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In this issue

Butte's biggest bonanza was copper. The red metal mined from the
"Richest Hill on Earth" and smelted in Butte's sister city of Anaconda
electrified the streets and homes of America and built war machines for
two world wars. In the early 1900s, N. A. Forsyth photographed these
copper anodes (above) at the Washoe Smelter in Anaconda. The photo is
titled 'Tons of Copper ready for the market, Washoe Smelter.'

The covers of this issue underscore the changes that Butte mining
has undergone in the past half century. The remnant head frame on the front
cover, a reminder of Butte's underground mining heritage, is Russell
Chatham's 'Orphan Girl Mine' (2014, oil, 12" x 16"), courtesy the artist
and Clark City Press, Livingston, Montana. On the back cover, more
recent open-pit mining is illustrated in Ray Campeau's 'The Pit' (1966,
watercolor, 21" x 29"), courtesy the artist and Montana Museum of Art
& Culture, Missoula. The editors would like to extend their thanks to
Ellen Crain, director of the Butte-Silver Bow Public Archives, for her
help with this issue.
Entering Butte
by Robert R. Swartout Jr.

MANY OF THE MOST POWERFUL images of Montana focus on its rural setting. Yet in marveling at the wondrous landscapes, we often forget that Montana is also an urban state. The arrival of the railroads and the dramatic growth of Butte during the late nineteenth and the early twentieth centuries would come to epitomize this urbanization process.1

By 1900, according to census reports, over half of all Montanans could be identified as urban dwellers, usually living in Butte and six other large communities spread across the state. Moreover, urban populations have continued to grow, rather rapidly in some cases, over the past five decades.

The stories about the remarkable community of Butte that you are about to read help to capture the vitality and diversity of Montana’s urban history in both the nineteenth and twentieth centuries. As the articles by Steve Lozor and Zena Beth McGlashan show, businesses such as breweries and funeral homes—natural byproducts of a growing urban population—were shaped by social and cultural forces as well as economic opportunity. As was often typical in Butte, patrons who distinguished themselves by ethnicity, religion, or social class developed strong loyalties to the businesses that served their groups.

Today, some of those businesses are still catering to Butte residents in the twenty-first century.

Butte’s growth throughout most of the twentieth century, of course, was driven by the rise of the copper industry. The story of copper in Montana has been recounted by numerous historians, with the focus often on such powerful figures as Marcus Daly and William Clark. The significance of copper in Butte, however, goes beyond corporate or political history. An important feature of the essays contained in this issue is the emphasis upon working-class stories.2

As Martha Kohl makes clear in her description of Butte (and Anaconda) as a National Historic Landmark, both the remarkable historic architecture and the industrial environment that we today associate so strongly with Butte are the result of the determined physical efforts of working-class people to provide for themselves and their families. In the process of mining the copper, hauling it out of the mines, processing that ore in the various smelters, providing refinements for the thirsty, and even burying the dead (there were plenty of those, thanks in part to the dangerous nature of the copper mining), this laboring class of Butte created a community that was not only of local and regional significance, but of national significance as well.

In recognizing the value of these working-class stories, it is critical that we attempt to capture their individual voices. After all, these so-called common people are the heart and soul of any community, particularly one committed to the principles of a democratic society. In that respect, Bill Long’s reminiscence of driving a haul-truck in the Berkeley Pit

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1See notes beginning on page 97.
and William Allen Burke's sketch of a "greenhorn miner" going underground for the first time are priceless. As Matt Basso reminds us, stories such as these suggest "how skill, safety, and ability to produce, rather than brawn or boasting, made a man respected in the mines." Most telling, perhaps, these stories also "reveal the act of work and the process of production as of central importance to understanding the lives of ordinary men and women."

Today, when so much of our time is committed to recreational activities, it is difficult to understand the central role that work played in defining the lives of previous generations. These stories give us a renewed appreciation for the value of such work. Even more important, they allow us to connect real faces and real voices with those remarkable efforts.

Historians' focus on the early copper wars has also obscured the city's post-World War II history. As a result, there has been little systematic study of the larger implications of the resource extraction that took place in Butte during that era. Timothy J. LeCain's thoughtful examination of the relationship between the Anaconda Company and post-war consumerism brings to mind memories of a popular series made for television—"Industry on Parade"—that was sponsored by the National Association of Manufacturers and ran from 1932 to 1963. That popular program promoted industrial growth across America not necessarily in the name of economic prosperity or national security, but rather as a way for Americans to celebrate the "good life" that consumerism seemed to offer in the aftermath of the Great Depression and World War II. Seen in this light, the creation of the Berkeley Pit—with its effect upon both the urban landscape and the natural environment—wasn't just the price that Butte paid to continue copper mining, but was also a way for the community to contribute to the consumer products that largely defined postwar America.

The rise of new technology in the last few years—particularly the widespread use of computers and the Internet—suggest the beginning of a new era in American history; Montana, of course, is part of that trend. But as we ponder the implications of these changes, we must also have a sense of our historical roots. The articles in this issue can't tell the entire story of Butte's recent past, but they can and do provide insights into how we might redefine our notions of what is important about the past. Those insights, in turn, can provide guidance when we confront the future.

Robert R. Swartout Jr. is professor of history at Carroll College in Helena.

"See America the Bountiful"

Butte's Berkeley Pit and the American Culture of Consumption

by Timothy J. LeCain

In the summer of 1957, the Anaconda Company, an international mining and manufacturing corporation with deep roots in Montana, ran an intriguing advertisement in the popular magazine Saturday Review. The ad encouraged readers already planning to visit more traditional tourist destinations to consider a tour of Butte, which was "within easy driving distance" of Yellowstone National Park. Seeing the "America that's Bountiful as well as Beautiful can be an interesting part of your vacation," the ad suggested. Though Butte had no totemic tourist sites like Old Faithful, it did have more than 2,700 miles of mine shafts that tapped the "seemingly inexhaustible mineral wealth of a 32 square-mile area whose output increases year after year." And in Butte "you can stand on a ledge 500 feet above the floor of the new Berkeley 'canyon'" — a picturesque description of the open-pit mining operation begun a few years earlier.
Indeed, while Butte may have lacked Yellowstone’s sublime beauty, it was undoubtedly far more bountiful, if bounty were measured by tons of copper ore. And Butte exemplified a bountiful America not just because it promised seemingly endless extraction of an essential industrial mineral, but also because its supply of copper allowed Americans to indulge in inexhaustible consumption. Anaconda’s confident promise of an “America the Bountiful” was really the promise of endless rows of refrigerators with copper coils, sales lots full of cars with copper radiators, and acres of new homes with copper plumbing and wiring.

In the latter half of the twentieth century, mass consumerism became more central to the “American way of life” than almost any other political or cultural ideal. In an era of international Cold War and domestic Red scares, American leaders saw in consumerism a way to foster stability and unity at home while helping to undermine the appeal of communism around the globe. It is no wonder then that Anaconda and other producers of raw materials attempted to link what had previously been rather straightforward places of industrial extraction with the burgeoning culture of consumption. What the Anaconda Company neglected to point out, however, was that the productive miracles achieved by its open-pit copper mine came at a high human and environmental cost. Thus while they illuminated the essential links between consumerism and nature, Anaconda’s public relations campaigns simultaneously obscured the deeper and less attractive realities of modern mining.

Well before World War II, the managers of the Anaconda Company and the other American copper companies realized that they had much to gain, both economically and symbolically, by illuminating the paths from mine to mill to consumer. During a period of depressed demand for copper after World War I, the Copper and Brass Research Association, an industry trade group, spurred copper consumption through advertisements encouraging architects and building contractors to use more copper. By 1929, the association boasted that it had increased the use of copper in building by a factor of forty. In the early 1920s, the Anaconda Company even adopted the slogan “From Mine to Consumer.” The primary impetus for this new slogan was Anaconda’s increasing vertical integration with copper, brass, wire, and cable manufacturing subsidiaries, but the slogan also foreshadowed the marketing campaigns deliberately linking extraction and consumption. During the Depression, the American copper industry again faced declining demand as many Americans could no longer afford to purchase the new houses, cars, and appliances that used copper. Despite Franklin Roosevelt’s attempts to reinvigorate consumer demand through liberal New Deal programs, the economy remained stagnant for much of the 1930s. World War II, however, jolted the industry back to life as demand for copper-containing bullets, airplanes, tanks, and all manner of electrical products soared. World War II also exposed the nation’s growing dependency on foreign mineral supplies, as did the subsequent global conflict with the Soviet Union. Fearful that the nation could run short of critical minerals in the new Cold War, the federal government attempted to spur domestic mining through such programs as the Defense Minerals Administration created in 1950. Partly as a result of these efforts, by the early 1950s the domestic mineral industry was widely viewed as essential to the country’s continued economic vitality and national security. In 1952, an Anaconda pamphlet suggested that the U.S. could run short of metals unless the industry increased production at home and secured supplies abroad. For its part, Anaconda assured readers that it had already...
Republicans alike embraced this theory, in part because it promised a painless means of maintaining economic growth without expanding social welfare programs. As a result, many progressive politicians abandoned their earlier attempts to achieve more equitable distribution of wealth and instead worked to achieve the same ends by rapidly expanding the consumer economy. This “Consumer’s Republic,” as Lizabeth Cohen calls it, “promised...[that] a growing economy built around the dynamics of increased productivity and mass purchasing power would expand the overall pie without reducing the size of any of the portions.”

Mass consumerism, then, represented the miracle cure for all manner of economic and social ills. So long as Americans kept buying cars and refrigerators, the wolves of depression and class conflict could be kept from the door. Yet even allowing for increases in efficiency, substitution, and recycling, an ever-expanding consumer economy necessitated an ever-expanding supply of raw materials. In other words, mass consumption demanded mass extraction of timber, oil, copper, and other raw materials.

Historians of American consumerism have done little to illuminate the extractive roots of the extraordinary postwar political economy, but a close look at Anaconda and other mid-century copper mining giants shows that these companies linked extraction and consumerism in two distinct ways. First, they educated consumers about the many uses of copper in postwar industrial and consumer items. Second, they portrayed the mining operations themselves, and particularly open-pit mines, as the foundations of economic prosperity, selectively educating the public about the processes that underlay mass production and mass consumption.

As early as the mid-1940s, Anaconda began to run advertisements that reflected the company’s positioning for the postwar era. In particular, the advertisements emphasized copper’s value to industry. This emphasis reflected widespread fears within the industry that demand for copper would collapse in the postwar years. Since military uses for copper had taken priority during the war, manufacturers of consumer products had been forced to substitute materials like aluminum. Copper executives worried that some might not switch back to copper after shortages ended. To encourage producers to return to the fold, the Anaconda Copper & Brass, one of Anaconda’s principal manufacturing subsidiaries, ran a series of ads with the theme “Nothing serves like copper.” These ads argued that from automobile radiators to stoplights to airplanes, copper remained the most reliable and durable material available. As one 1944 ad asserted, “[C]opper and copper alloys have been proved essential over and over again in both old fields and many new ones,” making it “the key metal in so many postwar plans.”

At the same time, Anaconda also continued earlier efforts to more closely link copper with consumer goods. A 1944 Anaconda Copper & Brass Company advertisement claimed that “Copper Serves...Every Minute...Everywhere!” and illustrated industrial uses of copper with a line connecting a shining red copper ingot to a train, freight ship, airplane, and electric power plant. Significantly though, even at this early date, the ad included a drawing of a cozy two-story cottage, clearly suggesting the importance of copper to the average homeowner. Even more tellingly, the copy argued that copper “is symbolic of the American way of life.” Copper provided benefits through consumer goods: “there’s copper in your radio...copper and copper alloys in your refrigerator, plumbing, and heating equipment.”

As this “copper serves” ad suggests, the use of copper in household plumbing was a common theme in the campaign to educe consumers. One 1945 Anaconda Copper & Brass ad featured pictures of four stylish and spacious houses and encouraged consumers to “learn how little it will cost to rustproof any of these postwar homes.” Copper’s natural resistance to corrosion, the ad argued, made it the prudent choice for a safe and enduring home.

That the Anaconda ads emphasized family houses with large yards and spacious floor plans was no coincidence. A suburban home was the single most important consumer purchase of the postwar period.
Annual housing starts exploded after 1945, growing from a modest 124,000 in 1944 to a staggering 2 million in 1950.18 The phenomenon of “mass suburbia” was built on mass extraction of raw materials—no other consumer purchase placed a greater demand on supplies of timber, brick, concrete, and, of course, copper, than a new house. In this light, the Anaconda advertisements effectively linked copper production with the most important consumer item of the period, and by association, with all of the social, cultural, and political benefits homeownership conferred.

And what dream home of the 1950s would have been complete without shiny appliances and a flashy automobile? In the postwar buying frenzy, new home purchases led the way, but purchases of appliances, many of them electrical, followed close behind. In 1940, only 44 percent of Americans owned mechanical refrigerators; by 1950, the number had jumped to 80 percent. New car sales grew at an even greater rate, increasing by a factor of four between 1946 and 1955. All told, the national output of goods and services doubled between 1946 and 1955, with about two-thirds of this resulting from consumer purchases. Cultural cues helped fuel consumers’ purchasing habits. As Lizabeth Cohen notes, the culture portrayed mass consumption as a “civic responsibility” that would create new jobs and raise the standard of living for all Americans.19

Accordingly, the Anaconda’s postwar ads increasingly emphasized the centrality of copper and copper alloys to popular consumer items. One 1948 ad featured a cutaway drawing of an automobile engine that revealed the shiny red copper components within. “Today, whenever you start your engine, sound your horn, turn on your radio or heater,” the ad pointed out, “copper and copper alloys are at work.”20

By the start of the 1950s, demand for copper was robust, thanks to the rapid growth in the consumer economy as well as to Cold War military demands.21 Anaconda’s advertisements reflected this climate with themes that shifted away from the utilitarian value of copper and toward its contribution to achieving and protecting American ideals. One of the more intriguing examples is a 1950 ad illustrating the ringing of the Liberty Bell, that symbol of American patriotism made of bronze, a copper and tin alloy. “Copper,” the ad asserted, “helps freedom ring.” Just as copper bells had once communicated the message of liberty in 1776, so in 1959 copper wire “carries to the world the news which helps to keep men free.” But the global ideological conflict hinted at by the ad was equally a struggle between competing economic systems: “For copper, and its alloys brass and bronze, play a vital role in enabling free men to make in abundance the products that keep our economy strong.”22

In 1951, with the Korean War again diverting copper to military uses, Anaconda developed a series of ads comparing consumer and military uses of copper.

In these figures, Mar toen concluded, “you have an illuminating commentary on the American way of life to which the red metal is such a contributory factor.”23 He underscored this sentiment by detailing Anaconda’s methods of copper production.
Berkeley Open Pit Draws Thousands of Tourists

17,500 Tons of Copper Ores Per Day
To Come From New Project on Butte Hill

Anacofia produced many ads that promoted copper use in consumer goods, but the 1957 "American the Bountiful" ad departed from these by inviting visitors to Butte to see the Berkeley Pit for themselves. To underscore the size and technological sophistication of the operation, the company distributed a free newspaper-style handout, the Anaconda Copper Trailman (above), at the pit viewing platform.

In its focus on copper production, Marcusson's book is an exception; in all of the other Anaconda promotions the actual source of the copper remains implicit but invisible. This is why another type of promotion that the company began to produce in the mid-1950s is so significant. Ads like the "See America the Bountiful" and the promotion of tourism in Butte redefined the meaning of the landscape of extraction and transformed gigantic open-pit mines into populist symbols of the infinite abundance that made possible the "American way of life."

Anaconda was the first company to promote its open-pit copper mine as a tourist destination. Well before the 1990s, the massive Bingham Canyon mine outside Salt Lake City had been one of Utah's major attractions. For a small fee, tourists could drive up the narrow canyon to an overlook where the signs and displays at a visitors' center encouraged them to view the pit in heroic terms. In 1943 one overwrought visitor wrote that the cheap copper provided by the Bingham Pit made possible cheap electrical power and put "mechanical savages into the home of the poorest, lights his lamps, sweeps his floor, runs with his messages, turns the dark night into working day."

Perhaps because its excavation began in 1955, just as the American "consumer's republic" was being fully realized, Anaconda's open-pit copper mine in Butte surpassed its bigger southern cousin in connecting the landscape of extraction to the consumer economy. Rather than linking copper ore to specific industrial and consumer products, the 1957 Saturday Review ad stressed the sheer abundance made possible by the "seemingly inexhaustible mineral wealth of ... an area whose output increases year after year."

But the ad is also a departure from previous advertising campaigns in that it encouraged readers to actually visit Butte; if a tourist did make the trip, the company stood ready to reinforce its messages with free pamphlets distributed at the Berkeley Pit viewing platform. Printed in the style of a daily newspaper, the Anaconda Copper Trailman stressed the awesome size and technological sophistication of the pit operations. The first edition of the Trailman in 1956 proclaimed "Berkeley Open Pit Draws Thousands of Tourists: 17,500 tons of Copper Ores Per Day to Come from New Project on Butte Hill." This and subsequent editions provided surprisingly detailed explanations of the operations. "The work goes on around the clock, blasting, loading, and moving more than 110,000 tons of ore every 24 hours," explained a 1956 article in the Anaconda Copper Trailman.

(following pages) The Anaconda Company promotions neglected to point out the huge human and environmental costs of mining copper and other metals. In Butte, open-pit mining literally ate up portions of the city, including the communities of Anaconda and McQueen, center and foreground respectively in this 1950s view, and carved away everything up to the base of Butte Hill. By the mid-1970s, the last three underground mines on the Hill had closed.
The Holy Savior School in McQueen disappears under a truckload of overburden from the pit.

dependent upon it. So is the prosperity and strength of our nation. There's a slogan, "From the Earth... a Better Life." Or, as the 1950s Anaconda publicist might have phrased it, "From the Earth... the American Way of Life."

The Anaconda Company could effectively tie the Berkeley Pit to the greater good of national prosperity in part because that connection was real. The Berkeley and other open-pit copper mines, like countless other iron, coal, and aluminum mines around the world, really did function as critical foundations of the modern consumer society and economic growth. Though overproduction often plagued the copper industry, the cheap and readily available metal it produced nonetheless met an essential American (and increasingly global) economic need. However, this material prosperity was not achieved as easily or painlessly as Anaconda's promotional campaigns suggested. Left unmentioned in the company's Berkeley Pit material, for example, was the simple fact that processing ever-lower grades of ore produced ever-larger amounts of highly acidic waste material laced with toxic levels of heavy metals. Anaconda's boast that it could produce an inexhaustible amount of copper from the pit was true, but only if it produced an equally inexhaustible amount of dangerous and enduring waste. Likewise, the continuous physical growth of the pit had its cultural costs. By the early 1960s, the company began tearing down and burying parts of Butte's old urban core to expand the pit. Given the company's earlier attempts to link copper mining with the rapid growth of postwar housing, these demolitions were more than a little ironic.

The ultimate falsification of the promise of pain-

less infinite extraction and consumption came in 1982 when Anaconda's corporate successor, the Atlantic Richfield Company (ARCO), shut down the Berkeley Pit and simultaneously turned off the mighty underground pumps that had kept the pit dry for more than a quarter of a century. Soon afterward, toxic water began seeping into the rocky bowl. A year later, the pit and an extended neighboring area won the dubious distinction of becoming the largest Superfund site in the nation. Although state and federal agencies and the responsible parties have since made some progress in cleaning up the site, the challenges to permanently remediating it remain daunting. The pit's heavy-metal-laden water, for example, will need to be cleaned for thousands of years to keep it from polluting downstream creeks and rivers. Thus, while the Anaconda Company's confident promise of an unending supply of copper ore from open-pit mining proved true for only a scant quarter century, the task of repairing the damage done may well be its truly enduring legacy.

As it was fifty years ago, the Berkeley Pit continues to be a popular stop for tourists as they travel to Yellowstone and Glacier national parks, though now they come to gaze down at the poisonous dark waters of the slowly growing "Berkeley Lake." Some may reasonably conclude that such environmental degradation is the price the nation has paid for its reckless pursuit of unending economic expansion. In this light, we can see "America the beautiful" as a victim of "America the bountiful."

But it is worth remembering that Anaconda's basic goal of illuminating the links between mass mining and mass consumerism is no less relevant now than it was in the 1950s, though we can now better understand the negative as well as the positive consequences of these links. If anything, early-twenty-first-century Americans seem to be even more wedded to the political, social, and economic blessings of mass consumerism than they were half a century ago. Furthermore, hundreds of millions of people in China and India and other nations around the globe are now eagerly poised to replicate American levels of consumption. While efficient use, recycling, and improved mining techniques may soften the blow, the raw materials for a billion new cars and a billion new refrigerators will almost certainly require more mines and will result in more environmental degradation. While the Berkeley Pit stands quiet, we can be sure that somewhere new landscapes of extraction promising seemingly unending bounty are being created.

Timothy J. Lecain is professor of history at Montana State University-Bozeman.
contemporary photographs made from precisely the same points of view. Such "rephotography" projects have become increasingly popular in recent years as a useful way to measure change in the natural world as well as in the built environment. Given his sources, Wyckoff's visual survey of the state naturally has a particular bias: federal highways dollars did not generally affect denser urban centers so much as small towns or rural areas. Nonetheless, he covers a wide swath of Montana with his short-page-long essays about paired images that take him from Roundup to Butte, from small towns to suburbs, from the ranchlands of eastern Montana to the mountain landscapes of the state's northwest corner. And he covers a surprisingly broad range of issues, from the reasons for the "tree invasions" that have transformed grassy hillside into densely forested woodlands to the decline of the small ranching towns bypassed by new super highways. Change across time works differently in different parts of the state, he reminds us. The larger economic forces that spell the demise of a mining town may help spur the growth of an urban suburb. The highways that leave some old communities increasingly isolated facilitate the growth of the New West communities dependent on tourism, recreation, and service industries. Through his brief, lucid essays about specific sites, Wyckoff builds a larger argument about the complexity of historical change in a large, geographically diverse state.

The book’s handsome reproductions not only sustain Wyckoff’s readings, they make it possible for readers to pose their own questions. I, for one, found myself fascinated by the ubiquitous electrical poles and wires, visible in the historic images as well as the contemporary ones. If asphalt roads and concrete bridges once provided the critical links between Montana communities and the rest of the world, I’d hazard to guess that in the future we will see those wires as the crucial links between this particular place and the global economy.

Martha J. Sandweiss
Amherst College, Amherst, Massachusetts
reviewing the relatively sparse literature on popular perceptions of mining areas, Robertson briefly laid out his methodology. He selected as case studies three mining communities in varied regions of the country—Cokedale, Colorado; Picher, Oklahoma; and Tohicka, Illinois. Robertson’s ultimate goal was to compare how official environmental and historic preservation policies squared, if at all, with popular perceptions about what should be done with these landscapes in the wake of mining.

Tohicka, Illinois, is a remarkable locale where longwall mining enabled relatively thin seams of coal to be mined. After providing a fine overall history of Tohicka, Robertson then focuses on the “jumbo”—as locals call the huge piles of waste rock that dominate the horizon. Whereas most readers might think these features were eyesores, locals regarded them otherwise. After mining operations ceased and environmentalists advocated obliterating the piles, the public resisted. “Save the Jumbotron” became a slogan as locals fought to preserve this aspect of their mining heritage. Meanwhile, locals’ affection for such seemingly desolate features often bewirlded outsiders. Tohicka saved its “Jumbotron,” and the story provides a sobering lesson about how landscape tastes vary between locals and outsiders and between common people and elites. Robertson discusses Cokedale, Colorado, next. Located in the Trinidad coalfield, Cokedale did not disappear after mining ceased in the 1940s. Rather, some former miners hung on while nonminer newcomers arrived.

This, as one might expect, created considerable tension. Given its fascinating landscape of spectacular coke ovens, company housing, and huge gob piles, Cokedale also elected a preservation path that enabled it to become a recognized historic site with its own rich, albeit sometimes grimy, past on display.

Picher, Oklahoma, comes last, and it is one of the more complicated and controversial formerly mined places. Marked by small miners’ homes and huge chat piles, Picher represents classic lead- and zinc-mining country. Here, too, Robertson opts to discuss Picher from a visual, rather than purely environmental, perspective. The latter would lead directly into Superfund territory, but Robertson shows Picher to be more complex when locals’ views are considered. Robertson shows how the locals adapted to the landscape created by the mining companies and may cling to such mining landscapes as “home” even in the face of serious environmental hazards.

Robertson’s conclusions are noteworthy. He shows that the passage of time affects perceptions, as do generational and occupational differences. In this study, as in others, one should be impressed by how tenacious the former mining population can be—and how deeply the mining experience can affect attachments to the land, even though outsiders may consider that land “ruined.” Written with restraint and remarkable objectivity, Hard as the Rock Itself is highly recommended to anyone interested in mining history, environmental history, or simply how life and landscape are interconnected.

Richard V. Franzosiak
University of Texas at Arlington

We Know Who We Are
MÉTIS IDENTITY IN A MONTANA COMMUNITY
Martha Harron Foster
University of Oklahoma Press, Norman, 2006. Illustrations, maps, charts, appendix, notes, bibliography, index. xii + 306 pp. $29.95 cloth.

If the American West has a Rip Van Winkle tale, it is the fabled 1855 prophecy of Métis cultural hero Louis Riel. Shortly before his hanging in Regina for treason, now universally acknowledged as unjust, Riel, a U.S. citizen and Montana schoolteacher, declared: “Our people will sleep for a hundred years, but when they awake, it will be the artists who bring back their culture.” Martha Harron Foster’s timely and important book, We Know Who We Are, fits the pattern predicted by Riel. Her work helps bring back a long-concealed story, central to Montana and American history, and allows us to see ourselves anew.

This book is not the story of the Métis in Montana, but a micro-history of family migration and the Métis community in Lewistown. Foster presents a beautifully researched portrait of how the Métis who settled that town maintained

Crazy Horse
A Lakota Life
By Kingsley M. Bray
Crazy Horse: A Lakota Life corrects older, idealized accounts—and draws on a greater variety of sources than other recent biographies—to expose the real Crazy Horse: not the brash Sioux warrior we have come to expect but a modest, reflective man whose courage was anchored in Lakota piety.

$34.95 Cloth 978-0-8061-3785-8 • 528 pages

Washita Memories
Eyewitness Views of Custier’s Attack on Black Kettle’s Village
By Richard G. Hardorf
In this documentary history, Richard G. Hardorf presents firsthand testimonies by Indians and whites of the Battle of the Washita—one of the most tragic and disturbing events in American history.

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Devil’s Gate
 Owning the Land, Owning the Story
By Tom Rea
Tom Rea traces the history of the Sweetwater River valley in central Wyoming—a remote place including Devil’s Gate, Independence Rock, and other sites along a stretch of the Oregon Trail—to show how ownership of a place can translate into owning its story.

$26.95 Cloth 978-0-8061-3792-6 • 288 pages

Jay Cooke’s Gamble
The Northern Pacific Railroad, the Sioux, and the Panic of 1873
By M. John Lubetkin
In 1869, Jay Cooke, the brilliant but idiosyncratic American banker, decided to finance the Northern Pacific, a transcontinental railroad planned from Duluth, Minnesota, to Seattle. Lubetkin tells how Cooke’s gamble ignited war with the Sioux, rescued George Armstrong Custer from obscurity, created Yellowstone Park, pushed frontier settlement four hundred miles westward, and triggered the Panic of 1873.

“Lubetkin’s singular achievement is to link Jay Cooke with George Armstrong Custer—the world of robber barons finance with the world of Indian fighting. He has succeeded admirably.”—Robert M. Utley

$29.95 Cloth 978-0-8061-3740-7 • 400 pages

U N I V E R S I T Y O F O K L A H O M A P R E S S
8 0 0 6 2 7 7 3 7 7 • O UP . R E S S . C O M
a distinct cultural identity against forces intent on whitewashing away at Métis worth and identity within the newly forming EuroAmerican society. Her book tracks some Métis families back into early fur trade history and then retraces their movements over time and place, bringing them to reside in Montana. Foster also ably unmasks the confused governmental policy, treaties, and negotiations concerning Métis history on the northern plains. For these reasons, We Know Who We Are is one of the finest accounts we have of how a community within Montana society formed and was transformed. We Know Who We Are has an area of concern, though. One of Foster's main sources misunderstands Métis history and chronology within native society and another promulgates an exceptionalism of local circumstance disengaged from larger forces. Both divide and misrepresent what is a more deeply integrated native environment.

This issue aside, Foster's work is a fine contribution to a new generation of scholarship that delves into American Métis studies from numerous disciplines. Unlike in Canada and Latin America, Métis/Mestizo studies have gone mostly unrecognized in the United States, despite the tremendous opportunities Métis culture and history offer for understanding numerous topics central to the American story, from race and ethnic identity to colonialism and the market economy.

There is a good reason the Métis refer to themselves as the New Peoples, citizens of the New Nation. The rest of us are just beginning to get to the other side of *E pluribus unum*—that, as one, we are all related. What a welcome addition Martha Harroun Foster's *We Know Who We Are* is to the West's grand narrative. It is "must-read" Montana history.

Nicholas Peterson Yvonne
University of Montana, Missoula

The Ox-Bow Man
A Biography of Walter Van Tilburg Clark
Jackson T. Benson

University of Nevada Press, Reno, 2006. Illustrations, notes, bibliography, index. xi + 448 pp. $39.95 cloth, $12.95 paper.

Walter Van Tilburg Clark hated puffy Westerns and the movies they spawned. He thought such stories with their interchangeable parts were simplistic—good heroes in white hats who resort to violence only as a last resort, bad guys in black hats, and a story line hinging on a chase and a "walk-down" due in the streets.

In *The Ox-Bow Incident*, Clark reversed the elements of the stereotypical Western. The rustlers are the innocents. The members of the vigilante posse pursuing them are the ones who commit the acts of injustice. This reversal forced Clark, and his readers, to pay attention to motives, behavior, character, scene, event, and, finally, to theme and the idea of justice. The book ultimately is not "about" rustlers and vigilantes, but human nature.

After the publication of *The Ox-Bow Incident* in 1940, Clark gained immediate fame as a writer. Critics widely acclaimed the novel for transforming the Westerns into literature that happened to be set in the West. Three more books followed: *The City of Trembling Leaves* (1943), *The Track of the Cat* (1949), and *The Watchful Gods and Other Stories* (1959). Then came a paralyzed silence of some twenty-odd years. All this and much more Jack Benson documents in this excellent biography of "the Ox-Bow Man." Clark's family contributed to Benson's research, opening family photo albums and archives. The Special Collections departments at the University of Nevada, University of Iowa, University of Vermont, and Columbia University also assisted. We're not likely to get a fuller biography than this one, which includes some fifty photos.

I knew Walter Clark briefly (in 1959-1960) as a master's candidate at San Francisco State, and we kept up an occasional correspondence (once or twice a year) until the year before his death. However, Benson makes me realize that I was only catching glimpses of Walter. From his "privileged" childhood in Maine and New York to his youth and education in Reno (his father was president of the University of Nevada), from his years as a gifted high school teacher in Cazenovia, New York, to the frustrated novelist whose "disma" almost made him burn *The Ox-Bow Incident* manuscript, Benson documents fully the life of Clark's life and evokes the flesh-and-blood man at every stage. I could practically see and hear Walter.

In his dress as well as his relationships, Walter was casual rather than formal, a westerner at heart. Yet he became obsessed with literary form and technique. As Benson repeatedly documents, he strove for perfection in making symbol and myth elevate the West he loved so dearly into enduring literature. Unfortunately for us, that pursuit of technical perfection paralyzed his writing life.

Charles Bradshaw
Cerulli, Oregon

Idaho's Bunker Hill
The Rise and Fall of a Great Mining Company, 1885-1981
Katherine G. Aiken

University of Oregon Press, Norman, 2003. Illustrations, maps, notes, bibliography, index. x + 244 pp. $39.95 cloth.

This well-written book offers a comprehensive history of one of the West's most important mining companies. It is the third such company history to appear in recent years, joining Carlos Schenck's history of Phelps Dodge Corporation and Duane Smith's history of the Homestake Mining Company. Aiken's book, however, differs from the other two histories in important respects: it was not commissioned by the company, and it is published by a university press.

In broad outline, Bunker Hill's corporate trajectory was not unlike that of other resource companies, although, as Aiken reminds her readers, Bunker Hill's history was punctuated by a series of dramatic and often controversial events. Even before the company's foundation in 1887, various individuals engaged in a legal battle to determine the ownership of the original claims ("one of Idaho's most famous court cases") (p. 5). In the 1980s, the company's exit from the region was equally contentious. When increasingly stringent environmental regulations challenged the ongoing operation of the company's smelter, Bunker Hill's corporate parent, Texas-based Gulf Resources, moved company assets offshore and declared Bunker Hill bankrupt, bringing company operations to an acrimonious end.

Although Bunker Hill was frequently in the news during its nearly one hundred years of existence, the decades of the 1890s and the 1910s were perhaps the most contested. During those years, labor relations generated much conflict and considerable national attention. When union miners blew up the Bunker Hill Mine mill in 1899, the event became a potent symbol of the alleged threat posed by the Western Federation of Miners. A photograph of the destruction circulated widely; even across the border in Canada, mine owners sent it to government officials as
Evolutionary theory has been a subject of interest for many years, and it has been studied extensively. This book provides a wealth of information on the topic, covering everything from its historical origins to its current state of understanding. The authors have done an excellent job of explaining complex concepts in a way that is easy to understand. I would highly recommend this book to anyone interested in evolutionary theory.
dialogue that reveals "moments of conflict and occasional confluence" (p. 10).

Earlier scholars have emphasized the importance of individualism and factionalism in the colonization of New Mexico and Florida. Galgano further explores these reactions in native responses to the cultural threat posed by the Spaniards and how the Spanish conquest exacerbated internal rivalries within indigenous communities. The author also tackles the question of how the conflict between civil and ecclesiastical authorities differed in New Mexico and Florida. However, Galgano's analysis here is unequal. He suggests, without further analysis, that the church and state antagonism could have roots in the ideology of European-born superiority since most of New Mexico's missionaries were Mexican-born Spaniards (criollos), whereas in Florida, both friars and military leaders were directly from Spain (peninsulares) (p. 152). Furthermore, Galgano neglects the fact that Florida, unlike Franciscan New Mexico, was the scene of previous failures by Dominicans and Jesuits to gain significant numbers of converts.

Galgano's multidisciplinary technique relies on scholarship from history, archaeology, anthropology, and ethnohistory, and it is here that Feast of Souls makes its greatest contribution, fulfilling its promise to offer "the bigger comparative picture that leads to greater insights and reveals new patterns" (p. 3). The book suffers from some sloppy editing—footnotes, for example, do not always cite the sources they should. Nevertheless, Feast of Souls offers a valuable methodology that proves through comparative analysis, scholars can contextualize the cultural conquest of the New World and construct general theories that help us better comprehend the similarities and differences between European and Indian experiences.

David Rockwell
Southern Methodist University, Dallas, Texas

The Mapmaker's Eye
DAVID THOMPSON ON THE COLUMBIA RIVER PLATEAU
Jack Nisbet
Washington State University Press, Pullman, 2005. Illustrations, maps, appendixes, notes, bibliography, index. xii + 560 pp. $49.95 cloth.

When it comes to telling the story of fur trader, cartographer, and explorer David Thompson, Jack Nisbet reigns supreme south of the forty-ninth parallel. Here, in The Mapmaker's Eye, a companion volume to an exhibit at the Northwest Museum of Arts and Culture in Spokane, Nisbet focuses on Thompson's establishment of the transcontinental fur trade for the Canadian North West Company and his travels and travels on the Columbia Plateau. Some Thompson enthusiasts might be disappointed by what appears to be just another distillation of Thompson's Rocky Mountain adventures from 1807 to 1812. However, the book does have a twist. Using Thompson's journals at the Archives of Ontario, Nisbet shows Thompson as a naturalist and ethnographer, introducing readers to his descriptions of flora and fauna, the tribal trails he followed, and the Indian peoples he encountered. Nisbet also offers lists of the men who traveled and worked with Thompson and the items he ordered for the Columbia Department, 1807-88.

A dedicated journal writer, David Thompson chronicled his life for over half a century. By including simple statements from Thompson's journals, Nisbet allows the reader to enter the explorer's world, a continent at the point of contact. "See the wife of an Indian sewing their leather clothing with a pointed bristle bone or a sharp thorn and the time and trouble it takes. Show them an awl or strong needle and they will gladly give the finest Beaver or Wolf skin they have to purchase it," Thompson wrote (p. 13). In addition, Nisbet's use of illustrations by Thomas Bewick, Karl Bodmer, Paul Kane, Samuel Hearne, Henry James Warre, and Charles Wilson breathe life into his narrative by introducing the reader to Thompson's visual world.

Nisbet's final chapter, "Legacy," is perhaps the strongest, giving as it does a personal glimpse of Thompson as he struggled to finish an account of his life in the Canadian fur trade. Daughter Charlotte Scott remembered vividly as her father worked on his manuscript, "He seemed to live his life over in talking to himself aloud over some anecdotes and jokes they played on each other in his travels with his companions. We would hear him laugh heartily over them with tears streaming down his checks," she wrote (p. 141).

Although many publications have appeared over the last seventy-five years, most focus on Thompson's career on the upper Columbia. Those of us interested in the man will find ourselves waiting for a definitive study that will bring Thompson the respect he so richly deserves. Until that occurs, Nisbet's The Mapmaker's Eye is a great introduction.

Rich Arstad
Montana Historical Society, Helena

The Borderlands of the American and Canadian Wests
ESSAYS ON REGIONAL HISTORY
AND THE FORTY-NINTH PARALLEL
Edited by Sterling Evans
University of Nebraska Press, Lincoln, 2006. Illustrations, maps, tables, notes, index, xxxv + 396 pp. $49.95 cloth.

Historian Sterling Evans has served academia well by orchestrating this important edited collection that announces a recent reawakening of the western U.S.-Canadian borderlands field. The carefully constructed volume succeeds in gathering together what Evans refers to as a "scattered literature" and encourages a new self-consciousness among its practitioners (p. xv). In the introductory matter, Evans, John Herd Thompson, and Thomas D. Isern and R. Bruce Shepard outline the field's long origins, the contours of its historiography, and the diversity of intellectual approaches (continental, comparative, and borderland), and Evans introduces the book's thematic parts: defining the region and border, colonization, border crossing in the nineteenth and twentieth centuries, environmental issues, and farming, industry, and labor.

The Borderlands of the American and Canadian Wests is made up of the work of scholars from Canada and the U.S. who write from a variety of disciplines (history, for the most part, but also geography, anthropology, criminal justice, sociology, and environmental studies). Research on traditional western topics such as cattle ranching and Mormon settlement will please readers, but articles on fruit farming, the KKK, prohibition, tourism, and salmon display intellectual fervor. Evans's study of the border trade that ran through Canada, the U.S., and Mexico, directs scholars to the tantalizing possibilities for a North American borderlands research agenda. Several articles on the effects of border making on Native Americans serve to underscore the legacies of colonialism. Montana readers will especially enjoy Theodore Binnema's lively description of
of Montana's bioregion; Marian McKenna's comparison of law and order in territorial Alberta and Montana; a piece by Sheila McMannis on the racial and gender dimensions of the West in Alberta and Montana; and articles on the Métis and Cree in Montana by Gerhard Erz and Michel Hogue. An exploration of the history of the Waterton-Glacier International Peace Park by Cartiona Mortens-Sandholm shows how economic, geographic, national, racial, and environmental forces created a region that is "an ensemble of borders and signifying networks" so complicated that even the efforts of willing cross-border partners can be reduced to symbolic action (p. 390).

It is hard to imagine any work in western transborder U.S.-Canadian history going forward without consulting the extensive multi-topic bibliographies compiled by Evans. The citations span the twentieth century, suggesting the deep roots, and intermittent blossoming, of scholarly interest in U.S.-Canadian borders history. Moreover, Evans suggests topics for future research.

An anomaly in the collection (for its 1995 publication date) is an article excerpted from Paul F. Sharp's classic Wheels-Up Country. Sharp's analysis of Montana and Alberta marked a moment when U.S.-Canadian borders research might have taken off as an own complex field of study. With this collection, Evans seems to say that another moment has here. He has done his share to ensure that the moment will not pass by without serious notice on both sides of the forty-ninth parallel.

Molly P. Reznik
Doane College, Crete, Nebraska

Jeanette Rankin
A POLITICAL WOMAN
James J. Lopach and Jean A. Luckowski

Jeanette Rankin is the most thoroughly researched book about Jeanette Rankin ever published. However, it does not contain the best documentation or the most convinc- ing interpretations. It appears as though in the process of collecting a mammoth amount of information about Rankin, authors James Lopach and Jean Luckowski were seduced into thinking they had to depict her as an unusually complex, thoughtful person and a committed feminist.

Two problems present themselves immediately when sorting out the facts of Rankin's life. First, because Rankin was a notoriously careless record-keeper and her personal papers are sparse, scholars have long lamented the difficulty of documenting her private life or public ideas. Complicating that task are the numerous previous works about Rankin, many of which are hagiographic rather than critical and which form a tangled historiography. Lopach and Luckowski, when they cite these materials, employ the type of notes sometimes used in trade books, identifying only quoted material. The reader, then, cannot always determine from the citations whether the quoted words and ideas are Rankin's or those of the authors cited. No box numbers or other precise locations within collections are given for the manuscript material consulted. It may be that the University Press of Colorado dictated this unfortunate note style, but it makes the notations less valuable for scholars interested in evaluating some of the work's interpretations.

The skimpy documentation is particularly evident when Lopach and Luckowski discuss Rankin's relationships with women, her feminism, and her foreign-policy views. For example, most Rankin biographies indicate that, unlike most female reformers of her generation, she had few close women friends and shunned the networks of female reformers. Nonetheless, Lopach and Luckowski spend an entire chapter implying that Rankin did have strong relationships with women, but they support this assertion with sporadic references to other women scholars have said about women who practiced the same kind of essentialist, maternalist (what is now commonly referred to as relational) feminism and who did form close female relationships, women such as Florence Kelley, Jane Addams, Lillian Wald, Molly Dewson, and Eleanor Roosevelt. In the end, confusingly, the authors conclude that Rankin "lack[ed] a continuing intimate relationship with another adult" (p. 165).

Equally unconvinced is the authors' attempt to associate Rankin (and her pacifist ideas) with the sexually diverse Greenwich Village group Heterodoxy in the summer of 1912 and winter of 1912. Rankin spent more time campaigning for suffrage in Albany than in New York City in 1912, and when in Manhattan for a few months in 1912, she lived on the Upper East Side, not in the Village. So it seems unlikely she made "soul mates" of lesbian or straight New York women before being elected to Congress (p. 192). Her later friendship with lesbian Katherine Anthony is documented almost exclusively by letters from Anthony. Lopach and Luckowski, after many quotations from Anthony, are forced to admit that "their relationship remained incomplete" (p. 73).

Lopach and Luckowski also argue that Rankin was not only a relational feminist, but also an equal-rights feminist, a utopian feminist, and a woman-identified woman by citing the feminist theories of Judith Schwarz, Carroll Smith Rosenberg, Estelle Freedman, Catharine MacKinnon, and Robin West. Yet these authors intimate little, if anything, about Rankin. Lopach and Luckowski simply infer from these writings that Rankin must have had her feet in both cultural and radical feminist camps. In actuality, all Rankin seems to share with the relational feminists was their opposition to the Equal Rights Amendment and their use of maternal rhetoric on behalf of reform and foreign policy. At the same time, Rankin remained suspicious of, and at odds with, relational feminist leaders of the First Women's Movement and the equal-rights leaders of the Second Women's Movement.

In fact, Rankin's actions show that she placed peace and governmental and electoral system reform above women's issues her entire life. Lopach and Luckowski do note that her foreign-policy activities reinforced her lonely, independent modus operandi without ever allowing her to experience "spiritual development and inner peace" (p. 170). While they attribute this situation to her "unreflective nature," at the same time they attribute her views on women as agents of social change and her enmity of world peace to an understanding of the complex views of the British sociologist Benjamin Kidd (p. 176). Rankin did not begin to consistently emphasize his influence on her until the 1970s, and there is little evidence that she actually read either his books before or immediately after World War I. None of the early interviews and studies of Rankin mention Kidd's influence on her brand of feminism or pacifist thoughts.

In the end, Lopach and Luckowski convincingly conclude that the most defining aspect of Rankin's character and career was family; that is, "she was a Rankin first" (p. 295). Her family, especially her brother Wellington, provided a psychological and financial safety net that insulated, stubborn political life did not. Ironically, politics, not family, ensured her place in the history of American women because, as a committed pacifist, she opposed U.S. entrance into both the First and Second World Wars.

John Heff
Montana State University-Bozeman

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Montana Book Roundup

Copper Chorus: Mining, Politics, and the Montana Press, 1889–1959

by Dennis Swibold

It is hard to imagine a book about Montana's history that needed writing more than Copper Chorus: Mining, Politics, and the Montana Press, 1889–1959. The astonishing story of how the copper industry muzzled and manipulated much of the state's press for seventy years had previously been dealt with by scholars with a broad brush, as a backdrop for another story or piecemeal in books, dissertations, and journals. But no scholar had tackled this story, with its profound implications for democracy and freedom, in its full breadth and depth. For decades, it had been the elephant in the parlor of Montana history—impossible to ignore, but too massive and complicated to be approached by anyone but the most able, resolute, and energetic scholar.

Dennis Swibold turned out to be that scholar. He has caged the beast in a handsomely produced book published by the Montana Historical Society Press. Copper Chorus is the definitive work on this crucial period of Montana journalism, and maybe about Montana journalism, period. The "copper chorus," of course, is a reference to the Anaconda Company's famously "kept press," whose practitioners were seen by many in Montana and elsewhere as shamelessly singing the company's political and economic repertoire from the same piece of doctored sheet music.

A University of Montana journalism professor who has worked as a reporter and editor for the Bozeman Daily Chronicle, the Sidney Herald, and newspapers in Arizona, Swibold describes his book project as "a five-year obsession" that immersed him in the subject so deeply that it brought smiles to his colleagues' faces. "Journalists focus on the "here and now" and 'what's next,'" he explained, "so you can understand how disturbing it can be to have someone walking the halls of the Journalism School with a distant look in his eyes, starting conversations with sentences like 'That reminds me of something that happened in Butte in 1907...'"

In Copper Chorus, Swibold traces the mining industry's newspaper ownership from statehood and the colorful War of the Copper Kings era, when mining tycoons used their newspapers as propaganda tools in ruthless pursuit of political and economic goals, through 1959, when the eight newspapers were sold to the Iowa-based Lee Newspaper Group. Importantly, the author does not gloss over the later, less flamboyant, era that K. Ross Tooze called "the great gray blanket," during which the Anaconda Company abandoned its overt advocacy and inveigled and turned its newspapers into public relations instruments that avoided controversy and tough journalism. Swibold argues that the papers' "finds editorial silence" from the 1930s on was more dangerous in its consequences for democracy and free expression "than the diabolical crusades had ever been" (p. xv).

On the brighter side, not every journalist accepted the "copper collar," and Swibold gives these editors and writers due respect. "Montanans," he writes, "could and did find alternate views in the weekly press, in some small dailies, in radio broadcasts, in union and association newsletters, and in a string of boldly anti-corporate newspapers culminating in the People's Voice, the Progressive Helena-based weekly (p. 9)."

Finally, Swibold tells the story of how the Anaconda Company, persuaded that its newspapers—the Montana Standard and Daily Post in Butte, the Anaconda Standard, the Independent Record in Helena, Missoula's Missoulian and Sentinel, the Billings Gazette, and the Livingston Enterprise—were both a financial burden and an embarrassing public relations problem, sold them to the Lee chain in 1939. The author gives the Lee executives credit for encouraging their new owners to be more responsible. But even after the Anaconda Company's distasteful, distrusted ownership offered timely and pointed lessons" (p. xv).

Charles Hood is the former dean of the University of Montana School of Journalism.

was very surprised by two articles in the Summer 2006 issue. The first article was about Caroline Lockhart, a writer of western fiction who lived in a fantasy world but used the names of her neighbors for her characters. Author Alan Clayton mentions Lockhart intended to write fiction when she bought the ranch on the Dry Head, but reading the article left me with the impression she was a writer of history. There are still children living whose families were hurt by her using their names in her fiction. The notes indicate that the author relied on Lockhart's diaries, which may or may not contain fact. The notes do mention a matter of historical interest, that Will James had a ranch near Lockhart's. A second article, Brokenback Mountain: A Western by Richard White, also caught my attention. I would not have been more surprised if there had been two pages promoting a Harlequin romance. I expect to see historical accounts in Montana. The magazine states right on the cover that it is a "Magazine of Western History." There are plenty of fiction and romance publications for those who desire such reading material. I find it puzzling that Montana would jeopardize its reputation by including these two articles.

Lynne Roan
Shawmut, Montana

I got to know David A. Walter in 1996 at the University of Montana in Missoula. Then when I began my own research about 1980, I found him at the Montana Historical Society in Helena.

As of 1986, only forty of the eighty years of the Plains newspaper, the Plainsman, were on microfilm. Dave, with the co-operation of Donald Coe of Plains, was able to get the remaining forty years microfilmed. Now ninety-two years of the newspaper are on microfilm. Access to this microfilm helped me with my own research and writing. Dave Walter died July 19, 2006. It is clear from reading about his accomplishments in his obituary that helping people learn and do their own research meant a lot to him. He measured himself and others by work accomplished, not titles. To some degree, his qualities and his overlap. The scope of his work was statewide. The scope of my work has been both Sanders County and genealogy. From my perspective, Dave was the right person in the right place at the right time. There are few others who fit into this category.

Lynne Roan
Shawmut, Montana

Each year Montana's editorial board selects the best article published during the previous year as the winner of the Vivian A. Paulson Award. The Montana Historical Society Board of Trustees created the award in 1978 to honor the career achievements and high editorial standards of Vivian Paulson, who served the magazine between 1958 and 1978. This year's winner is Melody Graulich for her article "Monopolising The Virginian (or, Railroading Winter)," published in Spring 2006. Graulich is a professor of English and American Studies at Utah State University. Yale University student Tiffany Clay received the 2006 Merrill G. Burtzlaff-K. Ross Tooze Award, the magazine's award for the best student essay. A student of Professor John Mack Faragher, director of Yale's Howard R. Lamar Center for the Study of Frontiers and Borders, Clay was recognized for her paper on early stockmen's organizations. The award is presented in honor of two of Montana's most influential historians.
Announcements/Events
EDUCATORS AND FUR TRADE ENTHUSIASTS SAVE THE DATE June 15-16, 2007, for “Beyond Borders and Boundaries” workshop and conference about the role of Indian women in the fur trade. Hosted by the Montana Historical Society and held in Helena. The WW II War Brides Association is searching for foreign-born war brides. For information about our organization, check this website: www.geocities.com/us_warbrides/WarBrides/member-ship.html. You may also contact Erin Craig, president, phone (760) 332-4154 or e-mail classicalmuse@bellsouth.net.

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Entering Butte
2. Two valuable studies on social history in Butte are David M. Enmons, The Butte Irish: Class and Ethnicity in an American Mining Town, 1875-1925 (Urbana, IL, 1989); and Mary Murphy, Mining Calvinist: Men, Women, and Leisure in Butte, 1913-41 (Urbana, IL, 1997).

'See America the Bountiful'
4. Established as part of a larger program of federal loans and subsidies designed to increase domestic mineral production under the 1950 Defense Production Act, the Defense Minerals Administration was within a year replaced with the Defense Minerals Exploration Administration, an agency charged with the narrower task of encouraging private companies to explore for new mineral deposits by providing federal matching loans. See First Annual Report of the Joint Committee on Defense Production, 82nd Cong., 1st sess., 1950, S. Rep. 1040, pp. 294-95.
7. "In the World of Transportation, Nothing Serves Like Copper" advertisement, 1945, author's collection; "From Radiator to Stop Light, Nothing Serves Like Copper," advertisement, 1948, ibid.; "Why Copper Is The Key Metal in so Many Postwar Plans" advertisement, 1944, ibid.
8. Copper Serves" advertisement, 1945, author's collection.
9. "Want to be Surprised!" advertisement, 1945, ibid.

11. Ibid., 112-13, 121-23.
13. T. U. Geologic Survey estimates the U.S. consumption of copper in 1945 at 1.65 million metric tons. The year of apparent lowest consumption in the postwar period was 1943, with 1.33 million metric tons—a still respectable figure compared to the Depression-era 1934 low of 407,000 metric tons. By 1955, consumption had nearly returned to 1945 levels, standing at 1.65 million metric tons. Overall, U.S. consumption of copper grew by 45 percent between 1950 and 1974.

Notes
1. Jerry G. Mangione, The Dream and the Deal: The Federal Writers' Project, 1935-1943 (Boston, 1972), 4; Dick Nance, The Unshodded Muse: Public Support for the Arts in the United States (Cambridge, U.K., 1987), 55-56. While relief was the central goal of President Roosevelt's 1935 New Deal initiatives, his 1935 set of legislative initiatives, the Second New Deal, were characterized by an impulse to reform and even reshape the American economic and social system. Scholars continue to debate the efficacy of both sets of programs.
54. Bell interview.
55. At that time, only a written exam was required to become a funeral director. Embalmers had to have formal schooling and pass the examination to secure their state licenses. Since 1967, however, a funeral director must become a qualified embalmer.
56. Bell interview.
57. Final field interview; Dolan interview.
58. Dennis Dolan Sr. introduced the author to the expression "cured fo", a term that describes preparing a body for burial. Dolan died August 18, 2006.

1,000,000 Glasses a Day
1. The Western Brewery in Deer Lodge, the Basn Brewery at nearby Basin, and the Beavestead Brewing Company in Dillon were all operating at peak production at this time. Information about Butte breweries comes from the following sources (unless otherwise noted all newspapers were published in Butte): Weekly Independent, October 24, 1868 (Rapp & Keeler Brewery); Miner, June 3, 1870 (Silver Bow Brewery); ibid. (Centennial Brewery); Daily Inter Mountain, August 27, 1861 (Butte Brewery); Daily Miner, March 31, 1862 (Silver Bow Brewery); ibid. (Centennial Brewery); Daily Inter Mountain, August 27, 1861 (Butte Brewery); Daily Inter Mountain, August 27, 1861 (Butte Brewery); Daily Miner, May 25, June 3, 1862 (Washington Brewery); ibid., May 23, 1862 (Butte Brewery); ibid. (American Brewing & Malting Co); ibid., 1862 holiday ed. (New York Brewery); ibid. (Butte Brewery); Union Freeman, June 17, 1863 (Butte Brewery); M.A. Leeson, History of Montana, 1749-1883... (Chicago, 1883), 1342-43 (California Brewery); Daily Times Tell, June 11, 1885 (Cay Brewery); ibid., August 6, 1885 (Western Brewery/John Steinbrecher & Co.); Daily Miner, November 23, 1885 (California Brewery); ibid., 1886 spec. ed. (German Golch Brewery); Inter Mountain, 1887-88 holiday ed. (Washington Brewery); Frees Press, August 4, 1888 (San Francisco Brewery); ibid. (Centennial Brewing Company); Winters Star, June 22, 1890 (Butte Brewery); Poll's Butte City Directory (n.p., 1891-92) (United States Brewery); ibid. (n.p., 1897) (W.T. Eastman Co.); Montana Journal, July 15, 1899 (Olympia Brewery); ibid., May 26, 1900 (Butte Brewery); Evening News, March 31, 1904 (Capital Brewing Co.); Poll's Butte City Directory (n.p., 1900) (Capital Brewing Co./Silver Bow Brewery); Anaconda (Mont.) Anaconda Standard, December 10, 1908 (Tivoli Brewery); Evening News, December 22, 1908 (Crystal Brewery).
2. Virginia City (Mont.) Madisonian, December 20, 1875; Daily Miner, 1886 spec. ed.; Nicholas Keeler Papers, MC 161, Montana Historical Society Research Center, Helena; Weekly Independent, October 24, 1888.
6. Anaconda (Mont.) Anaconda Standard, December 17, 1889; Centennial Brewery factory scene print, copy in Butte-Silver Bow Public Archives, Butte, Montana (hereafter BSSPA); Helena (Mont.) Montana Stato Zeitung, August 19, 1816. The Mueller family were principals in the Billings Brewing Company and the Anaconda Brewing Company as well. Miner, June 30, 1906; Butte Newswriters' Association, A Newspaper Reference Work: Men of Affairs and Representative Institutions of the State of Montana... (Butte, Mont.), 1914; Anaconda Brewing Company Records, MSS 107, K. Ross Toole Archives, University of Montana, Missoula.
7. Miner, June 3, 1876; Daily Miner, 1886 spec. ed.
8. Inter Mountain, 1887 holiday ed.
9. The Huber family was related to early Butte City brewer Charles Beecher. Huber Family Papers, BSSPA.
13. Basin (Mont.) Progress and Mining Review, April 8, 1905.

The Butte-Anaconda National Historic Landmark
3. This and much of the other information in this article is from B. Derek Strahs et al., "Butte-Anaconda National Historic Landmark Nomination Form" (hereafter NHL), draft copy in author's possession.
4. Mary Murphy, Mining Cultures: Men, Women, and Lore in Butte, 1914-43 (Urban, Ill., 1997); 16; NHL, 112.
7. NHL, 123, 105.
8. Ibid., 105.
9. Ibid., 106.
11. Laurie Mercier, Anaconda: Labor, Community, and Culture in Montan's Smaller City (Urban, Ill., 2001) 16; NHL, 114.
15. National Historic Landmark Program website.

Ropes, Reins, and Rawhide
All About Rodeo
Melody Groves
The workings, workers, and animals of the heartstopping world of rodeo.

Darkest Before Dawn: Sedition and Free Speech in the American West
Clements P. Work
Today's threats against freedom of speech echo the hysteria of World War I, when Americans went to prison for dissent. This cautionary tale focuses on events in Montana and the West that led to the suspension of this crucial right.

The Life of Yellowstone Kelly
Jerry Keenan
Based on Kelly's memoirs and correspondence, this is the first full-length biography of an extraordinary man of the American West.

Beyond the Missouri: The Story of the American West
Richard W. Etulain
A narrative history of the many peoples and cultures of the American West from prehistory to the twenty-first century.
The historic neighborhoods of Butte, Anaconda, and Walkerville haven't changed much since the cities' heyday in the early twentieth century. Butte and Walkerville's streets still echo the evolution of the city amidst—and in the service of—the gritty realities of extractive industry. Anaconda's planned and orderly grid, by contrast, reflects the more systematic growth of a company town. Looming gallows frames and the towering Anaconda Company smokestack, railroad tracks, hoist houses, and slag piles dot the landscape as reminders of the sister cities' mining roots. Equally reminiscent are the buildings that served the people who brought copper to the nation: union halls and churches; business blocks, corner taverns, and movie palaces; five-room worker cottages, two-story boardinghouses, and bay-fronted flats.

The exceptional level of integrity retained by the built environment in these communities is one reason the National Park Service recently designated the Butte-Anaconda Historic District a National Historic Landmark. The district includes nearly ten thousand acres with over six thousand contributing resources in Butte, Anaconda, and Walkerville and along the tracks of the Butte, Anaconda and Pacific—the rail-

The National Park Service recently designated the Butte-Anaconda Historic District a National Historic Landmark because of its exceptionally well-preserved industrial, commercial, and residential buildings and its significance to the history of mining and labor. The Butte, Anaconda and Pacific Railroad, shown above with Butte mines in the background, linked the two cities, hauling copper ore twenty-six miles from the Butte mines to the Anaconda smelter. Built by Copper King Marcus Daly, it transported more than half of the nation's copper supply between 1892 and the 1920s.
Butte was deeply depressed. On the day I arrived, a whole city block went up in flames. Arson, I was told, to cash in on the insurance. Half of the city disappeared in the sixties and seventies. The giant pit that had started to eat up the uptown area had been closed; when the pumps stopped, it slowly filled with water, becoming the largest body of poisonous water in the world, with a red surface like Bordeaux wine, but definitely more lethal. Hammett had been right, after all, to name the city Poisonville.

I revisited Butte several times in the eighties and nineties, always hoping that it hadn’t been discovered as a film location. My recent film Don’t Come Knocking was the first feature film to be shot in Butte, at least as far as I know. (Well, Evel Knievel was shot there, but that was more a documentary of the town’s most famous son.) Anyway, Butte grew on me over the years, maybe because I grew up in a mining town in Germany that Butte very much reminded me of—same mixed culture, same smells, same industrial wasteland, same great people. I always returned to Butte full of anticipation, especially to the M & M café. (I’m proud to say it was reopened and is up and running again due to our film.) The city is much less grim now than when I first encountered it, but still entirely unique. Many artists and painters have moved there in the meantime. If I were a painter, I’d live there.

Many shots in Don’t Come Knocking owe a lot to the American painter Edward Hopper; Butte calls to mind his art all over the place. In fact, the entire uptown area looks like one giant outdoor studio in which Hopper might have painted his pictures of lonely and isolated figures in empty cityscapes: same brownstone buildings, same big windows, same lampposts, same advertising on the walls, same abandoned train tracks. Even the colors and the light are straight from his canvases—all of which is not without irony; Hopper was an ardent moviegoer who would leave his studio each time he had an attack of what I’d call “painter’s block.” That his paintings in turn provoked me to see them in Butte and evoke them on film is a sort of strange full circle.

Wim Wenders was born in Dusseldorf, Germany, in 1945. His films—among them The American Friend (1977), Paris, Texas (1984), Wings of Desire (1987), and Buena Vista Social Club (1999)—have won numerous prestigious awards and international critical acclaim. A major survey of his photography, Pictures from the Surface of the Earth, has toured museums and art institutions worldwide since 2001. One of the most influential figures of the New German Cinema of the seventies, he is president of the European Film Academy. © all rights reserved: Wim Wenders 2006
From the 1880s through the early 1900s, the Butte-Anaconda district was a magnet for immigrants. Many came to work in the mines and smelters and others provided services. Nestled among the mines, Butte’s residential areas included ethnic enclaves like Finntown, pictured here below the Neversweat Mine; the Irish-dominated Dublin Gulch; and the Italian neighborhood of Meaderville. The Berkeley Pit consumed most of Finntown and all of Meaderville after the Anaconda Company began open-pit mining in the 1950s.

road that brought Butte ore to the Anaconda smelter. It is one of the largest National Historic Landmarks in the West.

It takes more than intact historic architecture to be recognized as a National Historic Landmark, however. Only places that “have meaning to all Americans” receive landmark designation. Such sites “possess exceptional value . . . in illustrating or interpreting the heritage of the United States.” Butte, Walkerville, and Anaconda meet that test because of their importance to the intertwined histories of mining and labor, most especially their significance to the history of American labor.¹

The late nineteenth and early twentieth centuries can rightly be called the electric age. Companies strung millions of miles of telegraph and telephone wires to convert the United States from a collection of isolated communities to a unified, cohesive nation. At the same time, electrical wires powered the industrial revolution, triggered rapid urbanization, and revolutionized domestic life. All of these wires required copper, much of which was mined in Butte and smelted in Anaconda. In 1884, the Butte-Anaconda district was the nation’s largest copper-producing center, accounting for 41 percent of the nation’s total copper output. It remained the nation’s largest source of copper for fifty years. According to Derek Strahn, the lead historian for the Butte-Anaconda Historic District’s National Historic Landmark nomination, “By providing vast reserves of red metal just when it was needed most, Butte-Anaconda helped transform the United States into a modern superpower.”²

As Montana readers surely know, early battles to control this rich resource earned the moniker War of the Copper Kings. Ultimately, the Anaconda Copper Mining Company emerged victorious from this fight, with a level of vertical integration that mirrored other turn-of-the-century trusts. The Company, as it became known, owned most of the Butte mines, the Anaconda smelter, and the railroad that connected the two. And from its corporate offices on the sixth floor of Butte’s Hennessy Building, it made decisions that affected both the state and the nation. The most famous occurred in 1903, when the Company temporarily shut down operations. It idled 80 percent of Montana’s workforce as an ultimatum to the state legislature, which had refused to pass a law the Company wanted. The legislature quickly yielded to this emblematic show of force, revealing a troubling power dynamic that would continue to haunt Montana.³

Eighty percent of the state’s workforce is a mind-boggling statistic, reflecting both Montana’s small population base and the massive manpower that mining and smelting copper required at the turn of the century. According to historian Mary Murphy, during the peak year of copper production before World War II, 1916, over fourteen thousand men worked in the mines. And the individuals who performed this dangerous work left their own marks on

*See notes beginning on page 100.
The Creation of the Butte-Anaconda National Historic Landmark

Butte's national prominence as a copper-producing center has long been recognized. The National Park Service designated much of the city as a National Historic Landmark in 1961 under the theme of westward expansion; it expanded the district in 1972. The boundaries of the Butte National Historic Landmark, however, left out important elements: Walkerville and the smelting city of Anaconda as well as critical properties like the mine yards and the Butte, Anaconda and Pacific Railroad.

Although the need for a contiguous National Historic Landmark listing for the three cities was widely recognized, the challenge of surveying more than eight thousand resources—from head frames, hoist houses, and rail lines to business blocks, residences, and labor halls—and evaluating each one for significance and integrity made such a listing improbable. The people of Butte, Walkerville, and Anaconda, however, do not give up easily. Community pride kept the project alive for decades.

During the 1980s, the State Historic Preservation Office (SHPO), a program of the Montana Historical Society, and the Butte Historical Society conducted a field survey of Butte's Uptown to create an inventory of what was included within the original 1961 Butte National Historic Landmark district; a survey of Anaconda's town site followed in the 1990s. Two dozen historians pitched in, and many young scholars—Lon Johnson, Brian Shovers, Mary Murphy, Dale Martin, Carrie Johnson, Fred Quivilk, Pat Bik, Mike Koop, and Kim Morrison among them—cut their teeth on the project.

The turning point in the effort to gain broader National Historic Landmark status came in 1991 when Congress mandated that the Park Service conduct an American labor theme study to identify the key sites in labor history. The Park Service fulfilled that mandate with a study that the landscape. They came from all over (some thirty-five countries were represented in Butte in 1918), and they carved out ethnic enclaves in Finntown (mostly swallowed by the Berkeley Pit, but still represented by the Helsinki Bar and Sauna), Chinatown, Dublin Gulch, and elsewhere.

Churches—from Centerville's Cornish Trinity Methodist Church to African Methodist Episcopal churches in both Butte and Anaconda—reflected the mining and smelting towns' diversity. The B'nai Israel Temple was one of three synagogues to serve Butte's Jewish community, and Anaconda's St. Peter's Austrian Roman Catholic Church offered services in Serbo-Croatian. Butte's Swedish Lutheran Church and Our Savior's Norwegian Evangelical Lutheran Church in Anaconda also held services in their congregants' mother tongues.

Another prime source of support for new immigrants were bars and boardinghouses, which served up currency exchange, translation, letter writing, advice, and even loans alongside pitchers of beer and food that tasted like home. Among the buildings still gracing the copper cities are those that housed Anaconda's Sladich Bar and Laslovhich's Boardinghouse (which catered to Croatians) and the Swedish Lindberg Saloon and Gustafson Boardinghouse, also in Anaconda.

More formal avenues of support, of course, were the ethnic lodges. In both Butte and Anaconda, immigrants groups like the Ancient Order of Hibernians (Irish), the Scandinavian Brotherhood, the Knights of Columbus (Italian), and the Order of St. George (Czech) constructed lodge halls. In the days before Social Security or strong work-
men's compensation laws, a sentimental attachment to the motherland was not the only reason men joined lodges. The organizations provided an important form of social insurance, using dues money to help injured members' families or pay for burial rites. Between 1885 and 1911, the Hibernians alone paid out more than thirty thousand dollars in sick and death benefits. Given that the Butte mines "were arguably the most dangerous in the world," according to historian David Emmons, and that silicosis (also known as miner's con) killed even more men than industrial accidents, the social and economic support ethnic networks provided was crucial.5

If the dangers associated with copper mining and smelting enhanced ethnic solidarity, it also bred the workplace solidarity that ultimately gave Butte and Anaconda their reputation as the Gibraltar of Unionism. According to historian Dan Harrington, one miner was killed every other day in the years between 1895 and 1925. And while Anaconda's smelter workers suffered fewer fatalities than did miners, danger haunted them as well. Such hazardous workplaces gave miners "a cohesion that at times resembled the camaraderie of soldiers."6

According to the Butte-Anaconda National Historic Landmark nomination, "Butte officially became a union town in 1878, when miners organized the first strike in Montana's history." By 1887, the Butte Miners Union (BMU) was the largest miners' provided a national context—a framework for historians to apply when evaluating sites for their significance to labor history. In the course of the study, it nominated ten sites for designation as landmarks and recommended sixteen others for further study. Among those sixteen was Butte. Here at last was the opportunity to update and expand the original Butte National Historic Landmark.

It is lucky no one knew at the time how difficult the task would be. It took fourteen years, during which time Butte-Silver Bow County and Ellen Crain of the Butte-Silver Bow Public Archives led the effort. Many volunteers and the preservation officers of Butte and Anaconda helped out, and the project had the support of the Keeper of the National Register as well as the National Historic Landmark program's Denver office. Essential to the project was Derek Strahn, who wrote an outstanding historical context for the nomination. SHPO contributed hundreds of hours of staff time to the project, managing grants, field checking earlier survey work, and reviewing the nomination. Chere Jiusto and Christine Brown of Montana Preservation Alliance oversaw the final stages of the nomination. They verified all the Butte data, constructed the physical description from the many neighborhood surveys, and worked with Ellen Crain and her staff and GIS cartographers Chris Jaquet and Gerry Daumiller to datalink properties to maps.

Motivating all who participated in the project was a commitment to preserving the heritage and the unrivaled industrial landscapes in Montana's most famed cities. Preservationists and local activists also looked forward to what listing could mean to the region's future. The National Historic Landmark designation is a high honor and provides an opportunity to stimulate local economies by celebrating the industrial legacy of Butte, Walkerville, and Anaconda. The collective effort and years of hard work paid off: in March 2006 the National Park Service announced the Butte-Anaconda National Historic Landmark.

Chere Jiusto
Montana Preservation Alliance

Unions played a vital role in Butte beginning in the 1870s. They fought for better wages, shorter hours, and safer working conditions, as well as providing social support for their members. Union members above carry a banner that reads "Charity to all, malice toward none" in a Butte Union Day Parade.
union in the West. It fought for better wages and working conditions for its seventeen thousand members, while also providing sick benefits and burial expenses. Political competition among the Copper Kings created room for workers to organize, and they did just that. Among early victories was the establishment of an eight-hour day in 1901. Anaconda workers also unionized early, organizing “some of the earliest craft unions in the nation,” according to historian Laurie Mercier.7

In both Butte and Anaconda, union drives extended beyond the mines and smelters to encompass barbers, cigar makers, even waitresses, chimney sweeps, and newsboys. By the turn of the century, thirty-four unions representing eighteen thousand members made up the Silver Bow County Trades and Labor Assembly while the Anaconda Trades and Labor Council boasted twenty-five hundred members from over twenty-five different unions. The communities' level of organization drew praise from the likes of union leader William “Big Bill” Haywood, who described Butte as “the strongest union town on earth.” Today, more than twenty halls in Butte and Anaconda continue to represent this rich labor legacy.8

Notably, Butte and Anaconda's unions extended themselves to other mining communities “to spread the gospel of unionism.” The Butte Miners Union, for example, organized branches in silver camps across Montana. It offered material help to workers outside the state as well, creating a strike fund that sustained Coeur d'Alene miners during the bitter Coeur d'Alene mining war of 1892. And it became a leading voice in the Western Federation of Miners (WFM), the organization that grew out of that conflict. Headquartered in the Butte Miners Union Hall, the Western Federation of Miners relied on Butte workers to support a series of landmark strikes in Cripple Creek (1894), Leadville (1896-97), and Coeur d'Alene (1899), among others. Six years later, the Western Federation of Miners became a central organizing force behind the radical Industrial Workers of the World (IWW), whose rhetoric opposing “wage slavery” challenged the foundations of American capitalism.9

By the turn of the century, the Anaconda Company monopolized mining and smelting in the district. Before contract negotiations in 1912, the company fired “socialist” miners and instituted a “rustling card” system to deny jobs to union activists. Dissension over the rustling system erupted in 1914, resulting in Butte's occupation by the Montana National Guard (above with Gatling gun, in front of Silver Bow County Courthouse). Renewed unrest following the Granite Mountain-Speculator fire led to martial law again from 1917 to 1921.
Politically, union power and ideology in Butte and Anaconda played out through the Socialist Party. Butte’s Socialist Hall, still displaying a bas relief carving of hands clasped in solidarity, remains a monument to the party’s success. Butte elected Socialist mayor Louis Duncan in 1911, “making Butte one of the largest American cities ever governed by Socialists.” For once, Anaconda outpaced Butte: workers there elected a Socialist mayor in 1903, the Socialists’ “first municipal electoral success west of the Mississippi.”

The Anaconda Company, which had achieved a near monopoly over copper mining and processing in the district, responded with ham-fisted intensity, firing every suspected socialist or union member at its Anaconda smelter. According to Laurie Mercier, when the WFM protested, “the company responded that any man had the right to vote for whom he pleased, but the company did not have to employ him.” In Butte, too, the Anaconda Company ended decades of relatively amicable labor relations, ultimately forcing the Butte Miners Union to accept a “rustling card” system that allowed the Company to deny jobs to suspected agitators. “Rank-and-file union members voted 11 to 1 against the rustling card, but the conservative leaders of the BMU ignored their protest.” The card became a symbol of union impotence, according to historian Aron Gutfield, and a focal point for conflict. Dissension, almost certainly fueled by company spies and agent provocateurs, ultimately erupted in 1914, with riots, the bombing of the Miners Union Hall, the impeachment of Butte’s Socialist mayor, and the city’s first stint under martial law. Troops occupied Butte once again in 1917, after the Granite Mountain—Speculator fire led to renewed labor unrest. This time, they would stay for four years.

The Granite Mountain—Speculator fire took the lives of at least 167 miners, making it the worst hard-rock mining disaster in the nation’s history, and Butte erupted, first with a wildcat strike at the Elm URL Mine, then a general strike of over fifteen thousand Butte workers. The newly organized Metal Mine Workers Union led the strike, demanding recognition of the union, an end to the rustling card system, a minimum wage of six dollars per day, and monthly safety inspections.

Among the most remembered events of this turbulent time was the lynching of IWW organizer Frank Little, who had been drawn to Butte by news of the strike. Six armed men took Little from a North Wyoming boardinghouse at 3:00 AM on August 1. They dragged him behind their car, then brutally beat him before hanging him from a nearby railroad trestle. Little was buried in Mountain View Cemetery, beneath a marker that reads “Slain by capitalist interests for organizing and inspiring his fellow men.” Some sixty-eight hundred people joined his funeral procession, the largest in Butte history.

Despite this show of solidarity, strikebreakers, federal troops, and a successful propaganda campaign that tarred the union as unpatriotic allowed the Company to defeat the strike. In its wake, the Montana legislature passed a “Criminal Syndicalism Act,” which outlawed the IWW, as well as sweeping anti-sedition laws, “which made it illegal to utter, print, write or publish criticisms of the federal government, the armed forces, or even the state government during wartime.” These wide-ranging laws became the model for the 1918 Federal Sedition Law, which historians have called “the most sweeping violation of civil liberties in modern American history.”

The Red scare of the 1920s followed the hyperpatriotism of the late teens to suppress union activities nationwide. Butte and Anaconda were no exception, though fervent local unionists did manage to keep alive the practically moribund International Union of Mine, Mill and Smelter Workers (Mine-Mill). In 1933, however, Congress passed the National Industrial Recovery Act (NIRA)—part of the alphabet soup of New Deal laws and programs. These were designed to mitigate the worst effects of the Great Depression.
Contributing to the Butte-Anaconda National Historic Landmark are the institutions—from churches to union halls—around which Butte and Anaconda workers shaped their lives. At one time, Butte boasted nine Catholic parishes, including St. Mary’s, whose rectory and convent (home to the Sisters of Charity of Leavenworth) are shown here in the shadow of the Original Mine.

and quell calls for a more systematic challenge to capitalism. Among other provisions, the NIRA guaranteed workers the right to organize.

Butte and Anaconda workers responded quickly to this new opportunity, in part because Mine-Mill’s most influential remaining members, and locals, were in Montana. An organizing drive in the summer of 1933 netted six thousand members, reactivating the Butte Miners Union No. 1, despite widespread unemployment. As required by law, the Anaconda Company recognized the union in 1934—but recognition did not mean a contract, and union advocates across the country looked to Butte to learn how NIRA would affect the balance of power between labor and management. In May, Mine-Mill members voted to strike for higher pay, a forty-hour work week, safety improvements, and a closed shop. “A surprising degree of solidarity” marked the four-month strike—the longest in Butte-Anaconda up to that time. In contrast to 1917, state, county, and city officials all expressed sympathy with the strikers—the state, for example, refused to send in the militia to suppress the strike—and, aided by this favorable political climate, the union won major concessions from the Company. The victory marked “a turning point for Butte labor” and, ultimately, “the revival of the unions in the copper industry” nationwide.14

As this brief summary makes clear, the residents of Butte, Walkerville, and Anaconda played significant roles in both the history of the extractive industry and the history of American labor. Their communities’ history between 1876 and 1934 reads like the chapters of an American history textbook, touching on many of the great themes of our country’s past: immigration, industrialization, and urbanization; the development of the American economy, the growth of big industry, and the rise of monopoly capitalism; the history of workers and work culture; the dramatic conflict between labor and capital; and the rise of labor organizations.

For this reason, the Butte-Anaconda Historic District joins an honor roll of nationally significant places, sites that “illuminate our rich and complex national story.”15 The recognition comes with a commitment from the National Park Service to provide advice and technical assistance to those citizens working to preserve these emblematic communities. Perhaps even more valuable, though, is the recognition itself, and the acknowledgment that the communities’ rich and complicated history has an import that extends far beyond the state’s borders. These are places that are worth preserving. They matter, not just to Montanans, but to all Americans.

Martha Kohl is a historical specialist at the Montana Historical Society.
in New York, ten stories high; wide avenues, but altogether abandoned. A ghost town of fantastic proportions!

At the turn of the century, Butte was one of the biggest cities west of the Mississippi, mostly due to its rich copper mines. But a lot of other heavy metals were found there as well—silver and gold. Politically, Butte has a rich history too. Unions always had a powerful influence; one of the first women's unions was founded in Butte. Even now it is a liberal stronghold in an otherwise very conservative state.

But when I first saw it, in 1978,
**About Butte**

**Butte** is one of the places in America I'm most attached to. I've always wanted to tell a story there, even since I discovered it in 1978. I read that Dashiell Hammett based the mythical town of Poisonville in his fantastic first novel, *Red Harvest*, on the city of Butte, where he had spent some time in the early twenties as a Pinkerton detective. The Pinkertons were sent in as strike breakers. When Hammett realized the true nature of his job, he quit. Soon afterward, he started writing his revolutionary Continental Op detective stories.

I had never suspected that all the events described in *Red Harvest* actually happened: the bank robbery, the lynching, the gang killings, the strike. This is one hell of a violent book. It single-handedly started the tradition of the hardboiled detective novel, even film noir. I don't think many novels had so much influence and were so strikingly inventive and boldly new. Briefly, *Red Harvest* is my favorite book in American literature.

I was in San Francisco, preparing a film called *Hammett* for American Zoetrope, and I drove to Butte to check it out. It completely blew my mind! I had never seen any place like it: mineshafts; derricks; pits; huge brownstone buildings like on Broadway
by Steve Lozar

"A Million Glasses a Day—Someone Must Like It!" announced the Centennial Brewing Company's slogan in 1905. The Centennial was right. Near the turn of the century, it would seem that nearly everyone in Butte liked beer. At the same time the Centennial was selling its million glasses daily, Butte's other four large breweries—the Butte Brewery, the Tivoli Brewery, the Silver Bow Brewery, and the Olympia Brewery—also operated at peak production. For Butte's ethnically diverse citizenry, beer was the democratic "fluid of inspiration."
In the course of its storied history, Butte has been the home to thirty-two breweries, one of the largest of which was the Centennial Brewing Company, above circa 1880 and opposite as it appeared in the late 1880s. By the turn of the century, the brewery produced over 1.3 million gallons of beer each year.

Brewing in Montana started with the discovery of gold in the territory’s creeks and gulches. It has long been accepted that Henry Gilbert and Christian Richter established the first brewery in Montana, the Virginia Brewery; Gilbert started producing beer in Virginia City in 1863. However, beer was likely being made in the territory at an even earlier date. According to an 1886 report, Christian Nissler brewed beer for German Gulch miners as early as 1861. Not long after, a brewer named Wilson set up business on Silver Bow Creek near the future site of Butte City. William Rapp and Christian Kehrer were also soon turning out their own brand of lagered beer there.

With the end of the Civil War, miners flowed into the area around the Big Butte. Many of these miners had grown up in the beer- and hop-producing areas of central and eastern Europe, and they brought with them a love for their familiar lagers, pilsners, bocks, alt-biers, and mead. They also brought the skill to brew it. An influx of Irish immigrants further enhanced the area’s embryonic beer industry. Like the continental Europeans, they brought with them their own brewers and favorite recipes for lagers, porters, stouts, and cream ales. Early Butte-area brewers had names such as Schmidt, Huber, Hogle, Steinbrenner, Kuhworth, Hoppy, Beehrer, Loeber, Horst, Nissler, Petritz, Knoch, Mueller, Bowman, Hughes, Mullins, O’Meara, and Collins.

These brewers built their breweries near readily available water, including Silver Bow Creek and Crystal Springs. Many brewers sunk deep wells on their brewery properties. Lager beer was a staple of these early brewers since it was relatively quick to brew and mature, and it required cold temperatures in its processing. Another favorite was the slow-brewed bock, a dark libation fermented in fall and aged during the colder months. In spring, it was the tonic that signified the end of winter. Brewers from the German village of Einbock had
used the figure of a goat (bock) on their labels. Butte brewers carried on this tradition, often decorating their kegs and bottles with the image of a festive dancing goat. The Centennial, Silver Bow, Crystal, Washington, and Capital breweries all specialized in brewing robust brews.

Butte’s brewers also made sure that their breweries were in close proximity to Butte’s growing ethnic enclaves. Immigrants wanted desperately to become Americans, yet they held fast to their familiar traditions, languages, foods, and religious, political, and fraternal associations. Often a beer drinker’s occupation, socioeconomic status, place of residence, and fraternal organizations could be generally identified just by noticing which brand of beer they hoisted to their lips.

Butte also took great pride in its unionism, and all the breweries were union shops. Eureka and Eagle beer advertised themselves as “Brewed in Butte by Butte labor, in a plant built by Butte people and from materials bought in Butte.”

From Butte’s early years up until Prohibition shut down the city’s breweries, Bavaria-trained brewers made up the bulk of the Butte brewing fraternity. Many of these families initially lived in houses on their brewery properties, often with a livery, barnyard, and warehouse on site. Then, as their breweries grew, so did their economic stature. With their new affluence, they moved into larger residences in the more exclusive areas of town. Many successful brewing families lived in a wealthy section of southwest Butte known as “Little Bavaria.”
Within each ethnic neighborhood, bars featured the beer most popular with the locals. For the Irish neighborhoods of Dublin Gulch, Corktown, and Walkerville that was most likely Dublin Gulch Porter or Eureka Pale from the Butte Brewing Company on the northern edge of the business district.

Leopold Schmidt and partner Raymond Saile founded the Centennial Brewery in 1876. The brewery’s original log building was soon replaced by frame, stone, and brick buildings. Prussian-born Henry Mueller joined the business between 1886 and 1888. By 1899, the brewery covered ten acres and produced over 1.3 million gallons, or forty thousand barrels of beer, each year. It used 5 million pounds of Montana barley and eighty-five thousand pounds of hops, and the annual payroll for its unionized workforce of one hundred people totaled $144,000. The owners claimed it was “the largest brewing plant west of St. Paul and north of Sacramento.” But by the 1910s, there was trouble
Malt room.
Brew kettle.
Fermenting room.

Filling room.

Mash tub.
Cellar, showing chip casks.
Fattening house.

A FEW DEPARTMENTS OF THE BUTTE BREWERY.
February 24, 1900. The enterprise's principal owners were Ernest Huber, Ernst Schmid, and E. G. Schmitt. Tivoli's flagship beer was a lager called Standard Gold, but the brewery also brewed a seasonal bock. This large German-style brewery operated until Prohibition.\textsuperscript{9}

Of course, Butte's German immigrants actively supported their local breweries. These breweries advertised extensively in Butte's three German-language newspapers; their efforts to build brand association even extended to the color of the horse pulling the delivery wagons. If a fellow looked down Park Street at the turn of the century and saw a beer wagon pulled by four or six dapple-gray Percherons, he could be sure the cargo was a fine German-style beer.\textsuperscript{10} The Germans who drank this beer joined social groups such as the Sons of Hermann, Leiderkrans Society, Turnverein associations, and the Ancient Order of Mighty Moguls, and many worshiped at the Lutheran churches of Centerville and west Butte.

Residents of other ethnic neighborhoods quite naturally had their own preferred type of beer. If a fellow lived in Dublin Gulch, Corktown, or up the hill in Walkerville, he most likely drank the beer produced at 220 North Wyoming Street at the Butte

The Ancient Order of Mighty Moguls published its “official ode of the order for the present year” in the May 9, 1896, issue of the Butte Times.

"There's a spot that the Moguls all love; By the beer keg is the place we mean, And the drink that we like to see there, Is the home made Centennial beer.

Chorus—
'Tis the beer, we revere, And we'll drink as we never drank before. Centennial beer, nice and clear, We will stick to that beer evermore.

"Now that beer in its natural state, Is a drink you have all often met, And when drank in the old Mogul style, Is a drink you can never forget.

Chorus—
The German is fond of his craut, The whiskey is loved by the Mick, But the Moguls have long since found out, That through life to this beer they will stick."

Miners filled their growlers, or lunch buckets, with beer on their way home from work at places like the Italian American Club on Main Street.
Brewing Company and delivered in wagons pulled by roan or brown horses. Managers T. J. Nerny and John Harrington made sure their Irish customers had their growlers full of Dublin Gulch Porter or Eureka Pale as they came off shift and headed for home. Or, if an Irish miner was walking down Main Street, he might stop for a stout at Joe Dyers's New York Brewery. Rounds of "Danny Boy" could be sung while enjoying the beer brewed the California Brewery in Walkerville. Walkerville's other brewery, the Vienna Brewery, was famous not only for its keg and bottled beer, but also for "The Czar," the "best 12½ cent cigar in the market." Butte's Irish generally attended Sunday Mass at St. Patrick's, St. Joseph's, or up the hill at St. Lawrence's. Their fraternal organizations included the Knights of Columbus, the Ancient Order of Hibernians, and parish sodalities.¹¹

The Scandinavian population of Butte did not boast any home-land brewers. They did, however, enjoy their beer as much as any ethnic group in the metropolis. The Butte Brewery was the brewery located closest to Finntown and played a prominent role in the Finns', Swedes', and Norwegians' annual festivities, often hosting impromptu lutefisk-eating and beer-drinking competitions as well as street dancing and bare-fist boxing matches.¹² Butte Pilsner was the preferred après-skating drink at Holland Rink. The Helsinki Bar up on
East Broadway was the focal point for many St. Urho’s Day celebrations on March 16.

The Italians in Meaderville were reputed to favor a glass of wine, and while it is true that flavorful Chianti was a dinner table mainstay, Italians also enjoyed their beer. Traveling down Meaderville’s Main Street on the way to Sunday Mass at St. Helena’s, one could not help but notice the Butte Special neon signs adorning the windows of Club 45 and the Rocky Mountain Cafe. The Basin Brewing Company in nearby Basin sold a great deal of its product in Butte. In the early 1900s, especially, Meaderville supported those sales since the brewery’s principal stockholders—Dominic Bertoglio, Antone Donati, Frank Burtori, Celestino Guelfi, Joe Stifani, Salvatore Frugolio, and Ferolido Palzi—were Meaderville businessmen. The Bertoglio family also distributed Missoula’s Highlander beer in Butte. This association lasted from the repeal of Prohibition until that brewery closed in 1964. The large brick Bertoglio warehouse still sports two forty-foot-high Highlander advertisements.

A large number of Slovene, Slovak, Serbian, and Croatian immigrants lived in Butte’s Cen- terville and on the south side of Meaderville. They attended the Holy Savior and Holy Trinity Catholic churches and participated in the St. Phillips and St. Jacob societies. Their preferences in malt beverages ran along the same lines as the Germans. They steadfastly supported the Mueller family at the Centennial Brewery as well the Butte Brewery. In my own Slovenian family home on Cherry Street, it was customary for each place setting at the dinner table to include a bottle of Butte Special. Age was not an issue—each man, woman, and child was expected to say grace, clean their plate, and finish their beer.

Steve Lozar is a professor of anthropology at Salish Kootenai College, a Confederated Salish and Kootenai tribal councilman, and a member of the Montana Historical Society Board of Trustees. He is the great-grandson of Native Americans and Slovenian immigrants and has researched, collected, and written about Montana brewery history for forty years.
Some jobs you never forget. For me, driving a haul truck in the Berkeley Pit was that job. Much has deservedly been written about the miners who toiled underground, their work invisible, dangerous, and somewhat mysterious. Ironically, much less attention has been given to the mining that took place above ground. While our work was observable from many vantage points, it was also fraught with danger and had its own mystique.

By today’s standards, the trucks we operated might be considered small, but they were impressive nonetheless—the off-road “monsters” of their time. When I worked for the Anaconda Company and ARCO between 1971 and 1979, we drove 100- and 170-ton Lectra Haul trucks. The 170-ton trucks measured thirty-nine feet long by twenty-one feet wide (as wide as some double-wide mobile homes) and stood nineteen feet high. They were mounted on six tires, each weighing thirty-two hundred pounds and standing over eight feet high. Drivers got into the cabs by climbing ladders fixed to the front or side of the trucks. The right-side rearview mirror lay at a

At one time the Berkeley Pit was the largest truck-operated copper mine in the U.S. By the time mining operations ended in 1982, haul trucks had removed some 1.5 billion tons of earth from the pit.
The Tragic Montana Career of Dr. D. E. Salmon

by Fredric L. Quivik

When B. B. Thayer, president of the Anaconda Copper Mining Company (ACM), returned to New York City in March 1913 after his annual trip to Montana to inspect the company’s properties, he announced: “In Butte, I found everyone cheerful. The camp is experiencing good times, and it looks much like the old days.” He was impressed with the progress being made at the company’s Butte mines in converting steam-driven hoists to compressed air, and he extolled the efficiencies the company would achieve through new technologies being installed at the giant Washoe smelter at Anaconda. He said nothing, however, about the litigation in which his company was embroiled. The U.S. Supreme Court had announced the previous year that it would consider an appeal brought by farmers in the Deer Lodge Valley who had unsuccessfully sued the ACM, claiming that arsenic in the smelter smoke was injuring and killing their livestock. In a different legal matter, his engineers at the smelter were beginning work with government experts to try to find technical solutions to resolve another complaint, this one brought by the federal government, that smelter smoke was damaging and killing thousands of acres of timberland on the national forest adjacent to the smelter.

In 1902, an increase in smoke from the Washoe smelter owned by the Anaconda Copper Mining Company heralded problems for downwind farmers and ranchers in the Deer Lodge Valley. Montana’s state veterinarian, Morton E. Knowles, attributed the poor health and deaths among livestock to arsenical poisoning from the smelter smoke. Among the maladies farmers reported were sores in the nostrils and mouths of cows and horses (opposite) as well as bad milk, lockjaw, and other problems. For help, the farmers and ranchers turned to Dr. D. E. Salmon, one of the country’s most highly regarded veterinarians.
Unbeknownst to Thayer, one of the ACM’s old antagonists in the farmers’ suit had returned to Butte just the previous month. D. E. Salmon was a veterinarian, the former chief of the U.S. Bureau of Animal Industry (BAI), and the most highly regarded practitioner in his field in 1906 and 1907 when he had testified for the farmers at the trial in Butte. But despite his best efforts and those of the other experts who had testified for the farmers, the judge had ruled against them, and they had subsequently lost their appeal to the Ninth Circuit Court of Appeals. Nor had things gone particularly well in Salmon’s career since 1907. Now, in 1913, Salmon’s return to Montana was occasioned by an opportunity to head the laboratory at a small plant in Whiskey Gulch, just west of Butte, that was beginning to manufacture hog cholera serum. Had Thayer observed him in Butte, Salmon would have seemed to be one of the “cheerful” ones. He was looking forward to a return to the old days, to regaining his high stature in the veterinary profession. Such was not to be the case, however. Salmon died in near obscurity eighteen months later, with the little company he was helping to build on the brink of failure.

A native of New Jersey, Daniel Elmer Salmon was born on July 23, 1856. At age eighteen he enrolled in the very first freshman class at Cornell University, where he completed an undergraduate degree in veterinary science. At the time, the veterinary profession, like its sibling the medical profession, was still ill defined in the U.S., and neither profession had yet been reshaped by nascent scientific theories about causes of health and disease. Since colonial times, individuals in rural areas who called themselves “cow doctors” and the like had enjoyed a kind of professional status, though they learned their craft through apprenticeship or were simply self-taught. They shared the profession with farriers, who could also diagnose and treat some ailments and perform rudimentary surgeries.

Farriers or veterinarians, these professionals reached their diagnoses by testing reflexes and observing hair texture or skin elasticity in sick animals. They listened to organs either by placing an ear against the animal’s body or, after 1816, by using a stethoscope. They had access to an array of tonics, potions, and manipulations with which to treat diseases, but they did not understand how diseases were transmitted. As a result, thousands of animals died every year, costing their owners millions of dollars. Epidemics of such diseases as hog cholera, bovine pleuropneumonia, fowl cholera, and Texas fever swept through rural areas, and equine influenza ravaged cities. More than twelve thousand horses died each year in New York City from colic alone.³

Cornell University, which established one of the nation’s first veterinary schools, opened to students in 1868, just as science was beginning to have a profound impact on American life and to reshape the structure of higher education. The field of veterinary medicine, like medicine in general, was also being influenced by scientific theories and research and by science-based practice. In the 1860s and 1870s, Louis Pasteur, Robert Koch, and others in Europe began to put forward germ theories of disease, which claimed that microorganisms like bacteria could be transmitted from one living being to another and thereby spread disease. These theories remained controversial for several decades as researchers sought, through epidemiological studies and the use of scientific instruments like the microscope, to understand the life cycles of bacteria and to learn how they spread from one organism to another. The germ theory of disease was first successfully applied in the area of public health, in such measures as the filtration of public water supplies and the pasteurization of milk. Likewise, researchers in veterinary science used their new understanding to improve the health of flocks and herds by limiting the transmission of disease. But because infection and contagion were still poorly understood by farmers and ranchers
When Salmon entered the veterinary medicine program at Cornell University, the school did not even own a microscope. It would be a few years before students would enjoy labs completely outfitted for the “new scientific approach” (left).

Cornell University recruited James Law to create its veterinary medicine program in 1868. Law became Salmon’s mentor, guiding him through four years at Cornell followed by six months of clinical studies at Alfort Veterinary School in Paris. When Cornell’s first building dedicated entirely to veterinary medicine (above) opened its doors in 1896, the university named it James Law Hall.

and because earlier programs to halt the spread of diseases had failed, the country’s agriculturalists were reluctant to implement practices suggested by the new scientific theories such as keeping multiple herds of cattle from grazing together or culling diseased animals from herds.4

This was the new world of science-based medicine that Salmon entered at Cornell, that he later helped to introduce and implement at the U.S. Department of Agriculture, and that he and his veterinary opponents brought with them to the pastures of the Deer Lodge Valley and the courtroom in Butte. Salmon’s course of study at Cornell was under the mentorship of James Law, who had been recruited by Cornell’s founding president, Andrew White, to accept the chair in comparative medicine. A native of Scotland, Law had studied veterinary medicine under William Dick at the renowned Edinburgh Veterinary School (often called Dick’s Edinburgh School) and medicine at the University of Edinburgh’s medical school. After additional study at Lyons and Alfort in France, Law returned in 1860 to his alma mater, now called Edinburgh New Veterinary College, to teach veterinary anatomy, physiology, and materia medica. Through colleagues, he learned the new theories of contagious disease and became familiar with scientific instruments such as the stethoscope, microscope, and thermometer, just then being applied to the practice of veterinary medicine. Law and his family arrived at Ithaca, New York, in August 1868, shortly before Salmon began his freshman year.5

When Salmon entered Cornell University, the campus was still being developed and the academic curricula shaped. There was as yet no formal program in veterinary medicine. The university did not own a
He and Theobald Smith isolated different strains of bacteria to identify Salmonella, named in honor of D. E. Salmon.

microscope, so Law allowed students to use his own. It was not until 1871 that a faculty committee decided to establish two veterinary degrees, the bachelor of veterinary sciences (BVS), given for the satisfactory completion of four years of study, and the doctor of veterinary medicine (DVM), given for two additional years of study. Within a few years Law's veterinary education program at Cornell became the dominant model for veterinary schools being developed elsewhere in the U.S. Because of Cornell's limited facilities in the early 1870s, however, Law recommended Salmon spend six months in clinical studies at Alfort Veterinary School in Paris. Following his study there, Salmon returned to Ithaca to become one of the first two individuals to receive Cornell's BVS in 1872.

The young Cornell graduate was about to set off on a career that would, within a dozen years, help to revolutionize the way science was done by the federal government. Before leaving Ithaca, Salmon married Mary Thompson Corning. The couple first moved to Newark, New Jersey, and then in 1875 to Asheville, North Carolina. A year later, after he had completed a doctoral thesis, Cornell awarded Salmon its DVM degree. In 1877, he taught veterinary science at the University of Georgia and, at about the same time, began the study of diseases among farm animals. His projects, funded by both state and federal governments, required fieldwork as well as laboratory analysis, the very kind of scientific work for which Salmon had been trained. In 1883, the commissioner of the U.S. Department of Agriculture (USDA) hired Salmon to organize a veterinary division, and the following year Congress passed the organic act for the Bureau of Animal Industry. Salmon was appointed the first chief of the new bureau.

The Department of Agriculture had been created in 1862, the same year the Homestead Act and the Morrill Act became law. Congress had some sense that both the USDA and the schools supported by land grants under the Morrill Act would apply science to support the nation's farms, but there was little understanding of how that might happen, especially in a country that was just awakening to the scientific revolution. The U.S. possessed little infrastructure in the sciences and relied on Europe for its scientific theories. Likewise, early organizers of the USDA had little idea of what shape scientific work at the department should take or how any science done at the department might be delivered to the benefit of farmers. But after a few halting efforts, they arrived at a new model for a scientific agency: a bureau with its own organic act, with funding for research organized around a set of problems, with outside groups organized to lobby Congress on its behalf, and with regulatory powers aimed at implementing actions developed out of scientific findings. In 1884, the Bureau of Animal Industry was the first scientific agency within the USDA organized under this new model. With its creation, the modern era of American veterinary history was launched.

It was this agency that Salmon was appointed to head, and he gathered around him several young researchers educated in veterinary science. Some of them, including Theobald Smith and Veranus A. Moore, were from Cornell, where they had been educated by James Law. The new bureau established its facilities in the District of Columbia, including a laboratory on the top floor of the USDA headquarters on the National Mall and a veterinary experiment station on the outskirts of the northeast section of the capital. Research also required that BAI scientists spend considerable time doing fieldwork in agricultural regions throughout the country. Salmon and his staff scored several spectacular successes, developing first a scientific understanding of specific diseases in livestock and then implementing strategies to control the diseases. The BAI was credited with saving thousands of animals' lives and with saving the livestock industry millions of dollars. Using methods that later would be employed in the smelter-smoke litigation in Montana, Salmon and his team at the BAI also made important new discoveries of microorganisms. For example, he and Theobald Smith isolated different strains of bacteria to identify the genus that for more than a century now has been known as Salmonella, named in honor of D. E. Salmon.

The BAI did not enjoy unanimous acclaim, however. Frank S. Billings of the University of Nebraska
was one of the agency’s most vocal critics and a particular thorn in Salmon’s side. Although for several years Billings’s diatribes cast doubts on the scientific work of the BAI in the minds of many veterinarians, the criticisms led the BAI to be especially scrupulous in its research, setting a precedent for thoroughness that would characterize the agency’s work in the coming decades. By the early 1890s, Salmon, the BAI, and its research had been vindicated within the scientific community.\footnote{10}

In November 1904, some time after the death of his first wife, Salmon married Agnes Christina Dewhurst. By now, his professional life was well established. Early in 1905, voicing obvious pride in one of its prominent graduates, the Cornell Alumni News wrote, “The foremost of Dr. Law’s students and the man who has achieved the greatest distinction in the field of veterinary science, undoubtedly, is Dr. Daniel Elmer Salmon, chief of the Bureau of Animal Industry.”\footnote{11}

Despite such accolades, Salmon was about to come under fire again, with charges enflamed by the onset of the beef trust and meat inspection controversies that were made sensational by Upton Sinclair’s The Jungle, published as a book in 1906 but serialized in the socialist journal Appeal to Reason beginning in February 1905. Sinclair’s novel described in graphic terms how poorly the USDA was attending to its obligation to inspect the nation’s meat supply. About the time the serialized installments of the novel began to appear, a dismissed federal meat inspector in Chicago wrote the secretary of agriculture, leveling twenty-nine charges against Salmon, who as chief of the BAI supervised the federal meat inspection apparatus. Secretary James A. Wilson investigated the charges and by that summer concluded that most were lodged by a disreputable complainant and pointed to no wrongdoing on Salmon’s part.\footnote{12}

Most charges. But not all. One charge Wilson could not dismiss. Salmon was accused of having a financial interest in the publishing company that supplied the USDA with meat inspection labels. Secretary Wilson ordered the USDA’s solicitor to investigate the charge when it was found that Salmon had previously been in partnership with the owner of the company. At the time the partnership was dissolved in 1901, Salmon had made a loan to the publisher, George E. Howard. When Howard used the profits from a 1902 USDA label-printing contract to repay Salmon’s loan, charges of impropriety arose. Salmon was found innocent of any wrongdoing, however, despite his “unfortunate” prior relationship with the publishing company. Announcing the results of the inquiry, Secretary Wilson wrote, “I am convinced that Dr. Salmon never intended to profit by work done by Mr. Howard for the Department of Agriculture.”\footnote{13}

In light of the other controversies surrounding the USDA and given that the BAI, with fifteen hundred civil servants, was one of the largest agencies in the federal government, President Theodore Roosevelt took a personal interest in the Salmon affair. Responding to the USDA inquiry, he told Wilson he was not satisfied with the initial findings, writing, “It seems to me that even if Dr. Salmon did not intend to profit by his connection with Howard, yet that the connection was improper and that serious difficulty may come to the Department if such connection is allowed to exist and if any man concerned in it goes free from punishment.”\footnote{14} Roosevelt added that perhaps the Department of Justice should evaluate the results of the USDA’s inquiry.\footnote{15}

Despite Wilson’s assurances that Salmon had done nothing wrong, Salmon resigned from government service on September 6, 1905. Newspapers reported that the president had asked for his resignation. This turn of events disturbed Salmon’s colleagues at the BAI and his peers in the veterinary profession, who still held him in the highest regard and believed Roosevelt was using him as a scapegoat for the larger meat inspection scandal.\footnote{15}

Shortly after Salmon resigned, the government of Uruguay contacted Secretary Wilson, asking him to recommend persons who could oversee new
The Washoe smelter at Anaconda is pictured here as it appeared from the Lower Works in 1902. The four large stacks discharged white metallurgical smoke laden with arsenic trioxide, which condensed to a fine powder and then settled on farmers' pastures downwind. The two narrower stacks belched black coal smoke from the smelter's two power plants.

In response to the farmers' complaints, the Anaconda Company remodeled the Washoe smelter in 1903, replacing the four stacks that discharged metallurgical smoke with the giant flue and 300-foot stack atop the hill behind the smelter, seen above. Farmers east and northeast of the smelter (left of the smelter in this view) still complained that arsenic from the smoke was harming their livestock. In 1905, Fred Bliss filed suit against the company on behalf of the Deer Lodge Valley Farmers' Association.
colleges to be established at the National University in Montevideo. Because the foreign trade of Uruguay depended largely on exports of meat, Uruguayan leaders wanted to bring their country’s agricultural professions, including veterinary medicine, up to modern standards. Wilson recommended Salmon as director of the proposed veterinary school. Salmon was interested, despite his concern that he did not speak Spanish, and he decided to apply for the position. He had experience, after all, having established the National Veterinary College in Washington, D.C., in 1892 and chaired its board of trustees. Salmon was awaiting a response from the Uruguayan government late in 1905 when he began to receive inquiries about his availability to investigate conditions in the Deer Lodge Valley out in Montana. Contesting parties anticipated a trial concerning livestock losses allegedly caused by smoke from Anaconda Copper Mining Company smelter. 16

Salmon weighted his options. Uruguay offered him one opportunity to polish his tarnished reputation; the Montana situation offered another. He had been forced to leave government service in a climate of corporate scandal; here was a chance to help farmers who were fighting a giant corporation.

MUCH HAS BEEN written about the history of the ACM and its huge smelter at Anaconda, so only a summary is necessary here. When Butte began to emerge as a major copper-mining center in the 1880s, several new companies built smelters around the city, putting tremendous strain on Butte’s water and timber resources. Thus, Marcus Daly and his San Francisco investors chose to locate their smelter for the Anaconda Mine twenty-six miles to the west of Butte, along Warm Springs Creek at the south end of the Deer Lodge Valley, a site that would afford them ample water and timber. The Anaconda works smelted its first copper ore in 1884. Although much larger than any of the Butte smelters, the Anaconda facility could not keep pace with the production of the company’s mines, so Daly built a second smelter nearby, which began operating in 1889. The two Anaconda smelters had a combined capacity to treat about three thousand tons of copper ore daily. As output of the Butte mines continued to increase, the ACM decided to build yet another smelter to replace the two older ones. The Washoe smelter, located near the other smelters at the south end of the Deer Lodge Valley, began operations in January 1902 with a capacity to treat about five thousand tons per day, significantly greater than the combined capacity of the “Old Works.” 17

Increased capacity also meant greater discharges of smoke. One of the features of the Washoe works was that each of the smelting departments (roasting, reverberatory, blast furnace, and converter) had its own stack, two hundred feet tall, adjacent to the building. Because the purpose of smelting is to separate copper from the other elements present in the ore—and those elements include sulfur and arsenic—smelter smoke leaving these stacks was rich in sulfur dioxide (harmful to vegetation) and arsenic trioxide (harmful to animal life). The latter is gaseous at high temperatures, but it condenses to a fine powder as it cools and settles to the ground. 18

Shortly after the Washoe smelter opened, downwind farmers and ranchers reported dead livestock as well as signs of injury and poor health in other animals: bad milk killed calves, cows developed sores on their mouths and horses sores in their nostrils, horses died of lockjaw, and chickens did not lay eggs. The Callan brothers were the first to ask Dr. Morton E. Knowles, state veterinarian of Montana, to inspect their dead cattle and horses, believing that their stock had succumbed to an infectious disease. Knowles visited not only the Callan brothers’ operation but many other farms and ranches in the valley and concluded that the livestock were not dying from a pathogen but from arsenical poisoning. In August, Knowles condemned the milk being produced by cows at dairies in the valley’s Mill Creek area, citing the arsenic content. Property owners now sent numerous complaints to the ACM, claiming that smoke from the smelter was damaging their livestock. 19

The ACM responded by paying farmers a total of three hundred thousand dollars in damage claims for lost livestock and by closing the smelter to redesign it and eliminate the problem. The company chose a solution that was quite well known in the industry, using a flue system to cool and slow the velocity of the flue gases so that the arsenic trioxide could
condense and settle out of the smoke stream within the flue itself. To implement the solution, each of the smelting departments was connected by a system of flues to a single giant flue running up the hill south of the smelter. The giant conduit was to allow flue dust, including arsenic, to settle out and to convey the remaining gases to a new three-hundred-foot-tall stack that would carry the smoke to the upper atmosphere, where it was supposed to be diluted to harmless levels. The ACM boldly announced it had conscientiously responded to the harm done to livestock and had implemented a state-of-the-art solution to prevent future damage. The company also boasted of the commercial advantages it would obtain by capturing the flue dust so that it could be resmelted. Many farmers, however, did not believe that the flue and stack had solved the problem, and they continued to complain of ailing and dying livestock.20

In 1905, Fred Bliss, an Idaho resident who owned a farm in the Deer Lodge Valley, filed suit in federal court on behalf of the Deer Lodge Valley Farmers' Association—which had been formed that year—asking for an injunction to close the Washoe smelter if the ACM did not cease discharging harmful gases across the valley. Judge William H. Hunt presided over the ensuing four-year trial. The proceedings entailed a total of 337 witnesses testifying at the federal courthouse in Butte over the course of fourteen months. Their testimony filled twenty-five thousand pages of transcript. It was said at the time to have been the longest and costliest injunction suit ever brought before an equity court in the United States.21

In preparation for the Bliss vs. Anaconda Copper Mining Company trial, both sides assembled teams of experts, including veterinary scientists, to conduct fieldwork and prepare testimony concerning conditions in the valley. Smelter superintendent E. P. Mathewson, a Canadian, turned to his hometown of Montreal in recruiting a prominent Canadian veterinarian to assemble the ACM's team of veterinary experts. Duncan McEachran was a native of Scotland and, like James Law, had studied veterinary medicine at Dick's Edinburgh School, graduating with Law in 1861. Emigrating to Canada in 1862, he joined with another of their classmates to found the Ontario Veterinary College. In 1866, he established a veterinary practice in Montreal and started the Montreal Veterinary College, which by the end of the 1870s was considered one of the top schools of pathology in North America. When McGill University absorbed McEachan's college in 1890 as McGill's Faculty of Comparative Medicine, McEachran became the dean of the faculty. He also served as Canada's chief veterinary inspector from 1876 until 1903, when he retired not only from that position but from the McGill faculty as well.22

Mathewson first asked McEachran to visit the Deer Lodge Valley early in the summer of 1905. McEachran visited farms, talked with farmers and ranchers, and began assessing reports of the symptoms their dead livestock had exhibited. Concluding that the reports were not credible, he decided to help Mathewson and the ACM. McEachran brought in a team of veterinary experts to investigate livestock conditions in the valley, to conduct postmortems on
unhealthy animals that were slaughtered for examination, and to prepare testimony for the trial. Because he had been steeped in the methods of veterinary science at Dick’s Veterinary College, McEachran looked for experts schooled in that same tradition and in the U.S. that meant specialists trained by James Law at Cornell. Among the prominent veterinary experts McEachran enlisted were two Cornell graduates who had worked with Salmon at the Bureau of Animal Industry, Theobald Smith, who was teaching at Harvard, and Veranus A. Moore, now teaching at Cornell. Another was Leonard Pearson, a prominent Cornell graduate who taught veterinary medicine at the University of Pennsylvania. McEachran also tried to enlist Salmon, but the former BAI chief had already committed to the farmers.

Mathewson had first contacted Salmon while Salmon was negotiating with the government of Uruguay. Salmon told Mathewson that he would not be interested in the Anaconda offer unless Mathewson could assure him that it would last long enough to merit rejecting the Uruguayan offer. Mathewson replied that Salmon’s services would probably not be needed for enough time to justify canceling his South American plans.

State Veterinarian Knowles then sent Salmon a telegram early in 1906 on behalf of the Deer Lodge Valley Farmers’ Association, asking Salmon to spend a month in Montana conducting an investigation. Knowles was well known at the national level, having been special inspector for the BAI, served as president of the American Veterinary Medical Association (AVMA) in 1904–1905, and chaired various AVMA committees. Salmon and Knowles had undoubtedly known each other for years, and Salmon accepted Knowles’s invitation to work for the farmers at a rate of six hundred dollars per month, plus expenses. He arrived in Anaconda on February 10, 1906.

When Salmon arrived in Montana, McEachran, who had earlier invited him to join the ACM team, met with him to express disappointment that he had chosen to work with the farmers. According to Salmon’s testimony at trial, McEachran went on to say that the farmers were strapped for cash, that the ACM planned to prolong the case until the farmers ran out of money, that Salmon would probably not

The company’s experts performed autopsies not only on livestock near Anaconda, but on animals in other parts of Montana in order to compare conditions. The group shown here conducting postmortem no. 191 near Bozeman includes (left to right) an unidentified man, Duncan McEachran, Leonard Pearson, Veranus A. Moore, H. C. Gardiner (the company’s veterinarian), and two other unidentified individuals.
be paid, and that "it would be in every way desirable for me to enter into the service of the defendant companies rather than to continue with the farmers." Shortly thereafter, John W. Dobbins, manager of the Montana Hotel in Anaconda, invited Salmon to go to the theater. While the two men watched a minstrel troupe from Butte perform, Dobbins too tried to convince Salmon to join forces with the ACM, offering as much as ten thousand dollars for Salmon's services. Salmon told Dobbins he would not even consider the offer for anything less than twenty-five thousand, and the ACM eventually gave up.  

Salmon worked tirelessly for the farmers. He spent the month of February 1906 in a preliminary investigation of conditions in the Deer Lodge Valley and then returned to Washington. After the farmers' association asked him to return to Butte and Anaconda for more fieldwork and to testify at trial, Salmon traveled to Montana for an extended stay, arriving in June and staying through the end of testimony in early 1907. Working with other experts for the farmers, he performed sixty autopsies on animals, took notes, analyzed tissue samples, read in the medical literature, and developed opinions for trial. In addition to delivering his own testimony—that arsenical poisoning was the cause of much of the morbidity he had witnessed among livestock in the Deer Lodge Valley—he listened to the testimony of the ACM's experts and helped the farmers' attorneys understand the technical aspects of that testimony. Salmon was feisty throughout. At one point during cross-examination, ACM attorney A. J. Shores asked Salmon if he had learned anything from the ACM's experts, whereupon Salmon replied, "Very little." When Shores asked if that was because of lack of receptivity on Salmon's part, the latter responded, "Well, it is either lack of receptivity or lack of pabulum; I think it is the latter."  

On the other side of the courtroom, however, Theobald Smith, V. A. Moore, Leonard Pearson,
and their colleagues were convinced of the veracity of their own scientific findings—that there was no evidence of arsenical poisoning. They were skeptical not only of Salmon’s findings but of his capabilities as a researcher and of his integrity. Others were skeptical of him too. For example, when Dr. Charles Flocken, another Cornellian working for the BAI, was invited to join the ACM’s team of scientists, he declined, predicting that, interesting as the scientific work for the case might be, the outcome would probably be determined more by the skills of the lawyers than by the scientific facts of the matter. Flocken remained intellectually interested in the case, though, and wrote V. A. Moore several times expressing curiosity about the research. Meanwhile, he had opportunity as a BAI employee to maintain contact with Salmon while the latter was home in Washington between February and June 1906, and he reported to Moore that Salmon was busily working on the case but seemed to have lost some of the research skills he had had in his younger days. Moreover, even in D.C., Salmon did not have access to the extensive laboratory facilities the ACM provided its experts.28

After the experts for both sides had testified, McEachran was even more blunt in his criticism of Salmon. In a January 1907 letter to Moore, he offered two explanations for Salmon’s testimony; either Salmon had been given livestock that had been fed large quantities of arsenic before he examined them, or he was “swearing as he was paid to swear.” McEachran continued, “I feel sorry that any member of a liberal profession would so demean himself—for I cannot believe that he is not departing from the truth.”29

Early in 1909 Judge Hunt issued his ruling in the Bliss case, finding in favor of the Anaconda Company. Despite the certainty of the ACM’s experts, however, Judge Hunt ruled that there did appear to be arsenical poisoning in the Deer Lodge Valley. Nevertheless, he held in favor of the ACM because of what he considered the more important argument: the economic damage done to the Butte and Anaconda areas if the smelter were to close would be greater than the damage that the smelter smoke might be causing the farmers. The Anaconda
Company’s two-pronged strategy had introduced that very argument, along with the testimony of scientific experts. Such a “balancing” of one set of damages against another was not uncommon in judicial practice at the turn of the twentieth century.30

The farmers appealed the verdict, but the Ninth Circuit upheld Judge Hunt’s ruling. After initially agreeing to take the case, the U.S. Supreme Court in 1914 refused on a technicality to hear a further appeal. Meanwhile, having served the losing side in the Bliss case, Salmon departed for Uruguay in March 1907. The school Salmon established there was to equip Uruguayans for work in veterinary medicine and meat inspection that met emerging international standards. In addition to developing the curriculum, Salmon supervised the design and construction of a new campus on the edge of Montevideo. He fulfilled a five-year contract for the work in Uruguay, but when he returned to the U.S. in April 1912, he was described by one veterinarian as “a wreck of his former self.”31

During the time he was out of the country, Salmon prepared an impressive series of articles on the smelter-smoke case for publication in the American Veterinary Review. Featuring nine lengthy installments from April 1911 through July 1912, the series presented extensive details of Salmon’s fieldwork and findings in preparation for testifying. He named the contributions he believed the investigations had made to veterinary science, such as an appreciation of chronic as opposed to acute poisoning. Addressing the conflicting testimony in the Bliss case, which he feared could cause public cynicism about science, Salmon suggested an alternative to the advocate system, in which experts working for competing sides would work together to resolve their differences before trial and thereby better develop opinions to help the court reach a legal conclusion. After taking pains to present the evidence of arsenical poisoning in the Deer Lodge Valley, Salmon summarized the ruling of Judge Hunt in the final installment of the series, noting that the ruling was based on the anticipated economic impact of closing the smelter and not on whether the smelter smoke was actually killing livestock. He concluded the series by writing, “And thus ended what was, perhaps, the greatest contest in veterinary toxicology that has ever been heard, and the farmers lost their case, but not because of failure to prove the fact of poisoning.”32

Nearly all of the articles written by participants in the Bliss case and published in scientific journals reached the conclusion that livestock had suffered from arsenical poisoning and that the source of the arsenic was smelter smoke. Representing the opposing view, V. A. Moore had received permission from the ACM legal department to present his findings orally to the New York City Veterinary Society in April 1907, but the ACM asked him not to put anything in print until the litigation had ended. After Judge Hunt’s ruling in 1909, Moore was especially anxious to publish his findings in order to counter the judge’s claim that the smelter smoke had indeed injured livestock in the Deer Lodge Valley. And after the farmers lost their appeal, he again sought permission from the ACM to publish his conclusions, but the company still declined to authorize him to do so because by then the federal government had filed suit against the ACM, claiming that smelter smoke was damaging trees and other resources on national forest lands adjacent to the Anaconda smelter.33

Despite the high regard that Salmon enjoyed from his peers, and despite the impressive series of articles he published in the American Veterinary Review, he apparently had no success in finding employment when he got back to Washington, D.C., from Uruguay in 1912. In February 1913, he returned to Butte as laboratory director for the Highland Serum Company, which was beginning to produce antiserum against hog cholera. Owned by the Henningsen family, the Highland Serum Company had
After his stint in Montana, Salmon took a position in Uruguay helping that country establish a new veterinary school, but when he returned the U.S. in 1912, he was unable to find work. In 1913, Salmon took a job in Butte as laboratory director for the Highland Serum Company, which produced antiserum to prevent hog cholera. Owned by the Henningsen family, the company had its office in the Henningsen Produce Company building, above, and a manufacturing plant in Whiskey Gulch west of town.

its office in the Henningsen Produce Company building at 750 South Wyoming in Butte and its serum manufacturing plant at the Henningsen hog farm in Whiskey Gulch, a half-mile west of the Montana School of Mines (now Montana Tech).\(^\text{34}\)

Shortly before Salmon’s resignation from the Bureau of Animal Industry in 1905, BAI scientists had isolated the virus that causes hog cholera. It had been one of the bureau’s stunning scientific successes under Salmon’s leadership. Hog cholera, which causes fever, diarrhea, hemorrhaging of internal organs, internal infection, and death, was first recognized in the U.S. in 1833. Subsequent epidemics of the disease sometimes killed as many as half the hogs in states where it struck. Upon discovering the virus, BAI scientists quickly developed a patented method of producing serum in 1906. But instead of producing the serum itself and taking charge of its administration, the BAI put the patent in the public domain, expecting that large hog producers throughout the country would produce the serum, immunize their own herds, and sell the serum to smaller farmers.

With its manufacture and administration so poorly regulated, however, much of the serum produced was useless, many hogs were improperly vaccinated, and epidemics of hog cholera continued to sweep the land. Congress responded in 1913 by passing the Virus, Serum, and Toxin Act, which established regulations for the sale and use of serum. At the same time, the State of Montana, through the Live Stock Sanitary Board and the state veterinarian’s office, implemented its own regulations, requiring that all hogs brought into the state be certified free of the disease and that only veterinarians or farmers with a valid permit administer the serum. The state did not, however, regulate production, requiring only that the manufacture of the serum be approved by the BAI.\(^\text{35}\)

Getting the necessary permits from the USDA under the Virus, Serum, and Toxin Act was not easy, and Salmon had to suffer several letters from former employees, including Alonzo D. Melvin, the man who had succeeded him as chief of the BAI, claiming that there were various deficiencies in the Highland Serum Company’s application. Moreover, the plant
in Whiskey Gulch had to be inspected by the BAI. Following an inspector’s visit in autumn 1913, Melvin informed Salmon that several physical features of the Highland facility did not meet BAI requirements. Salmon had those changes made, but after an inspector made a second visit in the summer of 1914, the meticulous Melvin notified Salmon in an itemized letter that the plant was still deficient.36

Lack of a BAI license notwithstanding, W. J. Butler, the state veterinarian, forwarded requests for serum to the Highland Serum Company, apparently the only serum producer in the state. In September 1913, Salmon thanked Butler for sending business his way but reported that his company could barely produce enough serum to vaccinate the stock of the Henningsen Hog Ranch. Highland worked to expand its capacity, and in May 1914 Salmon notified Butler that his company had a supply of tested serum and was ready to receive requests. He said nothing of the lack of a valid BAI permit for his serum operation.37

In late August, before he could get a BAI license for the Highland Serum Company, the sixty-four-year-old D. E. Salmon fell ill with pneumonia. His wife, who was still living in Washington, D.C., was notified of his grave condition. After several day’s travel by train, Agnes Salmon arrived in Butte on September 2, 1914, only to learn that her husband had died three days earlier. The next day, she left Butte with the body on a Milwaukee Road train, returning to Washington to bury her husband.38

Four days after Salmon’s death, the BAI sent Highland a terse letter. Someone at the plant had evidently complained that the bureau was discriminating against the Butte company, but John Mohler of the BAI assured the company that nothing was being asked of it that was not being required of other applicants.

In 1905, Bureau of Animal Industry scientists had isolated the hog cholera virus—one of the bureau’s notable successes under Salmon’s leadership. To make the antiserum used to protect hogs from the disease, a laboratory technician would draw blood from a hyperimmune hog using the tail-bleeding technique, shown in this photo. The blood would then be treated in the laboratory before being administered as a serum to susceptible hogs. Correspondence indicates that the Highland Serum Company used tail bleeding at its lab in Whiskey Gulch.
Highland also asked the BAI to recommend someone to replace Salmon, but Melvin declined to do so. Later in September, Highland treasurer R. A. McArthur visited the BAI in Washington, seeking written documentation of the BAI’s requirements. By October, officials at Highland claimed to have made the changes in the plant required by the BAI, but they did not ask for an inspection. In November 1914, Montana’s veterinary surgeon notified the Highland Serum Company that it was selling hog cholera serum in violation of Montana law, and the company faded into oblivion.39

Upon Salmon’s death, his colleagues in the veterinary profession were effusive in their praise. Even V. A. Moore, who had sat across the courtroom from Salmon at the smelter-smoke case and had differed strenuously with him over the cause of animal deaths in the Deer Lodge Valley, was pleased to write a notice about Salmon for the Cornell Veterinarian. Yet colleagues remained bitter over Salmon’s dismissal from the Bureau of Animal Industry. Delivering a memorial address at a meeting of the Philadelphia branch of the American Veterinary Medical Association, W. Horace Hoskins proclaimed, “It was [Salmon’s] lot to taste of the bitterness of a nation’s ruler’s ingratitude. Time cannot efface nor memory obliterate the cruel, unjust and ungrateful treatment meted out to this great public servant.” Twenty years later, another colleague would write of Salmon’s role in the meat inspection scandal of 1905: “To satisfy the clamor, someone had to be thrown to the lions, and Doctor Salmon, being the head of the meat inspection service, was selected for the sacrifice.” But Salmon’s peers did more than dwell on what they considered the injustice done his career in public service. The year after Salmon’s death, the AVMA established the Salmon Memorial Fund to sponsor fellowships for veterinary study, hoping that the fund would “keep his memory green in the minds of the present and future profession and . . . stimulate every young man to emulate his example of devoted, unselfish work for his profession.”40

Daniel E. Salmon is prominent in the history of America’s veterinary profession. He is widely credited with building the U.S. Bureau of Animal Industry into one of the federal government’s most important scientific agencies, and historians often recite his contributions to fighting many of the diseases that plagued the nation’s livestock industry. There is no doubt that the manner of Salmon’s resignation from the BAI tarnished his otherwise illustrious career in science and that his experiences in Montana brought mixed reviews. First, he engaged in a monumental courtroom battle, resisted pressure from his peers to join forces with a giant corporation, and worked tirelessly for the farmers in a losing cause—although he ultimately won the contest in the scientific literature. Then he spent a brief period laboring in obscurity in a small laboratory located in Whiskey Gulch. Salmon’s life ended in seeming frustration, yet his work in the smelter-smoke litigation contributed significantly to the scientific understanding of the impacts of industrial pollution on the living environment. The farmers’ suit, in which Salmon would play so central a role, demonstrated that when consensus about scientific conclusions has not yet been reached (and sometimes even after such consensus has been reached), society and its institutions, such as the courts, may base decisions on other criteria.

A former resident of Butte, Fredric L. Quivik now lives in Philadelphia, Pennsylvania, where he works as a consulting historian of technology. In Montana, he has worked as an expert witness for the U.S. Department of Justice in the Clark Fork and the Libby Superfund cases. Research for this article grew out of his work in the Clark Fork case.
The Nez Perces in Yellowstone in 1877

by Lee Whittlesey

In 1877, seven hundred Nez Perce men, women, and children left their homeland in Oregon’s Wallowa Valley and eluded the U.S. Army for over three months as they traveled first over the Bitterroot Mountains into Montana and then by a circuitous route toward Canada; they were within fifty miles of the border when defeated by the army at the Battle of Bear Paw Mountain. Although the particulars of most of the 1,200-mile journey are well known, the understanding about the Nez Perces’ route through Yellowstone National Park continues to be fraught with misconceptions and uncertainties.1 When dealing with the Yellowstone portion of the trip, journalists and academic historians have generally failed to do the necessary on-the-ground work and have simply repeated the assumptions and errors of previous writers.

The mystery of the route through Yellowstone immediately presents three questions: First, how did the Nez Perces get from Pelican Creek to the Lamar River? Second, how did they get from the Lamar River to the Absaroka divide? And finally, which east-flowing stream did they travel down to reach the south fork of Grindall Creek and ultimately the Clark’s Fork of the Yellowstone River? Complicating these questions is the likelihood that the Indians probably used several routes. They seem to have split up at times to reduce their impact on wood and grass, to make the army’s pursuit more difficult, and possibly to insure the survival of some Indians if others were caught. That said, it seems likely that there was one largest party. So, which way did that party go? What about other parties?


7. The Buechel collection contains a target, but the heart is not visible.


9. In addition to the Buechel museum, a number of other institutions house collections of Lakota gaming equipment: the W.H. Over Museum in Vermillion, South Dakota; the Journey Museum, in Rapid City, South Dakota; the State Historical Society of North Dakota in Bismarck; the American Museum of Natural History in New York City; and University of Pennsylvania Museum of Archaeology and Anthropology, in Philadelphia.


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The Tragic Montana Career of Dr. D. E. Salmon


2. J. F. Smithcors, *The Veterinarian in America*, 1625–1975 (Goleta, Calif., 1975), 22–23, 121–22; Robert H. Dunlop and David J. Williams, *Veterinary Medicine: An Illustrated History* (New York, 1996), 459–77, 643, 650. The first private veterinary school in the U.S.—the Veterinary College of Philadelphia—was not established until 1852. The Civil War created a tremendous demand for farriers, called veterinary sergeants by the U.S. Cavalry; to keep tens of thousands of horses in service. The veterinary sergeants established horse hospitals during the war but were able to return to service less than a third of the horses they treated.


6. Leonard, *Cornell Heritage*, 40–47, 80; biographical sketch of Daniel Elmer Salmon in BAI Records; Susan D. Jones,
Gwendolen Haste


2. A leading proponents of dryland farming and the organizer of the Dry Farming Congress in 1907, Hardy Webster Campbell founded Campbell's Scientific Farmer in 1908. The magazine achieved a circulation of 30,000 before moving to Billings in 1914. By 1922, however, editor Richard Haste vehemently wrote that the magazine had no association with Campbell or his ideas. "Believing that the advice which Mr. Campbell is giving to the farmers of this state, if followed, will result in great harm," Haste wrote, "we wish to state that the Scientific Farmer is in no way responsible for and does not endorse this campaign [Campbell had been hired by the Montana Development Association to conduct a summer fallow campaign in the state], nor the vagaries put forth by Mr. Campbell under the name of scientific soil tillage." The farmers of Montana, Haste continued, "are not in a position to experiment and I would advise them to take any specific advice with a large pinch of caution."

The Campbell name was not taken off the magazine's nameplate until January 1923. Gary D. Libecap, "Learning about the Weather: Dryfarming and Homestead Failure in Eastern Montana, 1900–1925," Montana The Magazine of Western History, 52 (Spring 2002), 26; Mary M. Hargraves, "Hardy Webster Campbell (1850–1937)," Agricultural History, 32 (January 1958), 64; R. A. Haste, "Does Not Represent the Campbell System," Campbell's Scientific Farmer, 15 (March 1922), 77.

3. According to Moss's vision, once Mossmain was up and running, it would be joined by "villages" called Fontana and Gardenvale. Beyond building a small post office on the property, however, the Mossmain project never took off and a good many people lost what they had invested.

4. Haste, "Pattern of Time," 49. As the Hastes' only child, Gwenna remained very close to her parents until their deaths, and it was not until the family left Billings that she completely "struck out on her own." She also had experienced some periods of illness throughout her early years, which may have accounted for her remaining a member of the parental household for as long as she did. Or she may just have enjoyed the whirlwind of activity in a family always on the move.

5. According to the U.S. Bureau of the Census, Montana's population boomed from 376,053 in 1910 to 548,889 in 1920.

7. Ibid., 52.
8. When P. B. Moss had a post office built at the Mossmain site, poor Cora was directed to live in the building. She told Gwenna that it scared her to death to be all alone out there at night, but it would have meant losing her job had she refused.

10. Ibid., 76.
12. Ibid., 55.
13. Ibid., 56.
15. Ibid.
16. Ibid., 79.

18. Ibid.
19. Ibid.

20. In reference to her illness, in "Pattern of Time" Gwenna mentions needing a great deal of rest and of suffering from "nerves," but the exact nature of her illness is not clear.
22. Haste, "Pattern of Time," 57. She continued to be a rather private person until the end of her life. When Orvis Burmaster, the co-editor of Ahsahta Press at Boise State University in Idaho, contacted her about printing a collection of her work (The Selected Poems of Gwendolen Haste, 1976), she was delighted—but despite Burmaster being "almost rudely persistent" in asking for access to her papers (his words in an August 20, 1989, letter to me), she never did "rise to [his] pleas."

When Does a Cactus Become an Angry Buffalo?
The different recorders of the Lakota games used variants in terms and spellings. This article uses the terms and spellings as recorded by Father Buechel, who himself used variants.

Valuing Animals: Veterinarians and Their Patients in Modern America (Baltimore, 2003), 29.


12. James Harvey Young, Pure Food: Securing the Federal Food and Drugs Act of 1906 (Princeton, N.J., 1989), 221–35; J. C. Milnes to James Wilson, July 10 and August 7, 1905, box 36, entry 8, Letters Received 1893–1906, Records of the Secretary of Agriculture (hereafter SecAg), Group 16, NA; James Wilson to President Theodore Roosevelt, August 11, 1905, box 29, ibid.


15. New York Times, September 7, 1905, p. 4; "Retirement of Dr. Salmon," American Veterinary Review, 29 (October 1905), 674–75; A. M. Farrington to V. A. Moore, January 2, 1906, Veranus A. Moore Collection (hereafter Moore Collection), no. 21/119, Rare and Manuscript Collections, Carl A. Kroch Library (hereafter Kroch Library), Cornell University, Ithaca, N.Y. (hereafter Cornell). When Roosevelt learned of the resignation, he wrote Wilson that Salmon had been wise to resign, saying there was no longer any need to send the papers to the Justice Department. Roosevelt to James Wilson, September 8, 1905, reel 339, TR Papers, LC.


19. Butte (Mont.) Miner, August 5, 1902, p. 11; Engineering and Mining Journal, 74 (November 1, 1902), 598; Morton E. Knowles, affidavit dated May 1, 1905, box 1, Fred J. Bliss v. The Washoe Copper Company and the Anaconda Copper Mining Company, civil case no. 280, U.S. Circuit Court, District of Montana, Butte, Montana, Record Group 21, National Archives, Seattle, Washington; Morton E. Knowles, testimony at trial, Bliss v. The Washoe Copper Company, vol. 6, 2101–103.

20. Engineering and Mining Journal, 75 (March 14, 1903), 424; (April 25, 1903), 647; (June 13, 1903), 991; (July 4, 1903), 26; (July 11, 1903), 67; (December 24, 1903), 962–65; (February 11, 1904), 257; (June 30, 1904), 1055; (August 19, 1905), 326; (April 13, 1907), 706; (May 23, 1907), 1014; Charles Palmer, "The Casual Observer at Anaconda," ibid., 78 (September 22, 1904), 472–74; Gordon Morris Bakken, "Was There Arsenic in the Air? Anaconda versus the Farmers of Deer Lodge Valley," Montana The Magazine of Western History, 41 (Summer 1991), 30–41.


22. Dunlop and Williams, Veterinary Medicine, 348–49, 550; McNab McEachran, testimony at trial, Bliss v. The Washoe Copper Company, vol. 45, 17717–19.

23. Bakken, "Was There Arsenic?" 38, 40; McNab McEachran to V. A. Moore, January 2, 1906, Moore Collection, Cornell; McEachran testimony in Bliss v. The Washoe Copper Company, vol. 45, 17725–27.


27. Salmon, "Notes on Arsenical Poisoning and Record of Deer Lodge Valley Work, Feb.–June, 1906," unpublished, bound notebook of field notes, Kroch Library, Cornell University; Salmon testimony in Bliss v. The Washoe Copper Company, vol. 50, 19878–81; vol. 51, 20064–67; Bakken, "Was There Arsenic?" 41; Salmon testimony in Bliss v. The Washoe Copper Company,
vol. 51, 20073. One of the definitions for "pabulum" given in Webster's Third New International Dictionary is "source material for a discussion or document."

28. V. A. Moore to H. C. Gardiner, January 20, 1906, Moore Collection, Cornell; Charles Flocken to V. A. Moore, April 14, 1906, ibid. It is difficult to assess whether Salmon's research skills had faded, but documents support Flocken's assertion that the ACM was able to provide much better support to its experts than the farmers could provide theirs.

Salmon's field notes (see note 27) are all handwritten. On the other hand, V. A. Moore's papers include typed reports on each postmortem that he and his colleagues conducted for the ACM, and each autopsy report exhibits considerably more points of analysis than do those recorded in Salmon's field notes.


31. Bakken, "Was There Arsenic?" 41; MacMillan, Smoke Wars, 123; Goding, "Uruguay Veterinary College," 411-12; D. E. Salmon to Charles L. Cran dall, June 1, 1912, deeded accounts file, Kroch Library, Cornell University. The quote is from Merillatt and Campbell, Veterinary Military History, 229.

32. D. E. Salmon, "Arsenical Poisoning," American Veterinary Review, 39 (April 1911), 14-22; (June 1911), 245-60; (August 1911), 517-38; 40 (November 1911), 164-78; (February 1912), 579-90; (March 1912), 739-47; 41 (May 1912), 164-71; (June 1912), 300-308; (July 1912), 395-421. Salmon's conclusion is found on page 421 in the July 1912 issue.


34. Helen Fitzgerald Sanders, A History of Montana (Chicago, 1913), 1470; Butte City Directory (Helena, Mont., 1914), listings for Henningens Produce Company, Henningens Hog Ranch, Highland Serum Company, and David [sic] E. Salmon; D. E. Salmon to W. J. Butler, September 19, 1913, file box 2, general correspondence, Montana Live Stock Sanitary Board Records, Record Series 61 (hereafter RS 61), MHS.

35. Stalheim, Winning of Animal Health, 3, 70-73, 85; Report of the Montana Live Stock Sanitary Board and State Veterinary Surgeon for Years 1913-1914 (Helena, Mont., 1914), pp. 18, 29, copy in MHS; State Veterinary Surgeon to D. E. Salmon, November 6, 1913, file 38, box 2, RS 61, MHS.


37. D. E. Salmon to W. J. Butler, September 19, 1913, and May 12, 1914, file 38, box 2, RS 61, MHS; State Veterinary Surgeon to D. E. Salmon, September 19 and 20, 1913, ibid. This file contains other letters from hog farmers to Butler requesting serum as well as Butler's responses referring them to Highland Serum Company.

38. Butte (Mont.) Daily Post, September 2, 1914, p. 2; A. D. Knowles to W. J. Butler, September 3, 1914, file 19, box 1, RS 61, MHS; Stalheim, "Daniel Elmer Salmon," 36.

39. John R. Mohler to Highland Serum Company, September 4, 1914, vol. 6, box 3, entry 2, BAI Records, NA; M. Dorset to Highland Serum Company, September 17, 1914, ibid.; James A. Emery to Highland Serum Company, October 28, 1914, vol. 7, box 4, ibid.; W. J. Butler to Highland Serum Company, November 21, 1914, file 38, box 2, RS 61, MHS. There is no correspondence with the Highland Serum Company after 1914 in the records of either the BAI or of the Montana Live Stock Sanitary Board. The Butte city directory continued to list the Highland Serum Company in 1915 and 1916 but with diminished information.


The Nez Perces in Yellowstone in 1877

1. For example, secondary accounts by Merrill Beall, Alvin Josephy, O.O. Howard, Cheryl Willfong, Frances Haines, Hiram Chittenden, and Helen Howard do not postulate a Yellowstone route while accounts by Audrey Haines, Francis Haines, Mark Brown, Chester Fee, L. V. McWhorter, Merrill Beall, David Lavender, and Bruce Hampton give only a sketchy Yellowstone route.

2. P. W. Norris, Annual Report of the Superintendent of the Yellowstone National Park to the Secretary of the Interior for the Year 1880 (Washington, D.C., 1881), 33. 7. Chester Anders Fee wrote an early secondary account full of alleged direct quotations from participants—the kind that make historians suspicious. Fee pointed to Miller Creek as the likely route for the Indians' trek up to the Absarokas. In 1949, Merrill Beall noted in The Story of Man in Yellowstone that the Nez Perces traveled up Pelican Creek straight to the mouth of Miller Creek and then up Miller Creek. L. V. McWhorter showed the Indians' route as up Pelican Creek, down Lamar River, and up Cache Creek. Finally, Mark Brown gave the most specific route information of the older writers in The Flight of the Nez Perce. He delineated the route as up Pelican Creek, over Mist Creek Pass and down Mist Creek, down the Lamar River to Cache Creek, up the bend between Cache and Calfe creeks to near Canoe Lake, and then down Timber Creek. Chester Anders Fee, Chief Joseph: The Biography of a Great Indian (New York, 1936), 225; Merrill D. Beall, The Story of Man in Yellowstone (Yellowstone National Park, Wyo., 1960), 179; L. V. McWhorter, Hear Me My Chiefs: Nez Perce History and Legend (Caldwell, Idaho, 1952), map opp. p. 437; Mark Brown, The Flight of the Nez Perce (Lincoln, Neb., 1967), 338-39, 322-23.

The Berkeley Pit is the part of the legacy of a century of Butte mining. Today, over 30 billion gallons of acidic (pH 2.5), heavy-metal-contaminated water fill the mile-wide crater; the water level continues to rise as groundwater seeps into this lake. At the present rate, pit water will begin leaching into Butte’s aquifer and Silver Bow Creek, one of the headwaters of the Clark Fork River and the Columbia River system, in 2020. As scientists and engineers plan remediation strategies, they have carefully defined the inorganic chemistry of the pit water. However, they paid little attention to the biological aspects of this bleak ecosystem because it was considered too toxic to support life.

In 1995, my husband, Don Stierle, and I decided to find out if there was anything living in the pit. We started looking at the water in hopes of finding microbes that could produce new compounds with drug potential. We thought that the hostile environment might select for new species that produced novel chemistry. The organisms themselves might also be effective bioremediators of the wastewater by reducing its acidity, providing nutrients for other organisms, or absorbing metal contaminants.

To find new bioactive compounds, Don and I and our team of undergraduate researchers first isolated microbes from water and sediment samples and established them in pure cultures. Using different organic solvents, we extracted the microbial cultures to determine the activity of the compounds the microbes produced. These extracts were then tested to determine if they had potential as antibacterial, anti-fungal, anticancer, or immune-system modulating agents. The tests guided how we then isolated the pure active compounds from the extracts.

So far we have isolated and studied more than fifty culturable bacteria and fungi from the Berkeley Pit. These microbes can be divided into two major groups: extremophiles that are metabolically active in the water—the thrivers, which probably benefit from the lack of competition in their habitat—and those that merely survive in this toxic environment, probably as resting spores. We’ve already isolated several new secondary metabolites from these microorganisms, including a migraine preventative and compounds with promising anticancer potential. We also found an intriguing fungus that appears to pull metals from the water.

Research into useful microorganisms is also going on in other parts of the greater Butte mining district. Grant Mitman and his students are studying microbes from the Badger Mine site. In cooperation with the Murdock Charitable Trust’s Partners in Science Program Butte High School biology teacher Bill Callaghan and his students are studying microbes in Silver Bow Creek. Microbes could be some of the richest “ore” ever mined from the “Richest Hill on Earth.”

Andrea Stierle is a research professor in chemistry at Montana Tech in Butte. She and her husband Don have looked for anti-AIDS compounds in Bermudian sponge bacteria, anticancer agents in the bark of redwood trees, and in 1993 found a fungal source for taxol, an important anticancer compound.
Montana Traveler
by KRIS KING

Our Lady of the Rockies

On the Continental Divide, thirty-five hundred feet above Butte, Our Lady of the Rockies stands with open arms and Mona Lisa smile. For those living in the valley below, the statue is a symbol of faith and a repository of hopes for a new prosperity for the community.

The idea of building Our Lady began with Bob O'Bill. In 1979, O'Bill prayed that if his wife recovered from a serious illness, he would erect a statue of the Virgin Mary in gratitude. When his wife did recover, he began talking about his plan to friends. The idea triggered a landslide of support. O'Bill's original plan for a six-foot statue quickly escalated to one ninety feet tall. It would be built as a nondenominational memorial dedicated to mothers and accessible to everyone.

Community solidarity was already strong in Butte, but the closure of the mines in 1983 drew people closer still. The statue would not have happened without the hard work of highly skilled people, many recently un-
employed. Donors contributed everything: the massive amounts of iron and steel used to construct the 80-ton sculpture, scaffolding, and decks; fuel and equipment to build the access road; food and drink for workers; and even the hundred-dollar-a-gallon white paint that coats the statue.

Joe Roberts, owner of Roberts Rocky Mountain Equipment Company, became a key promoter, raising funds, recruiting volunteers, and offering his work yard, equipment, and staff. He and Bob Koprivica each contributed a thousand dollars to establish a building fund, which soon swelled with donations. The Osselio family gave the land where the statue would be erected. Frank Gardner worked to secure the donation of mining equipment to build the road and materials for the statue from the Anaconda Company. Mike Cerise, Al Beavis, Bob O’Conner, Bill Barth, Earl Casagrande, Bill Dorr, Joe McCarthy, and Billy Fisher, among many others, worked tirelessly preparing the access road and the site. “That’s what impressed me the most,” said sculptor Leroy Lee. “The guys working night after night, weekends, and vacations, on the road—sometimes going only ten feet a day—not knowing if there’d ever be a statue.”

When the original design and construction plan fell through, Roberts discussed project logistics with Lee, one of his welders. Both were drawn to a small Our Lady of Guadalupe statue with open arms that O’Bill had left at the office. Roberts asked Lee, who had never sculpted before, if he could build a ninety-foot version, and Lee surprised himself by saying yes. He calculated proportions, designed a construction grid, trained welding assistants, and began the four-year job of building the monument one section at a time.

The builders solved numerous technical problems: they installed vents in the robe to keep the statue from being blown over, covered visible welds with car-body filler, managed to squeeze the statue’s Quonset-hut-sized shoulders out of the shop, and redid the nose when “it looked like Porky Pig.” As workers completed each piece, they moved it into Roberts’s yard so the public could see the progress. Lee gave credit for the statue’s progress to prayer, miracles performed by Our Lady, and the people of Butte: “It gave me a deeper faith, as it did a lot of the people who worked on it.”

After long years of work, crews poured the statue’s 450-ton concrete base, and supporters arranged for the Montana Army National Guard to lift the statue’s four sections to the mountaintop with a Sikorsky Sky Crane. Butte followed every move
closely—including a dramatic episode when the arm section spun into the base and damaged the right hand. The pieces had never been fitted together, yet as the helicopter lowered each one, they fit perfectly. The community responded euphorically to the statue’s completion on December 20, 1985. Roberts said, “The people of Butte are the greatest in the world... To think at last it has come true!” Those involved had long said that the day Our Lady went up on the mountain, Butte’s economy would rebound—and indeed mines opened again shortly, if not permanently.

From the beginning, the plan for the site included a tram that would allow visitors to see Our Lady up close and also to use miles of trails along the Continental Divide. Again, a benefactor stepped in, giving more than fifty acres for a park at the tram-loading dock. Attractions will include a carousel, recreational hall, game room, and gift shop. “Putting Our Lady up turned Butte around; it really gave people hope. I think the tram will do the same thing as the statue,” projected Our Lady of the Rockies board chair Bob Leipheimer. Tram construction will begin pending a U.S. Supreme Court decision on a lawsuit brought by a property owner.

Our Lady continues to inspire civic optimism and generosity. Volunteers run the gift shop, give tours, hold fundraisers, and perform maintenance. In 1999, they completed the Chapel Observatory, which is available for special events. Summer season tours to Our Lady run twice daily, weather permitting, from the Butte Plaza Mall headquarters at 3100 Harrison Avenue. Ticket prices range from five dollars for children to twelve dollars for adults, with discounts for seniors. The gift shop is open year-round and coordinates memorials. The road to Our Lady is not open to the public. Call (800) 800-LADY for more information.

Kris King is a writer living in Livingston, Montana.
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Beyond the Missouri
THE STORY OF THE AMERICAN WEST
Richard W. Etulain


Richard Etulain’s new book, the most recent of his forty-plus, spans all of western history. It begins where it should, with a generous chapter describing the West’s many landscapes and many native peoples. Then come the Europeans—not from the east, as in the Turnierian story, but from the south, in a vivid description of Juan de Oñate and his companions trudging up the Rio Grande to Pueblo country in 1598. From there, the book traces a story of change and complexity—two themes Etulain stresses. His geographical West runs from “the North Dakota-to-Texas range of states to the Pacific Coast”; seldom are Hawaii, Alaska, or Canada mentioned, and Mexico infrequently (p. 2). His is the continental West of the United States. Within those borders, coverage is remarkably complete. As one would expect, this well-published historian-litterateur provides plenty on society and culture, arts and letters. But one also finds ample treatments of politics, economics, ethnic and gender matters, diplomacy and demography, farmers and city folk, and much else.

The book is arranged into fifteen chapters, neatly fitting into the weeks of a semester-long course. The first four run to (roughly) 1848: landscapes and natives, the Spanish colonial regime, European and American explorations, and the U.S. acquisition of the Pacific Northwest and the once-Mexican Southwest. Chapters five through ten carry the story to 1900, discussing the fur trade, mountain men, and the Overland Trail; the Mormon exodus and settlement of Utah; gold and silver rushes; cattle and sheep ranching, homesteading, and railroad building; the Indian wars, labor-capital struggles, statemaking, and Populism; “frontier social patterns” including farm life, family life, and immigration (one of the best-done chapters in the book); and “culture in the frontier West” with excellent coverage of literature, painting, religion, and education. Chapters eleven through fifteen concern the twentieth-century West: “social and economic patterns” and “politics and culture” to 1940, then “World War II to 1960” (Etulain, like his late colleague Gerald Nash, finds the region “truly transformed” by the war), then “the Cold War West, 1960 to 1980,” and finally “1980 to the present” (p. 399).

It’s all here. Etulain sees himself within historiographic tradition at a mid-point: neither among the Turnierians and Ray Allen Billington’s classic text, Westward Expansion (1949), nor amidst the New Western History. His treatment throughout is neither triumphalist nor declensionist. This demonstrates, to my mind, how thoroughly the field has moved in the past twenty years or so from lingering Turnierian dominance, through and possibly beyond the paradigm shift wrought by the New Western historians, to a matter-of-fact acceptance and portrayal of the good and the bad, the edifying and the disgusting, the mythic and the fact based. Etulain attempted “a center-of-the-road book, with the author happily accepting his designation as a ‘radical middler.’ I have tried to prepare a balanced, blended story” (pp. xii–xiii). He has succeeded admirably.

Walter Nugent
University of Notre Dame, Notre Dame, Indiana

Mining Women
GENDER IN THE DEVELOPMENT OF A GLOBAL INDUSTRY, 1670–2005
Edited by Jaclyn J. Gier and Laurie Mercier

Palgrave MacMillan, New York, 2006. Illustrations, bibliography, index. x + 355 pp. $74.95 cloth.

For centuries, mining has been a primarily masculine occupation, and the mining industry has neither recognized nor acknowledged the contributions of women. The fifteen essays included in this book shed light on the “process by which men and women came to be viewed as ‘different’ and thus were assigned social, economic, political and cultural roles within one global industry” (p. 3). As the authors point out, their title thus has a double meaning—it describes both the book’s subject and the process the scholars undertook. Readers learn almost as much from discussions regarding what has not been previously studied in terms of women’s role in the global mining industry as from these first-rate contributions to historical literature. The essays are a model for using nontraditional sources, particularly oral history techniques.

The essays in Mining Women help to trace the intersection of colonial interests, global markets, and the impact
of technology on the workplace. They examine women and mining in Cuba, Ghana, Bolivia, India, and Japan as well as the more typical European and North American venues, and the essays cover the late seventeenth century into the twenty-first century.

Mining is dirty and dangerous work, and it requires considerable physical exertion—all rationales for excluding women. Despite this, women have a long historical association with mining as these essays show. Family units often engaged in mining activities, and women were active participants. As mining became more industrialized and control shifted to corporations and states, women became less visible. The editors make an excellent point when they note that women's exclusion was not really a reflection of the "mechanization" of mining so much as of the "masculinization" of industry (p. 122).

Women helped to shape mining communities as shown in Rosemary Jones's essay on the South Wales coalfield and Kayuoko Yoshida and Reiko Miyachi's comparison of the coal-mining communities of Hokkaido, Japan, and those in Montana. Mining work culture is based on "an exaggerated masculinity" that took the form of militant labor union organization and women above ground played key roles in supporting unions (p. 5). Race and ethnicity often intersect with class in these essays. Examples include María Elena Díaz's work on royal slaves in colonial Cuba, Kwabena O. Akurang-Parry's study of Ghana, and Ellen Baker's examination of the famous mining film Salt of the Earth.

In recent years, women obtained the legal right to work underground. It is ironic that just as women achieved this right, the mining industry's late-twentieth-century decline began and mining became less central to the economy of various regions. But Jaclyn Gier describes a new situation with women as "caretakers of the environment and protectors of the earth and its natural resources for future generations" (p. 333).

This collection adds significantly to our knowledge of women and mining, provides a much needed global perspective, but also brings insights to gender construction. If these essays were designed to "mine" women, then surely the editors hit the mother lode.

Katherine G. Aiken
University of Idaho, Moscow

Fire and Brimstone
THE NORTH BUTTE MINING DISASTER OF 1917
Michael Punke


Over the years, scholars have turned out a substantial body of scholarship on Butte, Montana's culture, politics, and labor activism, with particular focus on the mining
metropolis's heyday from 1885 to 1920. What more can be said about Butte? Well, Michael Punke's *Fire and Brimstone* manages it. *Fire and Brimstone* does a masterful job of weaving together the threads that formed the fabric of Butte just before and after the country's entry into the Great War. It is also an engrossing interpretation of the U.S.'s worst hardrock mining disaster—the 1917 Speculator Mine fire—that adds a human dimension to this tragedy and its aftermath. Punke, a former National Security Council staff member, deftly employs suspense, political intrigue, and the actual words of those trapped in the Butte underground to tell a complex and important story. The result provides new insight into events pivotal to our understanding of the American labor movement, the politics of capital on the western frontier, and Butte's working class.

Ironically, the devastating fire that erupted late in the evening of June 8 was caused by miners attempting to install a sprinkler system in the Granite Mountain Mine's wood-lined shaft. After a worker's carbide lamp ignited the oily insulation covering an electrical cable, the fire spread rapidly throughout the Granite Mountain and the neighboring Speculator Mine. Punke carefully follows the plight of groups of miners who built bulkheads in tunnels in an attempt to keep out the deadly smoke and gas. He describes this ordeal through the voice of Manus Duggan, son of an Irish coal miner, who climbed the manways from the source of the fire on the 2,400-foot level to warn his fellow miners and finally had the presence of mind to harri-
the collapse of the Anaconda Company in 1983 and its rebirth under nonunion Montana Resources, Inc., as well as the bankruptcy of Butte’s Montana Power Company in the late 1990s.

Punk’s Fire and Brimstone reveals the underside of corporate America and the resilience of Butte’s people. The reader finds both a cautionary tale about dependence on a single industry and an epic story of a people who refused to give in to smoke and fumes, in the case of the Speculator fire, or to a defiled environment and the dearth of good jobs in post-industrial Butte. This book is more than just the story of Butte tragedy; it is an American story. In a 1934 report on the fire and aftermath prepared by President Franklin Roosevelt’s Justice Department its author declared: “What took place in Butte took place elsewhere as well. When we know the Butte story we know the others” (p. 273). Fire and Brimstone would be a fine addition to the library of anyone interested in the history of twentieth-century American capitalism, labor, and politics.

Brian Shovers
Montana Historical Society, Helena

A Northern Cheyenne Album
Edited by Margot Liberty,
photographs by Thomas B. Marquis

Illustrations, notes, bibliography, index. xiv + 286 pp.
$34.95 cloth.

All books on Native Americans should be formatted and organized like A Northern Cheyenne Album, an oversized book of photographs of the Northern Cheyennes taken by Thomas B. Marquis between 1926 and 1935. Many books that feature photographs of Native Americans are not as sensitive as this one. Often the captions mention the tribal affiliation of the individuals pictured, but not their names. This disrespectful practice of not identifying American Indians by personal names broadens the gap between Native Americans and other people.

In books and movies, Native Americans are often situated in the past, thus putting them in a context that reinforces stereotypes held by non-Indians. People who think of Indians as living in the past are sometimes surprised when they assert their rights, claim a valid spiritualism, and maintain their cultural practices with a tenacity that has defied governmental policies and practices—policies such as those that condoned massacres of Northern Cheyenne people, culture, and language.

A Northern Cheyenne Album presents Northern Cheyennes as human beings with actual names and histories. We see no posing or posturing, only candid pictures of the people engaging in everyday activities, just as other Americans did. We see a people making a difficult cultural transition.
into modern American society. We see them adapting to a majority culture that they found uncomfortable and alien but making the best of it. Viewers must remember that these Northern Cheyennes were only two generations removed from the once purely Cheyenne culture of the Plains tribes, only one generation removed from the individual dramas and cultural traumas of the 1800s. It is an exhilarating experience to look at the Northern Cheyenne people portrayed in this huge, ornate book.

Margot Liberty, the book’s editor, has done herself and the Northern Cheyennes proud with this tome. She has compiled a most moving chronicle of Cheyenne history. For her, editing this book was an act of pure admiration for the Northern Cheyenne people. She received no compensation for her work.

I was intrigued the first time I saw the book because the woman looking at herself in the mirror on the front page is my aunt, Frances Two Birds Knows His Gun, a kind and generous Christian lady who was also one of the first Cheyennes to marry a Crow Indian. Two of her offspring still live on the Northern Cheyenne Reservation.

For people who want to know about contemporary Northern Cheyennes, this book provides a good beginning.

Richard E. Littlebear
Chief Dull Knife College, Lame Deer, Montana
distance of some twenty feet from the driver’s seat. For perspective on what it felt like to be in the driver’s seat, imagine sitting in a straight-backed chair in front of a window looking out from the second story of a building.

Why drive in the pit? First of all, it was a hometown job for most, and drivers were undoubtedly some of the most highly paid blue-collar workers in Montana. In 1971, I earned nearly eight dollars per hour (a princely sum) and wages rose to slightly over twelve dollars per hour in 1979 (thirteen thousand dollars more than my first high school teaching position in 1961) with excellent benefits. And driving was a “whistle to whistle” job: a driver need only be concerned with the job between the shift-starting whistle and the shift-ending whistle. In other words, work didn’t interfere with other pursuits.

When I began driving, most drivers were Butte natives and all were male; although some women eventually drove haul trucks, they were never numerous. Many of the older drivers had worked in the underground mines for most of their adult lives, and many of the younger were sons and grandsons of underground miners. Except for those attending college part-time, the majority of younger drivers planned to retire from the pit. The total number of drivers fluctuated from nearly five hundred at the peak to fewer than thirty at the very end.

As most people know, labor-management relationships have been rocky throughout Butte’s history. It was the same in the pit; drivers generally shared the negative attitude toward their employer that had developed in the underground mines. Workers viewed with suspicion if not downright hostility any driver who publicly supported company policies. Because absenteeism was common, anyone who showed up to work five straight shifts in a work week was said to have “made a ringer.” Making a ringer might elicit the comment that the driver was trying to become a “Company man,” a serious insult. All drivers belonged to the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America Local No. 2.

Because the pit operated twenty-four hours per day, seven days a week, drivers “bid” one of three shifts—day shift (8:00 AM to 4:00 PM), afternoon shift (4:00 PM to 12:00 PM), and the “graveyard” shift (12:00 PM to 8:00 AM). Drivers with the earliest date of hire got first choice on shift assignments. Most drivers bid the earliest shift that their seniority would allow. During the eight years that I drove, I spent four years on graveyard and the other four on afternoon shift. Graveyard shift was a miserable experience—I had difficulty sleeping at home during the day and nearly always felt sleepy at work. Many nights I drove with one hand on the steering wheel while the other held my eyes open. Afternoon shift during the summer months also presented a problem—it was hot. By 4:00 PM, the combination of heat reflecting from the pit walls and heat generated by the engine radiating from the metal floorboards, made the cabs stifling. During these months, a baloney sandwich in a lunch bucket set on the floorboards turned into a viscous mess.

Each shift began the same way: drivers assembled in the lunchroom and received their truck’s number.

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**I drove with one hand on the steering wheel while the other held my eyes open.**
Once the shift began, they walked to their truck in the parking lot, inspected it, and started the truck. As the driver entered the pit, the dispatcher, whose shack sat on the pit's western rim, directed the driver by two-way radio to load at a certain shovel. At times as many as fifty or sixty well-spaced trucks might be entering at the same time. In the depths of the pit, hundreds of diesel engines spewed imperfectly burned oily exhaust twenty-four hours a day, with rarely a cleansing breeze. The ever-present dust that swirled through the pit was an annoyance, but the oil residue was worse. It attached itself to exposed skin, filled our noses, and even coated our tongues.

Trucks hauled three kinds of loads—ore, leach, and waste. Ore contained the highest concentration of mineral and went to the crusher where it was reduced in size, then it was sent to the concentrator and finally to a smelter. Leach was unprofitably low-grade ore: it was hauled to separate dumps where water was percolated through it from top to bottom and was then collected and processed for mineral content. Waste was essentially commercially worthless overburden.

Disposing of the ore created no problem, but the leach and waste had to be piled at some distance from the ever-expanding pit in mammoth dumps. It was these dumps that engulfed the surrounding neighborhoods. Some of my most poignant memories are of helping to bury the community of McQueen and the Columbia Gardens amusement park. When I dumped a load on the beautiful Holy Savior School in McQueen, I watched in my rearview mirror as tons of huge boulders and dirt slammed into the side of the multi-story building. It withstood the onslaught with only a barely discernable shudder. My heart was heavy as I pulled away. I felt like a murderer. When it came time to send rocks crashing into the wooden roller coaster at Columbia Gardens, memories flashed in my mind of my daughter screaming with excitement as we rode in its cars.

To control the dust stirred up by the huge trucks, Anaconda kept the haul roads wet year-round. Water tankers often sprayed the roads, even in winter when temperatures fell below freezing. Roads did not exceed a 7 percent grade, but this seemed plenty steep on a slippery road. Faced with an iced-over road, the driver's first choice was often to put his truck into a controlled slide. The driver pointed the nose of the truck at an angle a few feet from the protective berm that separated the road from the gaping maw of the pit and rode the dynamic retarder brake, hoping to keep the truck under control. If necessary, he could ram a front tire into the berm to stop a too-rapid slide.

Controlled slides were typically successful, but at times the trucks would spin out of control, swapping end for end while careening down the incline. The spinning truck often not only ricocheted off the near berm but also spun across the road and bounced off the solid face. At this point, the driver was just along for the ride. Eventually, the truck came to rest against the face or berm or, on rare occasions, against another truck or some other piece of equipment. After coming to a complete stop, the driver would—perhaps after a brief pause to collect his composure—continue down the road.
Traffic in the pit had a rhythm of its own, a bustling energy that was impressive. Because most of the roads were wide enough for three at a time—one truck going down and two coming up, the faster trucks passed the slower trucks on their way out. But when the roads were wet or frozen, the simple act of passing became daunting. In an instant, a loaded truck could stop dead on a slippery spot, particularly on the less-traveled center of the road, with its tires spinning and smoking. Soon an onlooker would hear the scream of the accelerator mashed to the floor, the driver hoping —no praying—that the rear dual tires would quickly find traction. Sometimes the tires burned down to dry road and regained traction, allowing us to crawl on up the road. More often than not, the truck slid backwards down the road—tires still desperately spinning.

The dispatcher was an important person in the pit. If a driver sighted an out-of-control truck, he called the dispatcher who then, for example, radioed all the drivers in the vicinity: “Truck out of control coming down the crusher ramp.” Nearby trucks immediately stopped—if they could—and waited for the “all clear.” Because these incidents happened so quickly though, they were not always spotted in time to warn other drivers, which significantly raised the level of danger in an already dangerous environment.

It’s been said that war is weeks of excruciating boredom interspersed with moments of pure terror. Driving haul trucks could be like that, mind-numbingly boring much of the time but with moments bordering on terror. Although I don’t remember any driver admitting that he was actually frightened when a truck spun out of control, I do remember them talking about the “pucker factor” that quantified the intensity of the lower body reflex that occurs in the midst of heart-stopping close calls. We measured the pucker factor on a scale from one to ten.

I clearly recall two wild rides, one involving an empty truck, the other a loaded one. The first took
Traffic in the pit had a rhythm of its own, a bustling energy.

place in January, in the dead of winter, around 3:00 AM during the graveyard shift as I was returning with an empty truck from the waste dump. In keeping with procedure, a water truck had sprayed the road, which produced a thin layer of ice. I had my truck angled toward the berm in an intentional slide, riding the dynamic retarder with my right foot. As if in military formation, several other trucks slid down in front of me, the nearest at least one hundred feet away. All the while, trucks lumbered up the other side of the road.

Suddenly, I felt the rear of my truck start to slide into the center of the road. “Here we go again,” I thought. The truck continued its spin. Briefly, I was facing uphill, looking up the road at several descending trucks. Slam—the rear of the truck hit the downhill berm and then the truck cartwheeled completely around and—wham—glanced backward off the berm again. As the truck whirled, I sat frozen, watching a scene unfold as if watching a movie made by a camera rapidly scanning across a landscape. I was lucky that morning: the truck came to rest pointing up the road in the opposite direction from which I started with the right rear tire against the berm. I was not injured. Pucker factor: six.

A second wild ride took place on a rainy afternoon driving a fully loaded truck. As I drove from the bottom of the pit toward the intersection that led to the crusher and dumps, I pulled out to pass a slower-moving truck. At that very moment, my truck stood still in the middle of the road. I knew what was coming. The tires began to whine, then the noise increased to a siren’s wail, but there was still no movement. The heated tires began to hydroplane as my right foot jerked from the accelerator to the brake pedal.

Sometimes in those situations, a loaded truck slid a short distance backward and caught a dry spot and stopped. Not that day. My truck slid backward slowly at first, then faster and faster. I pictured myself breaking through the berm and plunging hundreds of feet to the pit’s bottom. Spinning in a quarter circle, my truck hit the berm backward with great force and continued to spin again and again until finally it stopped pointing up the road. Pucker factor: eight and a half.

In the lunchroom after a shift, drivers described the violence of out-of-control rides. A driver telling of a near-ten ride might say something like, “The pucker factor was so strong that I thought my shorts were going to be sucked up into my throat.” It’s a miracle that so few trucks were damaged and that even fewer drivers were hurt. Although there were a number of injuries and at least three truck-related deaths, all of the deaths involved drivers of smaller vehicles struck by haul trucks.

When I look back at my time working in the Berkeley Pit, I remember it as a gritty experience for body and mind. Year in and year out, we drove up and down the very same roads in all types of weather. By 1982, when mining operations ceased, some 1.5 billion tons of earth had been trucked from the Berkeley Pit.

Bill Long is a retired high school teacher living in Anaheim, California, with his wife, Carol. He is writing a book about his experiences working in the Berkeley Pit. He can be reached at dukencarol@sbcglobal.net.