EMPTY KETTLES IN THE BITTERROOTS
Why did the captains’ planning go awry?
Lewis and Clark and the Louisiana Purchase

It wasn’t the expedition’s purpose, but exploring the new U.S. territory further validated the Corps of Discovery’s mission.

By Bard Tennant

Journey’s End for the Iron Boat

Evidence suggests it ended up as scrap metal in North Dakota.

By H. Carl Camp

Empty Kettles in the Bitterroots

The captain’s assumptions about Rocky Mountain geography and the availability of game proved a recipe for near starvation.

By Leandra Holland

Portable Soup: Ration of Last Resort

“Veal glue” helped stave off disaster in the Bitterroots.

By Kenneth C. Walcheck

Mathew Carey: First Chronicler of Lewis and Clark

He reported on the expedition as history in the making.

By Doug Erickson, Jeremy Skinner, and Paul Merchant

Reviews

Moulton’s one-volume abridgment; Saindon’s three-volume anthology; another look at Tailor Made, Trail Worn.

Soundings

Clark’s signature found on book that may have gone on expedition.

By John W. Jengo

L&C Roundup

New librarian; L&C trains; David Lavender

From the Library

New developments in the library and archives.

On the cover

Lewis and Clark in the Bitterroots, John F. Clymer’s oft-reproduced painting, aptly illustrates the rigors of the explorers’ passage across some of the most forbidding terrain in the continental United States. Two of the articles in this issue—Leandra Holland’s “Empty Kettles in the Bitterroots” and Kenneth Walcheck’s “Portable Soup: Ration of Last Resort” (pages 18 and 24, respectively)—deal with that harrowing episode in the Lewis and Clark saga. Courtesy Doris Clymer and The Clymer Museum of Art, Ellensburg, Wash.
There is a question related to Meriwether Lewis’s air gun that I didn’t discuss in my article on that subject (WPO, November 2002) but that might be of interest to readers: Did Lewis use his air gun to signal Private George Shannon when he became lost near the junction of the Beaverhead and Wisdom (today’s Big Hole) rivers? The second of two August 7, 1805, journal entries by Private Joseph Whitehouse says the gun was used for that purpose, but this is doubtful.

Shannon had been sent out hunting the day before and had failed to return. Lewis’s journal entry for August 7 states, “Dispatched Reubin Fields in surch of Shannon. … my air gun was out of order and her sights had been removed by some accident[,] I put her in order and regulated her. she shot again as well as she ever did.” There is no indication that the two matters—Shannon’s whereabouts and problems with the air gun—are related.

Sergeant John Ordway’s entry for the same day states, “Capt. Lewis … Shoot the air gun. the man G. Shannon not returned yet. the morning cool, but the day warm.” Whitehouse in his first journal entry that day writes, “Capt. Lewis took an observation & Shot the air gun. the lost man returned. the day warm, the large horse flies troublesome &c.”

Neither Ordway nor Whitehouse connects the air gun and Shannon’s situation; nor, as noted, does Lewis. But in a second entry dated August 7, Whitehouse apparently rewrote and expanded upon his initial observations, saying the shots were meant to attract Shannon’s attention: “Captain Lewis … fired off his air gun several times in order that the Man that went out a hunting … Yesterday & who we suppose is lost might hear the report.”

This is curious, since anyone who has shot air guns knows they don’t make much noise. I have never heard an air rifle of Lewis and Clark’s day fired, but I have read an article about firing an original (ca. 1810) Staudenmayer breechloading air rifle. The author does not say whether the shots were loud, but in a passing description of air guns generally he says they are “almost silent.” In the literature of air-gun history, the “quietness” of the shot is almost always mentioned—that is the prime reason they were used for poaching game—so Lewis’s air gun would have been a poor choice for signaling Shannon. My guess is that Whitehouse had a bit of mental confusion in his journal rewrite and made a mistake in connecting the shots with the absence of Shannon.

Lewis strongly implies that he fired the air gun in order to test the repairs made to it. If he had wanted to signal Shannon, the captain could have used a number of other, much louder, weapons at his disposal—including blunderbusses, muskets, rifles, and horse pistols.

The vagueness and ambiguity so often found in the journals gives us retired guys something to do in our spare time.

Mike Carrick
Turner, Ore.

Eagle Feather’s resting place

Readers of my article in the May WPO about Eagle Feather, the Arikara chief who died in Washington, D.C., in 1856, after journeying there at the urging of Lewis and Clark, might be interested in a photograph 1 recently took of the site where he was most probably buried. It shows S Street N.W. between 19th and 20th streets, near what is now Dupont Circle. This was once Holmstead’s Cemetery. The two buildings in the photo appear to be from the mid-19th century and were probably among the first built on the site of the former burial ground. By coincidence, Elliott Coues lived in the same Dupont Circle area when he was working on his 1893 edition of the Lewis and Clark journals.

Mark Chalkley
Baltimore, Md.

Nez Perce envoys

I was delighted to read Robert R. Archibald’s column in the February WPO, “New grave marker in St. Louis to honor Nez
Perce envoys who died there.” Those four Native Americans are heroes of mine. While studying at Western Evangelical Seminary, in Portland, Oregon, I wrote a paper that discussed their visit to St. Louis in the winter of 1831-32. My research indicated that three were Nez Perce and the fourth was Salish (Flathead). William Walker, Jr., a Christian who was half Wyandot Sioux, had been sent from Ohio to Missouri to select land for a Wyandot reservation, and he arrived in St. Louis at the same time. The story that these four Indians desired to learn the way to eternal life so impressed Walker that he wrote to G.P. Disosway, a Methodist merchant in New York who underwrote missionary work among the Wyandots. Disosway in turn sent Walker’s letter to The Christian Advocate & Journal and The Zion’s Herald with an appeal for support of missionaries west of the Rockies. The letter was published in March 1833.

In his letter, Disosway said the Indians told of witnessing the white man’s religious ceremonies. One white hunter, they said, told them that the Indian mode of worship was wrong and displeasing to the Great Spirit, that the white man’s religion was better, and that those who did not embrace it would be lost. The hunter said the white man had a book that told of the ways to learn of the One Great Spirit. The Indians called a council and agreed: “If this be true, we must know more about it; it is a matter than cannot be put off.”

For more on all this, see Albert Atwood, The Conquerors (Boston, Jennings and Graham, 1907), pp. 17-18; James W. Bashford, The Oregon Missionaries (New York, Abington Press, 1918), pp. 19-21; and John M. Canse, Pilgrim and Pioneer (New York, Abington Press, 1930), pp. 24-25.

John J. Maatta
Marias Chapter, LCTHF
Chester, Mont.

Of tuns and tons
In his article “On the Rivers with Lewis and Clark” (WPO, May 2003), Verne Huser quotes William Clark’s notation that the white pirogue had a cargo capacity of “8 Tuns.” In this context, Clark’s description poses an intriguing question: Is his use of “Tuns” but another example of his penchant for inventive spelling, or
Letters (cont.)

Clark’s sketch of the white pirogue

is it a riverman’s informed use of contemporary maritime terminology? A “tun,” in naval terms, was a large cask that held 252 “wine gallons” and was used in the United States to indicate the carrying capacity of a boat’s hold until the Civil War (according to the distinguished naval scholar Samuel Eliot Morison). For example, “8 Tuns” would be eight large casks, or about 16,792 pounds. (I am figuring 8 1/3 pounds per gallon—although that’s for a gallon of water; I’m unsure how a “wine” gallon compares with a “regular” gallon, whether more or less.)

At any rate, a “tun” is not strictly a “ton”—long or otherwise. Except that if you figure there are 8 1/3 pounds per gallon of water in a 252-gallon “tun,” then the total weight of the contents would come to about 2,099 pounds plus the weight of the cask, which would put the total weight of a “tun” at or near that of a “long ton.”

In practical terms, the distinction between “tuns” and “tons” may be no more than academic. But my point is this: rather than this being yet another occasion for clucking one’s tongue over Clark’s quaint spelling, he may in fact have demonstrated here a certain measure of expertise in the realm of riverine nomenclature. He did, after all, have some knowledge of, and experience with, shipping on the Ohio and the Mississippi.

H. Carl Camp
Omaha, Neb.

Expanding the L&C Trail and story

We of the Lewis and Clark Trail Heritage Society are “keepers of the story and stewards of the trail.” Not too long ago, in helping determine which states should be rightfully included in legislation expanding the Lewis and Clark National Historic Trail, board member Jane Henley spoke of an epiphany she had that justified adding Tennessee to the list. Meriwether Lewis, she said, “was surely and certainly ‘on trail business’ in 1809” when he died on the Natchez trace. Although I had long objected to memorializing Lewis’s burial site, per se, the reasoning behind Jane’s view changed my mind on this matter.

Using the same reasoning, the Lewis and Clark “story” after 1806 should officially include 1807, when Lewis came to Philadelphia on trail business to thank those who had helped him in 1803, to sit for his famous portrait by Charles Willson Peale, to leave souvenirs such as his Shoshone tippet for Peale’s Museum, to commission paintings of birds and the Falls of the Missouri, to discuss the treatment of his plant specimens, and to obtain a publishing prospectus for his and Clark’s journals.

The same can be said for Clark’s trail business in 1810, which brought him to Philadelphia for three months to search for someone to edit the journals, to have his portrait painted by Peale, and to meet with prominent citizens of the city. The efforts between 1810 and 1814 of Philadelphian Nicholas Biddle, along with Clark and George Shannon, in editing and publishing the journals are also trail-related and justify further expanding the expedition’s story to encompass the “getting ready” and “putting away” periods.

Recently, legislation was introduced to expand the L&C National Historic Trail to include states involved in the pre- and post-expedition phases. The late Eldon G. “Frenchy” Chuinard, one of the founders of the LCTHF and its second president, would be proud of what we as a foundation have done to make this happen. As long ago as 1971, Frenchy was advocating that the trail become coast-to-coast, and an article he wrote for WPO in May 1982 made a strong case for Philadelphia as its beginning and ending point.

It is time to add Tennessee and Pennsylvania to the trail as well as Virginia, West Virginia, Delaware, Maryland, Ohio, Indiana, Kentucky, and Washington, D.C., and to expand the official story to include 1807, 1809, and 1810-14.

Frank Muhly
Philadelphia, Penn.

Editor’s note: For more on the pending legislation, see page 43.

WPO welcomes letters. We may edit them for length, accuracy, clarity, and civility. Send them to us c/o Editor, WPO, 51 N. Main St., Pennington, NJ 08534 (e-mail: wpo@lewisandclark.org).
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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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From the Directors

A hearty thanks to all — especially Callie

I started out my writing duties as president almost a year ago. My first column, written after my visit to the Two Medicine Fight Site with guests of a local ranch, was a rumination on what it is the Foundation and its members do to foster continued interest in, and support of, the Lewis and Clark Trail and story.

This past weekend, my wife, Callie, and I had a chance to join members of the Dillon, Montana–based Camp Fortunate Chapter and the Rochejhone Chapter, in Billings, in a joint gathering at the beautiful park near Dillon where we began our memorable 2000 annual meeting. Once again, we were guests of the Camp Fortunate folks, and your board member Chuck Cook was at the center of the organization and planning.

Chuck and his wife, Birdie, had worked for some time organizing a bus tour from Billings so that some 30 members of the chapter could join their friends and counterparts in Dillon for a tour of trail sites in the Beaverhead Valley. It’s typical of members like the Cooks to spend the time needed to plan and organize outings directed at getting more folks on the trail. Members of both chapters and their guests renewed old friendships, made new acquaintances, saw new sites, learned more about the trail, shared a wonderful Montana potluck dinner, and just had fun. For me at least, that’s the Foundation’s main purpose—to learn some history and to protect the trail and to have a great time in the bargain. Friends like the Cooks and the others present that evening make all this possible “From Sea to Shining Sea” (my apologies to Jim Thom for stealing the title of his historical saga of the Clark family). Thanks to all of you out there for your day-in, day-out efforts—you make it all worthwhile.

Proceeding on

The Foundation continues to evolve and its membership to grow. We are now at 40 chapters and almost 3,500 members. Years ago we started out as an all-volunteer organization operated out of the basements of its officers, and now we are a national presence with a hard-working, capable staff and a central office. As we go forward it will become increasingly important to develop more concrete, direct relations with our chapters and membership. I know that all of us will continue to work together to take the Foundation forward into a new era.

Finally, to my wife, Callie [right]: Thanks so much for sharing me as well as our time and collective energy with everyone. Your support and encouragement and your kind and loving words and advice have made everything possible. Thanks to you I’ve accomplished a few things, I hope, and have had a great time doing so. I love you!

—Larry Epstein
President, LCTHF

Gordon Julich, right, vice president of the Foundation, and Bob Archibald, president of the National Council of the Lewis and Clark Bicentennial, attended ceremonies on April 30 in Jefferson City, Missouri, celebrating the 200th anniversary of the Louisiana Purchase.
St. Josephs
Visitors Bureau
1 P. B&W
Pickup from p. 16,
May WPO
he journal entry recorded by Meriwether Lewis on May 26, 1805, the day that he first sights the Rockies, reads, “on arriving to the summit [of] one of the highest points in the neighbourhood I thought myself well repaid for my labour; as from this point I beheld the Rocky Mountains for the first time, these points of the Rocky Mountains were covered with snow and the sun shone on it in such manner as to give me the most plain and satisfactory view: while I viewed these mountains I felt a secret pleasure in finding myself so near the head of the heretofore conceived boundless Missouri.”

This wonderful passage reads more like poetry than prose. Lewis and Clark were military men who both gave and followed orders. They had been charged with a mission by their commander-in-chief and so within the pages bound by elk skin there would be no room for emotion. The objective nature of the journals fuels the fascination with their story. We marvel as they remain composed and resolute in the face of great danger. Yet, if they were human, they absolutely had to feel fear and joy and see beauty and ugliness along the trail. Little did they know that, centuries later, the generations to follow would expend considerable time and effort trying to imagine what it must have been like to make that journey into the unknown.

As surely as we have inherited from Lewis and Clark a legacy of exploration, we are also heirs to the Corps of Discovery’s Enlightenment worldview that all problems can be solved through reason and seek solutions. Our inclination to create things of beauty is the distinguishing characteristic that heralds our human progress. I imagine that Lewis and Clark encountered countless things of beauty and experienced many moments of transcendence along the trail. I, too, have been in places or situations that have moved me from my life into a world where I lose track of time, departing temporarily from reason to a place of connection to everything in this world, overcome by a profound and consuming sense of belonging.

Despite the romanticism that colors our view of the Corps of Discovery, theirs was also a mission of commerce, and in our own age, commercialism has numbed our esthetic sensibilities. Things that do not have a market value have no value to our culture. We do not surround ourselves with beautiful things because we have no way to value beauty. If a thing cannot be marketed, bought, and sold, it is worthless. Our consumerist society disregards the need for beautiful, transcendent places while creating and exploiting a market economy around these ideals.

I am reminded of a recent trip to Yellowstone National Park and my dismay at the asphalt-ridden land that now surrounds the once pristine wilderness. Our very human need for transcendent places and our very human appreciation of beauty have led to some very human mistakes. I fear that we have loved that beautiful place to death. At Old Faithful, I overheard a small boy ask his mother when they would “turn on” the geyser. He is likely surrounded each day by inherently functional, utilitarian, nondescript suburban shopping malls, two-car garages, and four-lane interstates. For him and millions of other children like him, transcendence is not to be found at the eruption of Old Faithful, or the rocky granite shoreline of Lake Superior, or at the first sight of the Rocky Mountains.

The child at Old Faithful and the generations that will follow will wonder about us much like we wonder about Lewis and Clark. If our commemoration of the L&C Bicentennial is to be of any value, our land-stewardship efforts must ensure that those future generations will not need to wonder who we were and vainly try to imagine life in our times, for they will know. They will know that we valued beauty because we valued them.

Events and grants
Mark your calendars for October 14 and plan to be at the Falls of the Ohio on the 200th anniversary of the day Lewis met Clark to form the Corps of Discovery. Through October 26, thousands of visitors will take part in the National Heritage Signature Event in Louisville, Kentucky, and Clarksville, Indiana. These two states have formed a unique bi-state bicentennial partnership, in cooperation with the Shawnee United Remnant Band American Indians.

The National Council has received a generous four-year grant from the William and Flora Hewlett Foundation for tribal involvement in the bicentennial; campaigns for cultural awareness, tribal involvement, and land-stewardship awareness; and development of our Web site, COTA administration, national signature events, and council staffing. A portion of the funds granted to us will be re-granted to support cultural-awareness and land-stewardship activities at signature events. Cultural-awareness activities may promote Native-Indian or African-American issues. Working with the Circle of Tribal Advisors (COTA), we will use those Hewlett funds restricted to tribal involvement in the bicentennial partnership, in cooperation with the Shawnee United Remnant Band American Indians.

Funding priority will be given to projects that address cultural awareness and understanding, cultural-resource protection, tribal-language revitalization, environmental stewardship, diverse partnerships and collaborations, and public education and enjoyment. For more information regarding the grants for signature events and tribal involvement, please visit www.lewisandclark200.org.

—Robert R. Archibald
President, Bicentennial Council
Back Home in Kentucky
1 P. B&W
Rebecca furnishing
Adventure Caravans
1 P. B&W
Rebecca furnishing
The timing of these two historic events was coincidental, but exploring the new U.S. territory further validated the Corps of Discovery’s mission

by Brad Tennant

This year marks the anniversary of two critical events in American history—the Lewis and Clark Expedition and the Louisiana Purchase. While the two are connected, there exists in the public mind a common misunderstanding that the United States first purchased Louisiana and then set out to explore it. In fact, the expedition led by Meriwether Lewis and William Clark to the Pacific was conceived, and much of it was planned, before Thomas Jefferson’s decision to acquire Louisiana from Napoleon.

As every school child learns, the Louisiana Purchase in one fell swoop more than doubled the size of the United States. The territory covered some 565 million acres, and the $15 million paid for it amounted to less than 27 cents an acre—making it one of the greatest real-estate bargains in history.

Louisiana, which comprised the entire western water-shed of the Mississippi River, was part of a vast unknown region that also included Spanish territory north of Mexico as well as the Pacific Northwest, which was jointly claimed by the United States, Britain, Spain, and Russia. For reasons both political and scientific, Jefferson throughout his public life had envisioned sending an exploring party into this terra incognita. In 1783, he approached General George Rogers Clark, William Clark’s older brother and a hero of the American Revolution, about his interest in leading such an expedition. Clark declined the opportunity but endorsed the concept, adding that “three or four young Men well qualified for the Task might perhaps compleat your wishes at a very Trifling Expence.”

In 1786, while Jefferson was serving in Paris as minister to France, he met John Ledyard, a young American adventurer filled with grandiose dreams of exploration.
With Jefferson’s encouragement, Ledyard set out on a west-to-east journey that would take him to the Russian far east. From there he expected to cross the Pacific to North America, then proceed overland to the United States. He got as far as Siberia before officials of Catherine the Great turned him back.2

In 1793, Jefferson (by then secretary of state) and the American Philosophical Society sponsored a one-man expedition by André Michaux, a French botanist. Michaux’s westward journey ended abruptly in Kentucky when Jefferson learned he was a French agent conspiring against Spanish forces beyond the Mississippi.3

On January 18, 1803, after two decades of disappointment, Jefferson (by now president) delivered a message to Congress requesting $2,500 to underwrite an expedition up the Missouri River and beyond, “even to the Western ocean.”4 Jefferson argued that it would benefit commerce with Indian nations, and the funds were soon appropriated. Prompted by British fur trader Alexander Mackenzie’s account of his successful crossing of the Canadian Rockies in 1793, the president and his young secretary, Captain Meriwether Lewis, had actually been planning the expedition for months. Jefferson’s multiple objectives included blocking British interests in the Pacific Northwest.5

Meanwhile, the president’s concerns were also focused on the port of New Orleans and its crucial importance as an outlet for the goods of American farmers west of the Appalachians. New Orleans and the rest of Louisiana had been ceded by France to Spain in 1763. The United States and Spain had a treaty guaranteeing American access to New Orleans, but that arrangement was threatened when Spain, in 1800, agreed to cede Louisiana back to France.6

France was far more powerful and assertive in international affairs than Spain, and Jefferson feared that Napoleon might close New Orleans to American goods. He therefore instructed Robert Livingston, the U.S. minister to France, to negotiate for land on the lower Mississippi that could be used as an American port. In addition, he dispatched James Monroe to Paris with the authority to purchase New Orleans if possible. Monroe was told he could make an initial offer of $2 million, but Jefferson was willing to pay $10 million if necessary.7

While the American ministers negotiated with France over lower Louisiana, Jefferson proceeded with his cherished project of exploring upper Louisiana. What happened next gave new urgency to those plans. It turned out that Napoleon—focused on a pending war with Britain and reluctant to commit more resources in the Western Hemisphere after the failure of French forces to quell a slave uprising in Santo Domingo—had no intention of keeping Louisiana and proposed selling not only New Orleans but the entire territory for 60 million francs—approximately $15 million. A treaty providing for the Louisiana Purchase was negotiated and signed on April 30, 1803—three months after Jefferson’s request for funding the Lewis and Clark Expedition. News of the purchase was not made public in the United States until two months after that, on July 4. By then, Jefferson had already provided Lewis with his famous instructions explaining the expedition’s objectives, and preparations to lead it were nearly complete.8 By the time Congress ratified the treaty, on October 25, Lewis and Clark were on the lower Ohio busily recruiting able young men for their Corps of Discovery and preparing to go into winter quarters at Camp River Dubois, in Illinois Territory.

The deal struck between the United States and France added to the captains’ duties a significant geopolitical task. As Felix S. Cohen, an expert in federal Indian law, points out, the “purchase” of Louisiana should not be thought of as a sale of land per se but as a transfer of political authority. Indeed, for much of the same real estate the United States would eventually pay Indian tribes an amount more than 20 times the $15 million it paid France.9 Once the two nations agreed to the Louisiana Purchase, political authority over the territory passed from France to the United States, and it became one of Lewis and Clark’s additional responsibilities to convey this news to the traders and Indians they met along their route.

The northern reaches of Louisiana were contiguous with British Canada, whose border with the United States was determined in 1783 by the Treaty of Paris, the agreement that formally ended the American Revolution. That same treaty established the western border of the United States as the Mississippi River from Spanish Florida to the Mississippi’s headwaters; from there the boundary line angled north to Lake of the Woods, whose latitude of 49 degrees, 37 minutes represented the extreme northwest point of U.S. territory.

As noted, the Louisiana Territory encompassed the western watershed of the Mississippi, including the Missouri and all its tributaries. The territory had first been claimed for France in 1682 by the explorer LaSalle. Because most of Louisiana remained unexplored and little of it had been accurately mapped, the boundary was ambiguous at best, and determining its northern limit became one of the expedition’s expanded objectives. If the Missouri watershed indeed extended into Canada, it would give the United States a claim on a substantial chunk of
British soil. This is why, on the return trip, Lewis led a party up the Marias River in an attempt to discover its northern limits. In the words of historian Stephen Ambrose, the captain viewed this exploration as being of “the highest national importance.” Lew-

is’s foray up the Marias in July 1806 left him “fully satisfied that no branch of this River [the Missouri] extended so far North as Lat. 49.37.”

If today’s U.S.-Canadian border had been defined by the Louisiana Purchase, the political map of North America would be rather different, for some of what is now the United States would belong to Canada, and vice versa. Although the Marias, as Lewis discovered, does not originate in Canada, other northern Montana tributaries of the Missouri do—including the Milk River and Sage, Lodge, Battle, Frenchman, Rock, and Poplar creeks.

In a similar vein, much of present-day North Dakota and Minnesota, along with a smaller portion of South Dakota, drains not into the Missouri or Mississippi but into the Red River, whose waters flow north into Canada and empty into Lake Winnipeg. The upper Red River watershed was claimed by Britain until 1818, when a treaty established the 49th parallel as the new U.S.-Canadian border from Lake of the Woods west to the Continental Divide. That line was extended to the Pacific in 1846, and two years later the territory of Oregon, another region first thoroughly described by Lewis and Clark, became part of the United States.

The United States in 1819. Inset: present-day states within the territory of the Louisiana Purchase.

Notes
2 Ibid., pp. 654-661. See also Herbert S. Schell, History of South Dakota (Lincoln: University of Nebraska Press, 1975), pp. 37-38.

August 2003 We Proceeded On 13
In his article “Meriwether Lewis’s Ingenious Iron Boat” (WPO, May 2003), Mark W. Jordan has done a remarkable job of tracing the origins, construction, and fate of “the Experiment.” He gives us an eye-opening lesson on the indispensability of deductive reasoning in first-rate sleuthing. And, in so doing, he has laid to rest some of the more persistent myths alleging the super-light weight of the 36-foot iron-boat frame.1 Gone forever, one hopes, are the perennial favorites commonly advanced in expedition lore: a frame of 44 pounds, or maybe 99 pounds. It’s unlikely a frame of that length, even one made entirely of titanium, could match the lower of those two figures. We are indebted, therefore, to Jordan for the light he has shed on this area of longstanding misperception and misinterpretation.

Of course, a researcher can do only so much in a single article to dispel wrongly construed “facts,” but one wishes the article had also dealt with at least one other myth about the ultimate fate of the Experiment. Some fans of the Lewis and Clark saga hold to the belief that the frame of the iron boat still lies buried in a cache near the Upper Portage Camp, where it was placed by a “mortified” Lewis after its disappointing failure.

For example, the late Stephen E. Ambrose in his large-format Bicentennial Edition of Lewis & Clark: Voyage of Discovery, which accompanied the release in 2002 of the IMAX film of the same title, said this about the iron-boat episode:

“She [The Experiment] leaked in such manner that she would not answer.” He [Lewis] described himself: “mortified.” He added: “I relinquish all further hope of my boat.” He never mentioned her again. He had her put in a cache but apparently did not dig her up on the return journey. Presumably she is still there, waiting for someone to find her—it is an awfully dry climate.”2 (Italics added.)

Whoa! Hold on to your metal detectors, probes, picks and shovels! It’s highly unlikely that the frame of the iron boat is today anywhere near the site of the Upper Portage Camp. Not because of its complete oxidation after two centuries of exposure to the elements. Not because the Missouri River has changed course and flooded the area numerous times over the intervening years. And not because some enterprising salvager, or sly history buff, has beat us to the draw. No; Ambrose was simply wrong on that score—as others have been before him.

On the return trip eastward, after arriving at the Upper Portage Camp, Lewis wrote in his journal:

Had the carriage wheels [for the carts] dug up[,] found them in good order. the iron frame of the boat had not suffered materially.”3 (Italics added.)
Contrary to Ambrose’s assumption, Lewis did mention the iron-boat frame again and did, in fact, have it dug up. Upon examination, it was clear the ironwork was still in usable condition: there was probably some rust, but it “had not suffered materially.” However, other items (including specimens of flora and fauna, hides, and medicines) in a second cache had been ruined when the river overflowed during the Corps of Discovery’s stay on the Pacific coast.

It is precisely at this point that one searches in vain for any further mention of the iron-boat frame in the journals. What happened to it after it was dug up remains one of the minor mysteries of the expedition. Did Lewis have the parts returned to the cache to be hidden once more? Did he leave the parts strewn about the site to be washed away in later floods? Did he order his men to pitch the pieces of iron in the river so he would be done once and for all with the source of his earlier mortification? Knowing the corps’s record of improvisation and exploitation of the potentials offered by its supplies and equipment, as well as Lewis’s apparently obsessive personality, none of these scenarios seems plausible. Where, then, do we go from here?

Actually, we can turn to a later sequence of events at the junction of the Marias and Missouri rivers to pick up some admittedly faint, but putative, clues to the mystery of the ultimate fate of the iron-boat frame. On the westward trip up the Missouri, the corps had decided on June 9, 1805, to consolidate the expedition’s supplies and baggage, allowing the explorers to beach the red pirogue and hide it in some brush on an island away from the riverbank. On the return trip, as one contingent came downriver from its portage around the Great Falls and the Lewis-led contingent arrived at the mouth of the Marias after fleeing cross-country from its fateful encounter with a Blackfeet raiding party on the Two Medicine River, Lewis decided to recover the red pirogue from its hiding place. But he found it had rotted beyond their capacity to repair it. Lewis described this discovery and what they did next:

we passed over immediately to the island in the entrance of Maria’s river to launch the red perogue, but found her so much decayed that it was impossible with the means we had to repair her and therefore nearly took the nails and other ironwork’s about her which might be of service to us and left her. (Italics added.)

Here we learn that some 72 miles below the Upper Portage Camp, where the corps had unearthed the iron-boat frame, the men (probably in haste) removed the nails and other ironware from the now useless red pirogue. They took the time to do this even though apprehension hung heavily in the air at the thought that a Blackfeet war party was in hot pursuit of Lewis and his party to avenge the deaths of two of their tribesmen a few days before.

What does this tell us about men who would hazard their lives for a handful of rusty nails? That they were very imprudent? Maybe. That they placed an unusually high value on used metal goods that could be of future use? Definitely. That being the case, a follow-on question presents itself: Would they have earlier abandoned 176 pounds of pre-formed iron strips and sundry hardware from Lewis’s “favorite boat”? Not likely. Thanks to the loss of flood-damaged supplies and specimens at the Upper Portage Camp and the depletion of their supply of trade goods, they had more cargo room coming back than going up, and the Missouri’s current was carrying them downstream at a good clip without strenuous effort. So taking on the iron-boat frame at the Falls would not have been much of a burden. I believe they portaged the frame to below the Falls, where, bundled in hides, it was stowed in the white pirogue or one of the dugout canoes.
If that was indeed the case, what could have subsequently happened to the iron-boat frame, since there is no further mention of it in any of the journals? Of several possible outcomes at this stage of the expedition, the following scenario seems to me the most plausible—at least until more compelling documentary evidence surfaces.

From the journals we learn that the explorers proceeded downriver to a reunion with the residents of the Mandan and Hidatsa villages, near the junction of the Knife River, in present-day North Dakota—the site of the Fort Mandan winter encampment of 1804-05. Welcomed by their former hosts and neighbors, over several days the co-captains and the men visited and socialized, caught up on developments during their absence, gave and received gifts, traded for additional foodstuffs, and conducted further diplomacy on behalf of the United States. Sheheke (Big White), chief of the Mandan village of Mitutanka, finally agreed to accompany them to Washington, D.C., to meet President Jefferson, provided his wife and child and the interpreter René Jusseaume and his family could come, too. Lewis and Clark, having despaired of convincing anyone to undertake the grueling trip after days of bargaining and cajoling, readily acceded.8

As they were leaving the Knife River villages, the captains—apparently in a final effort to cement favorable relations with the Mandans and Hidatsas—gave the corps’s swivel gun and ammunition to the Hidatsa chief, Le Borgne (One Eye).9 Probably in pursuit of that same diplomatic objective, they also gave away the corps’s blacksmithing tools, which had been recovered from one of the caches at the mouth of the Marias. This action was briefly noted by Patrick Gass but never mentioned by the captains or any other journal-keeper:

The Commanding Officers gave discharges to the man [John Colter] who agreed to return with the hunters up the river, and the interpreter [Toussaint Charbonneau] who intends settling among these Indians, and to whom they gave the blacksmith’s tools: supposing they might be useful to the nation.10 (Italics added.)

Thus, in addition to his mustering-out pay of 500 dollars and 33½ cents (wages as interpreter, plus the price of a “leather lodge” and a horse),11 Charbonneau received a grubstake of capital goods that would enable him to pursue a useful trade, one which was clearly valued by the community.12

It is here that I believe the much-traveled, but seldom wet, 176-pound iron-boat frame reached its final resting place. It would have made good sense at this time, and would have greatly enhanced their already generous gift to Charbonneau, if the captains threw in a sizable inventory of iron suitable for smithing. Lewis, in his disappointment and chagrin over the failure of the Experiment, a year earlier had declared that he “relinquished all further hope” for his “favorite boat.” At least it might still prove instrumental in furthering the diplomatic hopes of President Jefferson.

Such a move would have made good sense for other reasons as well, for at this point the expedition was taking on additional cargo. The captains had already had to decline the generosity of their Indian hosts when offered more corn and other foodstuffs than they could accommodate in their little flotilla. Also, they were picking up seven additional passengers who would accompany them to St. Louis (and beyond).13 For all the aforementioned reasons, it would have been an opportune time to gain extra buoyancy by unloading the iron-boat frame.

I am convinced that Lewis and Clark aficionados who continue to seek physical evidence of the passage of the Corps of Discovery through the Missouri River corridor are looking in all the wrong places if they confine their search for remnants of the iron-boat frame to the Great Falls area. Journey’s end for Lewis’s iron boat probably came in the vicinity of Fort Mandan and the Knife River villages, not the Upper Portage Camp.

As a practical matter, the likelihood that anybody will find a significant stash of the iron-boat parts—anywhere—is remote. They probably have been long since altered, fragmented, transformed, and, figuratively speaking, scattered to the four winds.

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Office of the National Park Service (Lewis and Clark National Historic Trail: Corps of Discovery II), does research and gives talks to community groups on the expedition.

Notes
3 Gary E. Moulton, The Journals of the Lewis & Clark Expedition, 13 volumes (Lincoln: University of Nebraska Press, 1983-2001), Vol. 8, p. 108 (entry for July 14, 1806). All quotations or references to journal entries in the ensuing text are from Moulton, Vols. 2-11, by date.
4 Moulton, Vol. 4, p. 269 (Lewis entry for June 9, 1805).
5 Moulton, Vol. 8, p. 138 (Lewis entry for July 28, 1806).
6 For distance of 72 miles, see Moulton, “Postexpeditionary Miscellany,” Clark’s mileage chart, Vol. 6, p. 382.
7 Jordan, p. 30.
8 Moulton, Vol. 8, pp. 298-307 (entries for August 14-17, 1806).
9 Ibid., pp. 303-304 (Clark entry for August 16, 1806).
10 Moulton, Vol. 10, p. 268 (entry for August 16, 1806).
11 Moulton, Vol. 8, p. 305 (Clark entry for August 17, 1806).
12 Between December 1804 and March 1805, while at Ft. Mandan, the corps’s blacksmiths had done a brisk business repairing hoes, axes, and knives, making iron arrowheads and hide scrapers, and turning out numerous battle axes of an especially popular design. To achieve this diverse output they disassembled and used the parts from an iron-plate stove that “had been nearly burnt out on our passage up the river” (Moulton, Vol. 3, p. 288) —a practice that further reveals the decidedly parsimonious approach taken by members of the expedition when it came to the use and reuse of iron goods. In payment for services, the explorers received generous quantities of corn, thereby augmenting the sometimes meager food supply. (See related entries in Moulton, Volume 3, for the period December 31, 1804, to March 13, 1805.)
13 Sheheke and his wife and child, plus the interpreter Juss-eaume and his wife and two children.

Editor’s note
Readers should know that the original version of Mark Jordan’s article about the iron boat did, indeed, deal with the ultimate fate of “the Experiment” and that the author reached a conclusion similar to the one presented here by Carl Camp. This material, however, was cut from Jordan’s essay by the editor for reasons relating mainly to space and focus; the editor also had his doubts about Jordan’s theory, at least at the time. In his original draft, Jordan questioned an assertion made in an article in the May 1984 WPO—Donald W. Rose’s “Captain Lewis’s Iron Boat: ‘The Experiment’”—which stated in part, “There is no record in the journals related to the return journey in 1806 that makes any mention of retrieving the iron frame of the boat. Apparently it was abandoned.” Jordan further noted that both Gary Moulton (in a footnote on page 371 of Volume 4 of his Journals of the Lewis & Clark Expedition) and Stephen Ambrose in Undaunted Courage, his biography of Meriwether Lewis, reached similar conclusions. Ambrose stated that “Lewis “apparently did not dig her up on the return journey.” Moulton, citing Rose, stated, “Apparently the boat was abandoned for good; there is no record of its recovery on the return trip in 1806.” In fairness to Rose and Moulton, in this context “retrieve” and “recovery” are not necessarily synonymous with “dig up.” And nowhere in the journals is it explicitly stated that the frame’s components were carried to the Lower Portage Camp, much less transported from there downriver. Still, even if based on indirect evidence, Carl Camp’s argument that the frame was carried downstream to the Mandan and Hidatsa villages is persuasive. Camp arrived at his interpretation of these events without prior knowledge of Jordan’s parallel thinking.

—J.I.M.
Empty Kettles in the Bitterroots

The captains’ assumptions about Rocky Mountain geography and the availability of game proved a recipe for near disaster

by Leandra Holland

Few situations can be more discouraging to commanders than watching their troops go hungry. Worse is to see them starve. That is exactly the situation endured by Meriwether Lewis and William Clark when, for nearly two weeks in September 1805, the 32 adult members of the Corps of Discovery and their two Shoshone guides struggled through early snows in the Bitterroot Mountains of today’s Montana and Idaho. The explorers left their camp at Travelers’ Rest, near present-day Missoula, Montana, on September 11 and staggered out of the mountains 11 days later. They barely survived on little more than an estimated 130 pounds of “portable” soup, four horses (three colts sacrificed from the herd and a stray that had the bad luck of wandering into shooting range), a single deer, and the occasional grouse. On September 19, various journal-keepers took stock of their grim situation. Sergeant John Ordway scrawled in his notebook, “we eat the verry last morcil of our provision.” Sergeant Patrick Gass, who likened the Bitterroots to a “horrible mountainous desert” virtually devoid of game, was equally discouraged: “The men are becoming lean and debilitated, on account of the scarcity and poor quality of the provisions on which we subsist.”

Lewis wrote that “several of the men are unwell of the disentary” and were breaking out with skin eruptions. Two days later he recorded, “I find myself growing weak for the want of food and most of the men complain of a similar deficiency.”

Fortunately, on the 20th an advance party led by Clark reached a grassy highland meadow called Weippe Prairie and encountered a band of friendly Nez Perce Indians. Lewis and the rest arrived two days later. Although the camas roots and salmon proffered them by the Nez Perces did terrible things to their shrunken digestive tracts, at least now they were eating something. From here to the Pacific game continued to be scarce, but on their descent of the Snake and Columbia rivers they were nourished by ample supplies of dog meat acquired in trade with other tribes they met.

How did Lewis and Clark get themselves in such dire straits in the Bitterroots? The captains have been rightly praised as outstanding leaders whose ultimate success owed much to careful, meticulous planning. Yet their planning failed them once they reached the mountains. It needn’t have been that way. Mistaken notions about the region’s geography and ecology and an excess of cau-
tion in caching critical supplies a bit too early in the trek conspired against them. None of these factors by itself was critical, but combined they came close to aborting the mission. It was a recipe for empty kettles—and near disaster—in the Bitterroots.

Let’s start with the captains’ misunderstanding of geography. Like Lewis’s mentor, Thomas Jefferson, they believed in the 18th-century notion of “symmetrical geography.” If the low, rounded, gently sloping Appalachian Mountains formed a single range in the east, then one might also expect a single chain of mountains in the west and a run downriver to the Pacific no longer or more difficult than a run down the Potomac. This geography of hope also assumed that the Missouri River would be navigable to its source on the east slope and that the source of the equally navigable Columbia on the west slope could be reached with a short portage.6 Missing from this assumption was any concept of the Rockies as a formidable series of ranges or the rapids, falls, and impassable gorges of the upper Columbia and its tributaries. Lewis and Clark’s belief in symmetrical geography left them ill prepared for their tortuous, 160-mile crossing of the Bitterroots and their six-week, 500-mile descent of the Lemhi River to the sea (a journey they had expected would take them little more than a week).

The captains were also misled by Alexander Mackenzie’s relatively quick and easy crossing of the Canadian Rockies in 1793. Mackenzie, a Scottish fur trader and partner in the Northwest Company, reported that the mountain pass he traversed was at an elevation of just three thousand feet and that the mountains to the south appeared to be lower than those that surrounded him.7 The impression left by Mackenzie’s account was reinforced by information gathered by Lewis and Clark from Indians at Fort Mandan during the winter of 1804-05.

Geographic theory and reality clashed head-on when the Corps of Discovery reached the mountains the following summer. Lemhi Pass, where Lewis crossed the Continental Divide on August 12, 1805, stands at 7,373 feet—more than twice the height of the pass used by Mackenzie 600 miles to the north—and from the ridge Lewis spied nothing but more mountains, “immense ranges … with their tops partially covered with snow.” After acquiring horses and guides from the Shoshones, the explorers descended the Lemhi River and struggled across Lost Trail Pass to the upper Bitterroot River. There they met the Salish Indians, traded for more horses, and continued down the valley, reaching Travelers’ Rest on September 9. On the 15th, three days after they began their ascent into the Bitterroots along Lolo Creek, the trail led them up a steep slope, from the top of which Clark’s gaze took in yet more “high rugged mountains in every direction as far as I could see.” So much for the single-ridge theory of western geography.

If geographical misunderstanding was the first ingredient of the captains’ recipe for empty kettles, the second was ignorance of the region’s ecology. An abundance of game encountered on the upper Missouri led them to falsely assume that game would also be plentiful in the mountains. The high plains’ ability to support vast quantities of meat on the hoof was nothing less than astonishing. Moreover, the animals showed no fear of hunters. Lewis’s journal entry for April 25 notes, “the buffaloe Elk and Antelope are so gentle that we pass near them while feeding, without appearing to excite any alarm among them, and when we attract their attention, they frequently approach us more nearly to discover what we are, and in some instances pursue us a considerable distance apparently with that view.”8 On May 9, Ordway observed in amazement, “the Game is getting So plentiful and tame in this country that Some of the party clubbed them out of their way.”9

They had entered a hunter’s Eden that kept bellies full and spirits high. From Ordway’s journal for the period of April 10-30 we can construct a kind of running
menu for his mess. Although untidy and disorganized, the following itemization gives us an idea of the land’s largess and its wealth and variety of game and forage; had Lewis and Clark lived in our era of faddish weight-loss programs, we might call this the “Corps of Discovery’s 20-Day Springtime Diet”:

Beaver tails and meat, a bald eagle, a prairie hen, a goose and a beaver, a deer, two geese, a very large beaver, a rabbit, wild onions, a deer, another bald eagle, two beavers, two beavers and one fish, seven beavers, two antelopes, one goose egg, one muskrat, one buffalo, one elk, one goat, a very large fat beaver, two beavers and several small fish, two buffaloes (they ate just the tongues), one buffalo, one beaver, one goose, another goat and two goose eggs, one goose, one elk and one deer, one large beaver, one elk, three geese and more goose eggs, several catfish, two beavers, four beavers, one deer (Lewis ate the liver), two elk, one whitetail deer, one goose, one beaver, four goose eggs, four deer, two buffalo calves, one elk, one otter, one large beaver, another beaver, two beavers, one beaver, one goose, several buffalo, elk, and deer, one beaver, one buffalo calf, one goose and six eggs, two cow buffaloes and a calf, one goose, one buffalo cow and a calf, one antelope (caught by Seaman, Lewis’s Newfoundland dog), several small fish, several buffalo and calves, one white swan, one large beaver, one deer and a goose, one grizzly bear, one very large beaver, one pregnant goose (weighing, Ordway claimed, 70 to 80 pounds), and one elk.¹⁵

Such bounty would prove deceptive, for unbel-nownst to the captains, they were passing through a unique wildlife zone. Sprawling across today’s north-central Montana, the high plains between the Missouri and Yellowstone rivers was, in effect, a vast game preserve devoid of human habitation. From their departure from the Mandan villages in April until their encounter with the Shoshones in August, the explorers did not see a single Indian. Tribes surrounding this North American Serengeti—Blackfeet, Atsina, Hidatsa, Crow, and Salish, among others—visited it for hunting purposes but did not live there, and their hunts had minimal impact on the animal populations.¹¹

The Shoshones, whose homeland lay west of the Continental Divide, also hunted on the game-rich plains to the extent they could. Unlike tribes east of the Divide, however, they lacked firearms, and fear of encountering armed bands of Blackfeet and other enemies limited their excursions to brief, furtive forays. For most of the year the Shoshones remained confined to the high country, and they hunted it intensely. As a result, game animals in the mountains—an environment less fertile to begin with—were more scarce and a lot warier than animals on the plains. When Lewis and Clark met the Shoshones they found them in a state of near-starvation. Lewis was amazed to see them run “like a parcel of famished dogs” toward a deer shot by one of the corps’s hunters and devour it raw on the spot, innards and all: “I really did not until now think that human nature ever presented itself in a shape so nearly allied to the brute creation.”¹²

For similar reasons game would also prove scarce along the Snake and Columbia rivers, a corridor occupied by a dense, permanent Indian population.

BAD ROAD AHEAD

The first inkling of the provisioning troubles that lay ahead came on August 15, when Cameahwait, the Shoshone chief, advised Lewis about the difficulty of crossing the mountains by the route to the buffalo country followed by the Nez Perces. The road, he said, “was a very bad one,” and his people “had suffered excessively with hunger on the rout being obliged to subsist for many days on berries alone as there was no game in that part of the mountains which were broken rocky and so thickly covered with timber that they could scarcely pass.” Despite Cameahwait’s warning, the ever-confident Lewis “felt perfectly satisfied, that if the Indians could pass these mountains with their women and Children, that we could also pass them.”¹³

Had they known about the scarcity of game in the mountains, the explorers might have carried along enough food to see them through the lean times they now surely faced. But the die had been cast on the upper Missouri two months earlier, when the captains had decided to store most of their provisions, along with some extra baggage, in one cache at the mouth of the Marias River and in another at the Great Falls. The days of superabundant game and gorging on barbecued buffalo and antelope steaks, roasted goose and beaver tails, and other sundry delicacies had lured them into a false sense of security. This decision was the third ingredient in their recipe for empty kettles in the Bitterroots.

At the Great Falls Lewis noted that “we have now a considerable stock of dried meat and grease.”¹⁴ They also had plenty of parched corn, flour, salted pork, and other edibles hauled upriver from St. Louis. But it now became necessary to reduce both the weight and bulk of their provisions, since the pirogues had been left below the Falls and the remaining journey would be in smaller dugout canoes and on horseback. Once again, initial geographic assumptions led to an unfortunate decision. As was cus-
tomary with army provisions, the captains had packed the pork and grains in kegs and barrels. These containers, which weighed 80-90 pounds apiece,15 traveled well in the keelboat and pirogues, and they could have been carried without too much trouble on a one-day portage like the one expected between the Missouri and Pacific drainages. But numbers of such heavy, bulky containers would have been awkward in dugouts and quite unwieldy on pack horses over the roughest imaginable wilderness terrain; smaller casks and oilskin bags would have been far more appropriate.

EXCAVATING A CACHE

Lewis and Clark were familiar with caches from their time with the Mandans, who like the Hidatsa and other agricultural tribes on the Missouri stored winter vegetables in underground vaults excavated beneath their earth lodges. A typical cache was as deep as a person is tall and shaped like a bell or jar, with a wide, flat floor and sloping sides that narrowed toward the top; Lewis likened these carefully crafted pits to the root cellars common to homes in his native Virginia.16 A cache could be dug in two or three days with a hoe. To keep the stored food away from the damp earth and allow air to circulate, the floor was covered with willow sticks or dried buffalo hide, and the walls were lined with bundled grass secured by willow sticks and pins. The Mandans packed the pit with dried squash, corn, beans, and sunflower seeds. Any gap left near the top was filled with more bundled grass. Planks, or puncheons, were laid on top of the grass, followed by more grass and a circular hide over the mouth, or entrance. To prevent theft or pillage the entrance was hidden with a final layer of earth and ashes.

Pierre Cruzatte, one of the corps’s French-Canadian boatmen, knew the details of cache construction and was appointed to supervise the project. On June 10, at the mouth of the Marias River, seven men dug and loaded several caches. Into one they put the foodstuffs: “1 Keg of flour, 2 Kegs of parched meal, 2 Kegs of Pork, 1 Keg of salt, and some tin cups.”17 Each of the five large kegs would have contained 70 pounds of meat or grain, while the smaller keg held 20 pounds of salt, so the provisions left here weighed a total of 370 pounds, including 140 pounds of pork, 70 pounds of flour, and 140 pounds of corn. Twelve days later, at the Lower Portage Camp, another cache was excavated and packed with two kegs of pork and a keg of flour.18 Adding the above gives us total weights for the provisions stored: 280 pounds of pork, 140 pounds of flour, and 140 pounds of corn. The grand total for cached edibles: 560 pounds, plus 20 pounds of salt.

With these two caches, Lewis succeeded in eliminating from the corps’s baggage more than a quarter ton of weight and seven bulky, unwieldy containers. In fact, the 560 pounds of food is merely a baseline measure and represents far less than its consumable yield. During cooking, dried and otherwise preserved ingredients will often wind up producing more food per volume or weight than in their original state. This can be easily checked by weighing and measuring a dry raisin in its shriveled state, then plumping it in water. Once absorbed, the water increases the raisin’s weight and volume. This principle also works with other dry ingredients such as corn and flour.

When stewed, items like raw meat or preserved pork will also absorb water, yielding an increased number of portions as well as a nutritious broth—an extra, filling compliment to the main dish. Pork, be it brined or salted, needs to be washed thoroughly to eliminate the salt residue, then cooked in enough water to remove the “pucker”
from the end product. We don’t know how much water the corps’s cooks added when making a pork stew, but contemporary recipes usually advised that the water cover the ingredients. On the principle that “a pint’s a pound,” this might have amounted to two cups of water to one pound of meat. At the very least, the ratio would have been one-to-one. The cooks might also have used parched corn as an ingredient in their stew, for it would absorb some of the pork’s salt. Flour was most likely used to thicken fresh-meat stews.19

Undoubtedly, the parched corn and flour were used by themselves to concoct pleasing and nutritious meals. The corn, for example, could be boiled to make a porridge; recipes for Native American dishes include hominy grits made with a five-to-one ratio of water to corn and a corn gruel with a three-to-one ratio.20

The journals tell us little about the use of flour, but we do know that Lewis made suet dumplings.21 There is a possibility that some of the cooks made pancakes, perhaps leavened with goose eggs, and flatbreads; these could have been baked in a Dutch oven or fried in a “spider pan,” a name deriving from the legs, which keep it elevated above the coals. The ratio of water to flour was probably one-to-one, enough to make a sticky dough.

Recapitulating the above, we find that 280 pounds of water added to 280 pounds of pork (a ratio of one-to-one) yields 560 pounds of stew; 420 pounds of water added to 140 pounds of corn (a ratio of three-to-one) yields 560 pounds of corn-meal mush; and 120 pounds of water added to an equal amount of flour yields 240 pounds of dumplings and bread. We will assume that the 20 remaining pounds of flour was used for thickening stews. Total yield of prepared food: 1,380 pounds. Had this amount been allocated at a minimum of five pounds of food per person per day and apportioned among 34 adults, it would have provided enough for each member of the party to eat well for eight days. Those days could have been at the top of the bleak Bitterroot Mountains when death stalked the Corps of Discovery.

Lewis on the fine art of constructing a cache

The cash being completed I walked to it and examined it’s construction. it is in a high plain about 40 yards distant from a steep bluff of the South branch on it’s northern side; the situation a dry one which is always necessary. a place being fixed on for a cash, a circle abut 20 inches in diameter is first discribed, the terf or sod of this circle is carefully removed, being taken out as entire as possible in order that it may be replaced in the same situation when the chash is filled and secured. this circular hole is then sunk perpendicularly to the debth of one foot, if the ground be not firm somewhat deeper. they then begin to work it out wider as they proceed downwards untill they get it about six or seven feet deep giving it nearly the shape of the kettle or lower part of a large still. it’s bottom is also somewhat sunk in the center. the dementions of the cash is in proportion to the quantity of articles intended to be deposited. as the earth is dug it is handed up in a vessel and carefully laid on a skin or cloth and then carried to some place where it can be thrown in such manner as to conceal it usually into some runing stream wher it is washed away and leaves no traces which might lead to the discovery of the cash. before the goods are deposited they must be well dried; a parsel of small dry sticks are then collected and with them a floor is maid of three or four inches thick which is then covered with some dry hay or a raw hide well dried; on this the articles are deposited, taking care to keep them from touching the walls by putting other dry sticks between as you stoe away the merchandize, when nearly full the goods are covered with a skin and earth thrown in and well ramed untill with the addition of the turf furst removed the whole is on a level with the serface of the ground. in this manner dryed skins or merchandize will keep perfectly sound for several years. the traders of the Missouri, particularly those engaged in the trade with the Siouxs are obliged to have frequent recourse to this method in order to avoyd being robed.

—Meriwether Lewis, June 9, 1805

June 1805.

opposite the mouth of the expedition’s camp Tools” in a cache at flour Pork Skins robabs “Deposited Powder Clark’s map notes

NOTES

1 The members of the permanent party, of course, also included Sacagawea’s infant, Jean Baptiste. The two Shoshone guides were Old Toby and his son.

2 We don’t know how much portable soup was consumed in the Bitterroots, but 450 portions of a half-cup each is a reasonable estimate. That would amount to about 130 pounds of soup in its concentrated form. The expedition carried 193 pounds. For more on this topic, see Kenneth C. Walcheck, “Portable Soup: in its concentrated form. The expedition carried 193 pounds.

3 Gary E. Moulton, ed., The Journals of the Lewis & Clark Expedition, 13 volumes (Lincoln: University of Nebraska Press, 1983-2001), Vol. 9, p. 226. All quotations or references to journal entries in the ensuing text are from Moulton, by date, unless otherwise indicated.

4 Moulton, Vol. 10, pp. 144-145.


6 For more on symmetrical geography and the related “pyramidal height-of-land” theory, which posited that North America’s major western rivers all flowed off a single mountain, see Exploring the West from Monticello (Charlottesville: University of Virginia Library, 1995), p. 16. The same discussion can be found on page 27 of the updated version of this volume, Lewis and Clark: The Maps of Exploration 1807-1814 (Charlottesville, Va.: Howell Press, 2002).

7 Exploring the West from Monticello, pp. 59 and 60. As stated a bit further on in the text, the height of Lemhi Pass is 7,373 feet. Lost Trail Pass and Lolo Pass, the other two passes used by the Corps of Discovery to cross the Rockies, are 6,995 feet and 5,233 feet, respectively. Mackenzie crossed one of the lowest passes in the Rockies, near today’s Prince George, British Columbia.

8 Moulton, Vol. 4, p. 67.

9 Moulton, Vol. 9, p. 145.

10 Ibid., pp. 128-140.


12 Moulton, Vol. 5, p. 103.

13 Ibid., pp. 90-91. Initially Lewis held out hope that they might yet be able to descend the Salmon River, but when a reconnaissance by Clark showed it to be impassable, there was no alternative to the Bitterroot crossing.

14 Moulton, Vol. 4, p. 382 (entry for July 15, 1805).


16 Moulton, Vol. 4, p. 269. (Lewis’s entry for June 9, 1805, referring to a cache as “a hole or cellar.”)

17 Ibid., p. 275. Although the journals say “Keg” for flour and parched meal, there is no evidence to suggest these grains were packed in pork-size kegs; rather, it appears that half-size barrels were used. Each half-size barrel contained about 70 pounds of flour and corn meal.

18 Ibid., p. 334. The entry says “1/2 a Keg of flour.” However, given the difficulty of resealing a keg, it is unlikely Lewis means half of a keg: rather, he probably means full half-size barrels, listed as “half Barrels” in the original inventory (Moulton, Vol. 2, p. 217).

19 Mary Randolph, the author of The Virginia Housewife, a work first published in 1824, emphasizes the importance of dredging the meat in flour before putting it on to boil and adding salt. Lewis, a keen observer and ardent gourmet, would have known of this technique from his plantation background, and Clark might have known it from his own fine-cooking household. Because it was an Old World tradition, the expedition’s French engageés might also have been familiar with this piece of culinary wisdom.


21 Lewis twice records making suet dumplings, on June 26 and July 4, 1805 (Moulton, Vol. 4, pp. 334 and 362).
PORTABLE SOUP: RATION OF LAST RESORT

However unappetizing, “veal glue” helped stave off disaster in the Bitterroots

by KENNETH C. WALCHECK

On April 15, 1803, while provisioning for the expedition he would soon be leading across the continent, Meriwether Lewis wrote to General William Irvine, the superintendent of military stores in Philadelphia, regarding the purchase of 200 pounds of portable soup, an item he regarded as “one of the most essential articles” on his list of needs. Lewis wound up paying $289.50 for 193 pounds of portable soup, all of it prepared by a Philadelphia cook named François Baillet and stored in 32 tin canisters purchased for eight dollars.

Anyone who has planned an extended wilderness backpacking trip involving a mixed group of hikers knows the difficulty of estimating the amount and types of food required. Simple mistakes in planning are difficult to correct once in the field and can lead to problems down a distant bend in the trail. Lewis was faced with a much more difficult planning exercise—one that called for a lot of guesswork in determining provisions for a party of still undetermined size bound on a journey of unknown length. He knew they would be living off the land to some considerable extent. Still, whatever game was shot in the field would have to be supplemented by preserved food carried on the trail.

Also known, among other names, as pocket soup and veal glue, portable soup is the ancestor of the modern bouillon cube and a close cousin to the gracie de viande used in French cooking. Ingredients and proportions may vary slightly from one recipe to another, but all result in the same end product: a small, rubbery slab with an intense, meaty taste. Although we don’t know the exact formulation of Lewis’s portable soup, it was probably similar to the following recipe, which appears in a cookbook by Ann Shackleford published in London in the 1760s:

Take four calves feet; buttock of beef, twelve pounds; fillet of veal, three pounds; leg of mutton, ten pounds. Stew them in a sufficient quantity of water, over a gentle fire, and carefully take off the skum, pass the broth through a cullender, then boil the remaining meat in fresh water, which strain off likewise, and put the two liquors together, let them cool, in order to take off the fat; and clarify the broth with the whites of five or six eggs, adding requisite quantity of salt; then pass the liquor through a flannel bag, and evaporate it in a tin vessel in boiling water, to the consistence of a very thick paste; turn it out of the vessel on a smooth even slab, and spread it thin: when cold, cut it in lozenges of a considerable size; which may be dried in the heat of boiling water, or in a stove, till they are perfectly hard, and somewhat brittle. Lastly, put them into wide-mouth glass bottles, and cork them well for use. These lozenges, or cakes, will keep good four or five years. You may, if you please, add to the composition, fowl, leguminous roots, or spices, as a few cloves, a little cinnamon, pepper, &c.

Later, the “glue” resulting from this recipe would be reconstituted as needed by adding boiling water, probably at a one-to-one ratio.
How nourishing was the portable soup carried on the expedition? Nutritional science provides an interesting answer. Some years ago, I asked Dr. Alison Eldridge, the associate director of the Nutrition Coordinating Center at the University of Minnesota, to conduct a nutritional assay of a sample of portable soup based on the Shackelford recipe. The results are shown in the table on page 26.

At a one-to-one ratio, 125 grams of dehydrated portable soup mixed with 125 grams (a half cup) of boiling water yields one cup of broth. This is the amount one would expect for a single serving, or ration. The recipe makes 8.3 kilograms (18.3 pounds) of dehydrated soup, which combined with an equal quantity of water would yield 66 rations. Each ration would provide one person with 231 calories contained in 36 grams of protein and 8.5 grams of fat. With these proportions as a guide, one can estimate that the 193 pounds (87.6 kilograms) of portable soup carried on the expedition would have provided about 700 rations, or roughly 21 rations for each of the 33 members of the permanent party.

The metabolic reduction of food in the body to yield energy is an oxidative process, analogous to the combustion of fuel but much more complex. The energy needs of a 25-year-old person engaged in strenuous physical labor of the sort endured by members of the Corps of Discovery can reach as high as 6,000 calories per day.

Those needs were surely at their maximum during the 11 days in late September 1805 when the explorers followed the Lolo Trail across the rugged Bitterroot Mountains. Until this time they had lived mostly off the land, which had been easy to do on the game-rich high plains of the upper Missouri. But once in the mountains they found game scarce, and they had cached the bulk of their remaining stores of corn, wheat, and salt pork below the Great Falls. Facing conditions of near-starvation in the Bitterroots, they killed some of their horses for meat and—almost certainly for the first time—turned to their supply of portable soup for sustenance.

Assuming that no carbohydrates in the form of grains or vegetables were added to the rehydrated soup when the explorers first began consuming it on the Lolo Trail, it would have taken 26 rations per person per day to give each of them the 6,000 calories their bodies required. This is five more rations per person than the number provided for the entire trip.

The journals reveal that while in the Bitterroots the expedition members dined on portable soup for seven straight days—September 14-20. The entries don’t tell us anything about the size of the rations, and there is no indication that the explorers had soup more than once a day. Almost certainly they consumed several cups at a time, for most of it was gone by the 20th, when Lewis tells us that only “a few” of the 32 canisters remained.
Portable soup: a nutrient profile
Assay by the Nutrition Coordinating Center (NCC), University of Minnesota

INGREDIENTS (based on Ann Shackleford’s recipe for portable soup):
4 pork hocks (substituted for 4 calves feet)
12 lbs. beef
3 lbs. veal
10 lbs. mutton
1/2 cup (250 grams) salt

The pork hocks were substituted for calves feet, which are not in the NCC’s database. The cuts of beef, veal, and mutton were fairly lean—they had no visible fat, although of course some fat would have been present. Shackleford’s recipe mentions that egg whites are used to clarify the broth, but because they coagulate and are then removed, they contribute no nutrients to the end product. The recipe doesn’t state the amount of salt added; relative to the total ingredients, a half cup is consistent with commercial beef-based condensed soups.

The recipe doesn’t say how much water to use in rendering the ingredients into the “thick paste” that is subsequently cut into lozenges and stored in sealed glass bottles. When cooking down the ingredients in the series of steps called for by the recipe, we used a “sufficient quantity” of water, as required. The dehydrated end product turned out to be 61 percent water—considerably drier than modern condensed soups, which are 72-92 percent water.

YIELD

- Protein: 2,391 grams
- Fat: 563 grams
- Sodium: 61 grams
- Water: 5,090 grams
- Additional ingredients: 186 grams
- Total weight of all ingredients: 8,291 grams (8.3 kilograms, or about 18.3 pounds)
- Energy: 15,312 calories
- Calories from protein: 62 percent
- Calories from fat: 33 percent

Other nutrients (selective list):
- Cholesterol: 7,351 milligrams
- Niacin: 520 milligrams
- Iron: 189 milligrams
- Vitamin B-6: 29 milligrams
- Riboflavin: 24 milligrams
- Thiamin: 10 milligrams
- Vitamin C: 1 milligram

NOTES
1. Here and elsewhere, values are rounded off to eliminate decimal points.
2. Additional ingredients include a variety of other soluble salts besides sodium, as well as vitamins, amino acids, and cholesterol.
3. For a complete list, contact the author at 5551 Cottonwood Road, Bozeman, MT 59718.
The portable soup helped keep metabolic fires burning, but it was no one’s favorite fare. Sergeant Patrick Gass noted in his journal entry for September 14, “Capt. Lewis gave out some portable soup, which he had along, to be used in cases of necessity.” Because “Some of the men did not relish this soup,” they killed a colt “and set about roasting it.” On the same day, his fellow sergeant John Ordway observed that they “had nothing to eat but Some portable Soup,” which “did not Satisfy.” The journals state that they made soup by mixing the dehydrated glue in hot water, but the entries also suggest they sometimes took it straight, dissolved on the tongue: Private Joseph Whitehouse refers to drinking soup and also to eating it. There was certainly precedent for this. In a passage on portable soup in his History of the Dividing Line (1729), William Byrd of Virginia advised, “if you shou’d be faint with Fasting or Fatigued, let a small Piece of this Glue melt in your Mouth, and you will find yourself surprisingly refreshed.”

Whether taken as a drink or a lozenge, we can only guess how “refreshed” portable soup may have left Whitehouse and the others, but after at last emerging from the Bitterroots, none of the journal-keepers mentions partaking of it again. On the homeward journey the following spring, while waiting for the mountain snows to melt, the captains gave an ailing Nez Perce chief “a little portable soup”—not as food, however, but as medicine, in prescribed doses along with laudanum, flour of sulfur, and cream of tartar.

Portable soup: whatever its nutritional values or healing powers, for the Corps of Discovery it was the ration of last resort.

Foundation member Kenneth Walcheck lives in Bozeman, Montana. He wrote about bears in last November’s WPO.

Notes
1 Steve Harrison, “Meriwether Lewis’s First Written Reference to the Expedition—April 15, 1803,” We Proceeded On, October 1983, pp. 10-11.
2 Donald Jackson, ed., Letters of the Lewis and Clark Expedition with Related Documents, 1783-1854, 2 volumes (Urbana: University of Illinois Press, 1978), Vol. 1, pp. 78, 79, 81, and 95. Contrary to speculation in some published accounts of the expedition, it is clear from the “Camp Equipage” list compiled by Lewis (Jackson, Vol. 1, p. 95) that the canisters were made of tin and not lead. See, for example, Eldon G. Chuinard, Only One Man Died: The Medical Aspects of the Lewis and Clark Expedition (Glendale, Calif.: Arthur Clark Co., 1980), p. 160, and Albert Furtwangler, Acts of Discovery: Visions of America in the Lewis and Clark Journals (Urbana: University of Illinois Press, 1993), p. 107. Also, according to food historian Leandra Holland, examination of a photocopy of Lewi’s camp-equipage list shows that the “of” in line “32 [Tin] Cannisters of P. Soup” has been overwritten with the word “for,” making it clear that the portable soup and the canisters were purchased separately.
4 This assumes that in its dehydrated state the expedition’s portable soup was 61 percent water, as noted in the accompanying table.
5 The figure of 8.3 kilograms is rounded off from 8,294 grams. The exact yield is 66.35 rations (8,294 grams of protein, fat, and salt, plus 8,294 grams of water, divided by 250).
6 The precise number of rations is 696. In the calculations for rations per person I am including Sacagawea’s infant, Jean Baptiste Charbonneau, and excluding Old Toby and his son, the two Shoshones who guided the explorers across the Bitterroots.
7 The party left Travelers’ Rest, near present-day Missoula, Montana, on September 11. Clark led an advance group onto Weippe Prairie on the 20th, and Lewis arrived there on the 22nd.
8 In his journal entry for June 29, 1805, Sergeant John Ordway says that the party, after a drenching in a hard rain at the Great Falls of the Missouri, “revived with a dram of grog and got some warm Soup.” This might have been portable soup, but given the abundance of game at the Great Falls, it was almost certainly made from fresh meat. On June 26, when listing items carried in canoes, Ordway refers specifically to “portable Soup.” Moulton, Vol. 9, pp. 174 and 177.
9 There is no evidence in the journals that carbohydrates—energy-packing nutrients that ought to make up 55-60 percent of a balanced diet—were added to the soup.
10 Moulton, Vol. 9, pp. 223-226 (Ordway) and Vol. 11, pp. 315-324 (Whitehouse).
11 Moulton, Vol. 5, p. 211. Food historian Leandra Holland estimates that the explorers consumed 130 of the 193 pounds of portable soup they carried while in the Bitterroots. See her article “Empty Kettles in the Bitterroots, pp. 18-23 of this issue of WPO.
13 Ibid., p. 223. Although there is no direct evidence for it, one cannot rule out the possibility that the expedition’s portable soup was contaminated by bacteria. If so, it may have been unfit for consumption. All cooked meat products, including gravy and stock, are classified as high-risk foods which can support the growth of harmful pathogens. Bacteria could have entered the portable soup when it was being made in Philadelphia.
14 Moulton, Vol. 11, pp. 317 and 322 (drinking) and pp. 315-316, 320, and 323 (eating)
15 Quoted from Paul Jones’s Web site (note 3, above).
16 Moulton, Vol. 7, p. 284 (Lewis’s entry for May 24, 1806) and p. 289 (entry for May 26).
Early accounts of the Lewis and Clark Expedition appeared in many forms, including brief newspaper notices, substantial reports to Congress, and full-length volumes. A recently discovered summary of the progress of the Corps of Discovery as far as their winter encampment at the Mandan villages, written in 1805 by an anonymous “Citizen of Philadelphia,” may be the earliest attempt to place the expedition in a historical context.

In the sequence established by the early Lewis and Clark bibliographer Elliott Coues, the first published account documenting the Corps of Discovery was Jefferson’s report to Congress of February 19, 1806. This report, issued when the Corps of Discovery was still in its winter quarters at Fort Clatsop, on the Pacific coast, contained information compiled by Lewis and Clark and sent back with the keelboat from Fort Mandan in April 1805. The first expedition journal to appear in print was Sergeant Patrick Gass’s, in an edition published by David M’Keehan in 1807, a year after the expedition’s return and seven years before the two-volume “official” publication of the Lewis and Clark journals edited by Nicholas Biddle and Paul Allen.

The newly discovered early account of the expedition, apparently unrecorded by Coues and later Lewis and Clark bibliographers, appears in an edition of A Compendious History of the World published in Philadelphia by Benjamin Johnson in 1806. A Compendious History of the World was a work well known in its day. First published in London in 1763 by John Newbery, it was reissued over the next four decades with new entries about recent events. Johnson’s American edition was updated with 13 pages on events between 1802 and 1805, including the following paragraph about the Louisiana Purchase and the Lewis and Clark Expedition:

"The United States, in the year 1803, purchased from France the territory comprising the present states of Louisiana, Arkansas, Missouri, and parts of Texas, New Mexico, and Dakota. This vast acquisition, containing more than 800,000 square miles, was obtained for the sum of $15,000,000. The negotiations for the purchase were conducted by the Secretary of State, James Madison, and the negotiations were signed by the Commissioners of the United States,菇er(largely Thomas Jefferson and John James Audubon), and the Commissioners of France, led by Louis de la Rochefoucauld-Liancourt. The treaty was ratified by the Senate on October 20, 1803, and the territory was officially transferred to the United States on March 10, 1804. The Louisiana Purchase doubled the size of the United States and opened up new territories for exploration and settlement."

The anonymous "Citizen of Philadelphia" reported on the expedition as history in the making.
Clark Expedition, which was still underway at the time:

The extensive region of Louisiana has excited a laudable attention in the President of the United States, as a field of investigation worthy of the politician and philosopher. To explore this wilderness, and to obtain some better knowledge than we yet possess, of its various productions and inhabitants, Major Lewis and his company are now travelling at the public expense. They have extended their researches many hundred miles up the great river Missouri, and are still pursuing their journey to the west and northwest. This enterprise cannot fail to produce some very important discoveries, useful in the highest degree to the interest of commerce; nor can it occasion any just offence to the governments of Great Britain or Spain, if conducted with that prudence which we have a right to expect from the temperate councils of Mr. Jefferson.

The anonymous “Citizen of Philadelphia” who wrote this and the rest of the 13-page addendum had access to public sources of information for his account. Reports had filtered back as the explorers traveled up the Missouri to the Mandan villages, where they spent their first winter on the trail. At least two newspapers printed an account of the expedition’s progress that would have provided all the factual information contained in the summary by the “Citizen of Philadelphia.” Two Boston papers, the Columbian Centinel & Massachusetts Federalist and The Independent Chronicle, printed identical accounts, respectively, on January 16 and 17, 1805:

By the Mails. Washington, Jan. 7.—We learn through a channel deserving confidence, that Capt. LEWIS was on the 19th of August, 850 miles up the Missouri, that he had met with no accident and had been received in a very friendly way by all the Indians. It is expected he will winter 1300 miles up the river among the Mandan Indians about lat. 48.

By the Mails. Washington, Jan. 17, 1804—We learn through a channel deserving confidence, that Capt. LEWIS was on the 19th of August, 850 miles up the Missouri, that he had met with no accident and had been received in a very friendly way by all the Indians. It is expected he will winter 1300 miles up the river among the Mandan Indians about lat. 48.

This newspaper account (which, unlike the anonymous author’s, correctly notes Lewis’s rank—he was, of course, a captain, not a major) is based on firsthand information. By August 19, Lewis and Clark had indeed passed 850 miles up the Missouri with no accidents, as described, though Sergeant Charles Floyd died the next day, apparently from appendicitis. It is possible that Lewis was inspired to communicate with his friends in the wake of his 30th birthday, on August 18. Although Lewis’s letter is lost, it appears that the “channel deserving confidence” was Auguste Chouteau, a St. Louis businessman, who forwarded the information in almost identical words, in French, to Thomas Jefferson on November 20, 1804. Jefferson relayed the news to Reuben Lewis, Meriwether’s brother, the following January 4, three days before information from the letter was taken up in the newspapers. Jefferson’s letter reads:

I received last night the inclosed letter for Capt. Lewis; and at the same time information from St. Louis that on the 19th of August he was 850 miles up the Missouri. No accident had happened & he had been well received by all the Indians on his way. It was expected he would winter with the Mandans, 1300 miles up the river, about lat. 48, from whence he would have about 1000 miles to the mouth of the Oregon river on the South sea. It is believed he may the ensuing summer reach that & return to winter again with the mandans. If so we may expect to see him in the fall of 1806.

It is quite possible that this letter was sent downriver to St. Louis with the Oto interpreter described by Clark as Mr. Fairfong or Faufon. Fairfong accompanied the expedition as an interpreter August 2-20. On the 20th, Clark noted that he “Made Mr. Faufon the interper a fiew presents.” This is the last mention of Fairfong, who may have made his way downriver carrying his pay and the August 19 letter. The historian Donald Jackson points out that Fairfong departed before Floyd’s death, which could explain why no mention of this misfortune arrived with the letter.

The “Citizen of Philadelphia”

Benjamin Johnson, the American publisher of A Compendious History, first appears in Reading, Pennsylvania, in 1789 as co-publisher of the Neue unpartheiysche Redinger Zeitung und Anzeigs-Nachrichten [The New Impartial Reading News and Report-Intelligencer], and was established in Philadelphia by 1791, when he published a reprint of Lord Chesterfield’s famous letters to his son. In 1805, he printed the collected poems of William Collins and Samuel Johnson, and in 1819 the expanded second edition of Benjamin Davies’s A New and Concise System of Book-keeping. According to the Italian Method
of Double Entry. Adapted to the Commerce of the United States.

The author of the expedition account included in Johnson's *Compendious History* is most likely Mathew Carey, one of Philadelphia's leading publishers and a prolific pamphleteer who lent his pen to many causes. A search of standard catalogs finds 15 authors born before 1800 whose work was published in Philadelphia under the pseudonym “Citizen of Philadelphia,” a convenient alias in a period of fervid pamphleteering and political gamesmanship. These authors were Paul Beck (1760?-1844), William Brown (1766-1835), Mathew Carey (1760-1839), James H. Causten (1788-1874), Charles Hutton (1737-1823), William Falconer (1732-1769), Francis Patrick Kenrick (1796-1863), Peter Markoe (1752?-1792), Sir Richard Phillips (1767-1840), John Purdon (1784-1835), David Rittenhouse (1732-1796), John Swanwick (1740-1798), John Walker (1732-1807), Pelatiah Webster (1726-1795), and Richard Wells.9 Of these, the Americans Markoe, Rittenhouse, Swanwick, and Webster were no longer alive in December 1804, the earliest possible month in which the expedition account could have been written, and Causten and Kenrick can safely be discounted as too young in 1806, the year of its publication. Falconer, Hutton, Phillips, and Walker are all British authors whose works were shepherded into Philadelphia reprints by the anonymous citizen acting as editor rather than author.

The remaining users of the pseudonym (Beck, Brown, Carey, Purdon, and Wells) are all possible candidates for authorship of the Lewis and Clark report. Paul Beck is known to us through a single pamphlet, *A Proposal for Altering the Eastern Front of the City of Philadelphia*, published under the pseudonym in 1820. William Brown is also the author of a single work, *The Claims of Thomas Jefferson to the Presidency. Examined at the Bar of Christianity*, published in 1800. John Purdon, admitted to the bar at age 22 in 1806, wrote *Abridgment of the Laws of Pennsylvania*, published in 1811. Richard Wells, a more elusive figure, used the pseudonym to write both *A Few Political Reflections Submitted to the Consideration of the British Colonies* (1774) and *The Middle Line* (1775), pre-Revolutionary tracts on relations between Britain and the colonies; there is no record of other publications by him.10

Neither Beck, Brown, Purdon, nor Wells seems a promising choice to write an addition to a general history of the world. It is much more likely that Benjamin Johnson turned to the voluminous pamphleteer and successful publisher Mathew Carey for help in presenting an updated text of *A Compendious History* to an American market.

**Carey as Publisher and Pamphleteer**

Born in Dublin in 1760, Carey by age 15 was working as an apprentice in a print shop. In 1777, he wrote his first pamphlet, against dueling—an ironic entry into print, since later he was seriously wounded in a duel with rival publisher Eleazer Oswald. Official reaction to his next major pamphlet, a defense of Irish Catholics against punitive English laws published in 1779, forced him to flee to France, where he worked as a printer with Benjamin Franklin at Passy. Returning the following year to Dublin, he began two radical newspapers to defend Ireland “against the oppression and encroachment of Great Britain,” as he editorialized in the 1783 *Volunteers Journal*. An article he published in 1784 led to his imprisonment, and upon his release he emigrated in disguise to Philadelphia, where he quickly established himself as both a writer and publisher. As the founder of the *Pennsylvania Herald* in 1785, the *Columbian Magazine* in 1786, and the *American Museum* in 1787, Carey was at the center of the city’s political life. In 1793, he was appointed to the Committee of Health, formed to combat the yellow-fever epidemic, the first of many such boards on which he served with distinction; he wrote both a pamphlet and a book on the epidemic that went into many printings. Soon after Jefferson’s election in 1800, Carey was appointed a director of the Bank of Philadelphia, a position of influence that surely abetted his publishing business. By 1822, when he handed over
control of his publishing house to his son, it was perhaps the most successful in the country, employing as many as 150 printers while also jobbing out projects to many of the city’s print shops.11

The National Union Catalog Pre-1956 Imprints ascribes more than 250 books and pamphlets to Mathew Carey as author between 1786 and 1839, the year he died. He dealt with a wide range of subjects. His economic writings examined free trade and protectionism, the crisis in agriculture, and the future of new industries; other economic essays dealt with banking, bankruptcy, taxes on imports, and the morality of slave labor in manufacturing. As a social activist he wrote on charities and poor relief, the low wages paid to women, and penitentiaries and prison reform. As a political essayist he was passionate in his defense of the Union against southern threats of nullification or dissolution. He campaigned to establish Liberia as a home for freed slaves, and he was a lifelong defender of Irish Catholics against Protestant slanders. He wrote more than one vindication of Irish farmers and promoted the interests of Irish immigrants to America. As a geographer, in addition to writing a short account of Algiers, he was the country’s leading publisher of maps and atlases. Of the approximately 250 titles attributed to him as author, about 70 were written before 1822, the year of his retirement from publishing.

Carey had written under pseudonyms in Ireland, a practice he continued in the United States. Catalogs show that some 40 of his 250 pieces were published under a variety of pen names. Six of these referenced prominent political or historical personalities: “Hamilton” (1810, 1822-1831, and 1836); “Neckar,” presumably Jacques Necker, Louis XVI’s finance minister (1821); “Jefferson” (1827 and 1836); “Neckar,” presumably Jean Baptiste Colbert, Louis XIV’s finance minister (1821); “Jefferson” (1827 and 1836); “Neckar,” presumably Jacques Necker, Louis XIV’s finance minister (1821); “Jefferson” (1827 and 1836); “Neckar,” presumably Jacques Necker, Louis XIV’s finance minister (1821); “Jefferson” (1827 and 1836); “Neckar,” presumably Jacques Necker, Louis XIV’s finance minister (1821);

Ten titles, all published in Philadelphia under the pseudonym “A Citizen of Philadelphia,” have been confidently ascribed to Carey in the National Union Catalog Pre-1956 Imprints.12 There are two further pamphlets signed by “A Citizen of Philadelphia” that should probably be assigned to Carey. One of these, The Second Crisis of America (1815), deals with commerce, the War of 1812, and canal-building, all topics handled by Carey in other pamphlets. The other, an address To the Managers of the Union Benevolent Society, was published in Philadelphia in 1834. This four-page defense of the indigent against the misguided work of social agencies is very likely by Carey, the author (under the same pseudonym) of pamphlets on that topic published in 1831 and 1837.

CAREY AND THE COMPENDIOUS HISTORY

The subjects covered in the 13 pages of the pseudonymous addition to A Compendious History of the World encompass a broad range of topics:

- Discussion of relations between France and Britain, Germany, Switzerland, Holland, and Italy following the Peace of Amiens of 1802, in which the Peace is viewed as disadvantageous to a weak Britain unable to control the expansionist ambitions of Napoleon. (pp. 227-230)
- Description of the imprisonment and death of Toussaint l’Ouverture and the continuing rebellion in Santo Domingo; the purchase of Louisiana for $15 million; renewal of war between Britain and France, with reports from Germany, Denmark, Italy, Switzerland, Portugal, and Spain; plans for a French invasion of England. (pp. 230-234)
- Brief reports from China (civil war) and India (disastrous fires in Bombay and Madras) and favorable comments on Jefferson’s party members, who distinguished themselves “by disbanding the army, by the repeal of the stamp act and the several acts for laying duties on domestic manufactures, by their general pacific arrangements with the aborigines of the country, and by a close adherence to the principle of economy.” (pp. 234-235)
- Comments (with a pleasing touch of humor) on contemporary political hostilities: “They [the Jeffersonians] also found it convenient to remove from office many of their political opponents; and in some instances, particularly in the judicial department, they are accused of violating the federal charter. Strong resentment and violent recriminations in the minority followed, as the natural consequence;
while the presses on both sides teemed with gross invective and abuse. If the leaders of the parties are half as corrupt as they depict one another, neither of them is worthy to be trusted with power in a free country. Happily this is not the case, and these philippics are to be understood on both sides with great abatements.” (pp. 235-236)

- A brief comment on relations between the United States and Spain, followed by the description of the Corps of Discovery quoted in full earlier. (pp. 236-237)

- An account of United States hostilities in North Africa (Tripoli) and the death of Alexander Hamilton in his duel with Aaron Burr. This event is precisely dated to July 11, 1804, and the comment is markedly personal: “No man ever fell, a victim of false honour, more universally lamented by the nation ... expressive of their censure of those honourable murders in general, and of their particular regret of the subject of this paragraph.” (pp. 237-238)

- Concluding comments, with a notice of William Pitt’s rise to prominence in Britain, an anticipation of new hostilities with France, and a description of Napoleon’s consolidation (or “usurpation”) of power, with his coronation by the Pope: “The profane mummeries was accordingly acted at Paris, near the close of 1804, amidst an infinite crowd of spectators, with the greatest solemnity, pomp and splendour.” (pp. 238-239)

Certain aspects of this narrative point suggestively to Mathew Carey as its author. The writer shows an easy familiarity with British policies, European diplomatic maneuvers, and domestic American issues, though it should be said that all of these would have been accessible to any diligent reader of contemporary newspapers. The particular interest in the imprisonment and death of Toussaint l’Ouverture accords with Carey’s lifelong concern for freed slaves and his opposition to the use of forced labor in manufacturing. The writer’s well-informed perspective from both sides of the Atlantic is accompanied by an evident sympathy both for Jefferson and for Hamilton, Carey’s unusual combination of allegiances.

And the concluding comment on Hamilton as a “victim of false honour,” and on the public’s “censure of those honourable murders in general,” with its ironic repeated italization of the notion of honor, is directly in tune with Carey’s strongly held views in his first published pamphlet, the 1777 critique of dueling. Finally, the notice of hostilities in Tripoli, an occasion of relatively minor interest to most American readers, may reflect the North African concerns of an author who in 1794 had published a short history of Algiers, including an account of its recent quarrel with the United States.

One minor publishing connection may also point to Carey as the “Citizen of Philadelphia.” Benjamin Johnson’s printer for his edition of A Compendious History was Dickinson & Heartt, a firm that had collaborated with Carey twice in the two previous years. Carey shared credit with Dickinson & Heartt for printing Lippincott’s A Collection of Tables in 1804 and the American Pocket Atlas in 1805. Carey worked with many of Philadelphia’s printers during his lifetime, but it is perhaps relevant that at this stage of his career he was in direct contact on his own behalf with the printer of A Compendious History.

For all of the above, it seems reasonable to credit Carey as the pseudonymous author of the history’s 13-page addendum. The mention of the Lewis and Clark Expedition in the addendum is yet another bit of circumstantial evidence on behalf of Carey’s authorship, since four years later he published an edition of Patrick Gass’s expedition journal. (Carey’s edition of the paraphrased Gass journal was a reprint of the 1807 edition published by David M’Keehan (also McKeehan) of Pittsburgh. Unlike M’Keehan’s, Carey’s edition, which appeared in 1810 and was reprinted in 1811 and 1812, was illustrated.)

Brief though it is, the sketch of the expedition by the “Citizen of Philadelphia” contains some interesting perspectives. The President’s interest in the newly purchased Louisiana Territory is described as “worthy of the politi-
cian and philosopher,” giving equal weight to Jefferson’s practical skills and idealism. The stated purposes of the expedition and the order in which they are placed—first, to gain knowledge about the land and its native inhabitants and second, to improve commerce—would most likely have been endorsed by Jefferson in private, even though his public pronouncements ranked commerce first.

As an ardent supporter of Jefferson, the author takes care (despite the judicious neutrality of his phrasing) to answer those critics who believed that acquiring Louisiana placed too much strain on the treasury and burdened the nation with far more land than it could effectively govern. With a confidence amply justified by later events, Mathew Carey (if he is indeed the author) lauds the purchase and predicts that the expedition exploring the new territory “cannot fail” to produce knowledge that will benefit the nation.15

Doug Erickson, Jeremy Skinner, and Paul Merchant are all associated with the Special Collections division of Watzek Library, Lewis & Clark College, Portland, Oregon.

NOTES


5 As a publisher, John Newbery (1713-1767) is perhaps best known today for Oliver Goldsmith’s History of Goody Two-Shoes (1765), but in addition to children’s literature his wide-ranging output covered philosophy, travel, and history.


7 Moulton, Vol. 1, p. 495


9 Catalogs searched in January 2003 included The British Library Public Catalogue; The Library of Congress Online Catalog; The National Union Catalog Pre-1956 Imprints; The New Advent Catholic Encyclopedia; and the WorldCat database.

10 The same Richard Wells might possibly be the owner (from Somerset County, Pennsylvania) of an 1819 arithmetic copybook with notes on basic accounting, but this person is more likely to be the Richard Wells found in genealogical Web sites who was born in Philadelphia in 1760 and died in 1838.


12 The essays ascribed to Carey include Essay on Free Trade, from Blackwood’s Magazine (1826), Cursory Views of the Liberal and Restrictive Systems of Political Economy … in Great Britain, France, Russia, Prussia, Holland, and the United States (1826), Essays Tending to Prove the Ruinous Effects of the Policy of the United States on … Farmers, Planters, and Merchants (1826), Common Sense Addresses, to the Citizens of the Southern States (1829), A Letter [on banks] from a Citizen of Philadelphia to a Member of the Legislature at Harrisburg (1829), A Plea for the Poor (1831), The Dissolution of the Union. A Sober Address to All Those That Have Any Interest in the Welfare, the Power, the Glory, or the Happiness of the United States (1832), Letters on the Condition of the Poor, Addressed to Alexander Henry, Esq. (1836), A Plea for the Poor, Particularly Females (1837), and A Solemn Address to Mothers, Wives, Sisters and Daughters of Citizens of Philadelphia, by a Citizen of Philadelphia (1837).

13 The 1806 edition of A Compendious History of the World survives in a small handful of copies in institutional repositories. The standard catalogs list copies at Columbia University; the University of Delaware at Newark; Franklin and Marshall College in Lancaster, Pennsylvania; Hobart & William Smith College in New York; the Library Company of Philadelphia; Salem College in Winston-Salem, North Carolina; and the University of Pennsylvania. It is reprinted in the American Antiquarian Society’s Early American Imprints, second series, no. 11022, and is described in Shaw & Shoemaker as no. 11022. Lewis & Clark College in Portland, Oregon, recently acquired an incomplete copy, the second volume only, from which the text quoted above was transcribed. Connecticut book dealer Israel Koltracht supplied us with the volume and answered our later query with a helpful research lead. We owe him our thanks for bringing the volume to light and suggesting Carey as the probable author. Unfortunately, the volume did not come to hand until January 2003, too late to be included in the compilation The Literature of the Lewis and Clark Expedition: A Bibliography and Essays, where it would have been described in section 2, “Early Expedition-Related Publications.”
Moulton’s one-volume “American epic” is a grand introduction to Lewis & Clark

**The Lewis and Clark Journals: An American Epic of Discovery**
Gary E. Moulton, ed.
University of Nebraska Press
413 pages/$29.95 hardcover

Published between 1983 and 2001 by the University of Nebraska Press, Gary Moulton’s 13-volume *Journals of the Lewis and Clark Expedition* set standards for scrupulous scholarship, lucid historical explication, and—not least—elegant typography. This multi-volume work was also the first new edition of the journals in nearly a century and incorporated many elements of the expedition’s written record unavailable to the previous editor, Reuben Gold Thwaites. Like Thwaites’s edition, Moulton’s definitive text will be pored over by scholars and other serious students of the expedition for a very long time.

Now Moulton and Nebraska have collaborated on a one-volume abridgment of the journals. *The Lewis and Clark Journals: An American Epic of Discovery* meets the same high standards for scholarship, writing, and esthetics as the larger work on which it is based, and like the uncut version it includes excellent maps and a comprehensive index.

This one-volume edition, explains Moulton, is intended as “a less weighty introduction to the party’s diaries,” one that “seeks to bring these important words to a wider audience in a compact form.” Its first entry—written by William Clark on May 14, 1804—describes the Corps of Discovery’s departure from Camp River Dubois: “I Set out at 4 o’clock P. M. in the presence of many of the Neighbouring inhabitants, and proceeded on under a gentle brease up the Missouri …” The final entries, both dated September 23, 1806, are by Clark and his able subordinate Sergeant John Ordway. While Clark stresses the triumphal nature of the Corps of Discovery’s return to St. Louis—“we Suffered the party to fire off their pieces as a Salute to the Town. we were met by all the village and received a harty welcom from it’s inhabitants”—Ordway no doubt speaks for most of the men: “much rejoiced that we have the Expedition Completed and now we look for boarding in Town and wait for our Settlement and then we intend to return to our native homes to See our parents once more as we have been So long from them.”

Ordway’s passage, which could well have echoed the words of one of Odysseus’s crew, reflects the epic nature of the expedition, a theme underscored by the volume’s subtitle. In the 28 months between the corps’s departure and its homecoming the explorers covered thousands of miles of wilderness, negotiated with scores of Indian tribes, collected uncounted animal and plant specimens, and sowed the seeds of American hegemony in the Pacific Northwest. And of course, they also wrote. Clark, Meriwether Lewis, and the extraordinary world they encountered. As Moulton observes in the afterword, the expedition “is one of the great stories in American history … filled with tales of high drama: of tense encounters with natives; of hair-raising river crossings and precipitous mountain trails; of hunger, thirst, and bodily fatigue.” The expedition, he convincingly asserts, “remains for all time a story of endurance, discovery, and achievement.”

Every student of Lewis and Clark has his or her favorite journal passages, and all the celebrated ones are here, from Lewis’s light-hearted account of Toussaint Charbonneau cooking *bou-din blanc*, to his flights of poetic prose in response to the White Cliffs and the Great Falls of the Missouri, to his ruminations on his 31st birthday near Lemhi Pass on the Continental Divide. We also have William Clark’s famous “*Ocean in view! O! the joy*” and many examples of his inimitable spelling, as in an entry on the now-extinct Carolina paroquet, “observed a great number of *Parrot queets* this evening.”

More so than previous one-volume abridgments such as Bernard DeVoto’s (first published in 1953 and based largely on Thwaites), Moulton’s selections emphasize natural history, relations with Indians, and the point-of-view of the enlisted men “and the important collateral information they provide.” It is Private Joseph Whitehouse, for example, rather than the captains who tells us that in St. Charles, Missouri, they “passed the evening very agreeable dancing with the French ladies.” It is also Whitehouse, alone among the journal-keepers, who describes Lewis’s transcribing Salish vocabulary to test its resemblance to Welsh (an effort to nail down the legend that North America’s aboriginal inhabitants had originated in Wales).

One advantage of editing an abridgment is the license it gives to select for narrative pacing. The flow of words can be broken by a single sentence or phrase that snaps a scene into focus. Numerous phrase that snaps a scene into focus. Numerous
Everything you’d ever want to know about L&C

Robert A. Saindon, a former editor of WPO, has compiled what is surely the most comprehensive collection of articles interpreting the Lewis and Clark Expedition ever to appear under a single title.

The three-volume anthology Explorations into the World of Lewis and Clark contains 194 essays (along with 102 maps and illustrations) that appeared in this magazine between 1974 and 1999. The many professional and avocational scholars contributing to the collection include such household names (at least in L&C circles) as John Logan Allen, Stephen E. Ambrose, Eldon G. Chuinard, Paul Russell Cutright, and James P. Ronda. There are essays on explorers such as George Vancouver and Alexander Mackenzie, who preceded the captains; expedition preparations and personnel; places, and events along the trail; scientific aspects of the expedition; and the journals and related writings. Topics range from the grand to the mundane. One finds essays by Dayton Duncan on “What the Lewis and Clark Expedition Means to America” and Donald Jackson on “Thomas Jefferson and the Pacific Northwest” as well as pieces by Howard Hooverstol on “The Espoontoons of Captains Lewis and Clark” and Robert R. Hunt on “Gills and Drams of Consolation: Ardent Spirits on the Lewis and Clark Expedition.” There are articles on boats, horses, fish-

ing, salt-making, tents, uniforms, music, games, birds, and dinosaurs. Not to mention weather, geography, celestial navigation, crime and punishment, and graffiti.

Members of the Corps of Discovery and others associated with the expedition are covered at length—Thomas Jefferson rates four essays, and a total of eight pieces—the most devoted to any single person—explore Sacagawea and her role.

When they first appeared in WPO, many of these essays broke important new ground on Lewis and Clark, and their insights have long since been incorporated into standard secondary works. For example, Jackson’s “Call Him a Good Old Dog, but Don’t Call Him Scannon” corrected a nearly century-old error on the name of Lewis’s Newfoundland dog, properly known as Seaman. Irving Anderson’s essay on the meaning and proper pronunciation of Sacagawea’s name remains the definitive word on that subject. The many pieces by the late Arlen J. Large by themselves are worth the price of admission.

Just compiling this material and organizing it in a coherent way would be challenging enough, but Saindon, who may know as much about Lewis and Clark as anyone alive, has also done an exceptional job editing and updating the articles where needed with explanatory footnotes. Putting this monumental work together was a labor of love, and Saindon has left the serious student of Lewis and Clark an enduring source for further scholarship.

Explorations can be ordered from bookstores or direct from Digital Scanning, Inc. (888-349-4443).

—J.I.M.

Reviews continues on page 36.
Uniforms of the Lewis & Clark Expedition

Tailor Made, Trail Worn: Army Life, Clothing, and Weapons of the Corps of Discovery
Robert J. Moore, Jr. & Michael Haynes
Far country Press
288 pages/$39.95 hardcover

by James L. Kochan

EDITOR’S NOTE: A brief review of Tailor Made, Trail Worn appeared on page 37 of the May WPO. The following long and far more detailed review was sent to us unsolicited after the May issue went to press. We have chosen to publish it in large measure because of the expertise of the reviewer, who has written several definitive books on uniforms of the early U.S. Army.

The bicentennial observance of the Lewis & Clark Expedition has brought forth a myriad of new books, TV documentaries, and an IMAX film, not to mention music CDs, limited-edition replicas of rifles and other commemorative items. While much of this output—meant to cash in on the Lewis and Clark market while it lasts—is amateurishly produced and poorly researched, some products rise above the rest. Among the latter is Robert Moore and Michael Haynes’s book, Tailor Made, Trail Worn.

Moore is the ranger-historian at the Jefferson National Expansion Monument, in St. Louis, and native Missourian Michael Haynes is a freelance artist-illustrator specializing in 19th-century Western historical scenes. They share a mutual passion for the personalities, events, and material culture of the Lewis and Clark Expedition, and their joint effort is clearly a labor of love and a considerable investment of time and effort. The book’s subtitle, Army Life, Clothing, and Weapons of the Corps of Discovery, reveals the contents of its 15 chapters, 11 of which deal with the military and civilian clothes of the Corps of Discovery.

Tailor Made, Trail Worn covers the range of the explorers’ attire (from uniform coats to legwear and headgear) in great detail. Most of its many color and black-and-white illustrations are reproductions of paintings and drawings by Haynes, an artist noted both for his pleasing style and attention to detail. (I particularly like his handling of facial features, as in his fine depictions of Meriwether Lewis and Sacagawea.)

The mass of information and imagery in this attractive book might lead readers to believe it the final word on its subject. This is not the case, for the text and some of the illustrations based on it contain errors relating to the artillery and infantry uniform coats and to the headgear of commissioned officers and enlisted artillerymen. Moore is well versed in the history of the expedition, and it is apparent that he has worked with all of the printed (and much of the manuscript) source materials. But when discussing late 18th- and early 19th-century tailoring (especially that of military uniforms) and the evolution of U.S. Army uniforms and equipment during this period, he stands on less firm ground. It is clear that neither author has had much firsthand experience in the study of original clothing, accoutrements, and related artifacts of the Lewis and Clark era. Nor, apparently, are they aware of many important public and private collections of vintage uniforms and other materials relevant to their subject. Working with such artifacts would have greatly enhanced their understanding of the period’s fashions and would have provided them with even richer sources for illustrations.

I am referring mainly to the wealth of original manuscript materials on uniforms and equipment in the Old Army Records at the National Archives. Moore examined most of the relevant orderly books found in Record Group (RG) 98, but I find little evidence of any firsthand examination of materials in RG 92 (Office of the Quar-
Rex Ziak
1/2 H.
materials in envelope

Westerbook Press
1/2 H.
Rebecca furnishing
termaster General, or O.Q.M., catalogued under Entry 225 of the Consolidated Correspondence files). The same could be said for materials in RG 94 (Adjutant General), RG 107 (Secretary of War), and RG 156 (Ordnance). It’s clear that the author has examined RG 92’s Box 1169 (subject file “Uniforms”), which is well known to the small cadre of serious uniformologists working on 19th-century army dress, and he quotes from some of its documents extensively in his discussion of the expedition’s 1803-issue clothing. However, only a few documents in Box 1169 pertain directly to 1803 and earlier, while most deal with the new infantry and modified artillery uniforms of 1804-5 and changes made to uniforms in 1808, 1810, and 1812. It is from these later documents that Moore draws most of his conclusions concerning pre-1804 military dress. Many of the box’s documents are undated file memoranda and correspondence that must be placed in context by close examination of correspondence and specifications found in other RG 92 documents, including the letterbooks, ledgers, and loose files of the Purveyor General, the Military Storekeeper, and the Inspector of Clothing, as well as in the correspondence of the Secretary of War found in RG 107.

Had the author taken the time to pore through such records, he would have found critical information directly relevant to the pre-1804 uniforms elsewhere at the National Archives, not to mention the Hamilton, Hodgdon, and Kingsbury papers at the Library of Congress. I will discuss but two examples of problematic reconstructions resulting from incomplete research: the infantry coat worn in 1803 and the enlisted artillery hat of the same period.

Moore states that the 1803 infantry coat had false (sewn-down) lapels and turnbacks on its skirts, two small buttons closing each cuff, no shoulder straps, and three-inch-wide lapels, cuffs, and cape (collar). This interpretation is largely based on a letter written by the Purveyor of Public Supplies to the Secretary of War on June 9, 1801, and on the varied contents of Box 1169. Although the author quotes a short extract from this letter and cites it in his footnotes and bibliography, he apparently has never seen the letter in its entirety, but derived his partial quote from articles in the *Journal of the Company of Military Historians* by Marko Zlatich, Detmar Finke, and others. When the letter is read in its entirety and in context with other 1801 letters between the Secretary of War and the Purveyor of Public Supplies, it becomes clear that what is being described is not the 1797 infantry coat (which was still being worn in 1803), but additional modifications for a pattern coat made in 1799 and altered in 1801. In actuality, the infantry coat worn in 1803 had functional lapels and turnbacks as well as other features at variance to Moore’s conjectural reconstruction.

Likewise, in discussing the headgear...
Mountain Press
1/2 H.
eps file on disc (make sure it “translates” so the type is ok)

Innovative Fabricators
1/3 sq.
Rebecca furnishing

Explorations into the World of Lewis & Clark
Edited by Robert A. Saindon
194 articles from WPO
3 volumes, 1,493 pages
$79.85 paper
Order from Digital Scanning, Inc. (888-349-4443)
of enlisted artillerymen, Moore claims they wore the *chapeau bras* and cites two primary sources (both found in Box 1169) to justify his reconstruction. The first is an undated description of an officer’s chapeau which he dates circa 1810 (the description is actually contained in an undated draft copy of the 1812 artillery-uniform regulations); the second is the 1812 contract specifications for enlisted *chapeau bras*. Moore is aware of the 1803 contract specifications for enlisted artillerymen’s hats, which are set down directly opposite the specifications for infantrymen’s hats found in Entry 376 of RG 45. He quotes the specifications for infantrymen’s hats, but does so, evidently, without having actually examined them, instead having apparently relied on an article by Zlatich. The specifications for enlisted artillerymen’s hats have never appeared in print but were used in the reconstruction of such headgear in my book *The United States Army, 1783–1811* (Oxford: Osprey Publishing, 2000). In fact, the smaller cocked hats with yellow binding illustrated in my book remained the issue headgear for enlisted artillerymen until 1812, when *chapeau bras* were finally adopted. (Expensive, impractical and unpopular, these enlisted men’s *chapeaus* were replaced with felt caps later that year, and only part of First Artillery ever wore them.)

The authors state they “have done their very best to approach this material with open minds,” then summarily dismiss reconstructions of army period dress by other researchers (including Zlatich and this writer) that run counter to their interpretation. For example, when rejecting a reconstruction of the 1799 artillery uniform prepared by this writer and artist David Rickman which varies from their own notions of such dress, they assert that the “orders do not match the color drawings prepared in 1799” and “the amounts of materials and buttons ... do not match with either Hamilton’s written orders or the illustrations.” Yet neither author has worked with the original Hamilton, Hodgdon, and Whelen manuscripts dealing with the development of the 1799 uniforms. Nor have they ever seen the original pattern drawings in the Hamilton Papers, so such claims appear both arbitrary and presumptuous. Elsewhere, they state that “no changes were made” in the artillery uniform’s cut or design between 1800 and 1810, when there is extensive primary evidence for its modification in cut and trimming in 1801 and again during 1804–06.

In summary, many of the primary sources quoted by Moore come from the period after 1803. A good deal of change in the cut and trimming of army uniforms, including legwear and upper garments, occurred during 1804–06, and the cut of the uniforms in Haynes’s illustrations appear more appropriate for the period 1805–17. Readers should also beware of the substitution of modern, general words for period terms that often had precise meaning. For example, in 1803 the army’s close-fitting uniform legwear were known as “pantaloons” or “overalls,” terms that distinguished them from the loose-fitting “fatigue trousers” of the period. In Moore’s text, all are synonymously referred to as “trousers,” which can lead to confusion. Fatigue trousers were made of coarser materials and were also of a different cut—they had wider waistbands and wide, pegged legs, features that provided greater ease when the wearer engaged in heavy manual labor. Their relative bagginess also allowed them to be worn over the more closely fitted pantaloons to protect them from soiling and wear.

On the positive side, Moore correctly notes that pantaloons were made with pockets and that suspender buttons were not officially mandated for these garments until 1806 (although some contractors were including them as early as 1804). There is lots of other good, accurate information in *Tailor Made, Trail Worn*, as well as many splendid illustrations, and despite errors of the sort outlined above, I recommend it to anyone interested in the Lewis and Clark Expedition or the U.S. Army of 1800–12.
Signature of “William Clark” found in book possibly carried on the expedition

By John W. Jengo

While conducting research on the geological education of Meriwether Lewis and the notations of geology and mineralogy in the journals for a talk I’m giving at this year’s LCTHF annual meeting in Philadelphia, I sought out copies of *Elements of Mineralogy* in the Library of Congress and the libraries of Princeton and Rutgers universities, near my home in eastern Pennsylvania.

Written by the Irish chemist and natural philosopher Richard Kirwan, *Elements of Mineralogy* is the only reference book on geology and mineralogy known to have been brought on the Lewis and Clark Expedition. Originally published in 1784, it was followed a decade later by a significantly revised second edition in two volumes, published in 1794 and 1796. Lewis acquired *Elements of Mineralogy* in Philadelphia while purchasing supplies for the expedition. My comparative analyses of the mineralogical vernacular in the Lewis and Clark journals with *Elements of Mineralogy* reveals that it was the primary source for specific terms such as alum, argillaceous, bituminous, carbonated wood, calcareous, calc, magnesia, silex, arsenic, and cobalt. It is well established that the captains occasionally used *Elements of Mineralogy* in conducting chemical tests of mineral specimens. During one such occasion, an experiment to ascertain the cobalt and arsenic content of a specimen on August 22, 1804, Lewis became sick after inhaling fumes.

When tracking down copies of *Elements of Mineralogy*, I wondered whether the actual volumes the captains brought on the expedition might still exist. (Only the copy of Antoine Simon Le Page du Pratz’s *History of Louisiana* currently housed in the Library Company of Philadelphia is known indisputably to have been carried on the expedition.) Upon opening the first volume of a copy of the work in the special-collections division of the Rutgers library, I was startled to see on the flyleaf the signature of William Clark. The handwriting looked suitably old fashioned, and it clearly was not done with a modern pen. Could this be “our” William Clark? After the library photographed the signature, I sent copies of it to Lewis and Clark scholars James J. Holmberg of The Filson Historical Society, in Louisville, and Gary E. Moulton, editor of the Lewis and Clark journals, at the University of Nebraska. Both thought the signature varied in some respects from writing known to be in Clark’s hand, but they recommended further investigation.

Investigating the provenance of the book, I learned it had been donated to Rutgers in 1903, along with about 700 other titles, from the estate of Albert Huntington Chester, a professor of chemistry and mineralogy. Chester was a practicing mining engineer and the author of mineralogical works, including *A Dictionary of the Names of Minerals Including Their History and Etymology* (1896) and *A Catalogue of Minerals Alphabetically Arranged, With Their Chemical Compositions and Synonyms* (1886, revised 1897).

Chester was a descendent of the Stanley family, originally from Kent, England, which immigrated to Boston in 1634 and eventually settled the city of Hartford, Connecticut. Researching both family trees, I could find no substantive link between the Stanleys and Clarks to suggest that a book owned by William Clark would have passed into the hands of Albert Huntington Chester. While there are numerous Clarks in the Stanley family tree, none appears to be related to any of the descendants of William’s ancestor John Clark. Given his vocation as a professional mineralogist, it’s far more likely that Chester obtained this volume of *Elements of Mineralogy* as a reference work for his own mineralogical research.

If the signature isn’t genuine, it represents an exceptionally inclusive and improbable inside joke. Anyone scribing the signature as a lark had to be aware of the connection of this volume to the expedition, a fact not widely known before the publication, in 1959, of an article by Donald Jackson on books carried by Lewis and Clark—neither the Biddle (1814) nor Coues (1893) editions of the journals, the only available sources about the expedition before 1903, mentions the contents of the explorers’ traveling library. The book was already in Rutgers’ special collections when Jackson’s article appeared, and the only people with access to it were librarians and researchers who examined it within the closely scrutinized confines of the university archives. It would be an incredible coincidence for whoever owned it before Chester to have been some William Clark other than the famed explorer.

Professional hydrologist John Jengo lives in Downingtown, Pennsylvania. He welcomes suggestions for further research and can be reached at rockman@erols.com.

Notes

4 Albert Huntington Chester Papers, 1875 to 1903, Special Collection and University Archives, Rutgers University, New Brunswick, N. J.
New librarian; L&C trains; David Lavender

Jill C. Jackson, an educator and historian of the American West, has been appointed the Foundation’s director of library and education services. In that capacity she is working as librarian and archivist at the Foundation’s William P. Sherman Library and Archives in Great Falls, Montana. [See her column on page 48.]

Jackson holds two history degrees from the University of Texas (A.B., 1994 and M.A., 1996). Her master’s thesis dealt with visions and realities of railroad development in Fort Worth in the period 1873-1923. A certified archivist, she has worked at the Special Collections Division of the University of Texas at Arlington Libraries. As curator of collections for the Texas Rangers baseball team she organized exhibits on Nolan Ryan’s retirement and Japanese baseball.

For the last four years Jackson has taught special education in the Great Falls schools.

EXTENDING THE L&C TRAIL

A bill to extend the Lewis and Clark National Historic Trail was introduced into the House of Representatives by Virgil Goode (R-Va.) on June 3. The bill seeks to add sites associated with the expedition’s preparation and return, including the routes followed by Lewis or Clark between Monticello, near Charlottesville, Virginia, and Wood River, Illinois, where the Corps of Discovery passed the winter of 1803-04 (preparation phase) and between St. Louis and Washington, D.C. (return phase). The extended route would include L&C sites in Virginia, the District of Columbia, Maryland, Delaware, Pennsylvania, West Virginia, Ohio, Kentucky, Tennessee, Indiana, and Illinois. According to Jane Henley, the Foundation’s immediate past president, the LCTHF has been officially urging expansion of the L&C Trail since 1986.

Last April, at the urging of director Frank Muhly, the Foundation leadership made extending the trail a top priority of its bicentennial legacy project. [See related letter on page 5.]

BOUND FOR GLORY

As part of the Lewis and Clark Bicentennial commemoration, passenger trains are running between Portland and Astoria, Oregon, this summer for the first time since 1952. Amtrak’s Lewis & Clark Explorer holds 166 passengers and departs Portland’s Union Station at 7:30 a.m. four days a week (Friday through Monday) for the four-hour trip to Astoria; the return train departs at 4:30 p.m. The route runs along the Columbia River close to several historic sites visited by the expedition. For more information, see http://amtrak.com.

Amtrak is also featuring Lewis and Clark educational programs on board other trains tacking the explorers’ route, including the Empire Builder between Minot, South Dakota, and Seattle; the Coast Starlight between Seattle and Portland, and trains running between St. Louis and Jefferson City, Missouri. On-board guides provide an intermittent narration over the PA system highlighting sites associated with Lewis and Clark.

PASSAGES: DAVID LAVENDER

David S. Lavender, author of *The Way to the Western Sea: Lewis and Clark Across the Continent* (Harper & Row, 1988) and other histories of the American West, died April 26 at his home in Ojai, California, at age 93.

A prolific popular historian, Lavender published nearly 40 books over a writing career that spanned 60 years. They include *Bent’s Fort, The Rockies, Let Me Be Free: The Nez Perce Tragedy*, and *Snowbound: The Tragic Story of the Donner Party*. He began his career writing short stories for western pulp magazines. His first book, a col-

GOOD COMPANY: THE CAPTAINS’ CIRCLE

The Corps of Discovery will always be one of America’s greatest stories, and the Lewis and Clark Trail Heritage Foundation is dedicated to the telling of that story, to its accuracy, and to the preservation of the trail.

Consequently, President Larry Epstein is asking our help to build the Foundation Endowment. There is no better way to honor the Bicentennial: his call is being heard, and the strong Foundation that will be the result is a vision for us all.

For this endowment, nothing is better than the current gift, given now and ready for immediate action. But the significant current gift is not an option for every person who wishes to help. The Foundation program is long-term, and that is also the way that some of our giving can be managed.

The “Captains’ Circle” is there to welcome those whose giving needs to be made in another way; by gifts that will come to the Foundation only after life’s obligations and contingencies are met.

The range of future gift options is broad enough to include almost everyone who wants to be part of this vital effort. Life insurance, bequests by will, charitable trusts, annuities — select the type of gift that has the right features for you.

The Captains are calling! Their heritage needs you! The key is to plan now!

Would you like to know more? Please contact Carol Bronson, Executive Director of the Lewis and Clark Trail Heritage Foundation, P.O. Box 3434, Great Falls MT 59403, phone 406-454-1234.
collection of essays titled *One Man’s West* (Doubleday, 1943), described life on his family ranch near Telluride, Colorado, and his experiences as a miner. A 1931 graduate of Princeton University, he briefly attended Stanford Law School and worked as an advertising copywriter in Denver. Lavender was also a teacher at the Thacher School in Ojai from 1943 to 1970.

Lavender was twice nominated for a Pulitzer Prize, and in 1997 the University of Colorado’s Center of the American West honored him with its Wallace Stegner Award for contributions to the cultural identity of the American West.

In a review in the May 1989 *WPO*, historian Stephen E. Ambrose called *The Way to the Western Sea* an “epic tale, told by a master storyteller. ... When he describes a place, you know that he has been there, seen it with his own eyes, breathed its air, suffered through its wind or rain or snow, exulted in its sunshine.” His narrative, wrote Ambrose, “flows as smoothly as the Missouri River flows through the white cliffs, with all the excitement of a downstream run through the Long Narrows of the Columbia River.” Ambrose also noted that Lavender’s research relied extensively on historical scholarship published in *WPO*.

The twice-widowed Lavender is survived by his third wife, Muriel; a son, David G.; and five grandchildren.

FOR THE RECORD
A review of Mary Gunderson’s *The Food Journal of Lewis & Clark: Recipes for an Expedition* in the May *WPO* misstated her Web site, which is www.historycooks.com. In the same issue, a review by the editor called attention to an “error” in *Adventuring Along the Lewis & Clark Trail: A Sierra Club Guide* stating that an unnamed Mandan Indian joined the expedition in North Dakota, promising to guide the explorers to the Shoshones. It turns out that this mysterious individual did start out with the expedition when it departed Fort Mandan in the spring of 1805 but turned back after two days.

L&C ON THE WEB
Recent updates to Discovering Lewis & Clark (www.lewis-clark.org/index.htm) feature “Mackenzie’s Wonderful Road to Nowhere,” a reprint of a November 1993 *WPO* article by the late Arlen J. Large; and “Something (More) in the Water,” by David Peck, a commentary about the secrets of Sulpher Spring at Great Falls, Montana.

An addition to the Smithsonian Institution’s Lewis and Clark Web site focuses on the natural history of the expedition and enables viewers to virtually follow the Lewis and Clark Trail, discovering the flora and fauna as the captains described them along the way.

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Washington State Parks
1/2 H.
Rebecca furnishing
Great Lakes Assn.
1 P. B&W
Rebecca furnishing
TIME CAPSULE ITEMS
The Camp River Dubois Chapter (a.k.a. Lewis and Clark Society of America) is collecting items to be included in a time capsule that will be sealed next May 14, the bicentennial of the expedition’s departure from Camp River Dubois. The capsule will be housed in the Illinois State Lewis and Clark Historic Site at Hartford and will be opened in 50 years, on May 14, 2054.

Submissions must be related in some way to the expedition or its bicentennial and may include paper documents, works of art, music, poetry, or prose. Items may be submitted as paper documents, audio and video recordings, CDs, DVDs, computer disks, or other media. Paper documents and black-and-white photos are preferred. They must be on archival-quality paper (sheets available from the chapter). Electronic and digital submissions should be on the highest quality media available and include a label indicating the format and technology used to make the recording. All submissions become the property of the Lewis and Clark Society of America and will not be returned. Items for consideration must be received by next March 14 and should be sent to Harry Windland, 106 Lakewood Dr., Glen Carbon, IL 62034-2986 (618-288-7292, hkwindland@aol.com). Additional information can be found on the Web site www.campdubois.com.

LIBRARY OF CONGRESS EXHIBIT OPENS
In July the Library of Congress opened a large-scale exhibition on “Rivers, Edens, Empires: Lewis & Clark and the Revealing of America.” It features maps, manuscripts, books, and objects and explores the unfolding Euro-American understanding of North America’s landscapes and cultures. The exhibition’s principal consultant is Professor James P. Ronda of the University of Tulsa. For more information, see www.loc.gov/exhibits.
John Hamilton
1/2 H.
Rebecca furnishing

Falls of Ohio
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materials in envelope
New developments in the library and archives

Today’s new computer technologies are providing a strong positive impact on historical scholarship, education, and patrons’ access to library holdings. A practical example of how technology is impacting the Foundation’s William P. Sherman Library and Archives is found in our frequent inquiries about how to search articles in WPO by author, title, or topic. We receive at least three or four WPO-related requests per week. To date, that information has been available to outside researchers in a first-generation database on our Web site—where the researchers knew where to look.

Technology, however, has provided several options to make WPO articles accessible to researchers worldwide. We are proud to announce the newest tool available to devotees of the Lewis and Clark Expedition: ABC-CLIO will be abstracting and indexing WPO, starting with the February 2003 issue. These indexes will appear in two of its award-winning bibliographic databases, Historical Abstracts and America: History and Life. These databases, mainstays of bibliographic research for historians, cover more than 1,700 journals with concise abstracts of journal articles. To access the databases, check with your nearest college or university library.

This is a significant step for the Foundation, because acceptance in this indexing service is a confirmation from the education and research community that WPO is a consistently high-caliber resource. Congratulations and thanks to Jim Merritt for his outstanding editorial work with the magazine!

As mentioned above, a second way to search WPO articles is on the Foundation’s Web site, www.lewisandclark.org. Select “Library” and then “Searchable database.” We will be updating the Web-site database in the near future to make it easier to search. Another means of searching is to call or e-mail the library. WPO articles are listed in the library catalog by title, author, and subject. Reference services are available in person by visiting the Sherman Library and Archives. Virtual reference services are also available via e-mail at library@lewisandclark.org. The phone number for the Sherman Library and Archives is 406-761-3950, for other requests and information about hours of operation or to make an appointment.

The Sherman Library and Archives, located in the Lewis and Clark Interpretive Center in Great Falls, Montana, is one of the premier repositories for the study of the expedition and the largest of its kind between the coasts. The facility, open to all researchers, has provided nationally known authors, reporters, photographers, teachers, students, property owners, interpreters of the story, and many others with information, visuals, and research materials related to the expedition.

Collections in the Sherman Library and Archives include both expedition journals and works related to the Corps of Discovery. Many rare books and unique manuscripts are housed in the facility. The archival collections include records of the Lewis and Clark Trail Heritage Foundation, several early Foundation presidents, and government efforts to establish the Lewis and Clark Trail as a National Historic Trail. The library and archives also house a slide collection consisting of more than 7,000 images related to the expedition, the trail, and the Foundation. The catalog is updated frequently. Join us soon in the library, either in person or as a virtual researcher!

—Jill Jackson
Librarian and Archivist, LCTHF

Bird Woman statue

The Great Bend of the Yellowstone L&C Heritage Commission is seeking an artist to create a heroic-size sculpture of Sacagawea on horseback with her son, Jean Baptiste. Submit slides, sketches, or wax models to POB 1375, Livingston, MT 59047.