Discovery Writers” she has coauthored two books published by Stoneydale Press: Lewis and Clark in the Bitterroot (1998) and Lewis and Clark on the Upper Missouri (1999)._

**Notes**


2 The mouth of the Missouri has shifted four miles south since Lewis and Clark’s day, while the mouth of Wood River, where the Corps of Discovery camped, has moved north a sixth of a mile. The channel of the Mississippi now flows a sixth of a mile to the east of its channel of 1800. See Roy E. Appleman, “Lewis and Clark: The Route 160 Years After,” Pacific Northwest Quarterly, January 1966, p. 8.

3 Gary E. Moulton, ed., The Journals of the Lewis & Clark Expedition, 13 volumes (Lincoln: University of Nebraska Press, 1984-2001), Vol. 2, p. 177. All quotations or references to journal entries in the ensuing text are from Moulton, by date, unless otherwise indicated.


5 Ibid., p. 203. In his field notes Clark, when listing provisions, used what appears to be the letter “w,” which may stand for “weight.” But the notation could also be “lb.” See Moulton, Vol. 2, p. 202, note 4.

6 No known list of provisions purchased by Lewis mentions sugar.


8 Helen and Scott Nearing, The Maple Sugar Book (New York: Schocken Books, 1971), p. 69. Jefferson made these remarks in 1791, when he was Secretary of State.

9 Ibid.

10 Rush, p. 72.


12 Rush, p. 7.

13 Jackson, Vol. 1, pp. 78 and 85.


15 Anonymous, in American Museum, August 1789, p. 100. The unknown author stated that the syrup had to reach the “proper consistency” but is otherwise not specific. Modern sources state that the optimum temperature for converting the syrup into sugar is 238 degrees.

16 These figures derive from the author’s personal experience while working for Coombs Maple Products, in Jacksonville, Vermont.

17 Moulton, Vol. 8, p. 363.
Tough Times at the Bad

Ignorant of plains politics, Lewis and Clark barely averted disaster in their encounter with Black Buffalo’s people

by James P. Ronda

This seems such a simple story. In late September 1804, many Lakota people in Black Buffalo’s Teton Sioux Brulé band were camped near the place where today’s Bad River meets the Missouri. This should have been like any other fall season—a time to prepare for the rigors of a plains winter. But then, village circle life was interrupted by the arrival of strangers from down river.

Such strangers and their objects were nothing new. The Teton’s had years of experience with white traders from St. Louis and the North West Company posts on the Des Moines and St. Peters rivers. But this was the largest, most heavily armed party that band chief Black Buffalo and his people had ever seen. And these strangers seemed less interested in trade than in talking about flags, medals, and a new great father. So the four days in September were filled with dramatic swings between friendship and hostility. There were times of welcome, with high ceremony and great ritual. There were nights bright with music, dancing, food and offers of more personal and intimate comfort. But there were also moments of confusion, dispute, harsh words, rude gestures, and ill-concealed contempt. And more than once tough talk seemed ready to become violent deeds. But in the end, at least seen from the bank, it seemed a simple story. The strangers came; we ate and argued; we stayed and they moved on. We were unimpressed and they seemed convinced we were now an enemy of their great father. Nothing really changes. The seasons come and go. Strangers come and go. We are here; we will always be here.

It does seem to be a simple story. Listen to it again. In the last days of September 1804 an American exploring party commanded by Meriwether Lewis and William Clark spent four days with the Teton Sioux at a place where the Teton River—it was not yet called the Bad—runs into the Missouri. The expedition was there to proclaim American sovereignty, make trade arrangements, and demonstrate the power of the young republic. Of all the Indians along the Missouri, Thomas Jefferson had singled out the Sioux as the nation on which he hoped Lewis and Clark would make “a favorable impression.” But things did not go smoothly. There were shouting matches, pushing and shoving, and what Clark called insolent gestures and “vileous intiuntious.” Once these storms blew over there were good times, with sizzling buffalo steaks, strange music and dance, and offers of bed partners to warm the chilly nights. But mostly the American travelers worried for their safety. Diplomacy seemed less important than
On the first day of the four-day meeting between the Teton Sioux and the Corps of Discovery, a warrior of the Partisan's band locks arms around the keelboat's mast while Clark draws his sword and alerts the men for action.
just moving on. So they threatened, cajoled, blustered, and held their ground. And after four days (and several sleepless nights) the Lewis and Clark Expedition did move on to what they hoped would be happier times at the Mandan villages. Perhaps the president’s explorers thought: we came, we saw, and if we did not conquer at least we got through with skin and honor intact.

It does seem a simple story, whoever tells it. Seen from the bank or told from the boat, it is but a moment in time—easily explained and soon forgotten. But if the past teaches us anything it is that things are rarely what they seem to be. Simplicities dissolve into complexities; reality is always more messy than we imagine. What happened in those few September days where the Bad meets the Missouri was no simple story. If we look closely, pay attention, and listen carefully, we can hear and see stories larger, richer, and deeper—stories that take us into the very heart of the American experience.4

Let’s begin by asking a simple, radical question. Remember that the word “radical” means going to the root of things. Whose story is this? Who can best help us understand those tough days at the Bad? The answer has always been—this is a Lewis and Clark story. What they thought and said is the real story. But the inescapable truth is not so flattering to Jefferson’s travelers. In the long sweep of the Great Plains centuries Lewis and Clark were walk-ons at the Bad. They were the bit players in a drama larger and longer than they ever understood. We might learn more, appreciate more if we shifted our attention away from the captains and their boats, and tried to stand in the camp circle and see through Lakota eyes.

We can do this by recognizing three Teton Sioux men of the Brulés as central figures in the story. Without them there would be no Bad River story. Black Buffalo, Un-Tongar-Sar-bar or more properly Black Buffalo Bull, was widely recognized as the principal chief in his band. A skilled diplomat and distinguished warrior, Black Buffalo had recently (1803) attempted to engineer a truce between his people and their neighbors the Omahas. But that effort had been subverted by Black Buffalo’s most persistent rival for power and prominence. Known as the Partisan—a French word for daring war leader—Torto-hongar was bent on challenging Black Buffalo at every turn. Both men had warrior followings, and both understood that band politics was like public theater. There were parts to play, lines to speak, scenes to steal, and audiences to please. And there was a third man to account for in this Brulé cast of characters. Buffalo Medicine, Tar-ton-gar-wa-ker or more precisely Sacred Buffalo Bull, drifts in and out of this story. The American explorers named him as third chief, courted him, and perhaps saw him as a potential ally. Where he fit in the political struggle between Black Buffalo and the Partisan remains unclear. What is clear is this—all three men were astute politicians who understood both the power game and the larger economic issues present along the Missouri. Compared to these Lakotas, Lewis and Clark were country boys in the hands of real sharpies.

What happened at the Bad is a Teton Sioux story. Think of those four days from September 25 through September 28 as acts in a play, or think of the days as a ballet—part war dance, part dance of diplomacy; part personal, part national; part make-believe, part frighteningly real. This is a story with its own music, its own rhythms, tempos, and cadences. However we imagine it—whether as play, ballet, or Great Plains musical, remember that Lewis and Clark most often did not know their lines, didn’t know the steps, and often couldn’t read the score.

**Day One: Tuesday, September 25**

This was a day filled with sound and fury, tough talk with weapons at the ready. It was a day when ceremony and diplomacy degenerated into pushing, shoving, and general bad temper. When Thomas Jefferson said he hoped to make a good impression on the Sioux, this is not what he had in mind.

Things began well enough. On a clear morning that promised good fortune, the American visitors picked out a convenient sandbar, erected an awning for comfort under the mid-day sun, hoisted the flag of the republic, and waited for Indians to show up. Nothing new here; Lewis and Clark had set up their road show before and would do it again in the coming months. At about 11 o’clock the Brulé chiefs and their retainers appeared. What followed was a remarkable blend of Native American and Euro-American diplomatic rituals. Each group fed the other, the Sioux bringing “great quantities of meat.” By noon the eating was done and the talking could begin. Having left Pierre Dorion with the Yankton Sioux, Lewis and Clark now recognized that they lacked a reliable interpreter. Nonetheless, the council went ahead. There was smoking “agreeable to the usual Custom”5 and then Lewis delivered his stock speech. If this meeting followed the pattern of others—and that seems a good guess—Lewis announced American sovereignty, told the Sioux they had a new great father, promised trade at good terms with St. Louis merchants, and urged peace with native neighbors.
Even with a skilled interpreter such a speech would not have been well received; without an adequate one it must have been almost unintelligible.

But without missing a beat the show rolled on. For Lewis and Clark this was serious business; for Black Buffalo and his friends it may have been nothing more than a pleasant diversion on a hot day. American troops paraded, showing off—so they thought—the martial power of the new nation. And as if to emphasize that power, the captains offered Black Buffalo a peace medal. He already had a Spanish flag; an American medal was one more appropriate gift for so important a man.

Virtually every European explorer who tramped or paddled through North America believed that native people could be awed or cowed by a show of manufactured goods, scientific instruments, and fire-spitting weapons. Lewis and Clark subscribed to that view and decided to invite the Teton chiefs on board the keelboat to see “Such Curiosities as was Strange to them.” Hoping to extend the welcome, a whiskey bottle was handed around as well. At that moment everything came apart—or so it seemed to the Americans. Deciding that now was the time to make a bid for power, to intimidate the visitors, and perhaps embarrass Black Buffalo, the Partisan made his move. Pretending to be drunk, he staggered around the boat, becoming what Clark called “troublesome.” River traders had warned Lewis and Clark this might happen, and those prophecies now seemed reality. Fearing that violence might erupt, the captains decided to hustle the chiefs ashore. Perhaps knowing that this was just a game—and a passing one at that—Black Buffalo and the others left “with great reluctance.” They had played this game with other traders and it had worked before. Here were boats filled with goods. Surely some of those things should make their way from the boats to the bank. Not fully appreciating the complex rules in this Missouri River game, Clark soon followed, “with a view of reconciling those men to us.”

But reconciliation was not part of the dance that day. When Clark’s pirogue landed, an already troubled situation became potentially explosive. Three young Brulés who may have been part of the Partisan’s entourage seized the boat’s bow cable. At the same time, another warrior locked his arms around the pirogue’s mast. As he had done with traders before, the Partisan then moved directly against Clark. He spoke roughly, staggered up against him, complained that not enough presents had been offered, and bluntly told the American that the expedition could not advance up river. This was a test; it was intimidation; it was political showing off; and it had been often done

Drawn for an expedition by Prince Maximilian of Wied-Neuwied, this 1833 map of the Missouri is based on an earlier map by William Clark which has since been lost. The Teton (now Bad) River enters from the left, opposite the present site of Pierre, South Dakota.
before. Lewis and Clark were not being singled out for any special treatment. Given the presence of so many women and children, the Partisan was not about to start a shooting spree. There were real limits here but Clark did not recognize them. Instead, he drew his sword and alerted Lewis and the keelboat crew for action. The keelboat’s swivel gun was swung around and perhaps pointed at the crowd; soldiers with Clark made their weapons ready for action as well. But as quickly as the Partisan had created the tension, Black Buffalo eased it. Fearing casualties if fighting broke out, Black Buffalo took the cable in his own hands and forcefully ordered the warriors away from the boat. The Partisan had had his moment. Black Buffalo now reasserted his authority. From now on the story would be his, and his alone. Or so he hoped.

Surrounded by men with bows strung and arrows out of quivers, Black Buffalo and Clark now faced each other. The pointed and angry words they exchanged, passed through a woefully inadequate interpreter, reveal much about Brulé politics and expedition-Indian relations. Clark insisted that the expedition “must and would go on.”11 And as if to emphasize the force behind those words, Clark boasted that his men “were not squaws, but warriors.”12 Not to be outdone, Black Buffalo let loose his own rhetorical salvo. He shouted that “he had warriors too” and that if the Americans went on, he and his men would kill them one by one. Angered by these threats, Clark later recalled that he “felt My Self warm and Spoke in verry positive terms.”13 Those “terms” included a pointed reminder that the expedition was sent by the Chief of the Seventeen Fires, whose warriors could be called in a moment to punish wayward Indians. And in a remarkable outburst, Clark claimed that he had “more medicine on board his boat than would kill twenty such nations in one day.”14

All this verbal jousting might have gone on even longer except for the arrival of 12 more expedition soldiers “ready for any event.”15 Most of the Brulé warriors quietly pulled back and Clark was left with the chiefs and a handful of Teton. All the posturing, gesturing, and tough talk finally drained away any spirit for more confrontation. Black Buffalo, still in charge of the story, asked if women and children might see the keelboat’s wonders. It was an easy, face-saving request to grant. Clark agreed; Black Buffalo dropped the boat cable. But Black Buffalo let loose his own rhetorical salvo. He shouted that “he had warriors too” and
poor and wished to get some goods” but he did recognize that these visitors from down river were not merchants. Black Buffalo then walked away, still in charge. Clark followed, offering to shake hands. When that offer was rebuffed it seemed that the day was over.

But not quite. Black Buffalo needed some visible statement that he was powerful, that he and he alone could shape the story. Staying on board the keelboat overnight might be just such a sign. Perhaps he recalled what Clark had said about the boat and the powers it might contain. As the American explorers made their way back to the keelboat, Black Buffalo and two of his warriors waded out and asked to be taken aboard the medicine boat. Later that night, as Black Buffalo and his men slept on board, Clark wrote about the day. “Their treatment of me was very rough and I think justified roughness on my part.”

What he neglected to say was that diplomacy and making a “favorable impression” had been replaced by one objective—to leave these Indians behind and get up river. Nothing wrong with that, of course, except that one of the expedition’s diplomatic objectives was slipping away. And for Lewis and Clark, Indians who were supposed to become allies seemed more like enemies. Even more telling, real initiative remained in Teton hands. No wonder that the expedition named its anchorage that night “Bad humored island as we were in a bad humor.”

**Day Two: Wednesday, September 26**

The first day was all strut and show. The Corps of Discovery tried to strut its stuff with speeches, parades, and keelboat curiosities. Black Buffalo’s people showed all their tricks and strategies so often used to frighten white traders and keep control of river traffic in native hands. In the rhythms of threat and welcome, cluster and greeting, the second day was dramatically different. Now the banks of the Missouri were lined with Indians all intently watching the expedition spectacle. Clark thought the Indians displayed “great anxiety.” Perhaps some worried about what medicine the Americans might possess; others might have thought they had lost the battle of wits and wills so often won before. Or maybe Clark was just wrong about what those faces revealed, projecting on them his own worries about the days to come. What looked like anxiety might have been just plain curiosity. After all, the Lewis and Clark Expedition was rapidly becoming the greatest tourist attraction on the river, not to be missed whatever the danger.

But this is still Black Buffalo’s story. Thinking he might keep the visitors in his domain just a bit longer, he asked the expedition to land so that there might be more time for visiting. Lewis and Clark now had to make a real choice. They could spend another day and try to patch up relations with the Sioux or they could make good on their determination to move up river. Once again, Black Buffalo was in charge and he evidently made the decision for the Americans. With Lewis in tow, Black Buffalo headed for the Brulé village while Clark stayed with the keelboat. As things fell out, this was a day of colorful ceremony and solemn ritual, all mixed with food, music, and dancing. And as if to symbolize that this day was different from the one before, Lewis and Clark were carried on white buffalo robes into the great council lodge.

The scene that night in the Brulé village came right out of a George Catlin painting. Fires glowed through translucent tipis as women prepared vast quantities of food for the coming feast. Inside the council lodge some 70 elders and prominent men sat in a circle. Lewis and Clark were in places of honor next to Black Buffalo. If the Partisan was there—and that seems unlikely—he escaped expedition notice. Directly in front of the chiefs a six-foot circle had been cleared for holy pipes, pipe stands, and medicine bundles. American and Spanish flags were also on display. Lewis and Clark noticed the Spanish ensign but wisely decided to ignore it. There was no evidence that night—or in the days to come—that the Teton’s recognized the sovereignty of either Spain or the United States.

The rituals of diplomacy began when a Brulé elder stood and, at least so Lewis and Clark believed, “Spoke approving of what we had done.” But the old man went on to say that his people were poor and that the Americans should not trade with the upriver tribes. What Lewis and Clark still did not understand was the role Sioux middlemen played in the larger Missouri River economic system. There is no expedition record of Lewis and Clark’s reply but they probably repeated the usual words about peace, trade, and the need for the expedition to move on. Because Lewis and Clark learned earlier in the day that there were many Omaha prisoners in the Brulé villages, the Americans saw this as an opportunity to promote Teton-Omaha peace. Clark called on Black Buffalo to free those captives. Black Buffalo’s own attempt at an Omaha peace had been disrupted the year before by the Partisan. In early September, some two weeks before Lewis and Clark arrived, a Teton war party had raided an Omaha village, killing more than 75 Omahas and taking many prisoners. Now everyone expected a counter raid any day. What business was it for visitors to stir in such troubled waters?
The council reached its dramatic climax when Black Buffalo “rose with great State” to address the gathering.\textsuperscript{21} Again hindered by the lack of a skilled interpreter, Lewis and Clark understood little of what the chief said. Clark noted in his journal that the chief spoke “to the Same purpote” as the Brulé elder. Perhaps Black Buffalo used his oratorical skills to further the principal Teton Sioux aim—to keep the expedition from opening direct trade with the Arikaras and other upper Missouri village peoples. His speech finished, Black Buffalo took up the most sacred of the pipes and pointed it in each of the cardinal directions. Before lighting the pipe, he offered a prayer. Still holding the pipe, the chief took some tender dog meat and made what Clark believed was a “Sacrefise to the flag.”\textsuperscript{22} Just what that “sacrefise” meant remains unclear. It certainly did not represent any Sioux recognition of American sovereignty. These solemnities complete, the pipe was passed around for all to smoke.

Once the council was over it was time for a memorable, belly-filling feast. The Americans were presented with all the Sioux delicacies, including platters of roast dog, buffalo, pemmican, and prairie turnips. At nightfall a large fire was made in the center of the village to light the way for musicians and dancers. Throughout the night Brulé men and women sang and danced, recounting the exploits of great warriors and the humiliations of hated enemies. All of this, “done with Great Cheerfullness,” went on until midnight.\textsuperscript{23}

As a weary Lewis and Clark headed to the keelboat, they were offered young women as bed partners. For the Sioux, this proposal combined hospitality and diplomacy. Clark understood the meaning of the offer, writing later that “a curious custom with the Souix as well as the rickeres [Arikaras] is to give handsom squars to those whom they wish to Show some acknowledgements to.”\textsuperscript{24} Repeating the offer the following night, the Indians made it clear that the women stood for the whole band. Clark was urged “to take her and not dispise them.”\textsuperscript{25} Here Clark was up against the dilemma that confronts every traveler who crosses from one culture to another. Whose values and customs should guide the day and rule the night? To have accepted the woman would have violated Clark’s own moral principles; to reject her would show bad manners, ill grace, and further complicate an already-confused situation. Clark made his choice and slept alone.

**Day Three: Thursday, September 27**

There had now been two days of intense excitement for both the Brulés and their visitors. And Clark slept badly on the night of the 26th. The third day of the Teton confrontation had its own odd rhythm and pace to it. At various times during the day both captains went ashore to pay courtesy calls on the Teton chiefs. We know little about those visits except that they attracted considerable attention. Lewis and Clark were now a curiosity not to be missed and they drew crowds everywhere they went. And that evening there was a second round of feasting, dancing, and singing. But all of this could not hide a growing tension in the air. Black Buffalo and the Partisan were still rivals; the American expedition was heading up river no matter what the Sioux did to detain them; and there were rumors of an imminent Omaha attack. And once again the visitors from the medicine boat rejected Sioux women.

All this pent-up tension and emotion exploded that night when a poorly steered pirogue slammed broadside against the keelboat, breaking the anchor cable. Clark’s shouts and the general confusion alarmed Black Buffalo. Convinced that the Omahas were attacking either his village or the Americans, he and some two hundred armed men rushed to the water’s edge, ready for a fight. Eventually the source of the alarm became clear and most of the warriors drifted back to the village. An exhausted and frazzled William Clark—remember he had slept poorly the night before—was ready to believe the worst about Black Buffalo’s people. Other expedition journal keepers—most notably sergeants John Ordway and Patrick Gass, and private Joseph Whitehouse—acknowledged that the Teton were afraid of an Omaha attack, and that they did want to help the endangered American vessel. But Clark saw it differently. He was persuaded that what Black Buffalo and his people did was a “signal of their intentions (which was to Stop our proceeding on our journey and if Possible rob us).”\textsuperscript{26} This view was reinforced by what Pierre Cruzatte heard from the Omaha prisoners. Those captives told Cruzatte—who was part-Omaha and spoke the language—that the Sioux were intent on stopping the Corps of Discovery. So it was yet another sleepless night.

Black Buffalo’s people had now played host to the American visitors for three days. Those were times filled with isolated moments of trouble and misunderstanding and long periods of friendly visiting and good company. But the central issue remained unresolved and potentially explosive. Lewis and Clark wanted Sioux guarantees of safe passage on the Missouri for St. Louis traders. Such guarantees really amounted to acknowledging American sovereignty. Moving up river to the Mandan villages without giving any more gifts or paying any more social calls
now came to represent to Lewis and Clark a personal and a national victory. That determination collided with the equal determination of Black Buffalo and the other chiefs to both advance their own prestige and protect Sioux economic interests. In the eyes of men like Black Buffalo and the Partisan, the continued presence of the American expedition posed something of a dilemma and an embarrassment. Both men needed to act forcefully to vindicate personal claims to leadership. Lakota people expected their chiefs to obtain gifts from river traders. A chief who could not deliver was bound to have his authority openly questioned. At the same time, faced with a well-armed party, the chiefs feared pressing their demands too far. If there was a bloody incident with Indian casualties, the chiefs would surely lose stature. Pressure tactics that proved effective in intimidating poorly-armed traders who needed Sioux cooperation would not work against a military expedition whose goals went far beyond the ledger book. It was against this background of cross purposes, face saving, and the expedition’s determination to leave the Bad River country that the last day of the Teton Sioux confrontation played itself out.

**Day Four: Friday, September 28**

Much of that morning was spent in a hapless search for the keelboat anchor. By mid-morning, Sioux on-lookers lined the banks, watching what must have seemed a most unusual piece of work. As the captains were about to order the sail hoisted, Black Buffalo and the other chiefs appeared. Allowed to come on board for what Lewis and Clark hoped would be their last visit, the chiefs began their now-familiar routine. There were demands that the expedition delay its departure—demands made more ominous by the presence of well armed warriors. Several of the Partisan’s followers seized the keelboat bow line. When Clark complained to Black Buffalo, the Brulé chief hurried to reassure Lewis that the Indians only wanted tobacco. Weary and angry at all these demands and delays, Lewis refused to give any more gifts. Once again he ordered all hands ready for departure, had the sail hoisted, and detailed one man to untie the bow cable.

At that moment what had been simmering for three days seemed ready to boil over. The bow cable, first untied by a crewman, was again seized by several of the Partisan’s warriors. At the same time, the Partisan demanded a flag and some tobacco. Lewis responded angrily, ordering all Indians off the boat while Clark threw a carrot of tobacco on the bank. Near to losing his temper, Clark took the firing taper for the port swivel gun in his hand and “spoke so as to touch his [Black Buffalo’s] pride.” Clark did not record his sarcasm in his journal but he later told Nicholas Biddle, “I threw him tobacco saying to the chief you have told us you are a great man—have influence—take this tobacco and shew us your influence by taking the rope from your men and letting go without coming to hostilities.” Clark also had a “rangeling” exchange with the Partisan. Violence seemed seconds away as warriors hurried women and children away from the bank. That had not happened before, and it was a sure sign of just how desperate things had suddenly become.

It was Black Buffalo were finally calmed the impending storm. In one way or another the story on these four days had always been his to tell, and now once again he reasserted control over the narrative flow of events. Black Buffalo promised the expedition safe conduct if tobacco, always a ceremonial tribute, was given to the warriors holding the cable. He ignored the Partisan’s demands—just one more way to gain stature over a dangerous rival. Perhaps not fully understanding what Black Buffalo was offering, Lewis and Clark balked at the compromise, saying that they “did not mean to be trifled with.” Seeing the captains hesitate, Black Buffalo played his own card. “He was mad too, to see us stand so much for one carrot
of tobacco.” Black Buffalo’s sharp words seemed to bring Lewis to his senses and he tossed the tobacco to the Indians. Black Buffalo did his part, jerking the cable from the warriors’ hands. At that instant the Teton confrontation was over.

In those moments when Clark was ready to fire the swivel gun, when Brulé warriors had bows strung, when the Partisan was shouting defiance, and when women and children fled from the bank, it was Black Buffalo who showed both firmness and the ability to compromise. Perhaps he now realized that nothing further could be gained by delaying Lewis and Clark. There would be other parties from St. Louis, less well-armed, with more goods, and easier to intimidate. Allowing one boat to pass was hardly a defeat. Black Buffalo had obtained ceremonial tribute from the Americans and had lost nothing in the eyes of his people. But the ambitions of the Partisan were yet unfulfilled. His contest with Black Buffalo gave him reason to continue the confrontation. The last minutes of the encounter were less a conflict between Indians and the Corps of Discovery than a tussle between rival band leaders. In the end it was Black Buffalo who engineered a way out, allowing each party to escape with some dignity intact and without bloodshed.

“PIRATES OF THE MISSOURI”

So it is not a simple story after all. What does it all mean? How and why did those tough days at the Bad happen at all? William Clark was sure he knew the answers to those questions. During the winter at Fort Mandan, Clark prepared his comprehensive “Estimate of the Eastern Indians,” and it was in this document that he let loose a torrent of harsh language aimed at Black Buffalo’s people. Labeling the Teton Sioux as “the vilest miscreants of the savage race” and “the pirates of the Missouri,” Clark insisted that American commercial interests would never be safe until the Sioux were “reduced to order, by coercive measures.” And one of those coercive measures, so Lewis and Clark came to believe, was an alliance of village Indians—Arikaras, Mandans, and Hidatsas—aimed against the Sioux. After September 1804 such an anti-Sioux alliance became the centerpiece of expedition diplomacy on the plains. So much for Jefferson’s desire to make a “friendly impression” on the Sioux. Never mind that village Indians would never accept such an alliance. And never mind that Clark’s understanding of what happened at the Bad was both naïve and wrongheaded.

Thinking about the uneasy days at the Bad River as Black Buffalo’s story, we might pay attention to two things that Lewis and Clark either did not know or failed to appreciate.

First, there was politics and power. In 1804 the politics of the northern Great Plains was every bit as complex as the politics of Washington. D.C. Lewis and Clark arrived at an exceptionally tense moment in Brulé band political history. Black Buffalo and the Partisan had long been rivals. Recent troubles with the Omahas had only intensified the competition between these two men and their followers. Playing to the native galleries, Black Buffalo and the Partisan were ready to use any opportunity to enhance personal prestige and influence. Politics is an unpredictable play with uncertain consequences and unforeseen conclusions. Lewis and Clark came on stage without the appropriate script, knowing neither their lines nor the roles of the other actors. Little wonder that all the nuances and subtleties of the performance were lost on Jefferson’s traveling troubadours.

ECONOMIC MIDDLE MEN

But the story Black Buffalo tells about those days at the Bad is more than the competition between two forceful men. By 1804 the Teton bands along the Missouri were part of a large-scale economic trade system that reached east to present-day Minnesota, north up the Missouri, and then deep into the West. Anthropologists call this the Middle Missouri Trade System. We might think of it as a circle of hands—native and non-native—exchanging all sorts of goods and services. Each year the Teton Sioux bands traveled to a trade fair known as the Dakota Rendezvous, held on the James River in east-central South Dakota. There the Teton met Sisseton and Yankton Sioux who had obtained European manufactured goods from North West Company posts on the Des Moines and St. Peters rivers. The Tetons used those items and buffalo robes in their agricultural trade with Arikara village farmers. With Sioux population growing, a secure food supply was essential. So long as the Tetons could control the flow of European goods to the village farmers, the Sioux position would be reasonably safe. But if the villagers gained easy direct access to St. Louis traders, the role of the Tetons as brokers and middle men would be lost. Black Buffalo and his people understood all of this. They were not the pirates of the Missouri; they were the river toll keepers, intent on preserving their place in a complex, ever-changing river world.

This story—Black Buffalo’s story—is centrally important because it draws us back to fundamentals, the es-
sentials in the history of North America.

First: There are no simple stories. All good stories—and the story of Black Buffalo’s people and the Corps of Discovery is surely a good story—are complicated stories. One of the best things we can do is embrace complexity. Black Buffalo, the Partisan, Lewis, and Clark did not live in some simple time, remote from change and close to the Garden of Eden. Their worlds were as complex as ours.

Second: Black Buffalo’s West, the West of Lewis and Clark, was an extraordinarily diverse place. Black Buffalo ushers us into a West of remarkable cultural and biological diversity. It was a crazy-quilt world then; it is now. Black Buffalo reminds us that the citizens of North America come in many shapes, sizes, genders, and colors.

Third: And most important—this story is all about mutual encounter, shared discovery. Like Lewis and Clark, Black Buffalo and his people were explorers. They lived in an ever-changing, shape-shifting world. The Missouri River world of 1804 was not what it had been a century before. Tidal waves of disease, oceans of European goods, and the growing presence of Euro-American outsiders made it a new world. Black Buffalo and his people had to explore that world, had to make sense of it, just as Lewis and Clark were doing.

Writing about the Missouri River and the Great Plains, George Catlin said that it was “a place where the mind could think volumes.” As we consider the events at the Bad River nearly two hundred years ago we might work at thinking volumes. We might consider that for the United States, the 19th-century West began on the plains at the Bad River with a confrontation between Black Buffalo’s people and American soldiers, and that same century ended not more than 135 miles south and west of that place at Wounded Knee with a similar confrontation between Big Foot’s people and American soldiers. The two places—the Bad River and Wounded Knee—bracket a century whose events and people still live in memory, walk in the present, and, in ways often unknown to us, shape the future.

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Notes

1 While built on the narrative framework provided in Chapter Two of my Lewis and Clark among the Indians (1984), this essay represents a thorough reconsideration of a crucial episode in the history of the expedition and the northern Great Plains.


5 JLCE, Vol. 3, p. 112 (Clark).

6 Ibid. (Clark).

7 JLCE, Vol. 3, p. 113 (Clark).


9 Ibid. (Clark).

10 JLCE, Vol. 3, p. 113 (Clark).

11 JLCE, Vol. 9, p. 68 (Ordway).

12 Ibid. (Ordway).

13 JLCE, Vol. 3, p. 113 (Clark).

14 JLCE, Vol. 10, p. 45 (Gass); JLCE, Vol. 11, p. 86 (Whitehouse).

15 JLCE, Vol. 3, p. 113 (Clark).

16 JLCE, Vol. 9, p. 68 (Ordway).

17 JLCE, Vol. 3, p. 113 (Clark).


19 JLCE, Vol. 3, p. 117 (Clark).

20 JLCE, 3, p. 116 (Clark).

21 JLCE, 3, p. 118 (Clark).

22 Ibid. (Clark).


24 JLCE, Vol. 3, p. 163 (Clark).


29 JLCE, Vol. 9, p. 72 (Ordway).

30 Ibid. (Ordway).


In Thomas Jefferson’s instructions to Meriwether Lewis—what Paul Russell Cutright has called his “blueprint for discovery”—the only geological subjects considered worthy of note were paleontology and mineralogy.¹ Jefferson told Lewis to be on the lookout for “the remains or accounts of any [animals] which may be deemed rare or extinct; the mineral productions of every kind; but more particularly metals, limestone, pit coal, & saltpetre; salines & mineral waters … [and] volcanic appearances.”²

Given Jefferson’s instructions, it’s not surprising that the journal entries relating to earth science have been judged by some scholars, including Donald Jackson, as “routine and unexciting.”³ Jackson’s take on the matter aside, a careful reading of the captains’ geological entries yields much detailed and generally accurate information. Assume for a moment that you are a mid-19th-century geologist planning to survey north-central Montana between the Missouri Breaks and the White Cliffs. The Corps of Discovery made its way up this stretch of the Missouri River during the last week of May, 1805, and you would find the journals a good start for understanding its geology. As a professional geologist and a Lewis and Clark enthusiast I have come to know this country well and am impressed by what the captains had to say about it, as suggested by the following journal excerpts and commentary.
“high broken and rocky”

Lewis & Clark as geological observers

by John W. Jengo

* * *

The Country on either hand is high broken and rocky; the rock is either soft brown sandstone covered with a thin strata of limestone, or a hard black rugged grannite, both usually in horizontal stratas and the Sandy rock overlaying the other.—Salts and quarts still appear, some coal and pumice stone also appear.7

—Lewis, May 25, 18054

Lewis was wrong in stating that the formation includes granite, but he was correct about the sandstone, limestone, and coal. Sandstone and limestone are sedimentary rocks formed, respectively, by deposits of sand and calcite laid down over time. This can occur in either a continental or marine environment. The presence of coal—formed on land from ancient vegetation—indicates that the sedimentary rocks along this part of the Missouri are continental in origin. Long after Lewis and Clark passed this way, geologists determined that these rocks were laid down primarily during the Cretaceous Period, 135 million to 65 million years ago, when dinosaurs roamed Montana.

* * *

the black rock has given place to a very soft sandstone which appears to be washed away fast by the river, above this and towards the summits of the hills a hard freestone of a brownish yellow colour shews itself in several stratas of unequal thicknesses frequently overlain or incrustated by a very thin strata of limestone which appears to be formed of concreted shells.

—Lewis, May 26, 1805
Here Lewis describes the variability of different rock types along this part of the Missouri. In the phrase “concreted shells” we find one of the captains’ few references to fossils. From Lewis’s description a geologist can easily visualize the impossibly dense, tightly packed, cemented mass of fossil oyster shells that make up these so-called “shell hash” deposits.

* * *

The country which borders the river is high broken and rocky, generally imbeded with a Soft Sand Stone higher up the hill the Stone is of a brownish yellow hard and gritty those Stones wash down from the hills into the river and cause the Shore to be rocky &c. which we find troublesome to ascend.

—Clark, May 26, 1805

The first part of Clark’s entry echoes Lewis’s entry of the day before. His description of stones washing into the river indicates the active erosion one finds along this part of the Missouri. A geologist would correctly infer from the passage that this stretch of river is in the early stages of canyon formation.

* * *

the bluffs are very high steep rugged, containing considerable quantities of stone and border the river closely on both sides; ... great quantities of stone also lye in the river and garnish it’s borders, which appears to have tumbled from the bluffs where the rains had washed away the sand and clay in which they were imbeded. the bluffs are composed of irregular tho’ horizontal stratas of yellow and brown or black clay, brown and yellowish white sand, of soft yellowish white sand stone and a hard dark brown free stone, also of large round kidneyformed and irregular seperate masses of a hard black Iron stone, which is imbeded in the Clay and sand ... some coal or carbonated wood still makes it’s appearance in these bluffs, pumicestone and birnt hills it’s concommutants also are seen.

—Lewis, May 27, 1805

Lewis provides a lot of perceptive detail here, particularly about the thickness and varied coloration of the rocks now defined as the Judith River Formation.6 It is easy to visualize from his description the sandstone layers alternating with layers of siltstone and shale. The layers’ varying rates of erosion produce the stark, badland topography of the Missouri Breaks. Lewis notes the continuing presence of coal seams but makes clear that these beds are less prominent than the sandstone and shale. He also astutely observes that the “kidneyformed and irregular” ironstone (a term still used to describe a very hard, iron-rich sedimentary rock) are imbeded within the formation.

* * *

here the hills recede from the river on both sides, the bottoms extensive particularly on the Stard. Side where the hills are comparatively low and open into three large vallies which extend for a considerable distance in a Northwardly direction.

—Lewis, May 28, 1805

at this place the hills again approach the river closely on both sides, and the same seen which we had on the 27th and 28th in the morning again presents itself.

—Lewis, May 29, 1805

On May 28 the explorers entered a relatively open part of the river, but the next day the hills again closed in. The identification of this break in the cliff-dominated Missouri would alert a geologist to faults or other structural features that are natural channels favoring the formation of river beds. In fact, this structurally complex region is pervaded by faults, and the Judith River, a major tributary of the Missouri, enters the river on the south side.6

* * *

the banks and sides of the bluff were more steep than usual and were now rendered so slippery by the late rain that the men could scarcely walk ... the earth and stone also falling from these immense high bluffs render it dangerous to pass under them.

—Lewis, May 30, 1805

This passage makes it easy to appreciate the proximity of the sheer rock cliffs. The description of these steep, confining cliffs is in marked contrast to the entry of just two days before about receding hills and open bottomlands. The changing topography results from the different rocks exposed at the waterline. This would suggest
two possible scenarios. One is that a steep river gradient is cutting through different rock formations. The other is that geological forces have tilted the formations, which are normally horizontal, toward the river’s flow, thereby increasing its cutting angle. Mapping by geologists shows, in fact, that these formations are tilted.7

* * *

The bluffs of the river rise to the hight of from 2 to 300 feet and in most places nearly perpendicular; they are formed of remarkable white sandstone which is sufficiently soft to give way readily to the impression of water; two or three thin horizontal stratas of white free-stone, on which the rains or water make no impression, lie imbeded in these cliffs of soft stone near the upper part of them.

—Lewis, May 31, 1805

The Corps of Discovery had now entered the White Cliffs area. Lewis is describing the Virgelle Sandstone, a “member” or subunit of the Eagle Sandstone Formation.8 As Lewis points out, the layers of this sandstone vary in hardness and therefore erode at different rates, creating the columns, parapets, and pyramids that inspired his famous description (quoted below) of “seems of visionary inchantment.” The Virgelle’s distinctive creamy whiteness comes from volcanic ash that blanketed ancient barrier islands and off-shore sandbars when these rocks were forming during the Cretaceous.9

* * *

Lewis continues:

“the earth on top of these Cliffs is a dark rich loam, which forming a gradually ascending plain extends back from 1/2 a mile to a mile where the hills commence and rise abruptly to a hight of 300 feet more.”

From this description a geologist would recognize the obvious change from sandstone (which forms steep cliffs) to shale (which weathers to form long slopes) in the White Cliffs area.

* * *

A little further, Lewis writes,

“The water in the course of time in descending from those hills and plains on either side of the river has trickled down the soft sand cliffs and worn it into a thousand grotesque figures, which with the help of a little imagination and an oblique view at a distance, are made to represent eligan ranges of lofty freestone buildings, having their parapets well stocked with statuary; columns of various sculpture both grooved and plain, are also seen supporting long galleries in front of those buildings; ... some columns standing and almost entire with their pedestals and capitals; other retaining their pedestals but deprived by time or accident of their capitals, some lying prostrate an broken othes in the form of vast pyramids of coninc structure bearing a seris of other ... nitches and alcoves of various forms and sizes are seen at different hights as we pass. ... the thin stratas of hard freestone intermixed with the soft sandstone seems to have aided the water in forming this curious scenery. As we passed on it seemed as if those scenes of visionary inchantment would never have [an] end.

This passage is justly celebrated for its flights of romantic fantasy, but the line about “thin stratas of hard freestone” shows how well Lewis understood how erosion works. From this passage a geologist would recognize that the sandstone is weakly cemented and therefore vulnerable to the erosive effect of water percolating through it. As Lewis suggests, intermingled layers of harder “freestone” rocks (also composed of sandstone, but with a slightly different composition) erode less readily. By “freestone” Lewis may also have been referring to certain circular, iron-rich concretions for which the Virgelle Member is noted. These concretions act as protective capstones and are chiefly responsible for the pulpts, toadstools, and other usual features.

* * *

Lewis goes on:

for here it is too that nature presents to the view of the traveler vast ranges of walls of tolerable workmanship, so perfect indeed are those walls that I should have thought that nature had attempted here to rival the human art of masonry ... . These walls rise to the hight in many places of 100 feet, are perpendicular, with two regular faces and are from one to 12 feet thick, each wall retains the same thickness at top which it possesses at bottom. The stone of which these walls are formed is black, dence and
durable ... these are laid regularly in ranges on each other like bricks, each breaking or covering the interstice of the two on which it rests. ... These walls pass the river in several places, rising from the water’s edge much above the sandstone bluffs, which they seem to penetrate; thence continuing their course on a straight line on either side of the river through the gradually ascending plains, over which they tower to the height of from ten to seventy feet until they reach the hills, which they finally enter and conceal themselves. These walls sometimes run parallel to each other, with several ranges near each other, and at other times intersecting each other at right angles, having the appearance of the walls of ancient houses or gardens.

“These walls,” technically termed dikes, are composed of an igneous rock known as shonkinite. They were formed some 50 million years ago, when molten rock deep within the earth rose to fill vertical fractures within the Eagle Formation. Later, water carved away the softer surrounding rock, leaving these freestanding structures. Lewis’s deliberate narrative accurately conveys their density and salient nature, and his description of their bricklike jointing pattern is right on the mark.

**Hayden’s Debt to Lewis & Clark**

The detailed geological and physical descriptions of the Missouri River Breaks and White Cliffs, paraphrased and better punctuated, survived nearly intact in the Biddle version of the journals (published in 1814) and thus were available to any early geologist fortunate enough to find or borrow a copy. It would be a half century before geological exploration of the Missouri River Breaks and White Cliffs area would begin in earnest. The pioneering geologist of the American West, Ferdinand Vandiveer Hayden, explored the Missouri as far up as Fort Benton in 1854-55, and beginning in 1856 he published in the *Proceedings of the Philadelphia Academy of Science* a series of papers describing its geology. We know that Hayden was familiar with the captains’ journal observations, for he refers to their description of the region (almost certainly derived from Biddle) in his 1860 paper “A Geological Sketch of the Estuary and Fresh-water Deposits of the Bad Lands of the Judith,” published in *Transactions of the American Philosophical Society*—a most appropriate venue considering that Jefferson and Lewis were members of that distinguished society. Hayden remarks that the captains gave an “accurate description of the physical features of this remarkable region,” particularly in the section they named the “Stone Walls.” By naming the Judith River Formation in 1871 after Clark’s Judith River, Hayden also helped ensure that the captains’ legacy would live on in geological literature.

It may never be known how much preliminary knowledge Hayden or his colleagues in the U.S. Geological Survey of the Territories gained from the journals of Lewis and Clark before their forays into Montana. And it must be recognized that the captains were not geologists, were believed to have carried only one book that had anything to say about geology, entertained no speculations on the age of the rocks, and according to both Cutright and Jackson recorded less about geology as the expedition proceeded westward. Yet the observations they did make remain revealing and useful. Speaking from experience, I know that anyone preparing for a pioneering survey and mapping exercise like Hayden’s would have been grateful for this advance knowledge about a region of the West that was *terra incognita* for geologists.

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and finds time to travel a portion of the Lewis and Clark Trail each summer.

NOTES
4 Gary E. Moulton, ed., The Journals of the Lewis & Clark Expedition, Vol. 4 (Lincoln: University of Nebraska Press, 1991), p. 195. All quotations or references to journal entries in the ensuing text are from Moulton, Vol. 4, by date, unless otherwise indicated. Here and elsewhere in quoted journal sections referring to sedimentary bedding, Lewis uses ”strata” as the singular and ”stratas” as the plural. In the explanatory text the author uses ”strata” (correctly) as the plural and ”layer” as the singular (avoiding the grammatically correct but relatively unfamiliar term ”stratum”).
5 Geologists use the term “formation” to describe a lithologically distinct body of rock.
6 Clark named the river for his cousin and future wife, Judith (Julia) Hancock. Lewis named it the Big Horn, but Judith prevailed. Today’s Big Horn River is a tributary of the Yellowstone. See Moulton, p. 220n, and map 52 of Vol. 1 (Atlas of the Lewis & Clark Expedition).
7 In sedimentary formations, the age of the rock layers, or strata, varies with depth—the older strata, which were laid down first, are toward the bottom and the younger strata are toward the top. Travelers going up a river that cuts through a horizontal sedimentary formation, therefore, are exposed to increasingly younger rocks. The formations along this part of the Missouri are not horizontal but tilt toward the east, in the same direction as the river’s flow but at an angle significantly steeper than the river gradient. Therefore (and somewhat counterintuitively), travelers are exposed to older rocks as they ascend the river between the Missouri Breaks and the White Cliffs.
8 The Eagle Formation was named by Walter Harvey Weed in 1899 for Eagle Creek (U.S. Geological Survey Geological Atlas, Fort Benton folio, No. 55). Eagle Creek is a tributary of the Missouri entering on the north bank near the explorers’ campsite of May 31, 1805. Lewis and Clark called it Stonewall Creek, but the name did not prevail. If it had, the rocks forming the White Cliffs now might be known as the Stonewall Formation. This would have caused confusion—at least among geologists—since Lewis and Clark also described ”Stone Walls” a little farther upriver that are geologically distinct from the White Cliffs. These are dike features composed of shonkinite, a rare mafic silicate with a unique mineralogical composition, principally blocky crystals of glossy black augite and orthoclase (potassium) feldspar, along with other minerals such as biotite, microcline, olivine, and nepheline.
9 The Virgelle Member is named for a nearby river town. Another soft, Cretaceous sandstone would provide Clark, on his return down the Yellowstone River, with a rough-hewn canvas to carve his signature. Thus, the sandstones of Montana have furnished us with two priceless treasures—Lewis’s sublime White Cliffs prose and Clark’s bold inscription on Pompeys Pillar, carved July 25, 1806.
10 Named after the town of Shonkin, some 30 miles southwest of the White Cliffs. According to the laws of stratigraphic nomenclature, distinct rock formations are named for the nearest prominent geographical feature at the type locality. Photographs of shonkinite dikes from this region of Montana were reproduced in several early geology textbooks, including Branson and Tarr, Introduction to Geology, 1935. For more on shonkinite, see note 8.
11 The number of “walls” depicted on the expedition-related maps varies. Three eastern walls and one western “rock” are shown on the Lewis and Clark rough draft (Moulton, Atlas, map 41), five eastern walls and one western “rock” are shown on the finished map copy (Moulton, Atlas, map 53), and four eastern walls and one western wall appear on the Clark-Maximilian Sheet 24 (Moulton, Atlas, map 60). This by no means represents the true number of dikes (they actually number in the hundreds), although the variable orientation of the depicted “walls” on these maps does hint at their spatial complexity. The most consistent feature is the “rock” depicted along the western shoreline of the Missouri, which may correspond to today’s Citadel Rock.
12 In the following sentence Lewis notes that he “walked on shore this evening and examined these walls minutely and preserved a specimen of the stone.” We don’t know if the specimens made it back to St. Louis because it is not specifically mentioned in the list of items to be shipped to Washington after the expedition’s return. Charles Willson Peale mentions that “some minerals &c.” were part of a shipment of effects Lewis sent via New Orleans in 1809, but this shipment should not be confused with the specimens shipped back from Fort Mandan in the spring of 1805 because we know the Fort Mandan specimens were received by Thomas Jefferson in October 1805 and were forwarded to Peale later that month. Some of these specimens were lost, and those that survived were subsequently integrated into the collection of the Academy of Natural Sciences, in Philadelphia. Without their original tags it is impossible to identify them with certainty, although the shonkinite specimen, because of its unique mineralogy, may yet be identified in the academy’s collections. See Jackson, Letters, Vol. 2, pp. 469-470 and 476-478, and Vol. 1, pp. 260-270; also Moulton, Vol. 3, pp. 472-478.
13 Ferdinand Vandiveer Hayden (1829-1887) was a trailblazing geologist and explorer of the West. He directed the U.S. Geological Survey of the Territories, which focused on Nebraska, Wyoming (including the region that became Yellowstone National Park), Colorado, Idaho, and Montana. His pioneering work in the Great Plains and Rocky Mountains laid the foundation for the creation of the U. S. Geological Survey.
15 Cutright, Lewis and Clark, p. 57, and Jackson, Jefferson and the Stony Mountains, p. 197.
Benjamin Rush

Man of Many Parts

The eminent physician and adviser to Meriwether Lewis was no stranger to controversy

by Charles Greifenstein

Benjamin Rush was the most famous physician in America in 1803, the year Meriwether Lewis called on him in Philadelphia, and the first American physician to achieve a significant reputation in Europe. He advised Lewis on how to keep his men healthy and suggested health-related questions to ask Indians on the expedition that Lewis would soon lead to the Pacific.

But Rush was much more than a physician. In 18th-century terms he was a man of parts: politician, social reformer, educator, businessman, writer, committed Christian, and ardent patriot. He was a complex and sometimes contradictory personality: compassionate and public-spirited, outspoken and self-righteous; intellectually curious but also stubborn and at times blinded by his own convictions. He took life seriously and never developed a real sense of humor. Rush led a life as full, varied, inspiring, and controversial as any of America’s Founding Fathers.

Benjamin Rush was born on December 24, 1748. Three years later, after his father died, his mother established a grocery and provision store. Her earnings from that, along with income from rentals and the sale of some property inherited from her husband, provided for the family.

Rush was sent to a school in Maryland run by an uncle, Samuel Finley. A staunch Presbyterian, upright and kindly, Finley became the first of several mentors and father figures for Rush. At age 13, Rush left Finley’s school for the College of New Jersey (now Princeton University), a Presbyterian institution presided over by another of Rush’s role models, the cleric Samuel Davies. Through Davies, Rush developed beliefs that remained with him all his life about the value of education, the evil of slavery, and the linkage between patriotism and religion.

The Making of a Physician

A gifted speaker and writer, Rush thought about becoming a lawyer, but instead took Finley’s advice to study medicine, which his uncle deemed more useful to humanity. At age 15 he began an apprenticeship with John Redman, one of Philadelphia’s most respected physicians.
For the next five years Rush assisted Redman—mixing drugs, keeping books, accompanying him on patient visits—while developing his lifelong habits of hard work and intellectual self-improvement.

In 1766, the 20-year-old Rush sailed for Great Britain to continue his medical education, enrolling at the University of Edinburgh after a stopover in London to visit colonial agent Benjamin Franklin. Rush’s Edinburgh mentors included anatomist Alexander Monro II, chemist Joseph Black (discoverer of carbon dioxide), and William Cullen, a noted classifier of diseases. Following his graduation in 1768, he spent a year in London and Paris rounding out his medical education and socializing with such literary and artistic notables as Samuel Johnson, Oliver Goldsmith, Benjamin West, and Sir Joshua Reynolds. His European experience gave Rush an intellectual grounding and social polish unusual for Americans of his day.

Back in Philadelphia in 1769, Rush began practicing medicine, chiefly among the poor. As noted by biographer David Freeman Hawke, “His natural courtesy and kindness, his unfeigned sympathy for the distressed, won a wide following among the city’s less prosperous. He soon knew the inside of virtually every hut and tenement in the city.”

Rush charged only what he thought a patient could afford, which was often nothing, but as word of the young physician’s generous and conscientious nature spread he began to attract wealthier patients. Meanwhile, the College of Philadelphia appointed him a professor of chemistry (the first in British North America). Rush went on to hold a medical professorship at the college’s successor institution, the University of Pennsylvania. During a long and fruitful academic career, Rush taught nearly 3,000 students.

Between teaching and caring for patients, Rush found time to write. He did so prodigiously—filling notebooks with observations, engaging in lively correspondence with Thomas Jefferson and other intellectuals, and turning out essays and books on a range of subjects besides medicine, including moral philosophy, education, slavery, natural history, farming, and anthropology.

Rush and the Revolution
As a product of the Enlightenment Rush believed fervently in the equality of all men and in the future of a united, independent America based on the ideals of liberty and justice. When the First Continental Congress met in Philadelphia in 1774, Rush, although not a delegate, was a close observer and became friends with Jefferson, George Washington, Samuel and John Adams, and other leading patriots. He later championed Washington’s appointment as commander of the Continental Army and helped Thomas Paine find a printer for his revolutionary manifesto Common Sense; it was Rush himself who suggested the title.

As a Pennsylvania delegate to the Second Continental Congress, Rush gained immortality as a signer of the Declaration of Independence. He helped organize the army medical corps, and as a senior medical officer he tended to the wounded at the battles of Trenton, Princeton, and Brandywine. The preventable deaths of soldiers from disease appalled Rush and prompted an essay on military hygiene. Much of his advice, which included such seemingly obvious points as the need for officers to keep their men well fed, clean, and dry, would be echoed a quarter century later in his medical instructions to Lewis.

Strongly opinionated and never shy about speaking his mind, Rush was good at making enemies as well as friends. He wound up on the losing side of controversies regarding Washington and William Shippen, the army’s chief medical officer, and after 1777 he largely withdrew from politics. He was married by then and a father; his medical
practice was thriving, and in 1780 he began teaching again after his classes, disrupted by the war, resumed at the College of Philadelphia.10

The rest of Rush's life (he died in 1813, at age 67) was devoted to medicine and social reform. He was a charter member of the College of Physicians of Philadelphia, an organization dedicated to the dissemination of medical knowledge. Rush was deeply interested in mental illness and urged humane treatment of the insane.11 His book Medical Inquiries and Observations upon the Diseases of the Mind, which appeared in 1812, was the first treatise on mental disorders published in the United States. He has been called the father of American psychiatry.12

RUSH THE REFORMER

Among Rush's many causes was abolition. As far back as 1773 he had written an antislavery essay arguing that the alleged moral deficiencies of Negroes was not inherent but "the genuine offspring" of bondage.13 In 1803, Rush helped found the Pennsylvania Society for Promoting the Abolition of Slavery—the nation's first abolitionist organization—and served for 10 years as its first president. He also aided Philadelphia's free-black community by assisting in the establishment of the African Methodist Episcopal Church.

Temperance was another issue to which he lent his pen. One of his most famous essays is "An Enquiry into the Effects of Spirituous Liquors upon the Human Body." Published in 1784, it details in podium-thumping prose the baneful effects of distilled spirits.14

Rush was also a staunch advocate of penal reform. He opposed capital punishment, condemned the public spectacle of placing petty criminals in stocks, and argued that incarceration should lead to rehabilitation. Rush's views were in line with his patriotic belief in America's ability to create a just, free society capable of bringing out the best in people.

Educational reform was yet another of Rush's causes. "Thoughts upon Female Education," an address he delivered in 1787, made the case for granting women the same opportunities to learn as men. If some of his sentiments seem patronizing today—he believed, for example, that an educated woman made a better wife and a mother better equipped to instruct her sons "in the principles of liberty and government"—they were progressive for their time.15 Rush criticized corporal punishment, favored universal education and the establishment of a national university, and played a key role in the founding of Dickinson College, in Carlisle, Pennsylvania.

BLEEDING AND PURGING

Regrettably for his reputation as a physician, Rush is probably best known for his advocacy of "heroic therapeutics." Basically, this involved ridding the body of "morbid" elements by bleeding and purging, therapies widely practiced at the time.16 He was particularly vigorous in the treatment of fever, which physicians at the time viewed as a disease rather than a symptom. Rush believed that fever resulted from overstimulation of the blood vessels and that the proximate cause of this "vascular tension" was the blood itself. The cure was drawing off large quantities of it—Rush advised that up to four-fifths of a patient's supply could be removed without ill effect—and administering cathartics; his favorites were mercury (in the powdered form of mercurous chloride, or calomel) and jalap, which he combined in the Rush's pills so often prescribed by Lewis on the expedition.17

Others in Philadelphia's medical community questioned Rush's therapies and his zealous use of them, declaring they were worse than the disease itself. The controversy, which became personal and ultimately led to Rush's resignation from the College of Physicians, came to a head during a 1793 yellow fever epidemic that killed nearly 10 percent of Philadelphia's population—an estimated 5,000 out of 55,000 people. Rush performed heroically during the epidemic, working ceaselessly and remaining in the city to care for the sick and dying. He bled patients up to four times in a single day with what he called "the happiest effects."18 For purging, he noted, "I continue to use mercury in large doses with great success. I have found 40 grams necessary in the course of the day to open the bowels."19

Rush himself contracted yellow fever, whose Ebola-like symptoms include severe internal bleeding, but survived. He attributed his recovery to bleeding and purging, which he applied to himself with the same enthusiasm he did to his patients.

RUSH AND LEWIS

Thomas Jefferson mistrusted the medical science of his day, but he had a cordial relationship with Rush and asked him to advise Meriwether Lewis on "such particulars as may occur in his journey and which you think should draw his attention and inquiry."20 Lewis visited Rush at his home on the corner of Walnut and Fourth streets on May 17, 1803.21 It is the only meeting between the two that can be documented. Rush's contributions to the expedition were relatively small, but he did offer advice on health and hygiene. Surprisingly, his list of remedies and preventive ac-
Fevers, fluxes, excretions, sex, et cetera: Rush’s queries about Indians

SUGGESTED LIST OF INDIAN QUESTIONS FOR COLONEL TIMOTHY PICKERING (MAY 2, 1791)

1. What diseases besides fevers, fluxes, &c., are they subject to? Are they ever afflicted with the piles or swelled feet from long walking. And what are their remedies for them?
2. Have they any artificial means of obviating fatigue or hunger?
3. Do they drink or eat before evening on long marches?
4. Do they sleep more than civilized people? And do they dream much?
5. Is breeding sickness common among the female Indians? And have they any remedies for it?
6. Do the Indian women ever die in childbed?
7. At what time do they begin and cease to menstruate?
8. How long do they suckle their children?
9. Is there much mortality among their children? If there be, at what age, and with what disorder or symptoms?
10. At what age do the women usually cease to bear children?
11. Do the faculties of the mind decay sooner among Indians than among civilized people?
12. Do they lose their teeth in old age?
13. Are gray hairs universal among their old people?
14. Are their excretions by stool regular?
15. Is suicide known among the Indians? And from what causes, if it be?
16. Is the passion for the female sex as strong and as much disposed to excess and irregularity as among civilized people? Is it weakened or strengthened by the toils of war and hunting?
17. Did the late influenza affect them?
18. Has the venereal disease found its way among them? If it has, how do they treat it?!

** QUESTIONS FOR “MERRYWEATHER LEWIS” (MAY 17, 1803) **

I. Physical history & medicine

What are the acute diseases of the Indians? Is the bilious fever attended with a black vomit.

Is Goitre, apoplexy, palsy, Epilepsy, madness . . . ven. Disease known among them?

What is their state of life as to longevity?

At what age do the women begin and cease to menstruate?

At what age do they marry? How long do they suckle the Children?

What is the provision of their Childrn. after being weaned?

The state of the pulse as to frequency in the morning, at noon & at night—before & after eating? What is its state in childhood. Adult life, & old age? The number of strokes counted by the quarter of a minute by glass, and multiplied by four will give its frequency in a minute.

What are their Remedies?

Are artificial discharges of blood ever used among them?

In what manner do they induce sweating?

Do they ever use voluntary fasting?

At what time do they rise—their Baths?

What is the diet—manner of cooking & times of eating among the Indians? How do they preserve their food?

II. Morals

1. What are their vices?
2. Is Suicide common among them?—ever from love?
3. Do they employ any substitute for ardent spirits to promote intoxication?
4. Is murder common among them, & do they punish it with death?

III. Religion

1. What Affinity between their religious Ceremonies & those of the Jews?
2. Do they use animal Sacrifices in their worship?
3. What are the principal Objects of their worship?
4. How do they dispose of their dead, and with what Ceremonies do they inter them?

May 17.1803. B. Rush!

NOTES
2 This is an allusion to the Lost Tribes of Israel, who at the time some believed to be the ancestors of Native Americans.
tions does not include bleeding, but we can assume they probably discussed it; at any rate, both Lewis and Clark administered the lance with some frequency during the expedition.

Rush also provided Lewis with a list of mostly health-related questions to ask Indians. Like Jefferson, a fellow charter member of the American Philosophical Society, Rush maintained a lifelong interest in Native American culture; in 1791 he supplied a list of questions to an army envoy to the Senecas that was similar in some respects to the list he gave Lewis. [See box, preceding page.]

Although they may have met only once, Rush appears to have been favorably impressed by the young captain, and he supported the enterprise of discovery on which he was about to embark. As he wrote to Jefferson afterward, “His mission is truly interesting. I shall wait with great solicitude for its issue. Mr. Lewis appears admirably qualified for it. May its advantages prove no less honorable to your administration than to the interests of science.”

Foundation member Charles Greifenstein is Curator of Archives & Manuscripts at the College of Physicians of Philadelphia. Anticipating the Foundation’s annual meeting in Philadelphia in 2003, this article is one in a series about that city’s contributions to the Lewis and Clark Expedition. Previous articles on Andrew Ellicott and Caspar Wistar appeared, respectively, in the issues of August 1998 and February 2000. (Back issues of who are available by calling 888-701-3434.)

NOTES
3 Except as noted, this and all subsequent biographical information comes from David Freeman Hawke, Benjamin Rush: Revolutionary Gadfly (Indianapolis and New York: Bobbs-Merrill, 1971) and Nathan G. Goodman, Benjamin Rush, Physician and Citizen, 1746-1813 (Philadelphia: University of Pennsylvania Press, 1934). A comprehensive bibliography of works by and about Rush was published in 1998: Claire G. Fox, Gordon L. Miller, Jacquelyn C. Miller, Benjamin Rush, M.D.: A Bibliographic Guide. Bibliographies and Indexes in American History Number 31 (Westport, Connecticut & London: Greenwood). The date given here for Rush’s birth is based on the Julian calendar, which was in effect at the time in Great Britain and its colonies. The equivalent date in the Gregorian calendar, adopted by Britain in 1752, is January 4, 1746.
4 Rush was a Presbyterian and later an Episcopalian. He eventually came to mistrust organized religion, although he never stopped attending services and continued to maintain a strong, if nondenominational, belief in Christianity.
5 Cullen’s symptom-based system of classification, which tended to bog down in detail, was eventually challenged by simpler systems developed by Rush and others. It was ultimately replaced, as was Rush’s, by less theoretical and more clinically based systems whose groundwork was laid by men such as the pioneering anatomist Giovanni Mergusi (1682-1771).
6 Hawke, p. 85
7 Goodman, p. 132
8 Quoted in Hawke, p. 193. The title of the essay, printed in the Pennsylvania Packet, April 22, 1777, was “To the Officers in the Army of the United American States: Directions for Preserving the Health of Soldiers.”
9 The British took Philadelphia following the Battle of Brandywine in September 1777, and occupied it for the rest of the war. Washington’s defeat at Brandywine caused Rush to disparage the general’s leadership in an indirect letter to Patrick Henry. He also praised members of a cabal who tried to remove Washington from command. Meanwhile, Rush became enmeshed in a nasty political dispute when he demanded a congressional inquiry into the competency of Shippen, a fellow Philadelphia physician and former mentor. Rush thought himself better qualified for Shippen’s job, but Congress chose to reappoint him anyway—a rebuke to Rush that hastened his retreat from public life.
10 Rush married Julia Stockton in January 1776, and their first child was born the following year.
12 Ibid.
13 Hawke, p. 105. The essay was entitled “An Address to the Inhabitants of the British Settlements in America, upon Slave Keeping.” In the light of these views it may seem strange and a bit hypocritical that Rush, although not unique in this regard, at the time owned a slave, whom he freed in 1794.
14 Rush was not a teetotaler, and he applauded the salubrious qualities of beer and wine when consumed in moderation. It was hard liquor, in his view, that destroyed body and soul.
15 Quoted in Goodman, p. 314.
16 Chuinard, p. 133.
17 Ibid., p. 130.
18 Ibid., p. 136.
20 Chuinard, p. 121.
22 Ibid., p. 9.
Meriwether Lewis and Malaria

Another view of the “ague” and whether it contributed to his death at Grinder’s Stand — the author thinks not

by Ronald V. Loge

In “The ‘Ague’ Made Him Do It” (WPO, February 2002) the author, Thomas Danisi, argues that malaria drove Meriwether Lewis to suicide. Regrettably, because his article appears in WPO, there is a real likelihood that it will be quoted and regarded as established fact. At some point in his life, Lewis may indeed have had malaria, but retrospective historical or forensic analysis is unable to demonstrate this, and I do not believe that Danisi presents plausible evidence to support his assertions. Without such evidence, his contention is opinion and speculation and should be regarded as such.

It is undoubtedly true that malaria was endemic on the American continent in the 18th and 19th centuries. However, a common erroneous assumption—equating malaria with the term ague—has crept into discussions of this period. This overinterpretation has led many to conclude that anyone in the early 1800s who used the term ague was describing what we now call malaria. This equivalence is not universally correct. Medical scientists did not identify the several syndromes and organisms of malaria until many decades after the Lewis and Clark Expedition. Only then did the terms ague and malaria become synonymous.

How, then, did Lewis and his contemporaries understand the term ague? At the beginning of the 19th century, illnesses were not understood in terms of specific causes or entities as we see them now, but rather as syndromes or a collection of common symptoms. For centuries, “ague” had been used to label the prominent symptoms of shaking chills usually followed by fever. “Ague” was a nonspecific term, and in today’s understanding the symptoms it represented could have been caused by any of hundreds of viruses, bacteria, or protozoa invading the blood stream. It was not necessarily equivalent to “intermittent fevers” or “fevers of the marshes,” which more often implied a malarial cause. Over time, the term ague gradually became associated with these intermittent fevers and malaria, but in Lewis’s day its meaning was much more general. In 1755, Samuel Johnson, in his Dictionary of the English Language, defined ague as “An intermittent fever with cold fits succeeded by hot. The
cold fit is, in popular language more particularly, called the ague [emphasis mine] and the hot—the fever.” Ague as a verb meant “to seize with a quaking.” In 1787, Thomas Jefferson used ague in this sense when he wrote, “They calculate on the spirit of a nation, not the agued hand which guides its movements.”

On November 13, 1803, when Lewis wrote that he was “sieved with a violent ague which continued about four hours and as usual was succeeded by fever,” he was describing nothing more than the shaking chill—that is, the ague. He never recorded a fever relapse or an intermittent fever. This chill is similar to the shaking chill characteristic of the early phase of influenza that any of us might experience today.

CHUINARD AND AGUE

Because Lewis used the word ague, Dr. Eldon Chuinard in Only One Man Died: The Medical Aspects of the Lewis and Clark Expedition also fell into the trap of surmising that Lewis had a bout of malaria on that November day. Given Chuinard’s stature, his contention is often quoted and treated as gospel. But like Danisi, he overlooked the fact that an initial malarial infection or a relapse is not an event that lasts one evening and ends at that point. Using Chuinard’s ungrounded speculation as a reference is not evidence to support the malaria hypothesis.

Danisi argues that Lewis did not want to take the time to prepare Peruvian barks to treat his ague and instead chose Rush’s pills as more expeditious. Indeed, Rush’s pills were thought to eliminate inflammatory substances from the body. Recall that Lewis prescribed Rush’s pills for William Clark when he fell ill at the Three Forks in July 1805. Lewis professed that he always found this remedy “sovereign” (taking precedent) in such cases. So Lewis’s use of the “thunderclappers” for himself in 1803 was consistent with his understanding of ague, fever, and inflammatory substances.

Peruvian barks, the “aspirin” of the day, had a nonspecific antipyretic effect and were used for all types of fever, including intermittent fever—those of 48- or 72-hour periodicity. Of note, Lewis did not describe this typical malarial fever pattern when writing about his chills and fever of November 13, 1803. His isolated febrile episode argues strongly against malaria.

Additionally, contrary to Danisi’s assertion, Lewis did not have any indication of a malaria-like syndrome when, on June 11, 1805, he became violently ill. Our primary source, Lewis’s journal entry, describes this illness as follows: “I was taken with such violent pain in the intestens that I was unable to partake of the feast of marrowbones. my pain still increased and towards evening was attended with a high fever.” After treatment with his chokecherry decoction, Lewis stated, “I was entirely releved from pain and in fact every symptom of the disorder forsook me; my fever abated, a gentle perspiration was produced and I had a comfortable and refreshing nights rest.” This intestinal illness, which had been preceded for several weeks by diarrhea, is not characteristic of any form of malaria.

There is no mention here of a shaking chill preceding the fever (which we know by the November 13, 1803, journal entry, Lewis would have understood to be the ague). No one experiences a refreshing night’s rest after a malarial attack. According to the journal notes, Lewis was perfectly well and walked 12 miles by 9 A.M. the next day, a feat totally inconsistent with the extreme exhaustion experienced by victims of a malarial paroxysm. Also, one should note that there was no recurrence of fever on this occasion.

Danisi quotes a certain Robert Beverly’s praise of chokecherry remedies that Beverly used in 1705. It is unclear how this relates to Lewis’s use of a chokecherry decoction for his own illness, nor does it support the malaria argument in any way. Why chokecherry? Lewis must have expected from experience that it would be beneficial. We know now that the active ingredient of his chokecherry decoction is hydrocyanic acid, a poison in high doses, but a smooth muscle relaxant in low doses. The intestinal pains Lewis experienced were likely relieved by this pragmatic treatment. A century later, dilute hydrocyanic acid mixtures found their way into American pharmacopoeias, specifically to treat intestinal cramps. Could Lewis’s June 11, 1805, illness have been a relapse of malaria? It is highly improbable.
FEVER AND DELIRIUM

Danisi is correct in associating malaria with delirium, but I disagree with his conclusions of malarial delirium leading to Lewis’s death. High fever from any cause can make a person delirious, and the high fever associated with a malarial episode is no exception—but febrile delirium is not unique to malaria. A normal mental status between febrile episodes is characteristic of malarial delirium. The fever-related delirium of malaria does not lead to mental illness or dementia during the intervening periods.

There is a devastating form of malaria caused by *Plasmodium falciparum* found only in the tropics that does affect the central nervous system. Known as cerebral malaria, it is manifested by seizures and impaired levels of consciousness leading to coma and death if left untreated. Furthermore, the effects of the chill and fever of the other forms of malaria that would have been endemic in temperate North America at that time are typically so acutely disabling that most every sufferer is strictly bed bound. This, of course, would preclude travel, especially alone and by horseback, the way Lewis arrived at Grinder’s Stand that fateful night of October 10, 1809.

Danisi’s use of Macculloch’s 1828 portrayal of the self-destructive impulses of some of his patients offers no proof or evidence supporting the claim that malaria drove Lewis to suicide. Although it was Macculloch who introduced the word “malaria” into the English medical language, we cannot know retrospectively with any certainty what illnesses these particular patients truly had. In 1828, the malarial syndromes were still poorly understood and unclassified. “Ague” or “malaria” in his patients literally could have resulted from any of thousands of infectious etiologies, true malaria being only one of them. Moreover, a survey of modern medical and infectious disease texts and an on-line search of the world’s medical literature do not come up with any descriptions of such self-destructive idiosyncrasies in modern-day patients with proven malaria. There are contemporary case reports of survivors of treated *Plasmodium falciparum*-related cerebral malaria who experience neuropsychiatric problems, but it is highly doubtful that anyone in Lewis’s day would have survived this especially virulent form of the disease.

The cardinal clinical features of malaria are recurring, physically disabling chills and fevers with a periodicity of 48 or 72 hours. Scrutiny of the Lewis and Clark journals fails to uncover any such pattern of illness in any member of the expedition. It is time to put Chuinard’s unfounded assertion of malaria and Danisi’s concurrence to rest. Rather than indulging themselves in speculation only, Lewis and Clark scholars should commit themselves to scholarship grounded in what the journals actually say. This documentary evidence should be interpreted in the light of modern medical science and a historical understanding of the medicine and medical terminology of two centuries ago.

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NOTES


2 Gary E. Moulton, ed., *The Journals of the Lewis & Clark Expedition*, 13 volumes (Lincoln: University of Nebraska Press, 1984–2001), Vol. 2, p. 86. All quotations or references to journal entries in the ensuing text are from Moulton, by date, unless otherwise indicated.

3 Eldon G. Chuinard, *Only One Man Died: The Medical Aspects of the Lewis and Clark Expedition* (Fairfield, Wash.: Ye Galleon Press, 1979), p. 177. Lewis’s memorial and grave marker at Grinder’s Stand, Tennessee, where the explorer died by gunshot wound—probably self-inflicted—in October 1809. The author disputes an argument made in the February 2002 WPQ that malaria was a contributing factor in Lewis’s death.
“My boy Pomp” in fact and legend, from Ft. Mandan to a grave in Oregon

Sacagawea’s Son: The Life of Jean Baptiste Charbonneau
Marion Tinling
Mountain Press / young adult
125 pages / $10 paper

From Romulus and Remus and the she wolf to Abe Lincoln’s log cabin, the circumstances of a hero’s birth and infancy have always benefited from a certain mythic aura. Jean Baptiste Charbonneau’s mother found the strength to launch him into this world from a potion of pulverized rattlesnake rattles. A fine story indeed for a mountain man to relate around the campfire. Fortunately, the ever-pragmatic Meriwether Lewis was willing to permit the administration of the exotic midwife’s remedy on February 11, 1805, when Sacagawea’s son drew his first breath at Fort Mandan.

Jean Baptiste Charbonneau, like John F. Kennedy, Jr. and other children of celebrity parents, possesses an image frozen in time, that of the infant Pomp, William Clark’s cherished “dancing boy.” He rides forever in a sling over his mother’s shoulder, often suffering from an excess of sleepy cuteness. Indeed, his image on the golden dollar coin, and frequently in statuary, is as a near appendage of Sacagawea, part of a Madonna-child dyad. In Sacagawea’s Son Marion Tinling portrays the mature man who emerged from the endearing toddler.

Unfortunately, Tinling errs early in suggesting that Sacagawea knew “a good part of the country” through which Lewis and Clark would move and could serve as a guide. It is now known that neither was the case. Tinling also asserts that “most historians” accept that the name “Pomp” was a Shoshone nickname for a firstborn son meaning “leader.” Irving W. Anderson, in “A Charbonneau Family Portrait” (reprinted, Fort Clatsop Historical Association, 1992), stated that his research in Shoshone etymology produced no evidence for that hypothesis.

Tinling moves briskly through Baptiste’s early life as a ward of William Clark, years she says were no Tom Sawyer romp due to prejudice against mixed bloods and Clark’s preoccupation with duties and family. Various career incarnations follow—European traveler, mountain man, Mexican War scout, and alcalde at San Luis Rey.

This well-researched biography is spiced with clues to Jean Baptiste’s character. He had his rough-and-ready side. He stabbed one man in a knife fight and, on another occasion, used a whip to hold bystanders at bay while other men scrapped. Skilled as a hunter, scout, and survivalist, he was also fluent in French, English, German, and several Indian tongues; his multifaceted erudition was routinely noted.

One journal keeper wrote, “There was a quaint humor and shrewdness in his conversation, so garbed with intelligence and perspicuity.” Another testified, “It was said that Charbonau was the best man on foot on the plains or in the Rocky Mountains.” Tinling’s title evokes the character of her subject, more his mother’s son than his father’s, an individual who succeeded by deeds rather than by words and whose modest competence won him an unusual degree of respect.

The glimpses of Jean Baptiste’s life which Tinling has documented from the historical record, however, are separated by large gaps. Moreover, Tinling never quite accepts the risk of venturing one vivid composite portrait that would enable us to recognize the man were we to meet him across a campfire. He remains a somewhat obscure personality in the narrative among the better-known historical figures whom Tinling brings onstage—John Frémont, Kit Carson, Stephen Watts Kearny, and Marcus and Narcissa Whitman.

The 2,000-mile overland trek of the Mormon Battalion during the Mexican War is the closest Jean Baptiste came to reprising the experience of Sacagawea and the Corps of Discovery. He was the guide in fact, not just in folklore, of that expedition, the longest infantry march in U.S. history.

A corporal named Tyler wrote of the battalion’s first glimpse of the Pacific: “The joy, the cheer that filled our souls, none but worn-out pilgrims nearing a haven or rest can imagine.” This passage resounds with William Clark’s euphoria upon nearing the mouth of the Columbia on November 7, 1805: “Ocean in view! O! the joy.” Tinling might have distilled a more compelling story from such parallels between the two epic journeys.

At the end of his career, Baptiste resigned as alcalde in protest over the treatment of Indians and began his last trek, to the Montana gold fields. While en route, exposure and weakened resistance conspired to end his life. The Placer Herald ran a wistful epitaph for a man who led a life of principle and accomplishment, while never quite emerging from the long shadow of his legendary mother: “[H]e now sleeps alone by the bright waters of the Owyhee.”

—Dennis M. O’Connell
Their “E.R.” was the great outdoors

Lewis & Clark: Doctors in the Wilderness  
Bruce C. Paton  
Fulcrum Publishing  
228 pages / $18.95 paper

Understanding the expedition of Lewis and Clark requires that we first read and then interpret. Accordingly, the cornerstones of a Lewis and Clark library are the primary source documents, the journals. The framework is made up of the major earlier interpretive works written by venerable scholars such as Elliott Coues, Donald Jackson, Paul Russell Cutright, John Logan Allen, James Ronda, and Eldon G. “Frenchy” Chuinard. The past two decades have filled the stacks with a bounty of more interpretations, stories, guides, and narratives.

Until now, Chuinard’s scholarly work, Only One Man Died, published in 1979 and difficult to find in any of its five printings, was the only book on this shelf relating to the medical facets of the expedition. Now at last another joins it. Bruce Paton, a retired cardiac surgeon and student of wilderness medicine, looks at the enterprise of the Corps of Discovery through the eyes of a contemporary backcountry medical expert. Applying current knowledge, he explains the established mechanisms and treatments of wilderness medicine crises such as snakebite, hypothermia and frostbite, heat illnesses, and wound management. Understanding these makes the survival of the party even more remarkable. From this perspective he augments Chuinard’s analysis of the medical events and care on the expedition.

Paton writes with a jaunty, engaging style that draws the reader easily through the book. Unlike the encyclopedic detail offered by Chuinard, Paton has authored an overview of the common and serious medical issues that the captains confronted, a good starting point for the reader new to the expedition and a good review for the student of the expedition.

To his credit, Paton soundly dispels the myth of scurvy as a cause of skin infections, which Chuinard championed, and clarifies that “ague” is not always synonymous with malaria. No one on the expedition, not even Lewis, who in November 1803 took some of Rush’s pills for “the ague,” had an illness characteristic of malaria.

Many of Paton’s comments and statements beg for footnotes or annotations, neither present throughout the text. This is a limitation for Lewis and Clark devotees who seek verification, reference, or elaboration.

Paton provides an interesting and understandable background for the reader on the theories and applications of early 19th-century medicine, including the common use of the depletive therapies of bleeding and purging. Yet he occasionally fails to connect these rationales to the applications used by the captains. For example, he follows Chuinard’s lead in attributing Sacagawea’s recovery in June 1805 to the repleitive effect of electrolytes and water from Lewis’s mineral springs water treatment. In fact, Robert Bergantino’s analysis of the actual water from that same mineral spring demonstrates that its mineral content is very close to that of Epsom’s salts, which suggests that Lewis knew what he was after, a purgative (depletive) effect.

Floyd’s “appendicitis”  
In his analysis of Sergeant Floyd’s death, Paton wisely underscores the hazards of retrospective historical medical diagnoses. The lack of physical-examination findings and scanty details of Floyd’s lethal illness leave its diagnosis open to speculation, at best. Rather than accepting the traditional explanation of appendicitis, he argues that this may not be the case. I’ll not reveal his alternative opinion here but suggest that the reader seek out this book to find it. Although Clark was not specific when he wrote of Floyd’s waning hours that “we attempt in Vain to releive him,” Paton does not discuss what these words typically meant to the captains (i.e., emetics, purgatives, and bleeding) or how those applications would alter the natural course of a common illness like appendicitis.

There are a few points in this book when historical objectivity lapses. Paton comments that Floyd’s death “was a terrible psychological blow to the Corps of Discovery.” Even though this may have been true, there is nothing in the journals to corroborate that assertion. Similarly, in describing a Shoshone man’s ingestion of the entrails of a fresh-killed deer, Paton writes, “Lewis was horrified and disgusted by this display” when, in fact, Lewis stated that he viewed these starving people “with pity and compassion.” Rush’s advice to Lewis is characterized as “inappropriate, and, in some respects, ridiculous”—true, from our vantage, but state-of-the-art 18th-century medical practice was all that Lewis had at hand.

The few oversights in this book can be corrected by comprehensive review of the journals. When discussing
Gibson’s thigh injury on the return trip, Paton asserts that Clark did not have skills to open and drain an infected wound. The journals report that Clark did drain a chest abscess on one of the men during the outward journey and later an abscess on the back of a Nez Perce woman, for which he received a horse in payment. While Lewis reported that he bound up Potts’s severely cut thigh, Ordway enlightens us further by noting that the captain actually sewed up the wound, a detail that would have enhanced the credibility of Lewis’s skills.

In his summary Paton acknowledges that even with our current medical expertise and vast therapeutic armamentaria, it would be enormously difficult to plan and execute such an expedition today and then deliver a healthy corps home again. His book provides a tribute to these ordinary, but resilient, men doing their job with a remarkable outcome.

—Ron Loge, M.D.

In Brief: Sacagawea, more maps, new novel

- Sacagawea: Fact or Fiction?, with Clay S. Jenkinson. This 1-hour-long, double-disc audio CD is an extended conversation between Jenkinson, a scholar well known for his portrayals of Thomas Jefferson and Meriwether Lewis, and interlocutor William G. Chrystal on the Shoshone girl and member of the Corps of Discovery who became one of the most celebrated women in American history. Yet as Jenkinson points out, Sacagawea is mentioned only a handful of times in the Lewis and Clark journals, and the post-expedition record about her is just as scanty. In his 1814 paraphrase of the journals, Nicholas Biddle virtually ignored her. Elliot Coues boosted her prominence in his 1894 revision to Biddle. Her story took flight with the 1902 publication of The Conquest, Eva Emery Dye’s saga of westward exploration, soared with Grace R. Hebard’s 1931 biography, and broke through the stratosphere in 1980 with the thousand-page historical novel Sacajawea, Anna Lee Waldo’s steamy potboiler, still in print, which Jenkinson believes is the primary source for what most people “know” about this Native American legend. Jenkinson lays out the few undisputed facts about Sacagawea’s life and gives her due credit for her contributions to the expedition (she rescued the contents of the white pirogue when it swamped on the Missouri and in fact did do some guiding while accompanying Clark on his return). But his real fascination lies with Sacagawea as “cultural construct”—an accretion of “embellishment after exaggeration after romanticization after fictionalization after speculation.” ($17.95. Available from Empire for Liberty, 888-828-2853, www.empirecatalog.com.)

- Lewis and Clark Trail Maps: A Cartographic Reconstruction, Volume 2, by Martin Plamondon II. This is the second of a projected three volumes of black-and-white maps detailing the route of the Corps of Discovery along the Lewis and Clark Trail. (Volume 1 was reviewed at greater length in the August 2000 wpo.) This volume comprises 179 maps that collectively cover the trail from a few miles below Fort Mandan, in present North Dakota, where the Corps of Discovery camped in the winter of 1804-5, to the confluence of the Snake and Columbia rivers, which they reached the following fall. The maps show the river bed and topography as they appeared two centuries ago as well as the modern river course (which is often different) and contemporary landmarks such as towns, dams, and diversions. Quotes from the explorers’ journals and annotations by the author provide historical context.

An index of all place names appearing on the maps is especially helpful, as is an index of selected locations and events, including “Twisted Hair’s welcome” and “white pirogue in peril” (on April 13 and May 14, 1805). Also aiding the reader are two large-scale supplemental maps, one showing the mountain ranges of the Northwestern U.S. and the other the rivers linked to Lewis and Clark, from the Susquehanna to the Willamette. ($75 hard-bound and spiral-bound, $55 paper; Washington State University Press, www.wsu.edu/wsupress.)

- Corps of Discovery, by Jeffrey W. Tenney. The Lewis and Clark Expedition was a military enterprise, and its members were mostly privates in their twenties or early thirties. As a group they were largely backwoodsmen from Kentucky or Tennessee, and many were probably illiterate. Others, like the hunter and interpreter Georges Drouillard, were equally rough-and-ready frontier types. By nature and culture men such as these must have valued their independence and been difficult to govern in the easiest of circumstances, much less on a 28-month exploration into the heart of the North American wilderness.

This historical novel by Jeffrey Tenney shows how Meriwether Lewis and William Clark might have handled this extraordinary bunch. It portrays the captains and their men, as well as Sacagawea and some of the Indians they encountered, in vivid detail and occasionally with a realism some readers may find disturbing (I had trouble with two graphically violent scenes early in the book, one involving Drouillard, the other Moses Reed). Tenney’s depiction of Clark is one we can comfortably accept: a born leader, determined, kind, and compassionate. His portrait of Drouillard, on the other hand, is almost
FAR COUNTRY
PRESS - MEDICINE
BOOK
7 1/4” x 9 1/2”
b&w
the exact opposite: a murderous psychopath who will let nothing stand in his way of establishing the groundwork for his own future trade missions.

Tenney does an excellent job bringing the expedition and its members to life. He describes the prejudices many of them surely held—against Indians and half-breed Frenchmen and (more surprisingly) between Kentuckians and Tennesseans. Scenes unfold from intriguing angles: we see the meeting with the Otos from York’s perspective, the confrontation with the Teton Sioux from the point of view of Black Buffalo’s daughter, and Charles Floyd’s death through the unfortunate sergeant’s own eyes. ($26.95 paperback, Writer’s Showcase. Available through bookstores or Amazon.com.)

—Gregg E. Moutoux

* St. Albans: History and Folklore of a Missouri River Town, by Lucie Fursdenburg Huger. For Lewis and Clark enthusiasts St. Albans’s claim to fame is nearby Tavern Cave and Tavern Rock. The Corps of Discovery stopped there May 23, 1804, on its way up the Missouri, and both landmarks are mentioned in the journals. The cave had served as a shelter for Indians and fur traders, and some of the men almost certainly visited it. One can still find etched on its walls the tantalizing graffiti “ORD 1804,” which many believe was the handiwork of Sergeant John Ordway. The cave sits at the base of Tavern Rock, a 300-foot bluff from which Lewis fell. He almost certainly would have been killed had he not stopped his fall after 20 feet.

Foundation member Huger relates these episodes, along with her 30-year campaign to have Tavern Cave declared a National Historic Site. For reasons beyond her control those efforts have been unsuccessful, but perhaps the bicentennial will move authorities to give this landmark the protection it deserves. ($40 postpaid, hardcover. Available from Fairfield Publishing, 1623 View Woods Drive, St. Louis, MO 63122-3522; www.stalbanhistory.com.)

The view of the Crimson Bluffs, a landmark on the upper Missouri several miles south of Townsend, Montana, is little changed from the day in July 1805 when the Corps of Discovery passed beneath them. Meriwether Lewis described “a remarkable bluff of crimson coloured earth … intermixed with strata of black and brick red shale.”

Thanks to the Foundation’s Crimson Bluffs Chapter, that historic view should remain unchanged. Development has threatened the bluffs in recent years, but 50 acres of them are now in public ownership.

Chapter member Troy Helmick credits Stephen Ambrose, the author of the Lewis biography *Undaunted Courage*, with rallying local support for saving the bluffs.

It was Ambrose who spoke about the importance of Crimson Bluffs on a visit to Townsend in 1997. The fragile grass and sagebrush land on top of the bluffs had recently been subdivided and placed on the market. Ambrose’s words inspired citizens to form the chapter and begin working to preserve the bluffs. They enlisted the aid of Montana’s congressional delegation and raised funds from individuals, the LCTHF, the Conservation Fund, and the River Network. As a result, 1,800 riverfront feet have been transferred to the U.S. Bureau of Land Management.

Residential development is underway immediately upstream and down from the bluffs, but the view from the river is now preserved, along with the land on top of the bluffs, where roads will be prohibited and access will probably be restricted to a foot trail.

**ASTORIA ART EXHIBIT**

The Journey’s End National Art Exhibition will be held March 8-30, 2003, at the Columbia River Maritime Museum in Astoria, Oregon. Sponsors of the event, whose theme will focus on Lewis and Clark, welcome entries from artists working in any visual medium. Subjects can include (but are not restricted to) geographic sites along the L&C Trail, plants and animals described by the explorers, and interpretations of Lewis and Clark from a Native American perspective. The show will be juried and will award $29,000 in prizes (best of show: $10,000). For more information, see www.jsend.org, e-mail journeys@paci fier.com, or send a stamped, self-addressed envelope to P.O. Box 2005, Astoria, OR 97103.

**CLARK’S CABIN**

Participants in this year’s annual meeting in Louisville will be able to visit a cabin at Point of Rock in Clarksville, Indiana, which sits on the site of the cabin in which William Clark was living when Meriwether Lewis invited him to join what became the Lewis and Clark Expedition.

The original cabin was destroyed in 1854, but last year a cabin of similar size and vintage was found and moved to Clarksville to replace it. The Clarksville Historical Society is developing interpretive exhibits at the site and furnishing the cabin with period items. It is looking for sponsors and volunteers who can help with the project. More information is available from Jeanne Burke at 5807 Stacy Road, Charlestown, IN 47111-9691 (jeanne_b@hotmail.com).
SOUTHERN
INDIANA
CONVENTION
BUREAU
1/2 page

DIGITAL
SCANNING
- pickup
1/2 page
MONTICELLO POSTERS
The Thomas Jefferson Foundation, Inc., which operates Monticello, the home of Thomas Jefferson, has received a $275,000 gift from State Farm Insurance Companies to fund the editorial work, production, and nationwide distribution of an educational poster exhibition about the Lewis and Clark Expedition.

“Jefferson’s America: Lewis and Clark and Western Exploration” will consist of 15 full-color, 29-by-40 inch posters, each covering a different aspect of the expedition. A total of 10,000 sets will be printed and distributed free to schools and other educational institutions throughout the country later this year. The exhibition is aimed at the upper-elementary-school level, and each set of posters will be accompanied by a teacher’s guide.

The exhibition’s content was developed by Monticello’s education department and the posters were designed by Gallagher and Associates of Washington, D.C. The posters feature images from Monticello and 15 other institutions, including the Smithsonian Institution, Library of Congress, National Archives, American Philosophical Society, Missouri Historical Society, Yale University, and Harvard University.

The poster show is a major component of Monticello’s observance of the Lewis and Clark Bicentennial, which officially begins with ceremonies at Monticello next January 18.

PIERRE KUO
The Pierre (South Dakota) Area Chamber of Commerce has recognized the LCTHF Annual Meeting Planning Committee with its Project of the Year 2001 Award for last August’s annual meeting, “Encounters on the Prairie.” Our congratulations to Jay Vogt and other members of the South Dakota Chapter who organized the event.

L&C IN OTHER PUBLICATIONS
The Winter 2002 edition of Mizzou, the alumni magazine of the University of Missouri, includes four nicely illustrated general-interest articles by John Beahler about the Lewis and Clark Expedition. “Rediscovering the Corps of Discovery” tells of L&C-related projects by faculty, staff, students, and alumni. “Mapping the Trail of Lewis and Clark” describes geographers’ efforts to reconstruct the course of the Missouri of two centuries ago using land surveys of the period. Other articles detail the construction of two dugout canoes and the staging of an original musical about the expedition. (573-882-7357; mizzou@missouri.edu.)

The Spring 2002 issue of Big Sky Journal has a three-page article on “Tracking Lewis and Clark across the Rocky Mountains.” Included are descriptions of Fort Union, Russell National Wildlife Refuge, the Wild and Scenic Rivers portion of the Upper Missouri, Great Falls, and Gates of the Mountains. Photos by Brent Phelps. (Back issues $9.50. 800-417-3314; www.bigskyjournal.com.)

Range magazine (“The Cowboy Spirit on America’s Outback”) has recently published two articles by Clay S. Jenkinson: “Lewis & Clark: Cowboys,” in the Summer 2001 issue, and “Lewis & Clark: Gunfighters,” in the Fall 2001 issue. In the cowboy piece Jenkinson argues that the Corps of Discovery participated in the first roundup and first rodeo in the American West, a reference to the explorers’ idyll among the Nez Perce in May 1806 while waiting for the snows to melt in the Bitterroot Mountains. The gunfighter piece concerns Lewis’s tangle with a party of Blackfeet Indians on Two Medicine River in July 1806. (800-726-4348; www.rangemagazine.com.)

NOTE TO READERS: We depend on you to tell us about recent or current Lewis and Clark articles in publications other than wpo. If you know of any, please contact Jim Merritt at 51 N. Main St., Pennington, NJ 08534 (wpo@lewisandclark.org).

L&C ON THE WEB
Recent additions to the Web site Discovering Lewis & Clark (www.lewis-clark.org) include “Pryor’s Mission,” a new chapter in “Clark on the Yellowstone,” new illustrations by artist Michael Haynes, and updates to a page on Indian tobacco.

FOR THE RECORD
Readers noted several errors in the February wpo:

On page 5, the correct listing of upcoming annual meetings of the LCTHF is Louisville 2002, Philadelphia 2003, Bismarck 2004, Astoria 2005, and St. Louis 2006. We also placed Astoria in the wrong state—it’s in Oregon, not Washington. (We knew this.)

On page 7, the caption on the picture of Locust Grove states it was the “home” of George Rogers Clark. This is correct in the sense that Clark lived there after 1809, although the actual owners of the estate were Clark’s brother-in-law and sister.

On page 35 there are three items. For those ordering the booklet Contributions of Philadelphia to Lewis and Clark History, the correct ZIP code for Fort Washington, Pennsylvania, is 19034-1802. The correct phone number for the University of Nebraska Museum Store is 402-471-3447. We gave the fax number for Mountain Meadow Press (publisher of Bird Woman: Sacagawea’s Own Story) instead of the telephone number, which is 208-926-7875. ■
The legacy of Lewis and Clark and the nucleus of the Corps of Discovery at the Falls of the Ohio live on 200 years after they left on their epic journey to the Pacific.

Join us for the 2002 annual meeting in Louisville, Ky., July 28-31. Visit the area that William Clark, York, Charles Floyd, the Field Brothers, and other Corps members called home. Walk where they walked, stand where they stood, and dine where they dined. An enjoyable and educational four days are planned for you where the captains met and the first members of the expedition were enlisted.

Come visit Historic Locust Grove – where Lewis and Clark dined on November 8, 1806; the site of Mulberry Hill – where William and York lived from 1785 to 1803; Clark’s Point – from where the Corps pushed off on October 26, 1803; The Filson Historical Society – where you’ll find a special exhibit of The Filson’s important Lewis and Clark collection, and more. Come visit the area that was the foundation upon which the greatest exploring venture in the history of the United States was built. We hope you will join your hosts, The Filson Historical Society, the Ohio River Chapter of the LCTHF, and the Falls of the Ohio L&C Bicentennial Committee, at “The Falls Foundation.”
Bibliophile and board member Bob Shattuck

Long-time Foundation member Bob Shattuck died peacefully on February 27 in Grass Valley, California, following an illness of several months. Bob was a recent member of the LCTHF board of directors and had been founding president of the California Chapter. He was 72.

A man of few public words, Bob nonetheless was extremely well-read on the history of the Lewis and Clark Expedition, the Oregon Trail, and various men and events in the history of his home state of California. His library contained some 500 books, and he apparently had read them all. He had prepared note cards on most of his Lewis and Clark books containing pithy two- or three-sentence reviews. For one 1963 item he wrote: “This is the worst book claiming to be history I have ever read. The author made obvious mistakes about Lewis & Clark, Kearney, Frémont, and Carson. He knows absolutely nothing about the Indians.” For another: “Western History written by a philosopher. He should have stuck to philosophy. Many errors in the Lewis & Clark chapter; I wonder how many in the rest of the book.” A speculative book on Lewis’s death gained this judgment: “The author is not accurate in the history that I know, so he is probably shaky on the rest.” And Bob’s comments on a well-known biography of Lewis: “Downgrades Clark’s role. Considers the expedition the Lewis Expedition. He also thinks Lewis’s death was not suicide, but murder. I disagree with both.”

It was important to Bob that his Lewis and Clark books go for the benefit of the Lewis and Clark Heritage Foundation, and before he died he so donated them. Some of his Oregon Trail books went to the Oregon-California Trail Association, and some of his California books went to benefit the California Chapter of the Foundation.

In an act of quiet generosity, Bob made the Foundation sole beneficiary to his life insurance and retirement savings. He also purchased an annuity that will benefit the Foundation tens of thousands of dollars over the next several years. In these ways Bob will have a positive, ongoing, and constructive influence on the bicentennial that he did not live to see and on the preservation of the story that he loved.

We will all miss the tall bearded fellow with the crew cut in the wide plaid short-sleeve shirt and Levis, camera slung over his shoulder. He has been a fixture at annual meetings for years. He knew that a string tie was as formal as one had to go at any meeting celebrating western history.

One book in Bob’s library was a book of quotations. He highlighted few of the many epigrams in the book, but this one attributed to Greillet was noted: “I expect to pass through this world but once; any good thing, therefore, that I can do, or any kindness that I can show to any fellow creature, let me do it now; let me not defer or neglect it, for I shall not pass this way again.”

Godspeed, Bob.

—Ludd A. Trozpek