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I HAVE THE SPECIAL PLEASURE with this issue of Columbia to introduce Chet Orloff, my good friend and counterpart with the Oregon Historical Society. Chet’s commentary was originally presented at the Center for Columbia River History’s “Washington Side of the Oregon Trail” conference last October at Skamania Lodge. Several presentations from that wonderful conference, expertly organized by Bill Lang, will appear in these pages over time; maybe even my “rejoinder” to Chet, which immediately followed his talk at the conference. What I found amazing is how Chet and I touched on exactly the same themes, without resorting to a single redundant citation or source.

The Oregon Trail conference was WSHS’s greatest contribution to the regional commemoration of the epochal 1843 overland migration to the Oregon Country. Possibly the most significant migration in Washington history emanated from here, but paid huge dividends nonetheless. I refer to the great gold rush to the Klondike, a chapter of which is told in this issue by Michael Ostrogorsky. We will be publishing much more on this pivotal topic as we approach the centennial of the Klondike Gold Rush.

In terms of industrial history, we return to familiar themes—aviation, with Paul Spitzer’s story on C. K. Hamilton, and John Hanscom’s essay on Washington’s once-prominent coal mining operations—but also bring forward the forgotten history of Irondale on the Olympic Peninsula, written by Diane Britton.

Our overland trail series continues with Carl Schlicke, a previous contributor of note to these pages, who chronicles the career of master road-builder Frederick West Lander.

Our feature story this quarter is Robert Hadlow’s overview of Washington’s historic bridges. Hadlow’s article is the companion to the “Trunnions, Bascules and Cantilevers” exhibit organized by the Society through the State Capital Museum branch, on view in the Legislative Building in Olympia through June 4. This exhibit is yet another validation of the statewide benefit resulting from the recent merger of the two institutions.

—David L. Nicandri
A Tale of Two States: Shared Landscapes, Divided Viewpoints

I feel compelled to state at the outset that I am a native Washingtonian, hailing from the historic coastal towns of Bellingham and Aberdeen. I am tied to Oregon as well, though, by family, friends and memories. The question, "Does the Columbia River separate Oregon and Washington, or does it bring us together?" is an old one. The answer to both parts, of course, is yes. To those living outside the "Rain Belt," the two states are usually lumped together, as terrain green, wet and, in Gordon Dodds’ words, most typically American in having provided a place and a chance to start over. To the easy glance, similarities abound.

For millennia the Columbia River drew Indians from throughout the Northwest to its shores for annual gatherings of fishing, trading, talking and storytelling. The tribes north and south of the Columbia differed in many ways, but they also shared a general culture and customs, many of which related to the economy of the river.

The land north and south is similar: watered and wooded west of the Cascades, drier in the east. The land of Washington and Oregon has supported industries that, while differing locally, are similar: agriculture, forestry, mining, fishing, high technology, tourism and services. They have shared an export economy.

Opportunity was another name for the Pacific Northwest. It invited farmers and foresters, capitalists and organized labor as well as utopians to both states. Both states looked, and continue to look, to the West for further opportunities. Both also have had strong connections with the East, where technical knowledge, machinery and many initiatives for this region’s industrial development have come, and from where much of our resources and capital have been controlled. Railroads also had a profound effect on the economy and society of Oregon and Washington, though in differing degrees.

Both states tended to support one political party over another—though each a different one—and both have been willing to buck that party in elections for officials as well as referenda. In neither state has one party been monolithic. Generally, progressivism has been a shared trait.

But, just as with rules, there are exceptions, and it is those exceptions by which we can tell Oregon and Washington apart.

When we lean over our respective bottles of Olympia or Henry’s beer and really take a look at each other, we see not mirror images of ourselves—as people from elsewhere around the nation perceive us—but the scars, age lines and features in our history that really do distinguish us from one another.

"There is a strange finality about the Columbia," wrote Richard Neuberger more than 40 years ago:

Where it flows between Oregon and Washington, it serves not only as a boundary but as a barrier between two kinds of landscape and two ways of thinking. Oregon is more pastoral, more Arcadian; dairy herds dot its green meadows, barns and silos are its hallmarks. Washington has more smokestacks, more railroad sidings, and 700,000 more people in spite of its lesser area. Oregon seems satisfied with its frontier fringe along the Columbia; Washington, across the river, yearns for greater industrialization.

The broad view is clear: wagon trains brought the Oregonians who established the tenor of their state and its later emigrants; railroad trains carried the Washingtonians who would set their own descendants' attitudes. By and large, early Oregonians emigrated from the South and the Midwest; Washingtonians from the northern states, many of them one generation (if that) removed from northern Europe. And the railroad made the region’s black community a permanent part of life here.

Following the Oregon Trail, emigrants to Oregon were mostly farmers. It was the land, and what they might grow on it, that drew them west. Conservative, but by no means lacking in gumption, their principal interest was in setting up farms and communities. Most of them came to Oregon not for gold, speculation or military conquest, but rather out of a desire to live quiet, decent lives in a place beautiful and bountiful. To be sure, along with the supplies of beans and coffee, they packed their rigid politics and old prejudices. Decency and respectability were their accoutrements. A good percentage of them had lived for a generation in the Midwest, to which their parents, also farmers, had moved from the South.

As farmers, individual property rights were important to them, and they harbored a distrust for cities and industry as well as for those who labored in them. It’s little surprise that the name Jefferson appears repeatedly in Oregon’s early annals. The politics of such people—and I apologize for shamelessly simplifying this theme—are still felt in Oregon. This manifests itself in the ongoing (and to my mind ridiculous) rivalry between Portland and the rest of the state as well as, more positively, in attitudes toward land conservation and open government.

Besides the Midwestern/Southern element in Oregon history,
There was in early Oregon an attachment to private property—whether land or shop—a sense of personal responsibility and private privilege in the ownership and stewardship of the 600-acre parcel or 600-square-foot store. This kind of sensibility was to be expected of farmers from the Midwest or shop-and-stock-owning merchants from the Northeast who had had a hard time coming out here and an equally hard time establishing themselves.

Perhaps due to their more direct, personal and private sense of land ownership, Oregonians take personally—if not always actively enough—threats to their private environment. Their sense of personal ownership, along with an inherited caution, has been translated into a public doctrine that I believe conditioned Oregonians to adopt the same resource and land-use codes that today are held up nationally as models.

Sympathetic observers have called on this preference toward private property, caution, orderliness and self-restraint when contrasting Portland with the more corporate-minded or ambitious and less-restrained personality of her younger but larger northern sister.

With half a century of conservative civilization under their belts, Oregonians could afford to sniff at what The Oregonian’s editor, Harvey Scott, 100 years ago called the “raw and immature” towns of Washington. He considered their populations, hasty gathered by the railroads, to be of the “unstable class. Innovation is their motto, conservatism they detest.” Granted, that was long ago, and conditions have changed dramatically. Innovation is not so bad, and conservatism must be applied with reason, not reaction.

Just as land drew Oregonians, it was land that drew early Washingtonians, though not necessarily for what could be grown so much as what was already here: forests and rivers teeming with fish. Although the Oregon Trail certainly brought farmers to Washington, it was by rail that so many more emigrants came two generations later. Indeed, Washington’s population quadrupled during the decade between 1883 and 1893.

A great percentage came from the north—Minnesota and Wisconsin. By and large, these people were second-stage emigrants from northern Europe: Danes, Swedes, Finns and Norwegians, witnesses to the burgeoning Industrial Revolution and alive to the merits of the organized work force. Over the next 30 years they carried their language and wage labor to the forests, mills and rivers of Washington. Unlike that of early Oregonians, their trip west was not an arduous one. The train was considerably more comfortable than the trail and, increasingly, from the 1880s on there were jobs already waiting at the end of the line. Consequently, they weren’t left with the perspective of so many early Oregonians who felt they had gone through hell to get here and carve out a farm, “which, by God, we’re going to hold onto!”

Ambling through the Willamette Valley 100 years ago, a visitor would encounter people generally of English, Irish or Scottish descent. Paddling through Puget Sound, though, it would likely be Scandinavians he met.

Washingtonians, the first generations of whom inherited neither their own land nor Oregonians’ private possessiveness toward land, advanced across their state more aggressively. Their legacy, it seems to me, evokes less of the reaction “don’t touch that, it’s mine” (a pronoun evolving to “ours” by the 20th century) than was more common among their Oregon neighbors. Washington’s heritage of economic benefits for labor and capital incurred certain environmental liabilities.

Just as in sports, business, politics and love, where timing is everything, timing had a lot to do with what distinguishes the two states from each other.

Oregon achieved enough of a population to attain statehood when rivers and muddy plank roads tied the farming communities together. The early years of its politics were dominated by rural interests that aimed at controlling corporations, keeping transportation costs down and reining in the power of the newly arrived railroads. When Washington’s turn at statehood came 30 years later, conditions had changed dramatically and industrialization was in full swing. Getting its start at such a moment in economic history—after the arrival of the railroad and industry—government there was generally more supportive of corporate and industrial interests. Neither state has outlived its early political legacy.

Also, the timing of the Alaska gold rush at the end of the century, when Seattle was poised for growth, impelled it to prominence beyond Portland’s. Had Alaskan gold been discovered earlier and Portland been the supplier that it had been for the California gold rush, things may have been different. Whereas the California gold rush emptied Oregon of men, the Alaska gold rush brought them to Washington in droves. Many of them returned from the north to settle in Seattle and elsewhere in the state.

In race relations blacks faced discrimination in both states, most notably through the early proscriptions against their living in Oregon. Notwithstanding Washington’s early and violent reaction to the Chinese, its subsequent race relations were taken more seriously by officials and organizations than had been the case in Oregon. This may have been so because a significant proportion of Washington’s citizens were of Scandinavian descent. They had less cause to harbor prejudice toward blacks than did the analogously large proportion of Oregonians who had, or whose families had, emigrated from the American South and Midwest where anti-black prejudice was the norm.

Though both states witnessed dramatic increases in their black populations during World War II, the two major shipyard unions in Seattle were racially integrated, which was not the case in Portland. Even by the end of the war the Portland boilermakers union refused to admit blacks, and finally did so only upon government mandate.

Besides the railroads, another episode in transportation set in motion distinctions between Oregon and Washington that are
Without the nagging insistence that they adopt Oregonians’ own phenomenon is fed by Oregonians’ long-time suspicion of the outsiders that seem to almost grudgingly allow outsiders to join them, though not long-held perspective. It seems, too, that these new Oregonians Oregonians, of the economic value of the state’s scenic landscape.

And what of this value of landscape and, more broadly, the environment? Where has Oregonians’ broader sense of personal ownership of their land, together with that deep agrarian heritage, led them? The postwar baby boom and the general expansion of the national and regional economy have threatened Pacific Northwesterners’ traditional appreciation for nature as both economic provider and source of aesthetic inspiration. Enormous pressure from residential subdivisions, resorts and malls has been placed on the environment in both states. Farmland has disappeared at alarming rates. Recyclable materials have piled up in wasteful dumps. Pollution has filled Lake Washington and the Willamette River.

Oregonians developed their sense of a personal and private stake in the land into a public doctrine of preservation, responding with such land-use planning laws as the Willamette Greenway, the Bottle Bill, transportation initiatives and other pace-setting measures. Oregonians’ deep, historic dependence on the land, along with the evocation of their personal effrontery at its loss by such leaders as Governor Tom McCall, account in part for these efforts. Washingtonians’ response to the problems of the environment has been slower and less dramatic due to a less personal sense of ownership that results in a less personal commitment to the land.

The vocal and strict private property advocates of today—on both sides of the Columbia River—argue against land-use planning. To me, they represent not the Jeffersonian ideal of personal ownership and proud stewardship of land, but a more narrow view of the isolated right to do as one pleases with it, without regard to the long-term consequences, a distinctly anti-Jeffersonian philosophy.

Our respective histories have bred attitudes into us both. As they execute legislation in the name of the public good, Oregonians seem to almost grudgingly allow outsiders to join them, though not without the nagging insistence that they adopt Oregonians’ own long-held perspective. It seems, too, that these new Oregonians quickly adopt their own stance toward even newer-comers in what is sometimes called the “pull up the drawbridge” syndrome. This phenomenon is fed by Oregonians’ long-time suspicion of the outside world and distrust of agents of change.

Washingtonians, however, are not descendants of the critical and attitude-setting generations of landowners who inculcated a sense of personal and private ownership of the land. Their legacy is less individually connected to what Wendell Berry calls the “farmscape.” They have, more easily and more eagerly than Oregonians, recruited and adopted successive emigrants whose perhaps foreign and less rigid notions of environmental protection they feel less compelled to correct. This has contributed to yet another difference between Oregon and Washington, which is a story in itself: Washington is, demographically, a more diverse state and no doubt more challenging to steer toward one set of attitudes or another.

This is not all bad; to date it has curbed any one interest group from carrying statewide its own political, religious or moral agenda. Oregonians, many of them beguiled by the Oregon Citizens Alliance, for example, came very close to falling prey to such inimical persuasion. Religion, of course, may also play a part in this matter. With a larger number of Scandinavian-descended Lutherans, are Washingtonians more tolerant than that large percentage of Methodist and Baptist Oregonians? Arguably.

Oregonians have a second syndrome that may be defined as the “Cult of Livability.” It is a word, as David Sarasohn reminds us, barely used outside the state and describes their concern with quality of life. Livability is possibly best understood when related to the idea of limits—limits to growth, limits to people, limits to how much can be done to the environment. Again, long-nurtured attitudes toward protecting one’s private land, more recently translated into the public realm of land-use protection, and an inherited cautiousness characteristic of an agrarian society speak to such limits. Livability is also a concept to which Washingtonians adhere, though they are less inclined toward limits than their neighbors across the Columbia.

In a closing contrast between the two states, we shouldn’t leave out the individual: it is telling that the Weyerhaeusers and Bill Gates of Microsoft have done so much work north of the Columbia, that Jack Murdock of Tektronix straddled it, while the likes of Oswald West, who opened the beaches, and Tom McColl, who would have closed the borders, governed to its south. How characteristic of each state that Washington would produce a William Boeing, whose plants related to the nation and the world, and Oregon would produce a Fred Meyer, whose stores catered to neighborhoods. Each in his own way, as well as other leaders in many fields, has influenced the direction their state has taken.

Of import also are Oregon’s negligible and Washington’s numerous Indian place names, the latter of which are in part a legacy of George Gibbs’ ethnographic work in Washington. Oregonians of the mid 19th century did all they could to apply eastern names to western places.

And finally, it is telling that while Oregon does its best to eliminate funding for its state historical society, Washington ponies up tens of millions of dollars to build a magnificent history center, just like in Minnesota. Those Scandinavians, they know what history’s worth. I could go on, but as it is, I’ve already overstated my case, even for a native son.

Chet Orloff has been director of the Oregon State Historical Society since 1991 and is former director of the Ninth Judicial District Historical Society.
During the summer of 1993 a team of five architects and three historians from the United States, England and Austria came to Olympia for 12 weeks to study 30 of the state's most significant historic highway structures. Their work formed the core of the Washington State Bridges Recording Project, an endeavor co-sponsored by the Washington State Department of Transportation (DOT); the Washington State Office of Archeology and Historic Preservation (OAHP); and the Historic American Engineering Record (HAER), a National Park Service agency dedicated to fostering a greater understanding of our nation's industrial and engineering heritage.

HAER, a sister agency to the Historic American Buildings Survey, was established in 1969 to create a graphic and textual archive of America's industrial and engineering achievements. Under HAER's guidance, the summer investigators prepared 15 sheets of architectural measured drawings of selected bridges and nearly 700 pages of written histories on all 30 structures. In addition, a HAER staff photographer from Washington, D.C. created over 300 large-format black-and-white images of the structures. These documents become part of HAER's permanent collection in the Prints and Photographs Division of the Library of Congress, which includes more than 2,000 measured drawings, 34,000 large-format photographs, and 2,700 pages documenting historic bridges, steel mills, coal crushers and other industrial and engineering structures. Thus the collection serves as a vast research repository for scholars, preservationists and highway planners alike.

The historic nature of Washington's bridges came to light in 1979 and 1980 when OAHP, in cooperation with DOT, completed a comprehensive survey of the state's highway structures. Mandated by the federal Surface Transportation Assistance Act of 1978 and coordinated nationwide by the Federal Highway Administration, the survey was part of a systematic inventory of highway bridges throughout the country using HAER's data collection methods.

Since 1986 HAER has worked closely with state transportation departments to document their most significant highway structures. The Washington State Bridges Recording Project is a result of this cooperative venture to preserve a part of a state's and the nation's built past.

The 30 structures chosen for the project include 28 bridges, the Mount Baker Ridge Tunnel east of Seattle on Interstate 90 and the Lake Keechelus Snowshed east of Snoqualmie Pass on Interstate 90. In part because Washington has a wide variety of historic bridges, those chosen for the study represent many structural types, common and uncommon, used in the first half of the 20th century. The list includes movable bridges, suspension bridges, steel...
cantilevers, truss spans, a box girder, a pontoon bridge, steel arches and reinforced-concrete arches.

DOT, OAHP and HAER selected these structures for study because of their significance in the state's highway bridge-building history, in bridge engineering history, as sole survivors of a particular bridge type and as examples of structures built by renowned engineers. Most of the bridges were added to the National Register of Historic Places in the early 1980s following the initial inventory. Others were nominated to the National Register in the early 1990s. All of the structures play important roles in the state's highway system, and because of their age and design they warrant special attention in DOT's planning activities for the state's transportation needs well into the next century.

Movable Bridges

By the turn of the century, Washington's western waters were prime routes for ocean-going lumber ships and other freighters. In the years around World War I increased motor traffic in milltowns such as Aberdeen, Hoquiam and Tacoma, interstate traffic between Portland and Vancouver, and urban growth in the University District in Seattle required building additional road bridges with movable sections to accommodate tall ships.

The variety of designs seen in Washington's movable bridges demonstrates how dynamic the field was in the late 19th and early 20th centuries, and how complex this type of structure is with its weights, gears and motors. The City Waterway Bridge in Tacoma, completed in 1913, is an early example of a "vertical-lift" span designed by premier bridge engineer John Alexander Low Waddell (see Figure 1). When shipping traffic needed to pass under the road deck, concrete counterweights anchored above the ends of the bridge were released, causing the deck to rise.

The City Waterway Bridge is remarkable for vertical lift structures, not only because of its unusually great height but also because Waddell included in the design an overhead span to carry a water main. In addition, unlike other vertical-lift structures where the road decks are horizontal, the City Waterway Bridge was built on a grade. Waddell designed other vertical-lift spans in the Pacific Northwest, including the unique Steel Bridge in Portland with its double-deck, telescoping movable section, completed in 1912.

The Wishkah River Bridge in Aberdeen, built in 1924, is a good example of Joseph B. Strauss's "heal trunnion" bascule bridge. It consists of an arrangement whereby the road deck and a concrete counterweight located over one end of the road deck maintain a perfect balance when the deck is in place to serve road traffic. To permit ships to pass, the counterweight is released, causing the deck to lift up on the opposite end (see Figure 2).

LEFT: Figure 1. Completed in 1913, the City Waterway Bridge in Tacoma spans the Thea Foss Waterway.

ABOVE: Figure 2. Wishkah River Bridge in Aberdeen, built in 1924, is another example of a movable bridge.
The Montlake Bridge over the Lake Washington Ship Canal, just off the University of Washington campus in Seattle, is a third and distinctly different movable span (see Figure 3). Completed in 1925, this “double-bascule” drawbridge is one of six that Seattle constructed in the 1910s and 1920s. It was the last of four bridges built over the Lake Washington Ship Canal following the Fremont and Ballard bridges, built in 1917, and the University or Eastlake Avenue bridge, completed in 1919.

UNIVERSITY OF WASHINGTON graduate manager Darwin Meisnest had a pontoon bridge built across the canal’s Montlake Cut in 1920 for fans attending the inaugural football game in the university’s new stadium. He campaigned vigorously for construction of a permanent structure. Construction of the Montlake Bridge began in 1924.

Unlike the City Waterway and Wishkah River bridges, the Montlake structure appeared more architectural than mechanical. The emphasis was on the bridge as part of the university rather than as a monument to achievements with machinery. Its Gothic-style architectural ornamentation did more than simply shroud gears and counter-weights. It made the bridge a gateway to the university, connecting the campus with its surroundings. Buttresses, Gothic-arched openings on railings, and towers topped with cupolas all give the bridge the feeling of permanence and grandeur.

Truss Bridges

OF ALL BRIDGE TYPES built in the United States since the early 1800s, the truss is one of the most common. Engineers refined its design by experimenting with new construction materials, going from wood to cast- and wrought-iron by the time of the Civil War. By the late 19th century bridge
engineers had settled on just a few truss designs and executed longer spans in steel.

Pierce County built the McMillin Bridge near Puyallup in 1934 to replace another structure damaged by flooding of the Puyallup River. Unlike its predecessor, a steel truss, the newest bridge was constructed as a reinforced-concrete truss. There were inherent maintenance advantages and lower costs due to its simplified design. While the McMillin Bridge is not the first reinforced-concrete truss bridge ever constructed, it is significant regionally and nationally because the structural properties of concrete make it an unusual design choice for truss construction.

Homer Hadley, a locally well-known structural engineer with the Portland Cement Association, conceived the McMillin Bridge's design. He went on to design other concrete structures in the Pacific Northwest. His most impressive contribution to the landscape was the design of the Lake Washington Floating Bridge/Lacey V. Murrow Memorial Bridge, built in 1940.

Cantilever Bridges

Of the large-span historic bridges in Washington, the most common form found throughout the state is the steel cantilever. By the late 19th century bridge engineers such as Joseph Strauss popularized this type of structure for spanning large river channels with a minimum of piers. In this form, anchor arms extending from the shores to channel piers provided balance and support for cantilever arms that extended from the piers to mid-stream, connecting to each other or sometimes to a simple truss span held between them, to create a bridge. The state's coastal waterways and the Columbia River system, possessed of often treacherous currents, proved particularly well-suited for cantilever bridges instead of suspension spans or arches because of lower costs and ease of construction.

On the lower Columbia River the Longview Bridge, later renamed the Lewis and Clark Bridge, was at the time of its construction in 1930 the longest steel cantilever in North America. Plans to build this bridge between Longview and Rainier, Oregon, in the early 1920s created a feud between Longview and Portland, its commercial rival.

Portland business interests believed they could stop bridge construction if they requested that federal authorities set extraordinary and costly minimum height and width requirements for the bridge. Investors, though, went ahead with construction of the span with its 195-foot vertical clearance for tall-masted sailing ships even though their heyday had long since passed. Construction costs, nearly $6 million,
were double original estimates. Revenues did not meet expectations during the 1930s because many travelers would rather spend their pocket money for food than for toll charges to cross the Columbia. The state of Washington purchased the poorly maintained bridge shortly after World War II. It became a free crossing in the 1960s.

In eastern Washington the state government, in conjunction with the federal Bureau of Reclamation, constructed steel cantilever bridges on the Columbia River at Grand Coulee Dam (1935) and Kettle Falls (1941), and on the Spokane River at Fort Spokane (1941) as part of the Grand Coulee Dam/Columbia Basin Reclamation Project (see Figure 4). Workers at the dam used the structure there to transport heavy equipment across the river. The other two bridges replaced existing structures that fell victim to the rising waters of Lake Roosevelt behind Grand Coulee Dam.

Arch Spans

Only a handful of large steel or reinforced-concrete arch bridges remain from the 1920s through 1940s. These include the Baker River Bridge in Concrete (1917), the Indian Timothy Bridge near Pomeroy on U.S. Highway 12 (1923), and the Spokane River Bridge at Long Lake Dam (1949). The Olympic peninsula's North and South Hamma Hamma River bridges, built in 1924, are the state's best examples of reinforced-concrete through-arches (where the arch ribs rise above the road deck), and they are less than a mile apart, carrying traffic on U.S. Highway 101 (see Figure 5).

The Hamma Hamma River bridges are “rainbow” arches, popularized by acclaimed Iowa bridge designer James Marsh in the 1910s. By the 1920s engineers had “dressed up” the basic design to include decorative balustrades and functional but aesthetically-pleasing overhead sway bracing.

Suspension Bridges

Finally, Washington has two steel cable suspension spans serving on its highway system—the Yale Bridge, constructed in 1932, and the Tacoma Narrows Bridge, which opened in 1950. Though taking the same structural form, their characters are quite different. The Yale Bridge, crossing the Lewis River on a rural road between Clark and Cowlitz counties, has a central span of only 300 feet (see Figure 7). The Tacoma Narrows Bridge, connecting Tacoma with the Kitsap Peninsula, has a central span of 2,800 feet, which at the time of construction was the third longest in the world, ranking only behind the Golden Gate Bridge and the George Washington Bridge.

The Tacoma Narrows Bridge was the first suspension span constructed in the United States after the failure of its predecessor in 1940 due to wind-induced torsional oscillations. Research of design flaws in the first Tacoma Narrows Bridge, known as “Galloping Gertie,” led to the use of aerodynamic testing as a standard procedure in suspension span structural analysis, including studies for its replacement (see Figures 8a and 8b).

The original Tacoma Narrows Bridge's ribbon-like road deck was susceptible to twisting motion induced by sustained crosswinds. Wind pressure also exerted force against the eight-foot-tall stiffening girders on either side of the road deck. This, combined with a galloping motion in the structure whenever winds were present, is what experts believe caused the bridge's failure.

It was eight years before the American bridge-building community again attempted another suspension span—the second Tacoma Narrows Bridge. The entire structural engineering community learned much from the events in Tacoma in November 1940. The new structure, built from 1948 to 1951, incorporated many design elements directed at preventing the dangerous twisting and galloping motions
that destroyed its predecessor. These included open trusses rather than shallow plate girders for greater stiffness, and deck grating between traffic lanes for lower wind resistance. A larger roadway width-to-span length, combined with reliable damping mechanisms, also prevented problems seen in the first bridge.

A Heritage Worth Preserving

Many of Washington's historic bridges were built for less traffic and lighter loads than are found on today's roads. Several have been damaged by deicing chemicals while others have been poorly maintained. But even when they are not structurally deficient, older bridges are sometimes perceived as being less serviceable than modern structures and are deemed functionally obsolete. Though they are capable of supporting modern traffic loads, many, by today's standards, have unsafe approach alignments or have overhead structural members that lower clearances for tall vehicles. For these and other reasons, many historic bridges are eligible for federal rehabilitation funds.

Several states, including Washington, have initiated historic bridge programs, and the repair of these structures has often proven less costly than replacement. Some bridges are rehabilitated without losing their historical character and continue to carry motor vehicles. Others are bypassed with modern structures and adapted for use by pedestrians and bicyclists, while still others are dismantled and moved to serve routes with lighter traffic demands.

Many highway structures are as significant to this country's heritage as are historic houses or archeological sites. In recent years, much public attention has been drawn to the historical significance of our highway structures since the celebration of the Brooklyn Bridge's centennial in 1983 and the Golden Gate Bridge's 50th anniversary in 1987. Interest in preserving historic highway structures is gaining momentum throughout the United States as historians and the interested public come to appreciate and save bridge designs for the enrichment of posterity.

Robert W. Hadlow received his Ph.D. in United States and Public History from Washington State University in May 1993. He is guest curator for the traveling exhibit on historic Washington bridges, "Trunnions, Bascules and Cantilevers."

RIGHT: Figure 7. Yale Bridge, a steel cable suspension bridge built in 1932, spans the Lewis River between Clark and Cowlitz counties.

ABOVE: Figures 8a shows the 1940 Tacoma Narrows Bridge, also known as "Galloping Gertie." Figure 8b depicts a similar view of the 1950 span that replaced the original Narrows Bridge after it collapsed.
Welcome to the Kaiser Company

The Society's Special Collections Department recently acquired a copy of How'dy Stranger: A Guide to Your Job in the Kaiser Company Vancouver Shipyard. During World War II this now-scarce guide was given to every new employee in the shipyard, many of whom had been recruited from all parts of the country.

The guide contains sections on sabotage, housing, training, wage scales (ranging from 88 cents per hour for laborers to $1.50 per hour for heavy forgers), and safety tips for women shipbuilders.

Hard work is here and Glamour is out as women take men's jobs in building ships—and men's jobs they really are; with all of the grime, discomfort and hazards.

War is a serious business and ships aren't being built for fun. Peace time glamour, along with spare tires and breakfast in bed, is out for the duration.

WSHS is endeavoring to build its collections of materials related to World War II—letters, diaries, posters, publications and artifacts. Now that half a century has elapsed since this great conflict, these items are becoming increasingly difficult to acquire. Anything relating to Washington and Washingtonians during this period may be of interest.
Franklin and the Oregon Improvement Company

COAL TOWN

By John Hanscom

HENRY VILLARD LAUNCHED the Oregon Improvement Company in October 1880 as part of his grand scheme to dominate the development of the Pacific Northwest. By 1883 he had tied the area to the national economy with the completion of the Northern Pacific Railroad. Expansive development of the Pacific Northwest seemed assured.

To fuel Villard's steamships and locomotives, a dependable coal supply was a high priority. By February 1881 the Oregon Improvement Company had acquired the Seattle Coal and Transportation Company, including the Newcastle Mine east of Lake Washington, at a cost of one million dollars. The Seattle and Walla Walla Railroad (renamed the Columbia and Puget Sound) was also purchased for over half a million dollars to transport coal from mine to Seattle bunkers. Villard hired John L. Howard under a five-year contract at $10,000 per year as general manager of the coal business.

Villard also sponsored the Northern Transcontinental Survey, which was to determine the specific lands belonging to the railroads under the national land grants and to locate any valuable assets on those lands, especially coal seams.
Between 1881 and 1884 engineers employed under the survey discovered the valuable coal deposits of the Green River area, including the famed McKay vein at Green River Gorge. April 1882 found John Howard complaining of the poor quality and quantity of lignite coal from the Newcastle Mine and urging the development of the Green River coal field.

Work on the Cedar River Extension came to a halt during the early months of 1884. Proposed financial support from such local agencies as the Seattle Chamber of Commerce and the newly formed Black Diamond Coal Company was not forthcoming. Many who had been charmed by Henry Villard's optimistic dreams lost their enthusiasm for subsidizing the rail project now that he was no longer in charge.

John Howard, however, remained undaunted by the reversals of early 1884. He revived commitments from local interests as well as the company's board of directors. With Chinese laborers hired at 80 cents per man per day, the Cedar River Extension was completed in early 1885. By June of that year the first shipment of Franklin coal arrived at the Seattle bunkers.

The first cargo of coal from Franklin reached San Francisco in early August 1885. It was only a token shipment of 96 tons, but to Howard it signaled the solution to the Oregon Improvement Company's coal problems. The bituminous quality of Franklin coal was considered far superior to the lignite quality of Newcastle coal. Complaints of poor quality coal would now cease, it was hoped. Reliance on foreign coal (subject to import duties) to fulfill contracts would be greatly reduced, it was assumed. By the end of the year, total production of coal from the Franklin Mine was listed at 7,521 tons.

The pressure to get full production from the Franklin Mine increased dramatically during 1886 and 1887. Howard pushed the mine superintendents unmercifully to extend shafts, drive gangways, install hoisting machinery, and construct housing, a store and a boardinghouse. When James F. Jones, the first superintendent, proved inadequate, especially in dealing with labor problems, Howard replaced him with William J. Watkins, a calloused veteran who had been involved in combating the Molly McGuire (a secret organization of miners) in the Pennsylvania coal fields in the 1870s.

The Vicissitudes of Coal Production

The months between June 1885 and December 1888 were probably the most active, productive and optimistic in the 16-year history of Franklin as a company coal town under the Oregon Improvement Company. Although the expense of development outweighed the net income from coal production during these months, the anticipation of increased production and net profits for the future was reflected enthusiastically in John Howard's letters. Elijah Smith's perpetual pessimism regarding the coal industry was temporarily

estimates, failure to meet loan payments, and inability to pay dividends to stock subscribers were factors contributing to Villard's decline. He suffered a nervous breakdown and retired to Germany to recuperate between 1884 and 1886.

Out of the turmoil of reorganization, Elijah Smith emerged in April 1884 as president of the Oregon Improvement Company. He was confronted with the onerous task of trying to put the company on a paying basis. One of the stickiest matters was coal production, which included the vital detail of rail transport.
mollified, although he continued to complain of the red-ink reports from Franklin. Visitors to the newly built town in the summer of 1888 commented on the general air of progress and enthusiasm that prevailed among the miners, managers, workers, and their families.

On December 11, 1888, disaster struck. Fire broke out in the lower level of the McKay vein. The men were called out of the mine and all available water power was brought to bear on the fire. All efforts proved useless. The mine had to be flooded. The greater portion of the mine lay idle for over two months. Preparations for sinking a new slope were begun.

Two other discouraging events occurred during 1888 and 1889, striking blows to the Oregon Improvement Company’s welfare.

Members of the Knights of Labor went on strike in May 1888, hampering mining activity in King County for several months. Franklin was marginally affected since most of its miners became idled by the fire and flood shutdown, but the strike added to the mine’s production woes.

In June 1889 the conflagration at Seattle destroyed or damaged the OIC’s offices, coal bunkers, shipping piers and rail equipment. Insurance covered only a fraction of the loss. Elijah Smith bemoaned the $204,000 needed to rectify the disaster. John Howard, with his usual enterprising optimism, viewed the incident as an opportunity to rebuild with an eye to modernization and increased efficiency.

Management at Franklin underwent a change in early 1889 when William Watkins resigned as mine superintendent, replaced by Hobart W. McNeill. McNeill, who considered himself an expert on mine engineering and coal production, was faced with the unenviable situation of dealing with striking miners and a limping mining operation. He was responsible for completing the new slope at Franklin and dealing with strikers who, fortunately, returned to work in February. By then, though, the seller’s market that had prevailed in 1887 and 1888 was declining.

In February 1890 mine operations at Franklin came to another standstill. Fire broke out in the new slope and could not be extinguished. Exploratory efforts on the south side of Green River had run into a fault that made operations there impractical. McNeill condemned the mine as “bad to the core,” suffering from a weak roof, highly pitched coal beds, and continuous fires and explosions. Elijah Smith speculated on searching for better mine fields as far away as Alaska, but bemoaned any added expense that might be involved. Up to this point, Franklin had never shown a net profit, and prospects for the future looked dim.

Problems at Franklin were only part of the company’s woes in 1890. Lost coal contracts, reduced steamship earnings, risky railroad ventures, dejected stockholders and company debts plagued the management, and reorganization seemed inevitable. In December the company again went into receivership. Elijah Smith’s tenure as president was over. The ensuing reshuffle brought William H. Starbuck to the presidency. Charles J. Smith became general manager, with offices in Seattle rather than Portland. John Howard remained as assistant manager in San Francisco. Thomas B. Corey replaced Hobart McNeill as superintendent of the mines at Franklin and Newcastle. With the coal market once more on the rise, the company weathered the storm of reorganization with renewed hope for better conditions to come.

Labor Struggles

The Knights of Labor became active in Washington Territory coal fields in the early 1880s when they established a lodge at Newcastle. By 1885 they had organized the miners at Franklin and were involved in the expulsion of Chinese labor from the mines and other industries. Successful in their demands to oust the Chinese and gain a pay increase for the workers at Franklin, and bolstered by the economics of a seller’s market in the coal industry, the Knights had urged a miners’ strike against the Oregon Improvement Company in February 1886.

The company took harsh measures to deal with the strike and seemed to have won when miners and workers returned
to their jobs in May 1886 under conditions that were virtually unchanged. Labor problems, however, had continued to plague the company's operations at Franklin and Newcastle and contributed to the demise of Elijah Smith's leadership and the company's reorganization in 1890.

By spring 1889 the coal market was in serious decline, owing in part to large amounts of imported coal from British Columbia and Australia. The demoralized Knights of Labor retreated in disarray. For the time being, labor militancy was constrained by the economics of the coal business. The fundamental issues remained, however, and no procedures developed in the immediate future for negotiating them other than confrontation between miners and managers. A sliding scale of wages negotiated under a collective bargaining process might have solved the perpetual unrest generated by a sharply fluctuating coal market. As it was, every time a change in the wage scale became necessary, management resorted to threats of lockouts, blacklists, strike-breakers and armed guards, while labor resorted to threats of strikes, violence and implied sabotage. It was a losing situation that continued until progressive leadership evolved in both labor and management.

The company's coal business was given a boost by a strike in the Australian coal fields in September 1890. Pacific Northwest coal was in great demand at San Francisco. The response of the Knights of Labor was to demand higher wages in all of the operating mines, varying from 15 to 25 percent. C. J. Smith, the company's new general manager at Seattle, recommended resistance to the demands and a "permanent and final ending" to such disputes by the installation of black miners in the company's mines. For the time being, however, the company's executive board acceded to the wage demands while considering plans for the importation of blacks to work at Franklin when the temporarily closed mine was reopened.

Further demands by the Knights led to a showdown over an ironclad contract offered by T. B. Corey, the new mining superintendent in Seattle. When the Knights rejected the contract, C. J. Smith asserted that the only alternative was to import blacks. Corey withdrew the contract, "resigned" and went east to recruit blacks in Illinois, Indiana, Iowa and Missouri. Flyers issued in these states appealed to "colored coal miners" with enticements of steady work, good wages and "no strikes or trouble of any kind."

The Black Train

On May 13, 1891, "The Black Train" departed from St. Paul with over 400 recruits, including women and children. The black miners and laborers had signed a three-year ironclad contract for wages 15 to 25 percent lower than the Knights had been offered under the rejected contract. Union leaders in Seattle were now fully aware of the company's scheme, which they vehemently denounced at a May 15 meeting. Early in the morning of Sunday, May 17, the train stopped at Palmer Junction. Armed with Winchester rifles, Thiel Agency "detectives" employed by the company escorted the black men, with their ancient Spencer carbines, on the three-mile hike to Franklin. They arrived there about six in the morning. Black women and children remained on the train, which took them to Seattle where they stayed until the situation at Franklin stabilized.

The Knights had been taken by surprise. Assuming that the blacks would be deposited at Newcastle, they had organized a large crowd there to demonstrate, while Franklin was practically deserted. A dozen or so inhabitants watched the blacks walk into town and stood by helplessly as barbed wire was strung around the company buildings. The school grounds were fenced off, and the main street became a "deadline" across which striker inhabitants were not allowed. One hundred and fifty guards enforced the peace at gun point. The importation of the blacks had been accomplished without incident. Company managers were "jubilant."

The Knights' fury resulted in shutdowns of all mining operations except those at Franklin. Sympathy strikes and the support of the Western Central Labor Union (WCLU), an affiliation of trade unions headquartered in Seattle, followed. The Knights held demonstrations and adopted a resolution protesting the importation of "cheap colored labor."

Although a few blacks left after the first week at Franklin,
the great majority of them remained. They chose to stay because, as one of them stated to the press, "We are aware that prejudice is against us here, but where can we go? It is against us everywhere... Let them call us scabs if they want to." With the support of a Committee of Colored Citizens led by Reverend Hezekiah Rice of Seattle, the blacks at Franklin drafted a reply to the strikers' resolution stating their right to stay and "to enjoy all the rights and immunities guaranteed to all patriotic American citizens."

The Tenuous Labor coalition soon fragmented. The blacks' negative response to the pleas of the Knights and others was a setback for the strikers. The Knights and the WCLU quarreled over leadership and policy. The WCLU urged all white workers except those at Franklin and Newcastle to return to work. The Knights argued that white mine workers must stand together against employment of blacks. They met on June 13 and resolved not to return to work "unless all white miners are employed." They now vented hostility toward the blacks while their attacks on the company abated. The mine managers watched the various groups quarreling among themselves and gloated.

The company transferred 80 black miners from Franklin to Newcastle on June 28. Company tactics had again taken the miners by surprise, but the response was explosive. A confrontation between strikers and blacks at Franklin had resulted in injury to a black worker. Tension mounted as the train returned from Newcastle. Guards on the train began exchanging fire with armed strikers. Blacks at Franklin panicked and attacked the strikers. From their vantage point on the hillside they fired their carbines at cabins and buildings on the flat below. Over a thousand rounds were exchanged. Two strikers were killed and two white women seriously wounded.

Governor Elisha Ferry promptly sent five National Guard companies into the area. Colonel J. C. Haines was ordered to disarm all sides. The Thiel guards were sent back to Portland, and the striking mine workers reluctantly surrendered their weapons. Tensions remained high at Franklin and Newcastle, but the National Guard was reduced to three companies, and superintendent Corey swore that all guns at Franklin had been surrendered. Coal shipments increased, and by July 27 C. J. Smith announced that the strike was over and wages would be reduced another 25 percent.

The company seemed to have won a major victory in its struggle with the Knights of Labor despite the legacy of racial tension and workers' resentment. All mine workers were forced to accept reduced wages and a no-strike guarantee. The sliding national economy brought further cuts in wages and seasonal layoffs between 1892 and 1895. The Knights rapidly disintegrated as a viable labor force after the 1891 strike. No comparable union force appeared in the coal fields until after the turn of the century.

The Gray Nineties

The Oregon Improvement Company's victory over labor could not, however, resolve the ongoing difficulties of coal
production. Bringing in black miners did not solve the problems created by poor planning, faulty engineering, high-pitched coal beds and soft roofs in the mine shafts at Franklin. Fires and explosions ravaged the mine, production costs remained high, and the quality of coal did not improve. Ironically, C. J. Smith, who had worked so diligently to bring blacks to Franklin, came to blame them for keeping production costs high through their alleged inefficiency. By 1895 he was arbitrarily firing black miners and replacing them with non-union whites. As the company’s fortunes declined in the 1890s and it was being forced into receivership for its final demise, the triumph over the Knights of Labor seemed at most an empty victory.

From the beginning the Franklin Mine suffered from inadequate engineering techniques to deal with the high-pitched coal beds. The traditional “pillar and room” system that was used successfully in eastern mines seemed inadequate to the conditions at Franklin. A “long wall” system introduced in 1891 was abandoned in 1893 as a failure because the coal produced was crushed to such a degree that it was largely unmarketable.

A return to the usual mining techniques in 1893 increased production at the Franklin Mine, but prices dropped due to the increasingly depressed general economy that followed the financial crash that year. The Gem Mine was opened in November about a half-mile down river on section 19, and the Number Seven Mine was opened on section 7, two miles north of the Franklin Mine.

Three Franklin mines enjoyed a banner year in 1894, employing 361 miners and producing close to 100,000 tons of coal. It was also the year of Franklin’s most tragic disaster. The official report of the state mine inspector noted:

One of the most deplorable accidents that has ever occurred in the history of mining, by which thirty-seven persons lost their lives through suffocation by smoke from a . . . fire in the . . . Franklin Mine, occurred on August 24th.

The mine’s engineers had failed to provide for adequate egress, and the fan system, which might have dispersed the smothering smoke, failed at the crucial moment. Some suspected sabotage, but the evidence seemed to indicate faulty construction and negligence.

Press reports described the disaster’s heart-wrenching effects on the community. The dead ranged in age from 16 to 58. One youth of 18 died in the arms of his father, who was also a casualty. One little girl remarked between sobs as she watched the line of coffins, “It seems there isn’t enough alive to decently bury those who are dead.”

Despite the enormity of this calamity, improper mining techniques at Franklin continued. The state mine inspector reported that the mine was poorly ventilated, especially in warm weather when the air current became weak. Another fire occurred on the morning of October 14, 1895, in the main slope of the Franklin Mine, in which four men lost their lives. News reports referred to the “unlucky mine” and implied that “something must be wrong.” The Franklin Mine was sealed up indefinitely. The Number Seven Mine had been closed down in November 1894 and allowed to fill up with water. With the exception of the small Gem Mine, employing only a handful of miners, coal operations at Franklin were suspended. The Oregon Improvement Company was about to experience its final death agony.

OPERATIONS AT FRANKLIN before final suspension under the Oregon Improvement Company were limping under critical evaluation from inspectors and management. A report from a private mining investigator in October 1895 gave pointed criticism of the use of “No. 2 giant powder” at Franklin. He described the coal as “blasted all to slack and dirt and bone and slate all mixed to-gather [sic].” John Howard was complaining about the succession of accidents and fires at Franklin Mine and the poor quality of coal arriving at San Francisco in July 1895. Portentous of things to come were Howard’s remarks concerning the advent of fuel oil:

... in reading the handwriting on the wall I can see that permanent good to us lies in the comprehensive scheme of buying, transporting and selling oil.

In 1895 speculations regarding oil were not realistic for the Oregon Improvement Company. It was passing into the hands of the receiver once again. The fate of the company was sealed when it was sold to the Pacific Coast Company in 1896. The mines at Franklin were reorganized and refurbished to the tune of about $300,000 and proved highly productive under able supervision and sound engineering from the turn of the century through World War I.

The original geologists’ report back in 1882 had stressed the need for skill and care in developing a mine at Franklin.

A poorly selected man will undoubtedly make mistakes in the plan of this mine which cannot be remedied except at enormous expense, and which will handicap the property with a heavy additional cost of production.

The managers and coal superintendents of the Oregon Improvement Company seemed to have labored mightily for 16 years to fulfill this prophecy.

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AUTHOR’S NOTE
Special thanks to Gerald Hedlund, anthropology instructor at Green River Community College; Mark Vernon, archaeology specialist; and Don Mason and the Black Diamond Historical Society for making available to me a wealth of research sources and materials.
The Would-Be Pittsburgh of the Pacific Northwest

On the northeastern corner of Washington's Olympic Peninsula, facing Port Townsend Bay, lies the quiet residential community of Irondale, once the site of a major West Coast iron and steel industry. In its heyday, especially the period 1901-1911, the town boasted an active commercial hub. Ocean steamer traffic arrived and departed daily from its dock, carrying hundreds of passengers and tons of cargo, raw resources and finished products. Irondale's future seemed bright and promising, though the town and its iron-and-steel plant experienced a series of ups and downs throughout its 38-year history. In true boom-town fashion Irondale prospered and declined with its industry.

James Jones, E. L. Canby, H. L. Blanchard and Samuel Hadlock incorporated the Puget Sound Iron Company in 1879 after the discovery of a nearby iron ore deposit. A series of agreements with the owners of iron ore deposits in the Chimacum Valley obligated the officers to build a blast furnace near the head of Port Townsend Bay in Jefferson County. Promoters expected high profits for several reasons. Expanding industries in the West and a "natural" protective tariff provided by high transportation costs from the East seemed to favor local industries. The people of eastern Jefferson County and much of Washington Territory as a whole viewed this new industry as a potential boon to their economy. Newspaper accounts reflected optimism as reporters described ore deposits as "inexhaustible."

Workers built the first blast furnace from large pebbles found on the beach and began smelting iron in 1881. A hard magnetic ore from Texada Island in British Columbia, combined with soft Chimacum ore, produced a superior product. Seventy men employed at nearby charcoal pits supplied the furnace with fuel. Limestone, a mineral used to attract impurities, arrived from San Juan and Orcas Islands.

The company made continual improvements to increase efficiency. To alleviate the unprofitable problem of hiring private parties to supply fuel, the company constructed 20 charcoal kilns. In 1884 Puget Sound Iron Company completely rebuilt the furnace in an attempt to keep pace with rapidly changing technology.

The company sold iron to foundries all along the Pacific Coast. The Southern Pacific Railroad Company shaped it into car wheels. Union Iron Works of San Francisco used it to construct the cruisers Charleston and San Francisco and the battleship Oregon.

The Irondale plant's increasing success during the 1880s raised the hopes of its promoters and others who viewed it as an important source of pig iron for ever-expanding West Coast industries. The plant's locality ostensibly combined the advantages of "cheap ore, cheap fuel, cheap limestone and cheap transportation," which, ideally, would enable it to survive against powerful competition from the East. Portland's West Shore magazine decreed that "the seat of great iron manufactories should be on Puget Sound" because that locality combined "all the above-cited advantages in an eminent degree."

At the end of 1889 the plant shut down despite its apparent success, putting its 400 employees out of work. The use of crude and unprofitable machinery, a lack of competent supervision and apathetic stockholders contributed to the Puget Sound Iron Company's failure. The plant remained dormant.
for the next 11 years.

Rumors concerning the possible sale and restoration of the Irondale plant began circulating in August 1900 when a correspondent for the Engineering and Mining Journal of New York wrote to his editors about arrangements for an “important deal” on the Pacific Coast. “There is little doubt,” he prophesied, “that the control of iron production on the Coast will be of great value to those who obtain it.”

Hopes ran high in Port Townsend three months later as the city’s Morning Leader likewise engaged in crystal-ball gazing. It foresaw a “bright future” for the area and predicted resumption of operations at the plant in two weeks. Furthermore, it stated, within a year “millions of dollars” would be spent in the region, Port Townsend would soon be linked with a transcontinental railroad, and the area would also prosper with the establishment of a shipbuilding industry.

The business activities of Homer H. Swaney, a lawyer from McKeesport, Pennsylvania, were the source of these optimistic forecasts. In August 1900 he began taking steps to acquire the Puget Sound Iron Company holdings at Irondale as well as several coal and iron deposits in Washington and British Columbia, including a lease on the Texada Island mines.

On September 17 he contracted with the Wellman-Seaver Engineering Company of Cleveland, Ohio, to assess the furnace site and mining properties. The presence of company engineers in Port Townsend and the adjacent area undoubtedly prompted the talk of inevitable widespread prosperity in the region’s near future.

Metallurgical engineer J. H. Cremer traveled to Irondale and the sites of the raw-material deposits to determine the technical problems of rehabilitating the plant. According to his report, the British Columbia iron-ore deposits showed promise, but not enough work had been done there to make an accurate assessment of their value. He suggested prospecting with diamond drills to gauge the extent of the ore beds.

This work was accomplished over the next several years. The deposits’ close proximity to deep tidewater, accessible to large vessels, enhanced their potential. Although of high quality, the hard magnetite ore required larger than usual amounts of fuel to smelt it into iron. However, based on the assumption that the properties contained large bodies of ore, Cremer concluded that costs would be relatively low.

E. D. d’Invilliers of Philadelphia and William Price of Pittsburgh made additional investigations at the Canadian mines and confirmed Cremer’s positive evaluation. Described as equal to or higher in quality than ores of the eastern United States and Europe, the reports encouraged development of a western iron industry at Irondale.

In December 1900 Cremer reported his findings on the Wilkeson Coal Company mines in Pierce County, a proposed fuel source for Irondale. He found they contained a high ash content, a flaw he believed could be overcome by crushing the coal, thereby making harder coke. He estimated average expenses for delivery to Irondale, but indicated that greater quantities were needed for the smelting process because of the coal’s lower quality. While conceding the inadequacy of available raw materials for iron production in Washington, Cremer’s comments also foreshadowed eventual problems with those resources.

Because of the undeveloped state of the mining properties in both Washington and British Columbia, Cremer suggested renting them until further exploration revealed their true value. He also advised against purchasing Puget Sound Iron Company’s blast-furnace works until the true extent of the ore deposits was determined. Should Swaney decide to go into business, Cremer recommended thorough survey of the furnace and a complete repair of the furnaces before final purchase.

An unrelated study confirmed Cremer’s closely guarded misgivings about the value of local resources, especially those in Washington. The Annual Report of the State Geological Survey for 1901 noted that high-quality iron ore had only been found in small quantities, and even if additional deposits were discovered, the ore’s relative value depended not only on its chemical structure but also on transportation costs and the ore’s nearness to fuel and fluxes.

The experiences of the Puget Sound Iron Company illustrated the problems of using poor-quality Washington ore and the expense of importing resources. Ore deposits had been discovered in
other parts of the state, but only the Chimacum Valley ore had been made into iron by 1900.

A Scottish company began work on deposits in Kittitas County about 1889 but abandoned the effort in 1892. Iron ore discovered in the Cascades near Snoqualmie Pass seemed promising, but logistical problems left the deposits untapped. Skagit and Mason counties also contained iron-ore deposits, although these did not occur at great depth. Iron ore could be found in many Washington locations, but the 1901 report saw little prospect of it ever being used in large-scale iron manufacture.

Low-quantity deposits and the problem of fuel supply, not yet solved in Washington, seemed to preclude establishment of a successful iron industry. Nonetheless, Cremer saw possibilities for local and imported resources, and stressed these in his report to Swaney.

After inspecting the raw-material deposits, Cremer turned his attention to an evaluation of the physical plant at Irondale. It had been idle for 11 years, and deterioration had taken its toll. In addition, the industry’s rapidly changing technology meant that the furnace required major renovations, including complete relining. Auxiliary equipment needed to be overhauled, and storage bins and docks required strengthening and enlarging.

Cremer, fully aware of the plant’s poor condition, nevertheless thought it could be put back into working order. He recommended relining the furnace with imported firebrick from England, constructing new bins for ore and purchasing an additional hot-blast stove and boiler to supplement existing equipment, which would help increase daily capacity.

Buried at the back of the report from Wellman-Seaver to Homer Swaney, Cremer stated, “As to the cost of repairs, it would not be possible to make any close estimate as there are many repairs, the extent of which could only be determined when the work” was in progress. Joseph W. Seaver, vice president of the company, estimated in a cover letter attached to the report that an investment of approximately $25,000 would get the plant started again. This seemingly reasonable sum may have misled Swaney as to the amount of capital needed to initiate a paying enterprise at Irondale.

Given the extent of repairs needed and the undeveloped nature of the raw-material deposits, Seaver overstated the case for Irondale’s potential. In addition, he and others involved failed to recognize that the huge eastern mills, close to mass quantities of high-quality raw materials, produced iron and steel on a large enough scale that they were able to remain competitive in West Coast markets despite high transportation costs.

Still, the Wellman-Seaver Company recommended that Swaney go ahead with the project and commented that they believed “that a profitable iron industry can be built on the Pacific Coast.” The report did caution Swaney to require further and more extensive examinations of the ore properties before making any purchases.
Basing his decision on the favorable assessment, Swaney formed the Pacific Steel Company under New Jersey law in January 1901. In March he filed with Washington’s secretary of state and finalized his purchase of the plant for $40,000. Financed largely by eastern interests, the formal transfer of property took place in New York City. Shortly thereafter, repair work began as enthusiastic accounts publicized its progress. According to the Seattle Post-Intelligencer,

No event since the completion of the first transcontinental railway has been fraught with greater promise for not only the state of Washington, but the whole Pacific Coast, than will be the re-commencement of ironmaking at Irondale...now about to be awakened from a Rip Van Winkle slumber by the touch of the Eastern iron-master.

Port Townsend’s Morning Leader naively reported that lack of care had caused the plant to become “somewhat dilapidated,” requiring a “slight overhauling,” and despite its run-down condition, the iron plant looked increasingly better to those who believed they could profit from its renovation.

Under the direction of Henry Hall, Wellman-Seaver’s consultant, workers cleared a large tract of land, rebuilt the furnace and refitted the machine shop by September. Swaney also purchased additional steam engines to drive machinery and large blowing engines to provide blast for the furnace. Pacific Steel spent more than $60,000 on these and other repairs. Even though costs eventually ran twice as high as estimated by Wellman-Seaver, the company officers continued restoration efforts at Irondale.

In April, Frederick Crabtree joined Pacific Steel to take charge of the furnace. Although their limited knowledge became a problem later, Pacific Steel Company found many willing workers in the surrounding area who wanted to take advantage of what appeared to be a tremendous opportunity at Irondale.

Harry McGregor, under contract with Pacific Steel, brought a number of men from nearby Port Angeles to complete some repairs and build three-and-a-half miles of flume to carry water from Chimacum Creek to the furnace.

M. J. Carrigan, also from Port Angeles, took an interest in the company and aided it by acquiring additional raw-material deposits. Carrigan eventually quit his position as deputy customs collector to devote himself full-time to Pacific Steel’s business. United States Senator Addison G. Foster of Tacoma, a stockholder and member of Pacific Steel’s board of directors, was another prominent local supporter.

By May 1901 the company employed 150 men in the smelter, mines, charcoal plant and offices, and anticipated hiring that many more by the time operations commenced. Plans were drawn up to erect additional dwellings, including six two-story buildings for the firm’s operational officers.

In July workmen started fires under the kilns to provide a supply of charcoal before blowing in the furnace. At first the company planned to use coke from Skagit County. Extensive experiments demonstrated its poor quality, so the owners opted for the exclusive use of charcoal as fuel.

The fuel question, a continuing sore spot throughout Irondale’s history, seemed the most problematic for the iron company. Although the available wood supply appeared “inexhaustible” to many, its conversion into charcoal was an expensive process. An investment of $6,000 put the old kilns back into working order and Pacific Steel advertised for wood cutters to supply 180 cords of wood per day. The 20 kilns produced about 180,000 bushels of charcoal each month.

Swaney ordered the installation of a sawmill, log-splitting machine and conveyor system to feed wood into the kilns, which were formerly filled by hand. As a result, the efficiency of charcoal production increased while its cost dropped substantially.
A veteran charcoal burner from Missouri moved to Irondale to supervise this part of the operation. By-products of the distillation of wood were simply dumped. Swaney hoped eventually to build a facility to use these, as had been successfully done elsewhere, thereby further reducing expenses. It was an objective he never accomplished.

Work continued on the Irondale plant throughout the summer and fall of 1901. Its owners had hoped for an early opening date, but a strike by Puget Sound-area machinists and ironworkers held up orders for castings and delayed progress. In the meantime, workers cleared about 20 acres of land, erected several buildings and replaced the "old and rickety" wharf. They overhauled old equipment, installed new machinery and refined the furnace when fire-brick was delivered in August. Larger ore bunkers and warehouses provided space for huge orders of raw materials that were expected to arrive shortly. Tramways built throughout the yard eased the movement of supplies and finished products.

One reporter commented that amid this flurry of activity "everything that is necessary to make the plant first-class in every particular is being done." In September six "practical and experienced" iron men arrived from Oswego, Oregon, to help prepare the furnace for its first firing.

While employees renovated the production facilities, Swaney acquired iron and other mineral properties large enough, according to the Morning Leader, "to develop the iron industry to an enormous extent." Pacific Steel obtained a lease on the Texada Island deposits, unused since the days of the Puget Sound Iron Company, and miners again extracted the high-grade magnetite for shipment to Irondale. To make the smelting process easier, workers mixed in a softer hematite from company-leased claims at Hamilton in Skagit County.

Swaney investigated and purchased several additional deposits to ensure an adequate supply of resources. He and other officials did extensive prospecting on Vancouver Island and in other Pacific Coast regions, securing so many deposits that a local paper predicted the plant at Irondale would be followed by other enterprises "until the shores of Port Townsend Bay will be lined with manufactories, ship yards, etc."

Viewing cheap water transportation as one of the great advantages of his location, Swaney arranged for barges to carry iron ore to the Pacific Steel Company docks. Limestone for flux arrived by the same method from Roche Harbor in the San Juan Islands.

While Swaney was conducting his investigations, independent prospectors found iron deposits in the Olympic Mountains a few miles west of Irondale. The find prompted its discoverers to claim that enough ore existed "to keep a half dozen smelters operating for an indefinite period."

Local papers optimistically reported the return of "an air of prosperity." The town of Irondale, situated on 300 acres of Pacific Steel property on a picturesque bluff 40 feet above the bay, grew with the plant. The population of the little village included Native Americans who camped at the mouth of the Sound-area machinists and ironwork­ers.

As far as possible, Swaney's hiring policy favored married men who were hired to work at the plant and encouraged to bring their families to Irondale.

Chimacum Creek, Chinese workers segregated in bunkhouses, and local pioneers who lived on surrounding farms and ranches.

As new employees arrived the company built dwellings to house them. By October a total of 19 cottages containing three to six rooms each had been completed, with construction plans made for more. The rent on these company-owned cottages included water from Pacific Steel's system. Three reservoirs near the plant, supplied by Chimacum Creek through a wooden flume, held a capacity of 30,000 gallons. A small filtering plant purified water for domestic use.

Bunkhouses and boardinghouses accommodated the single men, and a row of company officers' houses overlooked the furnace operation. As far as possible, Swaney's hiring policy favored married men who were hired to work at the plant and encouraged to bring their families to Irondale.

Swaney also hoped to keep Irondale a temperance town. Iron workers traditionally visited local taverns during the long delays that were inevitable in the ironmaking process. Swaney apparently hoped to encourage both sobriety and responsibility in his new town.

As workers and their families settled in Irondale, the addition of needed services lent a sense of growth and viability to the community. The company owned a large garden near the smelter and hired Chinese farmers to provide the town with fresh vegetables. Several supporting businesses sprang up, including a large hotel owned by entrepreneurs from Victoria and a general merchandise store. In November 1901 Swaney, along with six other investors, formed the new Irondale Mercantile Company, which dealt in real estate as well as various dry goods. By year's end carpenters had framed Irondale's first church, a Methodist establishment.

Meanwhile, Swaney applied for construction of a post office to facilitate communication. The steamer Wildwood made a daily trip between Irondale and Port Townsend; private businesses built a 12-mile wagon road and strung telephone and telegraph lines to connect Irondale and Port Townsend. One enterprising person drew up plans to build a path along the same route for "bike enthusiasts."
In December contractors from Seattle broke ground on a lighting plant for Irondale. The cumulative effect was a confidence in the success of the new venture and an air of permanency for the growing community.

Swaney finally realized his ambitions on December 15, 1901, and a cannon was fired to celebrate the event. Swaney's wife ceremoniously lit the Irondale furnace for the first time in 12 years. A "dense volume of black smoke shot out of the big flue, followed by a red blaze," a welcome sight indeed. Observers in Port Townsend saw a "streak of light across the sky" that lit up "the entire neighborhood of Irondale."

Swaney, the main impetus behind the project, appeared determined to make the plant a success at any cost. But he still considered the initial run an experiment to ascertain whether or not imported ore from scows and dumped it at this time ample funds for all construction work necessary for the initial plant. There have been heavy takeovers of the company's stock, and the reality sales at the Furnace and...
complete business revolution on the Pacific coast.”

Memory of Puget Sound Iron Company’s failure faded into the background as people in the region looked forward to a prosperous iron and steel industry. The Engineering and Mining Journal of New York commented that the old plant “was in first class shape” when abandoned and was in even better condition since its renovation. Pacific Steel Company, according to the author, represented the essential ingredient “to the complete realization of the brightest dreams of the future of the whole Pacific Coast.” Accompanying photographs illustrated and highlighted the work done on the Irondale plant. Such promotional efforts brought a number of potential investors and other interested parties to visit the plant. One of them, James A. Moore, head of a real-estate investment firm in Seattle, would later acquire the plant and carry out many of Swaney’s unrealized plans.

Even before Swaney announced the success of his iron-production experiment, he proposed enlarging the Irondale plant by adding rolling mills and more smelting equipment. However, a rumor circulating in January 1902 concerning relocation of the operation to Tacoma prompted the Morning Leader to investigate the matter thoroughly.

The proposed plant would include a blast furnace to produce 300 tons of pig iron daily as well as open-hearth steel furnaces. Backers planned to include a rolling mill to supply light rails such as those used on logging railroads; a merchant bar mill to manufacture iron used in blacksmithing; a pipe and tube mill; and a tin plate mill. These products would serve the demand of many existing and developing industries in the Pacific Northwest in competition with eastern suppliers. Pacific Steel claimed that associated interests had ensured the location of a large shipbuilding plant and other manufacturing concerns near the new plant.

Much of the optimism and promotional efforts to establish a steelworks plant in or near Port Townsend followed the reports of vast iron-ore discoveries in the Olympic Mountains. Hundreds of individuals filed claims on the deposits during the summer of 1902 and local boosters urged Port Townsend residents to finance road construction to the Olympics so that Pacific Steel would see their city as the logical location for its plant.

Swaney and other so-called experts inspected the deposits and described them as having the potential to become “the richest iron and copper mines on the continent.” The Morning Leader reported that “crowds of men” were leaving Puget Sound cities to stake their claims. Existence of suitable iron ore in the nearby mountains would guarantee the company’s success at its present location, for despite initial profits Pacific Steel’s transportation costs for raw materials were quite high. All resources used in iron production at the Irondale plant—iron ore, fuel and flux—had to travel quite a distance, thus negating to a large extent relatively cheap water transportation costs.

Unfortunately for Pacific Steel and others who wanted to turn the Olympic Peninsula into a vast industrial region, assessments of local ores had been grossly overestimated and no major mining development ever took place.

Swaney was not about to give up his dream of a successful iron and steel industry on Port Townsend Bay. Along with the Pacific Steel officers and a number of other investors, he formed the Seattle Iron and Steel Company with the intention of taking over the Irondale operation in March 1903. Several prominent Seattle businessmen became associated with the Irondale venture through this new company. These included Jacob Furth, president of Puget Sound National Bank and of the Seattle Electric Company; J. W. Clise, president of the Seattle Chamber of Commerce; C. D. Stimson of the Stimson Mill Company; James A. Moore, real-estate developer; Manson F. Backus, president of Washington National Bank; William Pigott, founder of Pacific Car and Foundry; Charles L. Denny, son of Seattle’s “founding father”; James D. Hoge, president of First National Bank; Robert Moran, president of Moran Shipbuilding Company; James D. Lowman of the city’s leading publisher, Lowman and Hanford; Albert S. Kerry of Kerry Timber Company; and D. E. Frederick of Frederick & Nelson’s.
Capitalized at six million dollars, the Seattle Iron and Steel Company envisioned a major expansion. As president, Swaney planned not only to increase production at the existing furnace, but also to construct a giant iron and steelworks at Seattle. Pig iron produced at Irondale would be shipped across Puget Sound and manufactured into steel. Plans for the Seattle site called for construction of a large steel-manufacturing facility and a more modern 150-ton blast furnace. The owners hoped to utilize coke instead of charcoal for fuel.

While the expense of coke was greater in the West than in other parts of the country, promoters felt that its cost could be offset by lower ore and flux prices. Since the inception of the idea to build an iron industry in the far west, so-called scientific investigation of local deposits confirmed this belief. Company officials hoped the low cost of ore in the Pacific Northwest would make its products competitive with eastern mills, while commercial and business growth on the Pacific Coast would provide an adequate market. Organizers felt assured of "an abundant supply of skilled labor" made up of "eastern workmen in large numbers ... always anxious to get away from plants controlled by the steel trust." However, as had happened before, these optimistic evaluations later proved inaccurate.

Ignoring the unrealistic side of the industry in the Puget Sound area, Seattle Iron and Steel Company's prospectus reflected the undying optimism of its promoters. Estimating an annual consumption of 500,000 tons of iron and steel products on the Pacific Coast, none of which were manufactured locally, officers promised prosperity to potential investors. The company claimed to own "the most valuable" deposits "yet discovered in that region, not only in quantity and quality of ore, but in economic shipping facilities" as well. It further stated that these mines could yield ten million tons of ore "without further development." Coke, coal and timber for charcoal, according to the prospectus, existed in Washington in ample supply, easily and affordably available to the Irondale plant. Calculations based mainly on wishful thinking illustrated the large margin of profit possible with only a few improvements. Once again, the advantages over eastern mills were stressed. Iron "can be made at a price per ton not exceeding the best locations in the east," and "when this place has been placed in full operation ... its profits should not be less than $400 per day."

Expansion of the Irondale plant began during the summer of 1903 and prompted a renewed wave of enthusiasm as workmen began updating the equipment that had been shut down for repairs ever since December 1902. The Morning Leader noted the presence of those who "have been so unkind" as to give the "opinion that the plant would not be started again" because of previous failures. But the paper stated that those past problems were being eliminated by improvements and that production should resume by the end of October. Company officers used "every available man about the plant" to tear away portions of the old works to make room for additions. As the pace picked up in the fall and winter of 1903, a number of employees who had moved away when the furnace shut down returned to Irondale.

Swaney continued to formulate his grandiose dreams for a gigantic iron and steel industry. He secured a site on the waterfront in West Seattle for open hearths and rolling mills and bought a schooner to carry pig iron from Irondale to the new plant. All activities of Pacific Steel Company and Seattle Iron and Steel ceased, however, when Swaney drowned on January 9, 1904, in the wreck of the steamer Clallam.

Swaney was traveling to Victoria to negotiate with some Canadian businessmen for more iron ore and financial backing for the plant at Irondale. In the late afternoon of January 8 the engines of the ship failed and it began to drift eastward into the Strait of Juan de Fuca. A blizzard set in, causing the Clallam to list and take on water. Though a rescue ship got a line aboard the distressed ship, it was too waterlogged to be towed and went down in the morning in sight of Victoria. All 54 passengers, including Swaney, died.

Within a week a federal judge appointed M. J. Carrigan as receiver of the now-idle Irondale plant project. Carrigan and others refused to give up on the dream of a western iron and steel industry. Many prominent Seattle businessmen argued that their city needed that industry more than any other.

In an interview with the local press Jacob Furth commented, "Last year this coast sent East to iron and steel manufacturers $30,000,000 and paid the railroads $7,000,000 in freight charges. A Puget Sound iron and steel plant could earn all this money and more and keep it here at home where it would remain in local circulation."

Carrigan told a Morning Leader reporter in April 1904 that "no thought whatever" was given to abandoning the enterprise at Irondale, and he gave the impression that the plant would reopen shortly. To promote interest Carrigan wrote a report, "Iron Manufacture on the Pacific Coast," which reiterated all the familiar arguments for establishing a western industry, including a list of the advantages offered by the Puget Sound region to iron manufacturers: easy access to reasonably priced, high-quality raw materials; labor at rates...
roughly equivalent to eastern mills; a ready and increasing home market; the finest climate in the United States; rail connections to all parts of the country and Canada; and a high profit margin.

Another avid Irondale promoter, H. R. Hunt, gave a detailed description of the plant's facilities and potential in a report aimed at capitalists who might be interested in forming a company to purchase the works at a receiver's sale. He had been general manager of the Ashland Iron and Steel Company in Wisconsin for four years and drew on that experience to compile a plan for Irondale. Hunt believed that $270,000 could refinance a new organization, including necessary remodeling, to produce pig iron at minimal cost. Hunt had secured a lease on the Texada mines and completed an agreement with a Vancouver transit company to haul the ore to Irondale. He hoped to make the mill a going concern in order to realize a profit on his investment.

N oting the 2,000 miles of heavily timbered Puget Sound coastline, Hunt commented, "The supply of wood contiguous to tide water, suitable for charcoal-making purposes, would run the Irondale furnace for 100 years." He estimated costs and projected a substantial return, especially in view of growing West Coast markets, where "there is not now, and has not been since the Pacific Steel Company's plant at Irondale closed down, a single ton of pig iron . . . manufactured in this vast field." Despite Hunt's seemingly enticing proposals, he received few responses to his suggestion of establishing a new company. The skies over Port Townsend Bay remained clear as Irondale's plant continued to sit quietly.

Several factors contributed to this phase in Irondale's history. The Pacific Steel Company was in deep financial trouble before Swaney's death. Swaney, who spent most of his time buying up raw material deposits in an effort to secure an iron and steel monopoly in the West and thereby effectively compete with established interests, paid little attention to the blast-furnace operation at Irondale. His over-ambitious effort to acquire resources, real estate, steel-making equipment and other facilities created such a large-scale project that it was unable to support itself. Swaney spent all available funds on the experimental stage and then expected others to finance the continued operation of the plant, based on what he perceived as its proven potential, and put it on a paying basis.

Fuel shortages, breakdowns of the
hot-blast stove and other difficulties avoidable with sufficient capital caused the plant to experience continual shutdowns. The Irondale furnace turned out no pig iron during 1903, yet Swaney continued to pile up debts and plan for a Pacific Coast steel industry. Irondale again lay dormant.

Another company, apparently unaware of the more basic problems and certain it could overcome difficulties experienced by previous owners, would yet breathe life into a Pacific Coast iron industry. In 1906 James A. Moore of Seattle bought the property and rehabilitated the equipment. Over the next four years Moore made improvements in the plant, bought up raw material deposits and acquired new investors. In 1910 he contracted with the Moran Brothers Company of Seattle to build open-hearth furnaces and rolling mills at Irondale for “the first complete steel plant West of the Rocky Mountains.” He proposed to produce steel from pig iron smelted in Irondale’s blast furnace and scrap acquired from the Pacific Coast region. His rationale for the venture was based on an estimation that the West Coast represented a ready market that consumed over a million tons of iron and steel annually.

Like his predecessors at Irondale, Moore assumed that a natural protective tariff existed in the form of railroad rates that would give the western plant an important competitive edge. The Western Steel Corporation, organized in October 1909, financed the venture and work progressed on the plant throughout the spring of 1910.

Excursions from as far away as eastern Washington brought thousands of people to Irondale’s wharf to witness the transformation of a virtual wilderness into a great industrial center. The phenomenal growth of the town, which had attained a population of 1,400, reflected strong faith in the success of Western Steel’s ambitions.

On May 26, 1910, Irondale’s superintendent tapped the furnace and turned out the plant’s first finished steel. This event prompted the Irondale News to report that “this city would repeat the history of the steel centers of the east, south and west” and possessed a future “brighter by far” than some that became world famous.

However, financial troubles caused the plant to close yet again in the summer of 1911. Rumors to the effect that United States Steel Corporation had tried to force Western Steel out of business circulated throughout the Puget Sound area. The belief helped Moore maintain a large degree of popular support in what appeared to be a classic struggle between the small entrepreneur and the big conglomerate. Regardless of the accusations, it was Western Steel’s failure to meet a repayment deadline that resulted in foreclosure by its creditors.

A subsequent court struggle with the company’s major creditor, Metropolitan Trust Company of New York, ended in the sale of the plant. In 1913 the new owners, Pacific Coast Steel Company, dismantled and removed the steel-making machinery. The quiet settling over the area broke once again in 1917 when high prices for pig iron led to the plant’s temporary reopening during World War I. In December 1919, after exhausting the raw material supply on hand, workers tore down the blast furnace and sold it for scrap.

The Irondale community suffered a similar fate. In 1910 it housed 1,400 people, 400 of whom worked for Western Steel. Facilities included telephone and telegraph service, graded streets, electric lights, a post office, newspaper, school, hospital, complete water system, and six store and office blocks.

When the steel plant went bankrupt, people drifted away. In 1914 two separate fires swept through the virtual “ghost-town” and destroyed much of the business district as well as many small cottages. The population fell to 200, leaving only ruins of the dream for a “steel city of the Northwest.”

Those left behind settled down to a quiet, unhurried existence, similar to what is found today. According to one longtime resident, Irondale, once envisioned as the Pittsburgh of the Pacific, with smokestacks, furnaces, cranes, ocean freighters at the docks and freight cars in the yards, proved only a dream. All that remain are the crumbling ruins of a hoped-for glory.

The desire for financial profit and a self-sufficient economy free from eastern domination encouraged speculation and boosterism in the Far West. Even though iron and steel production seemed realistic at the time, several problems plagued the Irondale plant throughout its history.

The prohibitive fuel prices and necessity of importing iron ore kept expenses high. In addition, Irondale owners could not raise sufficient capital to keep operations up-to-date with rapidly changing technology.

The area lacked the population base necessary to support an industry of the size envisioned by the owners. Also, completion of various transcontinental railroad lines by the end of the 19th century gave eastern conglomerates a strong competitive edge in the West.

Despite these disadvantages, Irondale is significant as one of the first attempts to introduce heavy industry into western Washington. It symbolized a desire for economic growth in the West and encouraged the inauguration of other iron- and steel-producing plants in the region.

Irondale, like so many gold and silver mining towns of the previous century, passed into oblivion. Today a mass of brick and concrete foundations, hidden by natural growth, marks the spot where the plant once stood and serves as a monument to those who dared to initiate a western industrial economy based on steel.

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Most Washington history buffs are familiar with the name of Edward Lander, the first chief justice of the Washington Territorial Supreme Court. They probably remember him best because of his comic-opera conflict with Isaac I. Stevens, Washington's first territorial governor, during the Indian troubles near Steilacoom in the spring of 1856. Less well-known is the fact that Edward Lander had a younger brother, Frederick West Lander, who had his own troubles with Stevens. In fact, Frederick Lander could be considered an important figure in his own right. He contributed greatly to the westward movement during the era of "Manifest Destiny" and actually led an even more colorful life than his brother.

Frederick Lander was born in Salem, Massachusetts, on December 17, 1821, the son of Edward Lander and Eliza West. His great-grandfather was a pioneer mariner in the Massachusetts Bay Colony. His maternal grandfather had been captain of a famous privateer during the Revolutionary War. His paternal grandfather was a successful merchant in foreign trade. His father was an owner of factories. Thus, Lander belonged to a wealthy commercial aristocracy. He was educated in private schools and graduated with honors from a private college of engineering where he was noted for his physical strength and love of sports. He then served as surveyor and chief engineer during the construction of a number of eastern railroads and soon earned a reputation as a capable consulting engineer.

In March 1853 Congress passed a bill creating the Territory of Washington. It was signed by President Millard Fillmore in the closing days of his administration. His successor, Franklin Pierce, appointed Isaac I. Stevens the first governor of the new territory. Stevens was a West Point-trained officer of engineers who had served in the Mexican War and had been involved in the construction of numerous fortifications in the East. In addition to his duties as governor he was to serve as superintendent of Indian affairs and, on his way to assume his new positions, was ordered to carry out a survey for a possible railroad route from the Mississippi River to the Pacific Coast.

Stevens assembled a party of 240 men to assist him with
his task. The party included 11 army officers, 76 enlisted men, 33 scientists and 120 civilians. Among the civilians were two civil engineers, Frederick Lander and Abiel W. Tinkham, the latter having previously served with Stevens in the construction of Fort Knox on the Penobscot River in Maine. Stevens divided the group into one eastern, one western and two subsidiary parties. The larger eastern party, under Stevens’ command, was to head west from St. Paul. The western one, under Captain George B. McClellan, was to start from Fort Vancouver, examine the Cascade Range, and join Stevens on the Columbia plain. Each of these was to be preceded by a subsidiary party moving ahead with supplies. Lander and Tinkham served under Stevens in the main party.

Stevens’ son and biographer, Hazard, described Lander as a “tall, athletic, young man, confident in bearing, frank and ready in conversation and fond of relating his adventurous experiences . . .”

Lander and Tinkham were sent ahead to St. Louis to study the crossings of the Mississippi River. Lander’s report of this survey later appeared in a congressional executive document. The main party crossed the river in late May and early June 1853. Throughout the entire expedition Lander and Tinkham were often sent out, each with his own small party, to reconnoiter, explore, cut timber and build bridges.

From the start, things did not go well as far as Lander was concerned. First he was ridiculed for shooting at a skunk, thinking it was an Indian. Then he was denounced as an inveterate horse-killer, invariably returning from a trip with his horses in poor condition. In July, when they were in Sioux country, Tinkham was overdue returning from a trip, prompting fear that his party might have been captured by the Indians. Lander was left in camp with the engineer wagons, a howitzer and a few men while others were sent out to search for Tinkham. Although they encountered a Sioux war party, its members proved friendly and Tinkham was found unharmed. Later in the month Lander was sent out to prospect for coal and iron. As the summer wore on and the party approached mountainous country, Lander and others
examined many possible routes through the mountains.

In September Stevens ordered Lander to explore Marias Pass, in what is now western Montana. He set out well equipped and was to rejoin the main party on the Clark Fork River. The exploration was cut short when the pass was found to be impassable for wagons. It seems, however, that there was something more to it. Stevens complained that there was "not the harmony in Mr. Lander's party which I deemed indispensable to make the examination I had intrusted [sic] to him."

Lander was ordered to return to Fort Benton with the governor. Hazard Stevens reported that from the time the expedition left Fort Union

Lander developed a fractious, almost insubordinate, disposition. He chafed at the presence and authority of the army officers. At Fort Benton, Governor Stevens had to curb his insubordinate disposition with some severity, and even told him that he would shoot him down like a dog if he disobeyed his orders. Lander, realizing that Governor Stevens would enforce discipline at whatever cost, yielded, professing his readiness to obey instructions, but thereafter he did so according to the letter but not the spirit.

Before and after this occurrence the governor, according to Hazard,

"Sheyenne" River, near where members of the railroad survey encountered a Sioux war party.

gave him the best opportunities for distinction, intrusting [sic] to him the most important side explorations and in the reports gave him full and generous commendation for all he accomplished. . . . A bold and energetic, high strung man, Lander could ill brook any authority.

According to Hazard, this was the only instance of lack of subordination during the entire expedition.

The accomplishments of the expedition were nonetheless prodigious. Nine passes across the Rocky Mountains and four across the Bitterroot Range were examined. The northernmost was later used by the Great Northern Railroad, and one of the southern, explored by Lieutenant John Mullen, another member of the expedition, was used by the Northern Pacific Railroad. Meanwhile, Stevens visited with numerous Indian tribes and conducted extensive scientific studies.

Lander then went on to run a line from the Marias River via the Teton, Sun and Dearborn rivers to Lewis and Clark's Pass. After leaving the valley of the Blackfoot River he became thoroughly lost, eventually making his way to Fort Owen on the Bitterroot River, south of present-day...
Missoula, Montana. He again incurred the governor's displeasure by exhausting his horses, making incomplete observations relative to a railroad line, and missing a rendezvous that brought the governor's latest instructions.

By mid-October Stevens was in the vicinity of the Hudson's Bay Company's Fort Colvile, on the east bank of the Columbia River. There McClellan joined him after crossing the Cascade Range south of Mount Adams and examining only the eastern portion of Snoqualmie Pass. He partially convinced the governor that it was too late in the season to attempt that pass again. Two weeks later Stevens, McClellan and the main party reached old Fort Walla Walla. Stevens ordered Lander to head up the Yakima River, traverse Naches Pass and run a line to Puget Sound.

Stevens reached Olympia on November 25, 1853, having come down the Columbia River by boat and then up the Cowitz. When Lander arrived, he had not persevered in his examination of Naches Pass "for reasons not conclusive to my mind," said the governor. "Thus," added Hazard, "Lander purposely balked the task intrusted [sic] to him and threw away another fine opportunity of achieving credit for himself." A few days later McClellan arrived in Olympia. The governor ordered him to reconnoiter a route for a railroad from Puget Sound to Snoqualmie Pass that would connect with the point he had reached from the east. Again, McClellan failed to accomplish his mission, having been dissuaded by Indian reports of the depth of the snow.

The governor was frustrated, but he remained convinced that the route was passable even at this time of year. Accordingly, he sent a dispatch to Tinkham, who had just returned to Walla Walla from a round trip to Fort Benton. He was ordered to push to the Puget Sound by way of Snoqualmie. Tinkham left Walla Walla on horseback on January 2, 1854, with two Indian companions. He traveled up the Yakima River, abandoned his horses and went through Snoqualmie Pass on snowshoes, reaching Seattle on January 26.

The survey successfully completed, Stevens informed Secretary of War Jefferson Davis that the northernmost route was quite practical for a railroad. Lander, arriving in Seattle, made it known that, in his opinion, the choice of a new railroad route depended not on a ponderous expedition with costly equipment, but on the amount of information gained. He personally felt that the interests of the Pacific Northwest could best be served by developing a better route from the East to California, with a branch to Puget Sound, than by the northern route recommended by Stevens. Early in 1854 he expressed these views to the Washington Territorial Legislature and offered to undertake this exploration himself. The legislature accepted his offer but instructed its delegate to Congress to urge that body to make compensation to Lander.

In March Lander set out at his own expense to survey a railroad route from Puget Sound via the valleys of the Columbia, Snake and Bannock rivers, South Pass and on to Council Bluffs. He believed that a direct line west from Lake Superior would encounter too much injuriously severe weather and lie too close to the Canadian border in case of war with England. He took with him six companions, only one of whom was still with him when he reached Council Bluffs. In a public lecture after his arrival he extolled the superiority of his route over Stevens'. Congress published a report of the survey and ultimately reimbursed him with $5,000. Although Lander was not a Washingtonian he was held in high regard by its people for his services to the territory.

Between 1857 and 1860 Lander served as superintendent and chief engineer on the Fort Kearny-South Pass-Honey Lake Wagon Road. This road in part followed the Oregon Trail and then branched off toward California. The first overall road superintendent was William M. F. McGraw who, like Lander, had been appointed by Secretary of the Interior Jacob Thompson. McGraw, an alcoholic with a vile temper, was an incompetent political appointee whom Lander ultimately replaced. In all, Lander took part in five transcontinental surveys and published an emigrants' guide.

In 1857 Lander surveyed a cut-off that bypassed a portion of the Oregon Trail. Swinging northwest from South Pass, it rejoined the trail at Ross Fork on the Snake River. For his accomplishments with this task he received high praise from Secretary Thompson. This route, which later bore Lander's name, not only saved many miles and days of travel, but also gave a wider berth to the Salt Lake area, where later that year a party of Mormons and Indians at Mountain Meadows. In 1858 Lander supervised construction of a road on his cut-off and for the next two years had charge of the road into California as well.

Meanwhile, McGraw had been dropped from the service for dereliction of duty. For this he blamed Frederick Lander. When Lander heard of the derogatory remarks McGraw was making about him, he issued McGraw a challenge but received no reply. A short time later Lander was in Washington, D.C. to submit work reports when he encountered McGraw in Willard's Hotel. Lander began to express his low opinion of McGraw and upbraid him for not answering the challenge. McGraw pulled a "billy" out of his pocket and...
began beating Lander over the head with it. Lander grabbed him and tossed him ten feet on the floor, jumped on him and might have killed him had not some waiters intervened. Both men were said to have been "terribly cut and disfigured."

Lander generally spent his winters in either Washington, D.C. or San Francisco. In the former he often lectured before art associations or other gatherings of ladies, and in both he "basked in gratifying social eminence." His favorite topic of conversation was the Pacific Railroad, and his favorite lecture, "The Aptitude of the American Mind for the Cultivation of the Fine Arts," an odd subject for a man called "Old Grizzly" after he dispatched one of those ferocious beasts with a pistol.

In 1858 Secretary of the Interior Thompson asked Lander to record his views on the construction of a railroad to the Pacific. His report was submitted to Congress and published in a house executive document.

Later that year Lander and his party of 70 were attacked by Paiute Indians who, after a brief skirmish, were repulsed. In 1859 he led yet another expedition west to make further improvements on his road. This time Lander had with him the well-known German-born artist Albert Bierstadt, who was making his first trip west. Lander, whose budget made no provision for an artist, was pleased to have someone with him to memorialize his work.

One of the works resulting from this journey was a massive, much-acclaimed painting called The Rocky Mountains—Lander's Peak. In a number of his western scenes Bierstadt indiscriminately identified several mountains as Lander's Peak to honor Lander, whom he was fond of. Incidentally, Lander's name is still connected with a number of other geographic sites: a town in Wyoming, a county in Nevada, a stream in Idaho; Stevens mentioned a Lander's Fork; and, of course, there is his segment of the Oregon Trail.

At work season's end Lander returned to Washington, D.C. There, early in 1860, in front of Kirkwood's Hotel, he had a second confrontation with his old nemesis McGraw, who had been proclaiming that he'd whipped Lander in their previous encounter. A contemporary newspaper account details what transpired:

Mr. McGraw got out of a hack with some friends. Col. Lander was accompanied by Major Yates, the gentleman to whom Mr. McGraw had made the aforesaid remarks. Col. Lander said, "I demand from you an explanation of your remarks to this gentleman (turning to Major Yates)." Mr. McGraw stepped back upon the steps of the hotel, followed by Col. Lander. Mr. McGraw put his hand in his pocket, and said something, which so far as heard seemed meant for an apology. Lander then struck him on the breast, pushing him back, saying, "Speak up and speak loud, sir." On this Mr. McGraw said, "Let me go into the hotel." "Yes," said Col. Lander and followed up.

Within the hotel McGraw attempted to go into the entry. Lander stopped him, saying, "Turn round now, sir, and face me and answer me," at the same time roughly turning him by the shoulder.

At this point the proprietor of the hotel interposed but Lander tried to coax McGraw outside.

"Take your pistol and I will meet you, as I am unarmed. Come on." McGraw refused. Col. Lander then, after stigmatizing him as liar, coward, thief, blackguard and scoundrel, requested any of the crowd, of which there were more than forty, to step forward and take up the quarrel, if a friend of McGraw. None speaking, he made his apologies to the Kirkwoods, offered to wait on the ladies and apologize, and retired.

World-renowned actress Jean Margaret Davenport abandoned her career to marry Frederick Lander.
Shortly after this episode Secretary Thompson sent Lander west for the fourth consecutive season to improve the Honey Lake-Humboldt section of the California road. This time he traveled to California by sea on the steamer Golden Age, where he kept company with Jean Margaret Davenport, a famous British actress he had known for several years.

Lander reached Sacramento in March 1860. The so-called Paiute War was under way, and Lander was unable to get contractors to work in Indian country. He proceeded to mount and arm a party of 40 men. The Paiute chief, Winnemucca, was said to have 1,100 warriors west of the Humboldt, including his Snake and Bannock allies. Winnemucca was prepared to fight to prevent whites from trespassing on and seizing his lands. Lander found the Honey Lake settlement virtually abandoned and nearby residents in a state of panic. With the help of 20 "Honey Lake Rangers," Lander's little band fought a running battle to drive the Indians north of the emigrant route. Springs were stoned in, wells sunk and reservoirs built as they moved along.

Meanwhile, Lander held a series of talks with Winnemucca and was able to arrange a one-year truce, although he was sure that some of the tribes would ultimately have to be chastised. Grateful Californians praised Lander, and his reputation as an Indian commissioner was said to equal that as a road-builder. High praise for his efforts was also forthcoming from the Department of the Interior.

After Lander's last summer of work on the trail, he and Miss Davenport were married; he was 38 years old and she, 31. The wedding ceremony was performed on October 16, 1860, by the well-known San Francisco Unitarian minister Thomas Starr King. One newspaper referred to the event as "the union of Mars and Thespis." Miss Davenport then announced her retirement from the stage.

During the autumn of 1860 Lander, a life-long Democrat, took an active part in the presidential campaign, supporting Breckinridge and Joe Lane of Oregon. Despite this, under the Lincoln administration he received a commission as a colonel, and Secretary of State William H. Seward sent him as a secret agent into Virginia. During the secession crisis, President Lincoln entrusted him with a highly confidential mission to Governor Sam Houston of Texas. He was to determine the extent of Union sentiment there. He was given authority to order federal troops to Texas to support Houston if he thought it would deter the state from seceding.

Upon the outbreak of the Civil War he served as an aide on General McClellan's staff and performed with credit in the engagements at Philippi and Rich Mountain. In May 1861 he was promoted to brigadier general of volunteers and took command of a brigade in General Clarence P. Stone's division on the upper Potomac. On October 22, 1861, the day after the disastrous defeat of Union troops at Ball's Bluff, 30 miles up river from Washington, D.C., Lander received a serious leg wound in a skirmish at nearby Edward's Ferry, which he was holding with a company of sharpshooters.

Shortly thereafter Lander was promoted to divisional commander and, early in 1862, successfully defended Hancock, Maryland, against a superior force of Confederates under "Stonewall" Jackson. Although his health had undergone progressive deterioration from the effects of his wound, he led his division through the hardships of a winter campaign before settling into Camp Chase at Paw Paw, Virginia. While there he led a brilliant cavalry charge on a "rebel nest" in nearby Blooming Gap. On March 1 he received orders to move his division to the Shenandoah Valley to reinforce General Nathaniel P. Banks who was operating against Jackson and his troops. "But," as one of his officers said, "the brave Lander was not again to lead us ..." for that very day he was mortally stricken with a "congestive chill" (pneumonia) and died within 24 hours, on March 2, 1862, at Camp Chase. He was only 40 years old. General McClellan announced his death to the army in General Orders.

Mrs. Davenport-Lander, widowed less than 18 months after her marriage, served as a hospital nurse following her husband's death. After the war she resumed her acting career for 12 years. "An actress of great talent, taste and intellectual attainment," she lived in Washington, D.C. and Lynn, Massachusetts, until her death in 1903. The Landers had no children.

As for Frederick Lander, his performance as a surveyor, explorer, engineer and road-builder earned him the approbation, gratitude and praise of high government officials in the nation's capital, despite his differences of opinion with Governor Stevens. For his performance as a soldier he earned the confidence and approval of his superior officers and a special letter of commendation from Secretary of War Edwin M. Stanton. Throughout the war he continued to compose patriotic poems. After Lander's death, President Abraham Lincoln attended his funeral in Salem, Massachusetts, the ultimate honor in an eventful life.

Carl Schilke, a retired Washington surgeon, has authored two books on Northwest history and written articles published in numerous journals. He won the 1988 McClelland award for the best article in Columbia magazine.
SHOWMAN

C. K. Hamilton, the Flying Daredevil

By Paul Spitzer

When Charles Keeney Hamilton passed through Portland, Seattle, Spokane, Tacoma and Vancouver, B.C., in 1910 and gave the Pacific Northwest its first chance to glimpse airplane flight, he was engaged in something that was totally new and yet familiar.

What was he? An aviator? Sportsman? Inventor? Airplane salesman? He was none of these, according to the official classifiers of American life, the United States Census. Anyone who flew, the census stated, was in the same class as highwire aerialists, magicians, bearded ladies and lion tamers—people whose occupation was thrilling crowds. All of these the census classified as “showmen.” The term was fitting in those early years for aviators, and for “Daredevil Hamilton,” as he billed himself, it was heart-and-bone true.

Hamilton was one of the top aviators of his time, but his name cannot be found in most histories of aviation, even fairly detailed accounts. Among those who flew first, faster or farther, his name rarely appears—unlike Charles Lindberg, the efficient Boy Scout of aviation and the clean-living bachelor Wright brothers. Hamilton was just a performer, a showman. He was no visionary, engineer, pathfinder, leader of men or teacher. He was only a pioneer pilot and a bad example for the young. His rarely-remembered contribution was an unmatched talent for stunt flying and a high tolerance for pain.

In 1910 there was still little point to flying. It was simply marvelously, incredibly new and thus worth paying to see. And that made it the property of showmen.

At Reims, France, where the world’s first aviation meet had been held the year before, American Glenn Curtiss won the prize for the fastest flight. Hamilton rushed to Curtiss’s aerodrome in Hammondsport, New York, to learn to fly. However, before Curtiss could reject his uninvited, ungentlemanly guest, he discovered that Hamilton had already flown 19 times around the aerodrome. The visitor had become an aviator on his own by commandeering an airplane left unattended.

Curtiss needed no more convincing that here was real talent. Four months later Hamilton was in the Northwest showing off. He instantly seized on what to do with this new-found and useless science of flight: make it pay.

Charles Hamilton was an elfish redhead, weighing barely 110 pounds, with ears that were an aerodynamic liability. He smoked all the time. Once, unable to move from his seat after a crash, he asked for a light from the first person to reach him. Drink, however, was his real demon. He often was too drunk to get into his airplane without the aid of his mechanic. Once in the air, though, everyone agreed, he was master of the machine. He showed no fear of heights and recognized no limitations of the frail machines.

Hamilton came to flying well prepared. When he showed up on Curtiss’s doorstep he was already an experienced “birdman”—the newspaper term of the day for flyers. As a child in Connecticut in the 1890s he built many kites. Resolving to be an “aeronaut,” he toured as a teenager under the name H. A. Milton with a balloon-and-parachute act. Hamilton did the jumping. Instead of a simple suicide, he made it more interesting by leaping from the gondola with five parachutes and discarding one after another. Then turning to dirigibles, he performed as far away as Japan. His were said to be the first airship flights in the Orient.

ABOVE: Image was important to early aviators, and Charles Hamilton, like most others, avoided looking like a mechanic by wearing the sportsman’s version of business attire.
Soon after mastering the basics with Curtiss, Hamilton headed for Los Angeles for the first American world air meet, in January 1910. Second only to Curtiss, Hamilton was the most successful American there and was instantly famous in his own right. Cities everywhere begged him to come fly for them. He immediately began a tour of dollar-per-person shows with the leased Curtiss Reims Racer.

A San Diego show was first. Hamilton crossed the Mexican border illegally, buzzed a religious temple and finished one flight—the first ever at night—with what became almost a trademark, a crash. Then there was Bakersfield, Fresno and Phoenix. The crowds were good in Tucson, El Paso and Douglas. Generally, each show netted over a thousand dollars. After Douglas he headed for the Northwest.

At this point in aviation history Hamilton was almost alone in barnstorming the North American continent. This contradicts the modern-day impression that the Northwest region was slow to witness aviation. Scarcely six weeks after aviation's Los Angeles coming-out party, Portlanders were literally fighting over seats on special streetcars heading out to see Hamilton.

The show in Portland (March 5-7, 1910) had trouble finding a venue, but the flights went well after a former racetrack was turned into a makeshift airfield. The main trouble was that too many watched the show for free from outside the grounds. The Vancouver, B.C., show (March 25-28) at a racetrack south of the city was also a success. Hamilton even flew up the Fraser River valley as far as New Westminster and back. The *Daily Province* declared him a success. Only one person had flown before him in Canada, and Hamilton's long distance flight was a Canadian first.

Between Portland and Vancouver, at a show in Seattle (March 10-12), "death defying" became more than a cliche. His obituary—though he did not die for four more years—said that in Seattle "in attempting to loop the machine, for some unknown reason, it dropped sideways." Curtiss's famous Reims Racer, the same airplane that beat the world, was fished out of a pond in battered condition.

The local newspapers speculated that Hamilton was trying to skip like a rock across the water but somersaulted and crashed instead. Actually, contact with the water was merely the unintended prelude to another of Hamilton's many crashes. Fifty crashes in five years, some historians reckon, and of these, Seattle was just the first of the worst. If—as pilots say—any flight is successful when you can walk away, then this one definitely was not.

Hamilton swam "sluggishly" toward shore, a *Seattle Times* reporter wrote. To the less-than-impressed newsmen, it seemed a disappointing performance. People had come to see Hamilton conquer the sky or get killed trying. He had not managed to do either. Following his release the next day from Providence Hospital he went back to the show. Hobbling on a swollen leg and cane he made a game effort to satisfy his crowd but failed to start the engine. The crowd and the reporters went home angry after storming the ticket office to get their money back. Nasty crowds were nothing new to Hamilton. He said he "expected to get hit by a brick."

In a letter East several days later he wrote, "Yes, I had quite an accident in Seattle—had the calf of my left leg nearly torn off." However, the newspaper accounts of the day left the false impression of a forgettable and botched performance by a small-time flyer. All accounts since then have followed that theme.

In Tacoma (March 19-21) his mechanics again struggled to get the engine started. The crowd, at least, was understanding when it went home, and Hamilton finally did make good on his promise. In the following days he made a few good flights from a baseball field, but a show planned for Victoria never occurred.

His Spokane appearance (April 1-4) extended his stay in the West. An audience of 15,000 was delighted that he came to their city, but Glenn Curtiss was infuriated. He needed Hamilton back East to take part in big-money—$15,000—air shows. Hamilton's words, "I haven't broken a contract yet and I'm not going to," endeared him to the Spokane *Spokesman-Review*, which reported them. But his relation-
ship with Curtiss soon deteriorated.

Curtiss could never have foreseen what his pilot did next. Hamilton went back to Seattle (April 9-10). One explanation he gave was that he wanted to rid himself of his accident's "hoodoo." He was even more intent on clearing his name and leaving no doubt, as he said, about his "integrity." Hamilton never achieved that because historians had given up pursuing the Seattle newspapers after his first visit there. The second visit went undiscovered, and Hamilton remains recorded as a bungling small-time show-off.

No one expected the second visit to draw large crowds because it took place on Mercer Island and was hard to reach. The rainy, blustery weather gave no encouragement for great attendance. Hamilton made it clear, though, that he was going to carry through despite the weather. He performed as he had promised, pleasing the enthusiastic crowd as well as the local papers.

Coming back to re-do a performance, especially a show in which the performer had almost killed himself, was hardly written in the rules of showmanship. On the contrary, it is the nature of carnivals to move on. With Curtiss sending 100-word telegrams beseeching Hamilton to return to the East Coast, he must have had a very compelling reason to return to Seattle. Perhaps it was the legal entanglements from the first show, which were already headed to court. Perhaps it was something else.

The recently remarried Hamilton received several telephone calls from a woman at his hotel on the night of his return. He refused to take them apparently knowing who they were from. The next day a tall woman walked up to him as he finished his first flight. He drew her quickly aside and they talked in low tones. The Times soon discovered that the mystery woman was his first wife, Effie Quantz. Three years earlier she had walked out during his dirigible tour and then divorced him. Now, following a move to Seattle for unknown reasons, she initiated the conversation. The tough guy was not tough enough for this—his remarks resonated with pain. He had "long ceased to care" how she felt about him, he said. The Times—observing her fixed gazes, the hesitant words, his obvious defensiveness—called it "romance."

After his Northwest tour Hamilton headed south to San Antonio and then followed a zigzag itinerary through America as part of the Curtiss team. He flew in Tennessee, Georgia and Florida during the remainder of 1910. In June he caught the eyes of the whole country by flying alongside a train from New York to Philadelphia and back—a newspaper stunt that offered $10,000. This was more press-manufactured news than a true event in American aviation history. To an old carney hand like Hamilton, however, it made no difference. As he celebrated afterwards in the Waldorf bar, it was rumored, he pitched a fifth of the devil's own into the mirror.

Bookings followed in Nashville, Atlantic City, Sacramento, New York, Richmond, Memphis, Chattanooga, Tupelo and New Orleans. His Sacramento stint ended so badly that some newspapers announced his imminent death. However, Hamilton took no time to recuperate and went right back on tour.

In 1911 he flew into Mexico where he tossed oranges at the soldiers for fun. There were more flights in Atlantic City and New England, and a southern circuit through Galveston, Sacramento and Fresno, and then a tour back East. And there were more crashes. When he collapsed from injuries in Galveston he was taken to the hospital despite his protests. Crashes, of course, never hurt the showman's ability to attract a crowd.

However, time was running out for Hamilton. He was having increasing health problems and had to pass up opportunities. The list of bookings for 1912 is shorter than for 1911, and for 1913 it was shorter still. Then there was a nervous breakdown. Cigarettes, one-day stands and a dissolute life would have been hard on even a healthy body. During a trip home to New Britain, Connecticut, a doctor finally diagnosed him as having tuberculosis.

As if he'd been too easy on himself, Hamilton began creating legal troubles for himself somewhere after his Northwest tour—he stopped paying Curtiss the airplane lease fees. Finally, the exasperated
Curtiss canceled the lease and sued him. Curtiss wrote Hamilton pain-filled letters labeling him "unfair and unscrupulous," declaring that the Curtiss team would be better off without him. In court the case went against Hamilton, but he went on tour on his own.

Controversy merely meant publicity, which created demand—demand that was levered by news of yet another fallen birdman—teenager Cromwell Dixon in Spokane. Demand for Hamilton was enormous from 1910 to 1912. Many regarded his as the best act to watch and certainly never the safest. "King of the Sky" and other praises headlined him. An aircraft magazine called him the "greatest aeroplane driver in the world at this time, and certainly the most daring." "Greatest" was a word well-understood in touring shows.

Hamilton did stunts with a recklessness that few other showmen cared to emulate. When someone offered him $10,000 to fly down the Broadway canyon between the skyscrapers in the center of New York City, he accepted. The idea was so crazy that city officials stepped in and kept the event from occurring. He was one of the first to stage a plane-versus-auto race, which he repeated in Portland. And in Vancouver he lost a race to a horse. Over Seattle’s Mercer Island he "cut the figure eight, pirouetted, jumped, soared and played with the brake" as if the plane "was a toy." Hamilton understood that aviation was stunts.

In his often-performed specialty, the death dive—the stunt that had been his undoing at the first Seattle show—he pitched his plane straight over on its nose and cut the engine (there is another saying of pilots: nothing is louder than a dead engine). Wedging his small, wiry frame into the seat—he wore no seat belt—he plunged several hundred feet at the crowd straight below. Then he pulled the plane up at the last second and landed in less space than it took to crash. Stopping a few feet in front of his tent, between intruding lines of cheering fans, he climbed out over the wood and wire maze of his "kite"—Hamilton’s description—with its overpowered V-8 engine to receive a "stimulant" while the audience thundered applause. There was only one Charlie Hamilton.

He was often told he was going to kill himself. Given all his crashes, it would not have been unlikely. That was why Effie’s parents objected to her marrying him. The remnants of his recklessness were a plate in his skull, another in his leg, two silver ribs, a fractured jaw and numerous other broken bones, and skin made leathery where he had been scalded after the radiator burst on top of him. But he had an uncanny sense for avoiding the worst that could happen. Hamilton always maintained he would die at home, and before long he did exactly that.

At age 29 he succumbed to tuberculosis, dying in Effie’s arms. She remained single, living in Seattle and working as a stenographer. In the Pacific Northwest, except to remember that he was our first flyer, he is rarely mentioned. Today, he is still written off as a small-time barnstormer. In his day there were very few lessons to be learned from his roustabout life. The public soon forgot Charlie Hamilton—just as sword swallowers and fire-eaters were forgotten.

Charles K. Hamilton, who brought flying to the Pacific Northwest, drank too much, smoked too much, flew on the Sabbath and was a cheat. In his pocket there was always a loaded pistol and a roll of bills. Though he broke contracts, he always tried to keep the performer’s tacit pledge to the audience to go through with the show. And he lived a life committed to aviation. His virtues, as well as his vices, were those of the carnival. He was, in fact, a carney, and the census people were right to classify him so. Hamilton was a showman with a special talent for making his imminent death worth paying six bits to go and see.

The frailness of early aircraft was painfully apparent. The design of the light, spindly structure placed the pilot in front of the heavy engine where he would be crushed in even minor accidents.

Paul Spitzer, recently retired, worked 14 years as Corporate Historian for The Boeing Company. He is co-founder of the Pacific Northwest Historians Guild and has authored many articles for journals, museums, encyclopedias and newspapers.
Female Stampeded to the Klondike and Alaska

Women were Everywhere

By Michael Ostrogorsky

Anna Fulcomer abandoned her teaching post at the Yukon River mining camp at Circle City when news arrived during the winter of 1896-97 of the Klondike bonanza. Realizing that possible fortune awaited the first stampeders to reach the gold fields, Anna hired a dog team and sourdough musher to speed her to the Klondike. She wryly observed the relative value of man and dog in the northern mining frontier, reporting “I could get an experienced man for my trip to Klondike for nothing, but had to pay $30 rental for a dog, and had to make a contract to pay $75 if anything happened to the animal.” The roles of men and dogs in the history of the Western mining frontier have been thoroughly documented. This story, however, focuses on the activities and contributions of Anna Fulcomer and her sister stampeders.

The Klondike stampede, unlike any other Western mining rush before it, was written about extensively by the American press. Harper’s Weekly correspondent at Dawson City, Edwin Tappan Adney, reported with apparent amazement that “women, too, [were] everywhere.” To varying degrees, women participated in every Western stampede. They were even among the early arrivals during some mineral rush episodes. During the early rushes, though, women played a role subservient to that of the traditionally male miners. The literature of the mining West would have us believe that women only went along for the ride.

Thus the historiography of the Western mining frontier is decidedly male, as are the authorities upon

Contrary to the stereotype of the bearded, burly gold miner, many members of the “fair sex” worked the gold fields of the Klondike. Women stampeders are pictured here gathered around a sluice box in Alaska, c. 1898.
which it is based. To William S. Greever, for example, it is a “saga of how bold men braved great perils, won huge riches, met tremendous disappointments, sought dubious recreations, flouted laws, rose up as vigilantes, started to develop areas steadily from wilderness to urban center [and] abandoned places to sink back into an almost virgin land…” Narratives making some attempt to be gender-balanced generally limited women’s roles to camp follower and prostitute. We should not be surprised, therefore, to note that a recent 14-page bibliography about Western mining cites only two female mining historians.

The stampede to the Klondike and Alaska was decidedly different. This is the obvious conclusion we can draw from the nearly uniform surprise expressed by male diarists and journalists about the female presence in the north. Adney’s reported surprise at encountering women in the north becomes repetitious, as at the trailhead at Skagway. In Dawson City, Adney reported, women were “a continued subject of comment . . . ; all of whom were as intent as the men upon earning, or helping to earn, a fortune.” Robert Medill records an encounter with a woman he initially mistook for a boy along the arduous Chilkoot Trail leading from Skagway to the Yukon River. But even guidebook publishers quickly came to appreciate that women “were just as anxious to get into the wilderness to locate claims as any man who wore boots in the crowd.”

The impact on Victorian sensibilities also demonstrates how unique women stampeders were in the north. Women dared to make common-sense adaptations to conditions in the northern mining fields. Ethel Bush accompanied her new husband to the Forty-Mile District in 1896, wearing:

[leg] garments which resembled very much those of her husband. They came over her feet like old-fashioned sandals, and did not stop at her knees. They were made of seal fur, with the fur inside. She pulled gum boots over these. Her skirts were very short.

Adney also noted that the women Klondikers were dressed “in short skirts, with leather leggings or rubber boots, or else in out-and-out men’s trousers.” The 25- to 30-year-old woman Robert Medill mistook for a boy explained that “when my dresses wore out on the trail, there was nothing to do but take the handiest clothes I could get.” Alden Smith wrote to his mother from the gold fields in 1898:

I must tell you about the ladies up here for there are a good many of them on the trail. They wear man's pants and coats and rubber boots and it is hard to tell them from a man if their long hair does not give them away. And of course they have no whiskers on their faces.

One of the most notorious woman Klondikers was “Dawson Kate” (a.k.a. “Stampede Woods”), who reputedly participated in every northern mining stampede. She was “a formidable mining woman,” who was described in 1900 as follows:

About 50 years old . . . somewhat weather-beaten and wrinkled, but tall and trim. She wore a skirt and jacket of wool trimmed in leather, a cowboy hat, and high wading boots. . . . In her mannerisms and speech . . . Woods resembled a man and was known to use coarse language when excited.

Male sourdoughs could grudgingly accept females as colleagues in the gold fields when they resembled men.

like their male counterparts, women stampeders were “individualists.” They and the men, were swept up by the drama of the last great gold rush. They considered the Yukon “not a river, not a country or territory; it was a romantic pulse beat, a myth come true.”

Gold fever afflicted women just as much as it did men. Women prospected, mined, speculated and engaged in prostitution. Women planned to make their fortunes by catering to the varied needs of the miners—male or female—by mining themselves, or by marrying successful miners. Women promoted various mining and development projects. Women also organized associations of women, such as the 1897 Women’s Klondike Syndicate of New York, to finance women Klondikers. Frances Ella Fitz, “a New York stenographer lured by tales of Alaskan gold,” joined a cooperative mining company to finance her way north. She arrived at Nome in 1900, she reminisced, determined to pan gold, to take my wealth right from the earth, not spend more weeks and months cooped up in a stuffy office. And if the newspaper accounts could be believed, even an inexperienced [woman] might pan gold in Alaska. But I had my profession to fall back on if everything else failed.
Women also demonstrated determination and resourcefulness while "mining" the miners. Harriet "Ma" Pullen arrived in Skagway in 1897 with four children to support. She ran a bakery and worked as a packer and teamster before opening a successful roadhouse. Mollie Walsh joined the stampede to support her mother and sisters. She accumulated a fortune as a roadhouse operator before retiring to Seattle where she met an untimely death.

A Mrs. J. P. Willis apparently made two trips to the Klondike, dragging a heavy sled loaded with supplies 700 miles down the Yukon River. Described as about 45 years old, "blond, stout and rugged," she operated laundries and bakeries before reportedly making a fortune from prospecting. Another woman pulled a sled with a laundry outfit along the Chilkoot Trail from Skagway with the announced intention "to clean up Dawson."

These stories can be replicated many times: Belinda Mulrooney and the Dawson roadhouse fortune that reportedly won her a French count; Malinda Jenkins, in her Dawson saloon, who had the profitable gift of "the high art of concocting aged-in-the-wood whiskey from raw alcohol, a talent which was deeply venerated by a thirsty citizenry"; Marguerite Laimee, the "free spirit" veteran of the South African and Australian gold fields; "Dutch" Kate Wilson who established a roadhouse on the Yukon River at "a vantage point from which she shot at every boat that dared pass along... without stopping at her place of business for a meal or overnight lodging"; and "Klondike Kate" Rockwell, the dancer who became known as the "Sweetheart of the Yukon." There was also "Carolina" May, a quick-tempered black woman from South Carolina who possessed "a strong sense of personal dignity." When her living arrangement with a male stampeder proved unsatisfactory, she evicted him and brought suit in a miners' court, "demanding $2,200 for boarding his dogs and for bodily services."

Contemporary accounts indicate that a transformation took place during the gold rush in the traditional role of Victorian-era women. Extant United States Census Bureau statistics for the stampede period suggest that social conditions on the northern mining frontier acted as a liberating force to break down the contemporary traditional model of the American woman.

The 1890 census enumerated 445 white females, 932 Creole females, 1 black female, and 11,426 native females scattered across 309 settlements through the district of Alaska six years before George Washington Carmack's discovery of gold sparked a stampede to the Yukon. The lone black female, and the majority of white females, resided in the four leading settlements of Sitka, Juneau, Douglas and Wrangell. Females comprised 29 percent of the district's white population. The female population was also noted for its youthfulness. The vast majority of all female populations was aged 5 to 45 years.

The 1900 census is particularly important because it encompassed the Klondike stampede, and the unfolding
drama of the rush to Nome’s golden beaches. This census enumerated 3,200 white females, 17 black females, 12 Japanese females, 3 Chinese females and 14,488 native females. But women comprised only 9.5 percent of the non-native population. It is important to note that while the male population of Alaska doubled because of the stampede, the number of non-native women increased more than sevenfold. An interesting comparison is offered between the “established” mining camp of Skagway, with the new boom town of Nome. Although the number of all women residing in both camps is roughly equal, women in Skagway comprised 21 percent of the non-native population. Women in Nome comprised only about 4 percent of Nome’s non-native population.

By far the most interesting section of the 1900 census enumerates the Alaskan population (“at least 10 years of age”) according to occupation. Although the number of individuals engaged in mining is not provided, mining as an occupation included only 21 percent of the gainfully employed population, ranking second to domestic and personal service with 37 percent of the population. Classification is also provided according to sex:

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Quite possibly, more women were engaged in mining (manufacturing and mechanical pursuits) in Alaska in 1900 than were engaged in domestic and personal service, an occupation on the northern mining frontier dominated by men. It is unfortunate from a historical perspective that Victorian sensibilities allowed the Census Bureau to enumerate and publish only the occupations of those persons engaged in “gainful” employment. Allowing for a population of children (up to age twenty) of 7,016, the occupations of 7,076 females remain unaccounted for.

As Frances Ella Fitz, a proper Victorian woman even in the mining north, recalled, “there was a profusion of women of the other sort—the girls who worked in the saloons and dance halls and houses of ill-fame—but they lived in a little world of their own, and I seldom saw them...” Possibly Fitz’s Victorian sensibilities prevented her from seeing “women of the other sort.” More likely, their numbers were not significant enough to warrant attention.

Although far from unseen, most women stampolders in the northern mining frontier were nondescript, to borrow the term employed to describe the old-time sourdoughs. Most of their names are lost. These included a Mrs. C—of Dawson who “modestly” displayed the bags of gold nuggets she had panned. A woman Klondiker leaving the country on a Yukon River steamer...
related that she had “staked out two good claims and [had] just sold one for nearly five thousand dollars.” A “dumpy,” middle-aged woman was known only as “Niukluk Hannah” because of her residence on the Niukluk river near the northwest Alaska mining camp of Council. Hannah “was coarse, hard-looking—a sloppy, stocky woman . . . with a mean eye and a calculating stare.” Not all roadhouse operators struck it rich to retire to the States. Many were probably like “Topkok Alice,” who was unflatteringly described as “a young woman with a grasping hand”:

She lived alone in a little sod igloo, which consisted of four bunks, a tiny stove, and a dirt floor. She was greedy to an extreme. If travelers were caught in a blizzard and could get no farther than Alice’s, she showed no hesitation in charging eight or ten dollars for a night’s lodging, even though, if the place were crowded, this meant only a bed on the floor.

This brief discussion suggests that, regardless of upbringing, status or fortune, women stampeders in the northern mining frontier possessed a degree of individuality and self-determination unknown to their sisters in Victorian America. Maybe these differences drove them north. Their individuality and self-assurance might best be illustrated by the story of the newlyweds trekking across the Chilkoot Trail to the Yukon River to pass their honeymoon in search of a golden fortune and wedded bliss. Spring breakup on the lakes at the head of navigation on the Yukon River created hazardous sailing conditions. Worse yet, neither husband nor wife could swim. When the hapless woman fell out of their boat, her husband could only beach the craft on the shore. The woman would have drowned in the icy water had not another stampeder jumped into the lake from a nearby boat. When the pair were reunited on the beach, the woman declared:

You are no longer my husband. This man . . . was willing to risk his life for me. He was willing to plunge into the icy lake and bring me to safety. If he wants me, I am his.

The rescuer accepted the woman’s offer. A stampeder’s meeting convened on the beach and overruled the protests of her former husband, thus ratifying the woman’s decision to control her own destiny. How many women in Victorian America enjoyed this power?

Michael Ostrogorsky holds a Ph.D. in Western United States History and Historical Archaeology. He currently works as a private consultant in Anchorage.
**Columbia Reviews**

**CHIEFS & CHIEF TRADERS**

**Indian Relations at Fort Nez Perces, 1818-1855**


Reviewed by James H. Lynch.

**History of the Flower Bulb Industry in Washington State**


Reviewed by John Lyons.

**C**hiefs & Chief Traders focuses on the Oregon Territory when Indian and Euro-American cultures first attempted to work out the rules of beneficial coexistence. The canvas for this story is Fort Nez Perces on the south bank of the Walla Walla River in the 19th century. Dr. Stern, professor emeritus of anthropology at the University of Oregon, begins by detailing the rich riverine trading culture of the Columbia Basin Indian tribes before the arrival of the whites. He then explains how native life was influenced by the introduction of horses, firearms and trade with the Hudson's Bay Company (HBC), which operated Fort Nez Perces.

Readers are treated to a scholarly view of the Indian perspective based on solid ethnographic studies, oral histories and anthropological research. Herein lies both the strength and weakness of the book. Its interleaving of those several disciplines sometimes makes the prose too dense. But when Stern writes of the native people living in small, autonomous villages, moving to and from their hunting and fishing territories, the book really comes alive. The reader follows these families as they catch salmon in the Columbia River and hunt buffalo in Montana. The delineation of Indian society and tribal routine is also well drawn. The villages are only loosely tied to a routine is also well drawn. The villages are only loosely tied to a tribal organization through genealogy and language. If a headman does not agree with a tribal decision, he is under no obligation to obey it. Chiefs have influence, but their power is far from absolute. This non-hierarchical social structure causes continual confusion in negotiations between white and Indian traders.

The arrival of white traders coincides with the zenith of Plateau Indian culture. The Indians welcome the HBC traders at Fort Nez Perces as a source of new weapons and technology, while the HBC desires to engage the Indians in the fur trade. This leads to the one brief period in Pacific Northwest history when Indians and whites accepted one another as partners.

To make the partnership work, the HBC must foster a need in its Indian clients for the goods of the fort, and it must convince various warring tribes to peacefully coexist and trade exclusively with the company. The HBC tries, albeit unsuccessfully, to establish rules of relationship that will work well for both sides. The failure of these two cultures to understand each other's values leads to conflicts. This book presents a sympathetic and scholarly explanation of the Indian perspective in the fur trade that is long overdue.

James L. Lynch, of Spokane, is an amateur historian with expertise in northern Idaho and eastern Washington archaeological sites.

Washington has long been known for its agricultural products of wheat and apples, but less well-known is the flower bulb industry. Few people know that this state is the largest producer of iris, narcissus and tulip bulbs in the country or that Washington's superior bulbs command a premium price on the international market. Even fewer know about the rich tradition of commercial bulb growers in Washington, an industry that has engaged over 900 farmers since the late 19th century.

Charles J. Gould has been involved with Washington's bulb industry since 1941 when he joined the staff at the Washington State University Research and Extension Center in Puyallup as a plant pathologist. His 36 years of work with the bulb farmers of western Washington motivated him to write their history.

Washington's bulb industry began in 1892 when George Gibbs planted five dollars worth of bulbs on two acres of Orcas Island. The resulting flowers so amazed Gibbs that he devoted himself to the development of additional bulbs. Eventually, Gibbs' gardens attracted the attention of buyers from Holland. Gibbs promoted the possibilities of commercial bulb growing in the United States and encouraged the United States Department of Agriculture to consider the prospects for daffodils, tulips, bulbous iris, lilies and gladiolus. Today Washington growers cultivate 2,000 acres and annually bring in $11.5 million to the state's economy.

Included in the book are 128 concise biographies of growers, sellers and scientists involved in Washington's bulb industry. The biographies are surprisingly detailed, considering that many owners of older companies failed to keep records or discarded them over time. This section gives the reader a sense of the changes that have taken place in the industry: the growth of state and county land restrictions, the shifting commercial emphasis from bulbs to cut flowers, the diversity of bulbs grown in Washington, the effects of natural disasters such as the 1990 Skagit River flood, increased mechanization and competition with the low-cost overseas market.

There are several noteworthy chapters on scientific aspects of growing and treating bulbs. Gould's book is a useful reference for those interested in the many aspects of Washington's bulb industry. His work serves as an educational introduction to the subject as well as a glimpse into a less well-known but nonetheless important and prosperous agricultural aspect of Washington's history.

John Lyons hails from an agricultural background in Lewis County. He currently works as an underwriter for the Guardian Insurance Company.
Robert Wing is a reliable and compassionate biographer. In 1979, together with the late Gordon Newell, Wing authored the best book yet about Peter Puget. Puget was Captain George Vancouver's second most trusted officer when the Discovery and the Chatham poked their noses into the bays and inlets of the Pacific Northwest during the spring and fall of 1792. Research on the Puget book took Wing to such diverse locations as Denmark, the Caribbean and India. Now, supplementing his earlier data with new material from repositories in England and Scotland, Wing brings forth the story of Captain Vancouver's third lieutenant, Joseph Baker, for whom Washington's third-highest mountain is named. It is a life and a story as dramatic as Mount Baker itself.

Twenty-four-year-old Baker made an enduring mark on the Pacific Northwest. It was Baker, after all, who drew the charts Vancouver later showed in England to confirm his explorations of the Strait of Juan de Fuca, Puget Sound and thousands of miles of coastline along Washington, Oregon and British Columbia. And it was Baker who memorialized himself as well as distant friends and nearby shipmates by placing their now-familiar names on his cartographic sheets: an island named for Commander James Vashon, a port for Commodore Alan Gardner, a point for Captain Henry Roberts, a mountain, can a land river for Admiral Sir Samuel Hood, and so on. Politics and family connections definitely influenced relationships in the British Royal Navy during this period.

After leaving the Pacific Northwest, James Baker had a successful career as a British naval officer. He rose to the rank of Captain during the Napoleonic Wars, dueled with Danish frigates, and once ran a ship under his command aground—a supreme embarrassment in those days and ours. The illustrations in Joseph Baker include reprints from Vancouver's journal, full-page color paintings by Northwest artists Steve Mayo and Parker McCallister, and ten large maps. Two appendices, a page of end notes and an index complement the likable text and assist the reader. One can only hope that Robert Wing's next book will tackle with equal clarity the life of Baker's and Puget's colleague, the elusive commander of the H.M.S. Chatham, William Robert Broughton.

Joseph Baker
Reviewed by Jacqueline Tusa.

For 59 seasons Longacres Race Track played a vital role in Washington's sports history. As the dust settled from the final race on September 21, 1992, many people wished someone would write the history of the Northwest's most cherished horse-racing institution. But could mere prose and pictures on a page do so adequately? Probably not, reasoned Stephen Sadis, and so he co-wrote (with David Buerge) and co-produced (with David Mickel) a delightful full-length feature documentary about the track called The Miracle Strip: A Story of Longacres Race Track (Perpetual Motion Pictures, 1993).

The first part of the 80-minute film, "Northwest Horse Racing," lasts over an hour and strives to place Washington's horse racing scene in historical perspective. Particularly interesting is the state legislature's ban on horse racing in 1909 and its subsequent reinstatement in 1933 despite seemingly widespread disapproval. Acting quickly, even impulsively, Seattle real estate magnate Joe Gottstein built Longacres in 28 days and opened it for business only five months after the governor signed the enabling legislation.

Part two, "The Longacres Family," while not as historically dynamic as the first part, contains some beautiful and dramatic images. On what was reputed to be the second-fastest track in the nation, horses at Longacres broke five world records, and the Longacres Mile became the western equivalent of the Kentucky Derby. Alas, by the 1990s the Washington State Lottery, the Sonics and the Seahawks contributed to Longacres' demise. Moreover, growing land values in the Puget Sound region made the property worth more than the races and horses combined. Gottstein's heirs sold out to Boeing Corporation for a reported $90 million. Everything about this video documentary is first-class: historical research, archival photographs, rare sound recordings, film editing, narration and music.

One of Ours: Young Scoop Jackson (Everett Community College Institute for Media and Creative Arts, 1990) is a video produced by Dr. Thomas Gaskin. Writer and director Christopher James concentrates on the formative years in the future senator's life, the period between 1912 and 1940 when he grew to manhood in Everett, Washington. The pivotal point comes late in the 38-minute documentary when Jackson is elected prosecuting attorney and puts the lid on a rough-around-the-edges town. Two years later, in 1940, Jackson surged to another election victory, this time as a United States congressman. The video stops here, but Jackson, of course, did not. Perhaps a future video will review his 43-year tenure in Washington, D.C. Shown several times on PBS-TV stations around the state, One of Ours is now available from the Everett Community College Bookstore.

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**Bridges Over Washington**


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**Frederick West Lander**

"Frederick West Lander, Road Builder," by Douglas E. Branch. Mississippi Valley Historical Review 16 (1929).

Constructing the Lander Trail, by Peter T. Harstad. Ms. in Idaho State University Library, Boise.

Personal papers of Frederick W. Lander and Jean Margaret Davenport Lander. Library of Congress.

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**Women Were Everywhere**


NOW AVAILABLE—A NEW STUDY OF NORTHWEST HISTORY

Indian Slavery
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Pacific Northwest

by ROBERT H. RUBY and JOHN A. BROWN
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For the first time, a book-length study of this phenomenon is offered documenting this controversial subject. Anthropologist Leland Donald has commented that slavery is often neglected in traditional analyses of Northwest Coast indigenous culture. Though an uneasy topic, the authors of this new book do not flinch from starkly portraying the institution as found in the writings of Euro-Americans on the scene and anthropological studies.

left: Tatoosh, Makah leader and slave owner, after whom Tatoosh Island at the north-western tip of the Olympic Peninsula in Washington was named. His people were intermediaries in tribal trade between natives of coastal Oregon, Washington and British Columbia.

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