Over the Range
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The joining of the rails ceremony that took place on May 10, 1869, has become part of the nation’s folklore and mythology. Most books written about the event treat it as the culmination of the transcontinental railroad, but Promontory’s story runs deeper and broader than that. I mean that Promontory should be placed in broader geographical and deeper historical context. The written record enables us to understand how what took place at Promontory compared to what was occurring on the world stage. One observer writing for the *Montana Post* noted that the event marked “the completing of an enterprise fraught with more interest than the tunneling of Mount Cenis or connecting the Red Sea and Mediterranean Sea by the Suez Canal.”¹ This is an enthusiastic assessment but also a reminder that the transcontinental railroad was not the only major engineering project undertaken at about this time.

Another report in *The Deseret News* commented that “[a] thousand throbbing hearts impulsively beat to the motion of the trains as the front locomotive of each company led on majestically up to the very verge of the narrow break between the lines.”² As the trains drew close to each other at a few minutes after noon, Central Pacific President Leland Stanford held aloft a silver-plated maul that would spike the last rail into place. As he did so, Stanford never realized that a controversy would develop as to just how many special ceremonial spikes
were actually present—and how many were driven into the special laurel tie. Typically, four spikes would be used to complete such a task, and many historians concur that four were used: two from California of gold (alloyed with copper for strength), one from Nevada that was an alloy of silver, and yet another from Arizona made of a mongrelized mixture of silver, iron, and copper. However, in *Empire Empress*, Haward Bain claims that only three were driven. Recent evidence leads to the conclusion that the second California golden spike may not have been used. Adding to the confusion, others claim that the original golden spike itself has been lost (or stolen) and that the golden spike presented today is not the real spike; and so the controversy rages on the Internet blogs about the numbers and authenticity of the “golden spike[s].” Regardless of these claims, a golden spike was driven at Promontory Summit, Utah, on May 10, 1869, though the fact that “there are extant no official or public records of the day’s events”—only news dispatches from twenty different newspapers—helps explain why uncertainty reigns on this issue. This driving of the ceremonial spikes marked “the Last Act,” as Stanford called it, but even how that transpired is not without alternative explanations. The commonly repeated story that the railroad executives missed hitting the spike certainly makes good revisionist sense as the ceremony seemed to include more railroad brass and reporters than track workers.

Well known as the site where the railroads met on that memorable day, Promontory Summit found itself center stage in what some historians consider the most important single event in nineteenth-century western American history. The crowd at Promontory Summit that day was relatively small—perhaps about a thousand souls had gathered. Significantly, only three photographers were on hand to record the event. These included Salt Lake City-based Charles Savage, Central Pacific’s guest Alfred Hart, and Union Pacific’s guest Andrew J. Russell. That only three photographers were present is ironic because the event on that site marks the time and place of what is perhaps the single most important American photographic image of the nineteenth century—the one in which two locomotives finally meet, pilot to pilot (or as the public put it, cowcatcher to cowcatcher), after years of anticipation.

Virtually everyone who thinks about the joining of the rails at Promontory visualizes the scene in which two locomotives meet amidst a crowd. Consider, though, a photograph taken before that image, but shot from virtually the same perspective (fig. 4–1). Here the locomotives are still some distance apart (a reminder that space and time are interconnected) and the crowd has not yet surged. They stand patiently near the trains, not ready to swarm onto the locomotives. This pose, as it were, is a
remarkable moment in time and the anticipation must have been almost unbearable. We see history, or rather time, seemingly suspended for moments while everyone anticipates what will be a history-making event.

Although many lesser-known photographs of the joining of the rails were taken from different angles that day, the most frequently published images are where we may begin to understand the relationship between the railroad and the place called Promontory. Photographs, like texts, can be deconstructed, that is, analyzed carefully as to the meaning and positioning of the different elements that comprise them. This deconstruction can reveal new insights into photographs we have looked at a thousand times but have never really “seen” for their deeper meanings. Consider, for example, the design composition of the photograph by A. J. Russell shown above. Taken to emphasize the trains arriving from opposite directions, this photograph’s symmetry is noteworthy. The photograph’s nearly perpendicular angle to the track emphasizes action moving from both right and left. The scene is much like a stage setting, the action on which enters from left and right. Perhaps coincidentally, due to the angle of the sun needed to light the subjects, the photographer looks north with the sun at his back; significantly, this put
north “up,” so to speak, in the composition. That being the case, east is to the right, and west to the left. The enduring photograph, then, is actually cartographic: it recreates the concept of most maps of the period, which are also oriented north, with east on the right and west on the left. Consider this photographic image a cartographic metaphor for both the meeting of the rails and the mapping of westward expansion.

The photograph’s simple composition—all action focuses on the center—is a statement about time as well as space and emphasizes that history is about to be made in a particular place. No more effective device than the tall smoke stacks and sturdy boilers of the most powerful machines traversing the land—the locomotive—could be found anywhere at this time, and the fact that the locomotives were pointed toward each other suggests that a collision of sorts is about to occur.

Next, consider the track upon which the trains in the photo are standing: iron “T” rails laid on wooden crossties. In order for the track to be laid properly, the ground must be first graded, then ties laid, then rails spiked onto them. The Central Pacific grade west of Promontory and the Union Pacific grade east of Promontory drew a lot of attention from journalists. The Union Pacific tended to use hand-hewn “pole” ties while the Central Pacific used more finished-looking sawmill-cut “slab” ties. Note that the track itself is a defining element in this photograph. It stands on a roughly graded roadbed that essentially lifts the trains off the ground. That slightly elevated roadbed separates the railroad track from the natural setting, emphasizing that what is going on here is both an event in history and a symbol of technology.

The photograph portends the future but also documents the unfolding of recent history: Union Pacific trains had reached Ogden two months before the photograph was taken, and the celebration there involved considerable hoopla and was reported in *The Deseret News*. As spring arrived, however, excitement mounted about exactly where the rails would finally meet. Work crews grading right of way for both companies presented quite a spectacle as they went about their business. On the eastern slope of the Promontory Range, the railroad lines were cheek-by-jowl. Reporters on the scene commented on their progress, and many people were astounded that relatively little hostility was exhibited by competing crews. For the most part, the crews consisted of Irish, Anglo (usually Mormon), and Chinese American workers.

Let us look past the people, locomotives, and track in the photograph’s middle ground to the wide-open landscape beyond. The place where the rails finally met was not only isolated but bleak. Many people commented on how forlorn it appeared. “This summit …” as one observer put it, “is a considerable plateau, covered with artemisia, and quietly resting
between two mountain combs.” Most everyone at the time knew that Artemisia was the exotic name of common sagebrush, for John Charles Frémont had immortalized that symbol of the Intermountain West in his numerous reports. In terms of its natural topography, the site itself had a symbolic kind of symmetry. The Promontory Mountains, divided here by this plateau-like valley called the summit, witnessed the stitching together of the nation’s fabric. That valley, however, appeared desolate, and most observers that day were simply unimpressed with its appearance. Some asked: Could this place have any agricultural potential? An unidentified mail clerk from the East noted that although there was very good grazing land in parts of the area, much of the land hereabouts was, as he put it, “entirely worthless.” To him, it was simply “boundless plains white with alkali and mountains covered with sage brush.”

Yet, as early as the spring of 1869, some speculated that Promontory itself might have a future, as the soil in the Promontory Summit area was arable. In fact, as a group of “Western men, with a six-mule team, were breaking ground for railroad purposes,” a reporter for *The Daily Bee* in Sacramento pondered the upturned soil, which, to his surprise, “looked warm and loose and rich.” Intrigued, the reporter asked, “Will this grow good wheat?” One man responded, “Yes,” followed by the opinion that “any land that will grow good sagebrush will grow good wheat.” This statement, as people in the Promontory Summit area would later confirm, had a good deal of truth to it. Of Promontory’s location, Crofutt’s *Trans-Continental Tourist* noted the bench on which the station stands would “doubtless produce vegetables or grain, if it could be irrigated for the sandy soil is largely mixed with loam and the bunch grass and sagebrush grow luxuriantly.”

Let us return now to the crowd gathered on that day in 1869. Virtually everyone in Promontory’s most famous photograph is looking at the space between the locomotives. However, in other days, they looked away from the railroad activity long enough to ponder Promontory as a unique place. Taking time to explore Promontory’s site, the same writer of *Crofutt’s Trans-Continental Tourist* noted that “[b]ehind the station at Promontory the hills rise into the dignity of mountains.” On one bright spring morning, “[a]fter an hour’s toilsome walking through sagebrush and bunch grass, then among sage-brush and rocks until we have attained a height to which that persistent shrub could not attain,” the writer entered another, considerably more enchanted, world. Among the rocks at this higher altitude, he found “stunted cedars, tiny, delicate flowers and blooming mosses.” Now at the top of the range at an elevation of about 7,500 feet above sea level, the writer found himself and his companions “on the summit of the peak, on a narrow ridge of
granite . . .” where the view of the Great Salt Lake was superb. This observer had a good eye for vegetation but not for geology: resistant sandstones and dense limestones, not granite, cap the tops of the mountains around Promontory. Nevertheless, the rocks certainly impressed him as being as solid as the rock of ages. Well below him lay the swale where history was made earlier that spring (fig. 4–2).

The challenge of Promontory’s position was not its lack of trees, but rather its lack of water. This problem was well known by the time that the rails were joined. The May 13, 1869, Daily Bee reported, “Here, at Promontory, there is no water fit for use, and all [that is] consumed by the few inhabitants of the place and by their stock, has to be hauled in wagons a distance of eight miles. . . .” The writer soberly concluded that “the only hope of the place, if it ever becomes a permanent station, will be in finding and leading hither some mountain spring.” Man and beast—including the iron horse—needed water, and it was scarce at Promontory Summit.

In the early spring of 1869, when it was still not known exactly where the rails would meet, two fledgling towns—Promontory to the west of the Promontory Mountains, and Junction City to the east—sprang up. However, both became virtually deserted when Promontory Summit was
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decided upon as the meeting place of the rails. Events of mid-spring 1869 determined the future of Promontory Summit as a community. As the railroads surveyed and graded their lines, it became apparent that they would develop all activities in Promontory Summit with reference to the railroad rights of way. At this time, however, the railroads were located several hundred feet apart. In order to connect the tracks, a curving or arching track about a half-mile long was under construction to link both on May 8.

When trains began running to Promontory Summit in 1869, they faced a number of operational challenges imposed by inertia and gravity. Union Pacific was familiar with these challenges. Because Promontory was located at the summit of a steep grade, extra locomotives were often needed to assist those trains. Additionally, because Promontory was the end of the line for each of the railroads, they needed a way to turn locomotives around for their return trip. Promontory used two of the three possible turnaround methods. The first—and easiest—was to use a wye track such as the Union Pacific had constructed. A wye is a track configuration consisting of a switch track that led to a curve with a switch at the end which led in the opposite direction, then met with a third switch track, which led in the opposite direction, back to the first (fig. 4–3).

**Fig. 4–3**
A wye track permits the turning of a locomotive or train using three switch tracks joined together to form a y-shaped configuration, as seen at Promontory Summit (2007).
These sections of track between the switch tracks are called legs. By traveling in this “Y” pattern (actually, more like a slingshot with a leg between the top portions of the Y), a locomotive could be turned around. Wyes are relatively simple to build, but consume a lot of space, and of course, require extra railroad track. Nevertheless, if the legs of a wye are long enough, it is possible to turn an entire train end-for-end on one.

A simpler way to turn a locomotive around involves using a turntable, which consists of a relatively short piece of track (long enough for the longest locomotive) that is mounted on a table-like bridge. Balanced on a center bearing, the bridge can be rotated by means of a sturdy pivot located in the center of a shallow, circular pit. The earliest turntables were “Armstrong,” that is, they used manpower to push the table (and locomotive) around 180 degrees. As can be imagined, this is fairly hard work, but, with a properly centered locomotive and good turntable bearings, two men could turn a locomotive weighing up to about 30 tons in a few minutes. Once turned, the locomotive simply moved off the turntable in the opposite direction. Turntables also proved perfect for providing access to locomotive storage and repair tracks. By directing locomotives onto tracks radiating out from them, engines could be serviced or stored in a relatively compact space. Given the round shape of their pits, it was logical for the resulting building nearby to be semi-circular in outline, hence the term roundhouse. Turntables are more difficult to construct than wyes, but they use far less space and can turn a locomotive more quickly than a wye. Their main shortcoming is their limited length; they cannot turn a full train, only a locomotive.

By the weekend of May 8 and 9, the lines were close enough to each other to be easily joinable. That weekend, Union Pacific built a wye track at the summit. Saturday, May 8, originally envisioned as the day that the rails would be joined, was marred by poor weather—a cold, drizzling rain under a lead-gray sky—that seemed too somber for such an auspicious event. Moreover, even though the telegraphers of both railroads were within about fifty feet of each other, trouble on the westbound train carrying Union Pacific officials at Devil’s Gate held up the ceremony. Monday, May 10 dawned clearer, and the event took place amid a crowd of people and cluster of tents immortalized by the photographers.

Most photographs taken that day reveal that Promontory was a typical “tent city,” an ephemeral settlement that exuded both optimism and cynicism. The only thing exceptional about Promontory was its strategic position—at the end of both lines. A closer look at photos on May 10 shows that Promontory’s tents were oriented along—that is, with their fronts parallel to—the tracks. An early photograph by Alfred A. Hart reveals the Wells, Fargo & Co. tents on one side of the tracks and
Union Pacific Railroad ticket office and telegraph tents on the other. Although these tents had begun to spring up in late April and early May 1869 in anticipation of the rails meeting here, they now constituted the small community where history was made. Seventeen tents stood at Promontory on the day the rails met.

Photographer Russell captured a fine image of the Union Pacific track layers ballasting the section of track they laid early on the morning of May 10, but looking beyond that action, one can see three tents facing the tracks. Other photographs of Promontory show that a row of tents had taken shape by the time the crowd had gathered here, and this became the nucleus of the town (fig. 4–4). This arrangement is much like a typical Main Street, but it lines the track. This arrangement is understandable in that predominant forms of transportation, such as roads and canals, tend to dictate the shape of communities. Since the railroads were the reason for the embryonic town’s existence, the fact that the tents face the railroads confirms the importance of the Central Pacific and Union Pacific in the affairs of Promontory Summit.

The earliest photographs of Promontory confirm the arrangement of tents in rows facing the railroad tracks, but they were located about 100
feet from the right of way. Although an early property map of Promontory Summit has not been located, the photographs suggest that even in the chaotic month of May 1869 a type of order prevailed. This linear arrangement not only characterized early Promontory’s morphology; it would persist throughout the town’s history. From these photographs and other descriptions, historians F. A. Ketterson (1974), Paul Hedren (1978), and Robert Spude (2005) reconstructed the early town’s layout (fig. 4–5). Whereas, the tents faced the railroad and tended to be located close to each other, one tent of the Union Pacific engineers and speculators represented what Spude calls the “site of future Promontory City.” That tent was the command center of Union Pacific’s activities and became the focal point of the town’s early development.

Promontory Summit’s other railroad station—if it could be called that—also epitomized the temporary nature and make-do quality of the new community. As recorded by photographer Andrew Russell, the
Central Pacific station (fig. 4–6) is nothing more than a boxcar. Still on its trucks, its railroad car heritage was obvious, though the smoke-jack suggests that it could be warmed inside to ward off the high desert chill. Called an “outfit car,” this offered a temporary but weather-proof structure. A makeshift set of stairs was located at one end of the car, and it permitted people to enter this “station” in order to conduct railroad business. This station was not much to look at, but was far more comfortable than the Union Pacific’s ticket and telegraph office where Charles Savage slept before he took his classic photographs at Promontory Summit on May 10.

In addition to the booming tent town, the railroads’ facilities were also a significant part of the infrastructure at Promontory. At first, the railroad facilities also reflected the general confusion here. Even though Congress determined a month earlier (April 10) that the rails would “meet and connect and form one continuous line” at Promontory, competition between the railroads nevertheless remained intense. The thorny issue was now which railroad would get the best of things at Promontory Summit. The animosity between Ames’s and Huntington’s railroads manifested itself in several ways at Promontory in May of 1869. Union Pacific Vice President Durant and others conveyed Ames’s orders that “you will make no permanent arrangements for connection” with the Central Pacific, and that they should “change cars only at end of track laid by us—till they pay.” Durant was present at the events on May 10.
but observers claimed he had a headache and left early. Given the tension simmering here, his headache was understandable. For his part, Dodge informed Ames that when Governor Stanford had “notified us that he would put in a siding on his old grade” at Promontory, Dodge countered by putting in his own siding “before day light and when their workmen arrived in the morning we had it completed, much to their disgust.” This delighted Dodge, who ordered that “all transfers should be done opposite our office and opposite our main track.” Clearly, Union Pacific wanted a large share of the action at Promontory Summit.

A closer look at the tent city central to this drama reveals that the individual tents were typical of those of the Civil War-era. Most of them were “wall tents”—that is, they had canvas walls, and could be made taller by the addition of wooden side boards. They appear to be similar to “Sutler” tents used by the military to provide dry goods and tobacco. Only one tent, used as the Central Pacific quarters, was an “A” or Wedge tent. Those tents, however, were common in Central Pacific construction camps. The sizes of tents at Promontory varied, although standard military sizes (such as 10 x 16; 12 x 14; 14 x 14; and 14 x 16) were probably used. A business occupying a site of about 16 x 20 in size might pay around $100 for the tent and about $100 in lumber, plus the cost of nails. Tents were easy to find (many were sold by mail order), cheap to buy, easy to erect, and—equally important—easy to move when needed elsewhere. They were also highly versatile. Despite their relative flimsiness, tents could be used to house a remarkable variety of activities. They were, in other words, perfect for boomtowns like Promontory Summit.

The photographs of Promontory reveal a place huddled along the railroad; while wide-open nature surrounds, the throng of people suggests bazaar-like activity. One observer characterized the railroad tent town of Promontory as “thirty tents upon the Great Sahara, sans trees, sans water, sans comfort, sans everything.” Everything, that is, except opportunism. Promontory soon gained a reputation as a den of iniquity where con artists swindled travelers. One writer called it “a fearful place composed entirely of open gambling booths and whiskey shops.” Here, he noted, “one of our passengers [was] fleeced of all he had by gamblers.” Overall, Promontory was not impressive, and most found it unpleasant. Upon leaving the place, the same writer was, as he put it, “[g]lad to get away.”

Other observers were not as kind. One writer for the Elko Nevada Independent concluded that God must have become more lenient and patient toward sinners “since Sodom and Gomorrah had been destroyed, as recounted in the Bible.” Was God now forgetting to destroy such wicked places? “If God weren’t,” the writer observed, “Promontory would have fallen long ago.” This quote is all the more amazing when
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one considers it was written in October 1869, when Promontory was not quite six months old! Evidently, the writer was none too pleased at what he experienced during the stop here. Leaving little doubt as to what he thought should happen to Promontory, the writer concluded that “[i]t would be a mercy to the public . . . if the cleansing element of fire would sweep the town from the face of the earth.”

This made for colorful copy but fate had less spectacular plans for the place. In late May of 1869, a more rational assessment turned out to be pretty much on target: “. . . Promontory City, as it is called, is not likely to become a commercial emporium, while it will have some fame and romantic interest attached to it as the place where the Atlantic and Pacific first embraced.” As this sober account concluded, “But a few days since, this point was an almost unsettled waste; now it is the temporary transfer point for freight transported from the extremities of the continent.” The amenities here were passable enough: “Of the improvements here,” as he called them, “some enterprising soul has erected a large tent, 30 x 70 feet, in which is kept a first class eating house.”

Union Pacific’s Grenville Dodge described the town’s origins as simply as anyone could. At Promontory, as he put it, “neither company had plans for supporting a town at the summit, it just grew there.” This suggests a kind of unplanned synergy and opportunism, and that certainly appears to be the case. By mid-May, a row of tents lined the north side of the tracks at Promontory. Some of the businesses here included a branch of the Salt Lake City firm T. D. Brown (General & Commission Merchants) and its likely West Coast counterpart, The California Store; the San Francisco Saloon; a dry goods store operated by J. S. Fyfer; a Chinese laundry operated by Sam Hing and Ah Lee; a cigar shop; the Pacific Hotel; a bakery; barber shops; billiard halls; and other services catering to the largely male crowd. By late May, the town of Promontory City had reached its zenith, about thirty tents. Those Chinese laundry operators offered westbound travelers their first glimpse of Asians. As one group of travelers observed of their first “Chinamen,” Sam Hing and Ah Lee had “little huts adorned with signs vouching for ‘good washing and good ironing done here.’” Moreover, these travelers also encountered “[a] gang of Chinese laborers, in loose blue muslin garments and peaked parasol hats of straw [who] were grading a new switch at the station.”

Promontory City was a one-street town (fig. 4–7). Although originally consisting of tents, a number of these were soon improved. These tents were given façades sided with board and batten lumber, and they represented an investment in the future—however long it might last. This false-front construction was quick and simple. The boards were placed vertically, and where they met a narrow strip of lumber, called
a batten, was nailed in. These façades were all pretense, but they gave an air of permanence and hope. In practice, however, these wooden façades were little better than the tents they concealed from the street. True, they provided some protection from the weather, but their slipshod construction just as often permitted wind and snow to find their way inside between the cracks.

When a group of Cincinnati travelers described early Promontory, they alluded to the town’s “rough characters,” as did many observers. However, they also described the one-street town in some detail as consisting of “thirty-six [business] houses in one row, all of which were one-story high and roofed with canvas.” The group emphasized that these “houses” were not actually dwellings but rather commercial in nature, “every shanty being occupied for business, the inhabitants sleeping in odd corners and recesses.” Among these thirty-six enterprises, they identified a “barber shop, drugstore, saloons, restaurants, fruit stalls, and stores filled with general merchandise.” Like all speculators, the operators of these businesses hoped that Promontory would become either a permanent meeting place between Central Pacific and Union Pacific, and/or a major railroad junction point, as the Union Pacific’s plans to build a line from here to Oregon were widely rumored and discussed.

The two railroads remained strong competitors even after the events of May 10, but they created a community here despite the tension that hung in the air. In June, for example, Central Pacific’s chief engineer Samuel Skerry Montague called for a meeting at Promontory with Dodge. At least two issues needed resolution. The first involved
putting an end to the ongoing disputes as to which company owned and operated which trackage. The Central Pacific wanted to make several improvements, including adding a new switch or turnout that would make operations smoother. A second, and related, issue was the need for better cooperation aimed at interconnecting the operations of the two railroads. This was important to the Central Pacific, which wanted to use eastern Utah coal shipped into Promontory by the Union Pacific—an intimation that the days of wood as locomotive fuel were numbered. Then, too, the Central Pacific wanted to build a new 18 x 24 frame ticket and telegraph office. Central Pacific did not plan to build a shop or roundhouse here but evidently envisioned a place where the two railroads could simply interconnect more or less harmoniously. That, too, appears to have become Dodge’s goal, for they agreed to better align trackage by straightening out some of the kinks and adding more ballast to ensure that the track stayed level. The railroads hoped these improvements would result in smoother operation, thus saving money and easing the burden on passengers who had to change trains here at Promontory. To better mark the junction, Dodge ordered a stone placed here to be marked as the “junction of the Union Pacific and Central Pacific Railroads, May 10, 1869.” This made sense as the whittled laurel tie marking the junction proved so desirable an artifact that souvenir hunters frequently cut sections out of it! Within a month and a half or so of the meeting of the rails, Promontory had secured a unique position in the popular mind as the place where the rails converged. The stone marker would be the first of several monuments aimed at immortalizing the place and the event.25

Another easily overlooked item in the historic photos of Promontory is the telegraph line strung high on poles along the railroad right of way. The telegraph was a vital form of communication that operated in conjunction with the railroads at the time. Telegraph poles are the tallest man-made objects in the photos at Promontory. The fact that an American flag flies from an extension added to one symbolizes the importance of the telegraph as well as the national importance of events taking place on the adjacent railroad. As is widely known, the message that the rails were joined was telegraphed around the world on May 10; however, those telegraph lines now needed to be improved as communications increased. Although Central Pacific had originally agreed to let Western Union use its lines, the telegraph company now needed to build a line east from Promontory to its existing lines in the Salt Lake Valley. By August 1869, Western Union had completed its new telegraph line into the valley and assigned a telegrapher to the Central Pacific’s new station. Union Pacific, though, had different plans. It contracted with Western Union’s
rival—the Atlantic Pacific Telegraph Company—whose lines were strung along the Union Pacific line and on poles west of Promontory. This is yet another reminder that both railroads were separate companies with different allegiances and different methods of operating.

Union Pacific’s presence at Promontory was always regarded with some misgivings by that railroad. After all, Promontory Summit was simply a place the railroad envisioned going through—not terminating at—on its way west. The location was, in fact, a bitter prize given the fact that Union Pacific had hoped to be exchanging passengers and freight with Central Pacific in Nevada. Moreover, in terminating at Promontory, the Union Pacific’s last few miles of operation were among the most torturous and expensive to operate on the entire system. Trains had to “double” the hill—that is, be broken into two separate trains, each taken up the hill by a locomotive. The alternative was double-heading—placing two locomotives on the front of the train. Both of these solutions cost the company time and money. The grade up to Promontory Summit also posed a safety problem. In August of that year, a brakeman was badly injured in a wreck that occurred as his train toiled upgrade, and he later died at Promontory.

Word got around that Promontory was a miserable place. Fearing that its image was suffering, Union Pacific decided to take action at Promontory Summit. Superintendent Hammond ordered several improvements, one of which would diminish the town’s image as a place where gamblers preyed on travelers. A wood-frame eating house and hotel opened in September, and it soon became a landmark. The belief was that this facility would be less subject to the shady behavior of the tent city. Hammond also ordered upgraded facilities including a roundhouse and enlarged railroad yard.

That a photograph of two locomotives meeting each other with pilots nearly touching became one of the most arresting images of the nineteenth century was due in part to the nearly magical presence of the iron horse in the American imagination. Both locomotives present—the Union Pacific No. 119 and the Central Pacific Jupiter—were of the classic “American” types whose wheels were arranged in a 4–4–0 configuration. This means that each locomotive had a total of eight wheels—four large driving wheels located under the firebox and a four-wheel leading truck under the front. This front truck swiveled while the drivers were rigidly mounted to the frame. The last number (zero) in the 4–4–0 designation refers to the fact that these locomotives had no wheels under the firebox area toward the rear of the locomotive. The lack of a trailing truck here confirms that these locomotive’s fireboxes were relatively light, that is, did not need additional support.
It was symbolic that both locomotives at Promontory were American-type locomotives, for Promontory’s ceremony helped immortalize American ingenuity and tenacity. Originally designed in Philadelphia in 1836, the American-type locomotive was named in response to the more twisting or curving track configuration in the United States. That swiveling front truck represented a break from British locomotive design. Then, too, the United States pioneered the use of the prominent pilot (cowcatcher), where livestock more commonly roamed onto unfenced railroad rights of way. Another feature that qualifies as American on these locomotives was the large, box-like headlight, which was illuminated by either tallow or oil. Lastly, these locomotives provided cabs as cover or shelter for their engineers and firemen, whereas in England their counterparts had little protection from the elements.\(^{29}\)

The American-type 4–4–0 locomotive was not only American in design but also in ornamentation. During the period from about 1855 to 1880, ornately decorated American locomotives reflected the American spirit of promotion. As early as the 1850s, Matthias Baldwin was advised by Henry Campbell that a locomotive’s “ugly, clodhopper appearance” would be detrimental to marketing. Homely locomotive decoration, as he put it “would strike people unfavorably.” The British commented on how ornate American locomotives had become. For example, not only did American locomotives have cabs to protect engineer and firemen from the elements, those wooden cabs, or “houses” were elaborate. This led the British to call American locomotives “gingerbread peacocks” that glistened with “brass, planished Russia iron” and other shiny metals.\(^{30}\) By the time the two railroads arrived at Promontory, then, American locomotives had become both functional and beautiful. In the drab, sagebrush-covered landscape, the sight of such gleaming and brilliantly painted locomotives was, and is, simply stunning. It was a matter of almost artistic contrasts, for nature had painted the desert with a palette of soft subtle tones while American railroaders painted their locomotives in bold, bright colors rendered in intricate patterns. One accent, the well-polished brass trim on the locomotives, shone as brightly as the desert sun it reflected.

As seen in a close up photograph taken on May 10, 1869, the Central Pacific Jupiter (fig. 4–8) was one of the “Monarchs,” as an enthusiastic publicist put it that brought the transcontinental railroad to completion. Jupiter was one of four identical locomotives built in 1868 by the Schenectady Locomotive Works of New York. Even under a swarming group of well-wishers, the locomotive’s lines are evident. Passenger locomotives like the Jupiter had tall driving wheels (the larger diameter the
Over the Range

driving wheels, the faster the locomotives). These passenger locomotives were usually more brightly colored than freight locomotives, though the Jupiter could, and did, haul freight cars on occasion. With its intense blue color accented by crimson and its brass ornamentation, Jupiter was absolutely resplendent. Every detail on this locomotive was carefully selected from architectural and artistic motifs. Given the medieval-era Gothic style of the headlight brackets, the Baroque scrollwork on the tender, and the Rococo Revival sandbox, it is easy to see why this locomotive has been called “the mechanical equivalent of a brass band,”31 which appears in front of it in this photograph. The name Jupiter, a Roman god, was typical in the days when most locomotives had names, not numbers. Technically, even though Jupiter also bore the number 60 for recordkeeping purposes, as indicated by its number plate on the boiler front, it was called by its Roman name.
The other “Monarch” photographed that day—Union Pacific’s No. 119—had several features that were signs of things to come (fig. 4–9). Those who gathered at Promontory Summit on May 10, 1869, could tell, by sense of smell alone, that these two iron horses came from different stables. Whereas Central Pacific’s Jupiter burned pungent wood—anything from hardwood and/or pine to sagebrush—the aroma from Union Pacific’s No. 119 was more acrid, as anyone who ever smelled the oddly sweet, metallic scent of coal smoke can testify. Even though the 119 was also built in 1868, it had several features that would later become common, including its burning of coal, rather than wood, as fuel. The year 1870 represented a turning point nationwide, as coal would overtake wood as the locomotive fuel of choice. Coal was a more efficient fuel that burned without scattering flaming embers. That explained 119’s straight smokestack rather than the
ember-catching (and eye-catching) funnel-shaped stack on wood burners like the Jupiter.

Although coal-burning engines could (and did) start fires when hot cinders left the stack and landed on fields or even buildings, wood-burners were far more prone to do so. As a wood-burner, Jupiter had a bonnet stack (often erroneously called a balloon stack) because it resembled a popular woman’s hat of the period. This was a large funnel-shaped casing containing a deflecting cone, as well as a wire screen cover to trap embers. As a coal-burner, No. 119 was easier on its surroundings. Nevertheless, even this engine was designed to reduce the likelihood of fires. John Thompson originally introduced the extended smokebox in 1860 as a spark arrestor for coal-burning locomotives. No. 119’s extended smokebox also featured a modification by Isaac H. Congdon, master mechanic of the Union Pacific, who extended its smokebox forward about two feet. The theory behind these improvements was that cinders or sparks would burn themselves out in the extended smokebox, though the effectiveness of this claim was debated for years thereafter, well into the 1880s. Ultimately, railroads adopted internal spark suppression controls based on this idea as standard equipment in later locomotives.

Equally significant, too, was the fact that the Union Pacific locomotive bore only the number 119 rather than a name. Despite these two features, however, No. 119 was a truly Victorian-age machine. One of five identical locomotives built for the Union Pacific by Rogers Locomotive Works as numbers 116 through 120, some considered No. 119 to be a freight engine because it had smaller drivers than Jupiter’s. However, No. 119’s drivers were certainly “tall” enough—that is, of large enough diameter—to enable its use in passenger service. It was, in fact, an early example of what would later be called a “general purpose” locomotive. Regardless of the type of service in which it was employed, No. 119 still had plenty of ornamentation. From its cast iron bell stand that simulated foliage, a fluted brass dome cover, and walnut cab with touches of Gothic and Italianate styling, No. 119 was testimony that even freight engines were ornately decorated at this time. If anything, in fact, No. 119 had an even more ornate paint job than Jupiter. Number 119’s tender featured superbly gilded flourishes on each side of the oval number panel. Two beautiful landscape paintings (both of them different) graced the curving back corners of the tender while each side of the sand dome featured a smaller landscape painting. As railroad historian Jim Wilke astutely observed, walking around this locomotive was like touring an art gallery. We can only conjecture about No. 119’s original paint colors, but a similar locomotive also built by Rogers had a wine red tender featuring gilt lettering shaded in green and black.
Passenger cars, too, were beautiful as well as utilitarian. A remarkable photograph taken that day reveals the full sweep of the two trains with few people obscuring them (fig. 4–10). The Stanford Special on the right consisted of the locomotive *Jupiter* and two cars. First in the train was the commissary car, which looked similar to a short baggage or express car. It had one large door on each side for the loading and unloading of goods that needed to be shipped at passenger train speed. In this case, the commissary car probably contained food and supplies for those traveling on the special train. The second car in the train was called Governor Stanford’s private car by some, and Crocker’s private car by others, but it was more properly known as the Central Pacific’s Commissioner’s car, or Director’s car.34 Down the track to the left is the Union Pacific train, which consisted of the *No. 119*, an arched-roofed baggage car, and three passenger coaches. It was, in essence, a fairly typical passenger train consist (grouping of cars) for the times.

The photographs discussed so far anticipate that something grand is about to transpire. That climax occurred at about half past noon.
When these two trains finally pulled toward each other that day, the rambunctious crowd nearly enveloped the locomotives. The photograph capturing that moment became the definitive image of the nineteenth century—the technology of the photographic process capturing the technology of the railroad (fig. 4–11). Note the men leaning toward each other, one holding a bottle of spirits, and the other two bottles—presumably for good measure. Some sources noted that the act of joining the rails was consummated when champagne was poured from one of the bottles into a glass held by the others. In addition to the yin-yang (male and female) connotation of this act, where east and west are united, this act is also a perfect metaphor for national reconciliation. Sensing that history has been made and distances conquered, others shake hands to congratulate each other and the nation. The crowd of people obscures even the track. This, then, is a human moment, much like the landing of men on the moon almost exactly a century later (“one small step for [a] man, one giant leap for mankind”). The dominance of people in this scene is a reminder that all technology is an artifact of humankind.

Those people who took the time to study those railroad passenger cars at Promontory that day were also witnesses to changes in railroad technology. As was the case with the two locomotives present, the
passenger cars reflected a time of transition. In the 1850s and early 1860s, the simple coach was the most common type of passenger car, and it most often had a curved or arched roof that kept rain and sun off passengers. These arched roofs were serviceable enough but required ventilators mounted on the roof to help cool the cars’ interiors in summer. Baggage and express cars, too, featured these arched roofs, which were easy to build and relatively strong. At this time, American passenger cars typically rode on two four-wheel trucks. These passenger car trucks were longer than freight car trucks and this helped smooth the ride a bit. The car bodies of both passenger and express/baggage cars were usually of wooden construction, with additional strength provided by metal truss rods under the car and in the car sides, and bolted at car corners and other points of stress.

By the mid 1860s, however, a series of developments began to slowly transform the passenger car. The equipment photographed at Promontory in 1869 beautifully represents this transition. As evident in photographs, some of the passenger and baggage cars have a newer type of roof—the monitor or clerestory. These cars feature a raised section of roof that runs most of the length of the car. In the sides of the raised clerestory section are windows that let in light and that open to help ventilate the car’s interior. Although the clerestory roof is somewhat weaker than the simple arched roof, its advantages outweighed that concern; riding in a clerestory-roofed car was a far more pleasant experience. There was also more headroom in the aisle that ran the length of the car under the clerestory section. Viewed from the outside, the clerestory section might end before reaching the car’s end platform, or it might gracefully curve downward toward the platform end in either a compound curved “duckbill” or a complete section that reached the very end of the platform in a single graceful curve.

Well before the joining of the rails at Promontory Summit, the Central Pacific railroad was busy experimenting with new passenger car designs. In its August 20, 1868, issue, the Sacramento Daily Union reported that “a new passenger car, ‘doubled roofed’ appeared on the Central Pacific . . . .” The car roof, according to the brief article, “is arranged with a skylight, after the manner of the saloon of the San Francisco steamers, and the car is thus not only perfectly ventilated, but unusually well lighted.”35 About two months later, The Daily Bee Local News section reported “a consignment of laurel wood was received per Chrysopolis by the C.P.R.R. Company designed for use in the interior adornment of its passenger cars.” In addition, the wood “shall furnish and finish in the elaborate style which has been so admired in similar work in the Pacific Insurance building in San Francisco and on
the steamer McPherson and our favorite Capitol, all the panels and mouldings of the first passenger car which shall leave the Capitol of California for the city of New York.”

This reminds us that one type of transportation can influence another, and that even architecture may owe a debt to transportation. Rail passenger car design helped set a new standard in travel that is evident today in the interior of most commercial airliners, which usually have a raised or open section running lengthwise. Like rail passengers in the late 1860s, air passengers can sit near (and gaze out of) windows, stow luggage in racks above their seats, and enjoy illumination along the ceiling; they can also stand and walk comfortably in a central aisle that runs the length of the passenger compartment.

The style and detailing of any vehicle, however, is usually a result of the time or era in which it was built. In the Victorian period, the interiors and exteriors of passenger cars became increasingly more elaborate. In addition to ornate cars built in Sacramento, those from the East arrived as the Union Pacific reached Promontory Summit. Under the title “Elaborate Cars,” The Daily Bee in Sacramento reported that “two passenger cars of most elaborate pattern, style and finish . . . were visited by many to-day, and, as a matter of course, universally admired, for beauty must and will have its admirers.” Like the finer homes and commercial buildings of the period, these cars were beautiful as well as functional. Manufactured by Wason Manufacturing Company of Springfield, Massachusetts, they were, as the journalist called it, “replete with the latest improvements . . .” (fig. 4–12). Continuing his description, the article’s author noted that “[t]he cars are most substantially built, with solid gearing underneath, and supplied with brakes of formidable purchase.” Each car had thirty seats that could accommodate two people; the car, in other words, could seat sixty passengers.

The Wason cars’ interiors were similar to the most lavish ones produced by the best car manufacturers. They featured elaborate woodwork of bird’s-eye maple, black walnut, and oak, while the exteriors and interiors featured ornate panels “worthy of all commendation.” Although the cars’ interior and exterior paint colors are not specified, they contrasted nicely “thanks also to how tastily the brush had been applied.” Although these cars were “things of beauty and objects of admiration,” they had to be comfortable and safe as well. In a telling summary about the cars, the article noted that “[t]hey not only attract the vision, but they convey a very satisfactory idea of comfort and more still, safety.”

Despite improvements in passenger service, rail travelers either carried their own food or ate at various meal stops situated several hours apart. Because passengers transferred from one train to another here,
Promontory was a meal stop on the new railroad line connecting East and West. A handbill of the period announced:

**THIS TRAIN STOPS**  
20 MINUTES FOR SUPPER AT THE  
GOLDEN HOTEL  

Promontory Utah  
First Class meals, 50 cents  
The Golden Spike  
Completing the first Trans-continental  
Railroad was driven at this Point May 10, 1869. Don’t fail to treat  
yourself to a first class meal  
at this celebrated point.  

T. G. Brown, Prop.30

That meal stop had been a time-honored tradition dating back to the era of stagecoaches and the earliest railroad lines.

In the days and months after the driving of the golden spike, Promontory settled down to a more mundane existence—that of a small railroad town where travelers from two railroads “changed cars.” The community was called Promontory by some, and Promontory Summit by others, but some called it Promontory Station. The latter is no doubt a reference to the fact that all passenger trains stopped here. Although gamblers and other rogues still occupied the town, giving it a reputation as a rough place where travelers should beware, vigilante groups helped ease the situation. This represented a concerted effort on the part of both the railroads and a number of outraged citizens, who resented Promontory’s evidently well-deserved reputation as a pickpocket’s (and swindler’s) dream—and a traveler’s nightmare. As noted earlier, improvements at the site took place throughout all of this commotion. Promontory also started to take a slightly more permanent form as the Union Pacific completed its depot. This two-story building contained a waiting room, telegraph office, and restaurant where travelers stopped long enough to consume meals. Upstairs were two apartments. Meanwhile, the Central Pacific also built an office in Promontory, which helped to confirm the community’s status as a two-railroad town. This condition lasted until November 17, 1869, when it was announced that the official meeting place of the two railroads would be at or near Ogden, about thirty miles distant in the more developed area along the Wasatch Front. The change was official on December 1, 1869, when the Union Pacific employees left town—as did most of the
remaining “brigands” who had been playing havoc with immigrants and other souls traveling along the transcontinental railroad. Promontory was now a Central Pacific town.

Changes in rail equipment technology signaled changes along the right of way. For example, when dining cars were introduced, the press noted that “. . . to put on a dining car is to wipe out the railway side inns and thus injure many people” through lost local wages. “But for this” concern about putting people out of work, the paper noted, “all the railroads would be inclined toward them . . . both for the purpose of making time and to please their passengers.” The handwriting was now on the dining room wall, however, and the days of the railroad dining stops were numbered. The article concluded that on a dining car, “one gets good food well served and takes his own time to eat, at rates not much if anything higher than the ordinary prices.”

Just as the railroad had superseded earlier wagon and stage transportation, developments within the railroad industry focused on speed and comfort. A train at rest, whether freight or passenger, represents lost revenue and time wasted. By century’s end, passengers in dining cars could gaze out the windows at the forlorn station stop at Promontory Summit, a reminder
of the march of progress. In the meantime, the meal stop at Promontory was a part of the daily scene at this otherwise isolated spot.

Promontory was not the only summit along this section of railroad line. The profile of the completed railroad from the Wasatch Front to near the Nevada border resembled a roller coaster with high points scattered between long sections with gentle grades. As railroad topographers knew, all of this particular section of the railroad from Ogden to Lucin lay between 4,223 and 4,909 feet above sea level. Careful surveying had assured that only about 600 feet separated the highest and lowest points on the line. However, in some places, much of those 600 hundred vertical feet of relief were compressed into short distances. That meant some steep grades in places. Beginning at the Nevada/Utah border, the line reached Lucin at 4,498.88 feet above sea level, descended a long grade into the plain of the Great Salt Lake, rose again and leveled off at
milepost 698 (Bovine). From there it undulated through a series of cuts and fills through Terrace (elevation 4,549.78), then continued upgrade to Terrace Pass, where it leveled out at 4,720.41 feet. Afterwards, the line dipped briefly then rose steeply, only to dip again near Red Dome, beyond which it rose again in the vicinity of the Red Dome hills. Then the line began its descent to near Matlin, after which it rose again after crossing Duff Creek on a trestle, then continued up the long grade to Ombey and the summit of Red Dome Pass. From here, the railroad line dropped into miles of rugged badlands through Peplin, reached the lowlands northwest of the Great Salt Lake in the Curlew Valley near Kelton, then gently undulated for miles, seldom varying more than ten feet in elevation, near the geographic landmark called Monument Point. This was a spectacular setting where photographers took several memorable photographs, including one of the Jupiter and the Stanford Special, complete with a water car (fig. 4–13). Coupled behind the locomotive, this framed car boxed in a more-or-less watertight compartment that could hold several thousand gallons.

The car enabled the locomotive to travel farther between water stops, a reminder that water towers were still some distance apart as the line was nearing completion. This photograph is remarkable for several reasons. First, it is one of the few action scenes taken in May of 1869. Second, it beautifully reveals the predominantly limestone nature of the landscape and the configuration of one of the line’s true landmarks. At this point, the line was ascending toward a small summit about a mile west of Rozel. From here through Bronte, the line continued upgrade west of Promontory, then dipped and rose again to Promontory Summit (elevation 4,909 feet above sea level).

The profile of the railroad grade at Promontory Summit (fig. 4–14a) shows that the nearly level line here required very light cutting and filling. From Promontory, the line began a slight descent, then briefly rose before beginning its steep descent down the east face of the Promontory Range. The profile drawing illustrating just how much work needed to be done along the right of way here (fig. 4–14b) reveals quite a different story than the easy going the railroad encountered at the summit. Here on the grade, the railroads desperately tried to strike a balance between cutting, filling, and maintaining a reasonable grade. The appropriately named Big Fill shows on the profile as a deep, v-shaped defile.

Illustrators who drew such profiles were not the only ones who depicted the engineering work here. Lithographers of the time portrayed railroad grading here as a titanic struggle with limestone, which is shown being blown out in huge blocks (Fig. 4–15) by Chinese and
Fig. 4–14a
Portion of the profile chart showing the summit at Promontory requiring little grading and filling.
Portion of the Central Pacific line east of Promontory, on the east slope of the Promontory Range, shows considerable cutting and filling.
Irish workers. Continuing eastward through Surbon, the grade was still steep but leveled off east of Blue Creek. From here, it rose again for about a half-mile at a spur of land that reaches down toward the lake flats. All the way to Corinne and Bear River, the track gently undulates, but rarely more than a few feet on very gentle grades. In the low-lying areas hereabouts, the track averages about 4,225 feet above sea level. Between Willard and Bonneville, the track undulates about five feet, rising to reach about 4,320 feet at Ogden.11

At that time, Ogden was emerging as a major rail center, in part because the Central Pacific had won the battle in reaching the Wasatch Front. Still, for several years (until 1874), the Union Pacific and Central Pacific actually met several miles from Ogden at a location near Hot Springs. Here, a tent town similar to Promontory existed until the railroads finally connected just west of downtown Ogden. With both
railroads now meeting in Ogden, the city soon became a major railroad servicing facility.\textsuperscript{42}

By the 1870s, the railroad route over Promontory had become a historical curiosity as the location of the driving of the golden spike, or what \textit{The Pacific Tourist} called “the meeting of two railroads.” However, it was also famous for another reason. The route provided the visible remnants of the gargantuan battle between Union Pacific and Central Pacific that had riveted the nation’s attention a few years earlier. As \textit{The Pacific Tourist} commented, when the train left Blue Creek and a helper locomotive was put on to “assist in pulling us up the hill to Promontory,” the scenery soon became more spectacular. Here on the east slope of the Promontory Range, the railroad traverses “some very heavy grades, short curves and deep rocky cuts with fills across ravines,” where one could see—as one can today—the right of way of “the old grade of the Union Pacific [which] is crossed and recrossed in several places and is only a short distance away.” Paying tribute to the railroads’ effort of blasting and filling, \textit{The Pacific Tourist} also commented on “rock cuts where each road expended thousands of dollars, and where [Mormon] Bishop John Sharp, now President of the Utah Central, exploded a mine \textsuperscript{sic} which lifted the rock from the grade completely out, and gave a clear track after the rubbish was cleared away.”\textsuperscript{43} We use the term \textit{rubble} (rather than \textit{rubbish}) for such waste rock today, and it actually served an important purpose. Much of it was a source of the “fill” that helped the railroad build its line over rugged ravines along the east slope of the Promontory Range.

For their part, the Mormons were elated about the completion of the line—but not quite elated enough for Brigham Young to attend the ceremony, which, some claimed, he snubbed because the event wasn’t occurring at Salt Lake City. The church, however, did send representatives. On May 12, 1869, \textit{The Deseret News} featured an article on “The Celebration yesterday” \textsuperscript{sic} when “the hour appointed for laying the last nail \textsuperscript{sic} connecting the U.P. and C.P. lines” arrived and “all classes of citizens seemed to be in earnest in participating in the proceedings.” In the article, the Honorable John Taylor, who would succeed Young as president of the Mormon Church, is quoted as saying: “we have now got a highway cast-up on this continent, and we hope to see thousands of Latter-day Saints come on this way to their homes without the slow process of traveling with ox teams”—a sentiment that celebrants reportedly greeted with applause. No doubt recalling the sacrifices that Mormon contractors and their workers had made, Taylor also mentioned, “The laborers who have worked on this magnificent enterprise, may they share in the glory of its consummation” \textsuperscript{sic}.\textsuperscript{44}
Speaking of laborers, we should recall that their ethnicity was a likely factor in who was, and who was not, photographed front and center on that eventful day the rails met. Yet, Chinese workers present on May 10 were photographed in several work-related scenes. *The Pacific Tourist* related “a curious incident” associated with “the laying of the last rails” that “has been little noticed hitherto.” This happened when “two lengths of rails, 56 feet, had been omitted.” The Union Pacific had rails brought up and placed “by Europeans,” by which he probably meant Irish and possibly British. The Central Pacific, however, brought up its rails with “the labor being performed by Mongolians.” Naturally, the foremen overseeing the work of both crews “were Americans.” This *The Pacific Tourist* viewed as highly symbolic. As they put it: “Here, near the center of the Great American Continent, were representatives of Asia, Europe and America—America directing and controlling.”

Whereas the American press saw an opportunity to emphasize American ingenuity and initiative here—and that should never be forgotten—we are today more prone to recognize the fact that the construction, completion, and operation of the railroad was a multicultural and multinational effort involving peoples from three continents.

We often read about the Chinese presence on the Central Pacific in California because “Crocker’s Coolies” had performed such Herculean feats working in the Sierra. However, the Chinese were an essential element throughout the entire Central Pacific system, even in Utah. They lived in tent camps as work progressed from Nevada into Utah Territory, as seen in a photograph taken in 1869 (fig. 4–16). This scene contrasts the tents with the mobile train of workers’ larger “bunk” cars that could be hauled to the end of track. The cars here are similar to boxcars, and some of them indeed were. The larger cars more often feature small monitor additions to their roofs for added light and/or ventilation and were specially built to house workers. Boxcars were common for work train service as well as on regular trains because they could carry cargo, such as dry goods and supplies, including explosives, which needed to be kept out of the weather.

Other rolling stock in construction trains at Promontory included a wide range of work cars based, in large part, on the standard freight car designs of the period. Platform cars (or flat cars, as they would later be called) were common. These were the simplest cars of all: an open, flat deck to carry freight that could be used to haul bulky cargoes—such as large crates—and long items, such as telegraph poles or pipes, which were unable to fit into boxcars. Other types of cars were constructed using flat cars as a starting point. These included tank cars, which originally involved placing several vertical wooden tanks or tubs side by side
on the car; by the 1860s and 1870s, a long cylindrical tank held together by metal bands or hoops was often mounted horizontally. These tank cars could carry water and other liquids such as oil. Gondola cars, which had sides and ends but no roof, carried loads of lumber, sand, or gravel. Gondolas could be made by putting wooden sides and ends onto flat cars, though some gondolas were made solely for loads like sand or gravel, and others had doors (either at the lower portion of the sides or the car’s bottom) through which such loads could be dumped.46

The photograph of the work train reveals the desert-like sagebrush vegetation so common along the Central Pacific right of way—not a tree in sight. When that train moves farther east toward Promontory, this tent camp will be forlorn indeed. When the work is completed and the
tents taken down, nature will once again reclaim the site. Yet, the tent camp will not vanish without leaving a trace. Tent posts and spikes will leave impressions, campfires will leave ashes and rings of stone, privies will be filled, and Chinese workers will leave distinctive artifacts that, more than a century later, will be discovered by archaeologists who help tell the story of the work crews.

The Chinese presence here in this part of Utah, while scant today, was once more dominant. In the 1868–1870 period alone, several hundred locations occupied by Chinese could be seen. Most were but temporary construction camps and dugouts, but the people who occupied them were essential to the railroad’s operation and construction. In reporting the death of Wah Kee, who had been present during the driving of the golden spike, S. G. Snively wrote in the company newsletter, the SP Bulletin, “With the death of Wah Kee, pensioned Chinese interpreter, at Canton, China on June 4 [1926] there passed from the annals of this division a picturesque character.” Snively noted that Wah Kee, who had been “employed by the old Central Pacific, was present at the driving of the ‘Golden Spike’ at Promontory.” The article noted that Wah Kee had appeared in the film “Iron Horse,” and that his “services as interpreter for his countrymen was of great value to them as well as the Company.”

Most people living in the United States in 1869 could probably point to the approximate location of Promontory on a map. Not all of these maps were accurate, as the next map confirms. If, as we recall, it was easy for Central Pacific’s detractors to criticize their maps, the railroad must have felt vindicated when the beautiful Map of the Central P.R.R.—final location of the—from Wadsworth [Nevada] to Ogden (fig. 4–17) was produced in 1869. After all, it revealed their victory in getting to the Wasatch Front. Prepared by Henry M. Roberts of the Engineer Office of the Military Division of the Pacific and “copied from [the] Latest Data Obtained From Central Pacific R.R. Co.,” the map appears to be exquisite in its clarity and simplicity. As the line enters Utah just beyond Tecoma (Nevada), it traverses the territory from Lucin to Ogden, continuing as a vermillion-colored line. Shown are the stations of Bovine, Terrace, Matlin, Kelton, Monument, Rozel, Promontory, and Corinne. In the vicinity of Promontory, likely on the eastern slope of that range, several springs are shown in blue, as is the unnamed Blue Creek.

This map seems confident enough, but trouble mounts as the line runs east of Corinne into what was solidly Union Pacific country until the decision to award Central Pacific the line all the way to the fledgling town of Ogden. There, where Brigham City should be, is the name of Ogden! Just when the folks in Brigham City and Ogden began to
recover from shock, chagrin, or laughter, those who looked for Ogden found only a town called, with the authority a map usually commands, Uintah. Given its frequent mention as the future junction of the Utah Central and the Union Pacific, the omission of Ogden on this map must have seemed strange indeed to people who knew the area’s geography. These errors and omissions must have been even more embarrassing to the Central Pacific when we recall the railroad’s own “data” supposedly informed the map. Thankfully, at least, Salt Lake City is properly named and located. This map is a reminder that whereas it is easy to say Ogden is located along the Wasatch Front, it is quite another to actually place it properly—though transposing it with Brigham City is a stretch. Mercifully, few people probably saw this map. Usually, they relied on printed maps produced by the thousands—often in conjunction with articles about the now-completed transcontinental railroad.

Photographs, of course, were especially interesting to the public as they represented the modern technology of freezing time. By closely
studying the dozens of photographs taken near Promontory, we can better understand features in the landscape along the right of way. To the Victorian mind, the deep cuts, large fills, and spindly trestles were noteworthy. The Union Pacific Promontory Route trestles, as they are now called, appear to be the work of Mormon contractors John Sharpe (assistant superintendent of public works under LDS President Brigham Young) and Joseph A. Young (son of Young and active overseer of Union Pacific’s surveying). Many of the smaller trestles were named “culverts” in the early reports. Although originally designed and built by Union Pacific, it appears that the trestles on the line, which was used by the Central Pacific, were rebuilt by Central Pacific Railroad construction crews in 1872.49

Yet, many things apparently eluded photographers who so intently focused their attention on the locomotives and railroad cars, earthwork and grading crews, and even the ramshackle community of Promontory itself. Where, for example, did these crews of pick-swinging and dynamite-wielding workers actually live? Some, we know, lived in the railroads’ bunk cars, but others did not—with a few exceptions such as figure 4–16. Looking for pictures of their housing is futile—most are off-camera or out of focus. Historical archaeologist Adrienne Anderson observed that a number of “clusters of what once were habitations are scattered across the entire Promontory range” and that “each cluster is associated with a major construction effort.” These clusters, she noted, “appear to reflect individual groups of workers concentrating on a major project” and they “also suggest family or community groups”—possibly Mormon workers, in some cases.50 In contrast to the Chinese and Irish workers, the Mormons tended to bring their wives and children to the roadbed grading sites, hence the word “family” used by Anderson. Still, life in all work camps along the railroad grades here will benefit from additional research.

Enigmatic, too, are the complete names of the crews who operated the locomotives that met at Promontory on May 10, 1869. The names of the engineers and firemen cannot be determined with certainty despite the examination of thousands of documents. Most secondary sources list them as Sam Bradford (on No. 119) and George Booth (on Jupiter). However, Ms. Delone Glover of Brigham City mentioned in a December 2005 interview that, when thinking of the events that took place at the joining of the rails, she considers Union Pacific No. 119 to be “her” locomotive because “Sam Bradford was the engineer that day.” Ms. Glover’s maiden name was Bradford, and she wondered whether her father’s brother (i.e., her uncle) was named Sam—perhaps after the famous locomotive engineer. Not citing a source other than “memory,” Ms. Glover stated that
the Central Pacific *Jupiter* engineer that day was named Booth—though she could not remember his first name. This information is tantalizing. If correct, it suggests that the names of the crew may have been preserved in oral history—even after almost 140 years—thus substantiating the written record. Tellingly, perhaps, the engineers’ names are better preserved than those of the firemen on the locomotives that day. That may be because the engineers mounted the pilots to touch celebratory champagne bottles, while other men climbed all over the locomotives to stand or lean against their warm iron flanks triumphantly.

If the official written record from 1869 does not identify the men in the locomotive cabs, subsequent records do. At least one of the men in the cab of engine No. 119 on that day was later interviewed. David Lemon, who recalled the event in considerable detail more than fifty years after the fact (1924), noted that he was the fireman on No. 119. As a Civil War veteran from Illinois, Lemon had served the Union Pacific in the spring of 1868, and he continued west with the work crews as the railroad construction progressed in Utah Territory. Lemon’s job was mundane enough; he fired the locomotives hauling construction material such as ties, rails, and supplies. At Promontory on that auspicious day, Lemon had fired No. 119 and realized that the iron spike that replaced the golden spike was a truly important artifact. So when the iron spike was driven into the hole after the golden spike had been removed, Lemon kept an eye on it. At an opportune moment, Lemon implored Superintendent H. M. Hoxie to let him remove and keep the iron spike. Because Lemon had helped during Indian raids in Nebraska a year earlier, Hoxie conceded, adding: “Let’s go and get that spike for you.” That was not the only debt the railroad paid to Lemon. On June 9, 1869, Lemon helped the railroad avoid considerable delay when he personally plugged a bad leak that his engine developed while hauling a train carrying dignitaries eastward over Promontory. Very pleased with Lemon’s ingenuity, Central Pacific President Leland Stanford gave him “. . . a whopping big orange.” Despite Stanford’s gratitude, Lemon’s luck with the railroads’ top brass was about to run out. When cuts in manpower came later that spring as construction wound down, Lemon was laid off. His last day was June 25, 1869, after which he returned east to pursue other opportunities. As a fascinating postscript, Lemon kept that iron spike for many years, finally donating it “to the library” for posterity—presumably the library at Stanford University, where artifacts from the event were displayed.

We are less fortunate when it comes to knowing the identity of the fireman on Central Pacific’s *Jupiter* that day. Of all the information recorded in print, the details of who fired the two starring locomotives seem to
have escaped the press, unlike the names of the executives on hand. Few histories fail to mention the top brass who tapped the golden and silver-copper alloy spikes home. The highest-ranking railroad officials at the ceremony included Central Pacific President Leland Stanford, Chief Engineer Samuel Montague, and construction boss, James Strobridge. On Union Pacific’s behalf, Vice President Dr. Thomas C. Durant was joined by board chairman Sidney Dillon and Chief Engineer Grenville Dodge. This is yet another reminder that people higher up on the corporate chain are usually given credit (or blame), while the bulk of railroad workers go unrecognized.

Although it is relatively easy to blame the social stratification of the nineteenth century for this oversight, there is another equally plausible answer. Consider again A. J. Russell’s classic photograph “joining of tracks, Promontory, Utah”—as this photo was titled in *How we built the Union Pacific Railway and other Railway Papers and Addresses* by Grenville M. Dodge (fig. 4–1). Our eyes are naturally drawn to that spot where the locomotives will meet and where people now begin to congregate. Russell’s photograph reveals that the most important people are positioned here, and they are the ones with the greatest authority and power. Even that ersatz flagpole, with its brave individual atop it (and another climbing to get a better look at the event or to keep people from accidentally breaking the telegraph wire connected to the rail) serves to focus our attention toward where the man on the pole is looking—right down into the gap between the trains. At dead center in the composition, a woman in a light-colored hoop skirt stands out prominently as most others here are dressed in dark clothing. She represents civilization and innocence in a scene where men have now come of age by the act of binding the continent with ribbons of iron. The fact that all the women in the picture are evidently clustered there surrounded by men, seems significant as it reaffirms the men’s control over social and physical space. Note, also, that the opening made so that the photographer could shoot the scene unobstructed by the crowd is actually funnel-shaped. This opening in the crowd further draws our view toward the point where the crowd and the lines of perspective converge. Most of the rank-and-file workers, unfortunately, were not within this field of view—lost, as it were, to the gaze of people in the future. Significantly, the United States military had a presence that day, as evidenced by the men in uniform who appear in some photographs. They symbolize both the victory of the Union in the war, and the participation of many military veterans in the building of the railroad. Likely, their presence here may have kept the events of May 10, 1869, from becoming a bit too rowdy, or untoward, for such an auspicious event.
In 1870, just a year after he gained fame as one of the photographers who immortalized the events at Promontory, Alfred A. Hart was back in the public eye. This time, it was a new, illustrated volume called *The Traveler’s Own Book—A Panorama of Overland Travel, from Chicago to San Francisco* that brought him fame. Hart’s easily carried book was “illustrated by fine photo-chromo views” of scenes he had photographed along the route in 1869. What made *The Traveler’s Own Book* even more interesting, however, was a series of page-sized stylized maps that covered the railroad route. Two of the map sections covered that portion of the line from the Nevada border over Promontory Summit to Ogden (fig. 4–18a) (fig. 4–18b).

Several things about Hart’s maps are noteworthy. First, in a reminder that maps often serve to simplify reality and reduce complexity, note that the 74–mile section of track from Lucin to Monument Point is virtually straight as an arrow. The Red Dome Mountains, while shown on the map, seem to have had absolutely no effect on the railroad! This is noteworthy because most detailed descriptions of the line note that the topography here caused the line to twist and curve while climbing over...
A Moment of Glory: Promontory

the summit of Red Dome Pass. Equally odd, perhaps, is that although Promontory Summit appears as one of the many dots signifying communities or stations, it alone is not actually named! At this time, it is possible that the public was less familiar with the other places indicated—Lucin, Bovine, Terrace, Matlin, Kelton, Monument Point, and Rozel west of the Promontory Mountains, and Blue Creek, Corinne, and Bonneville to the east—and would have known that the unnamed station here was Promontory Summit. This is plausible because the Promontory Mountains are indicated on the peninsula jutting southward into the Great Salt Lake, and most people might naturally know that Promontory Summit is the place indicated by a dot. Actually, though, it is just as likely that the cartographer ran out of space and could not find enough room to indicate “Promontory Summit” on this crowded map.

It is worth noting something else that most travelers reading guidebooks knew at this time, but which is also indicated along the bottom margin of the map. The Great Salt Lake is named along the bottom of the map and designated as “70 miles long and 30 wide.” The country along the base of the “Wahsatch Mountains” east of the Great
Salt Lake is designated as “FARMS GARDEN AGRICULTURAL” land, while the area west of the lake is simply called “DESERT.” At this time, the Union Pacific and Central Pacific met near Ogden, where the Utah Central from Salt Lake City also connected with the transcontinental railroad line.

Interestingly, Hart also included a profile of the railroad line at the bottom edge of the map. Varying from 4,253 feet near Lucin to 4,943 in the Promontory Mountains, the line at Ogden shows as 4,340 feet. For some unknown reason, though, Hart’s visual profile completely misrepresents Promontory Summit. Instead of being about 600 feet higher in elevation than Ogden, the profile shows Promontory as lower in elevation, since the profile line trends continually upward. Clearly, a person consulting only the map’s visual profile without reading the written elevation numbers would assume the railroad is uphill all the way from Lucin to Ogden, a perception that eliminates Promontory Summit just as deftly as it did Red Dome Summit.

Hart’s publication reminds us that the joining of the rails was a marketable event. Both railroads realized early on the public relations value of May 10, 1869. So, too, did other enterprising publishers and authors. On August 24, 1869, T. Clapp of Pittsfield, Massachusetts, wrote to H. C. Cram of the Union Pacific to endorse a book project by Dr. John Todd. The book Dr. Todd was writing on “California and the Railroads” would feature photographs of scenes along the line from Omaha to Utah. As a sign of showing his seriousness, and perhaps interested in capitalizing on Central Pacific-Union Pacific competition, Clapp also noted, “I have written to Mr. Huntington.” Two days later, however, Clapp wrote Cram another follow-up letter, this one noting that Dr. Todd’s “friends have abandoned the idea of illustrating in this way, and think a few woodcuts of the points of interest and scenery will be preferable. . . .” Clapp further noted that the “offices of the road could consider it any object to have a set of photographs put up, that the engraver can select from, and make his estimates, presuming it will be considered a good card for the road.”56 Todd’s book, *The Sunset Land; or, The Great Pacific Slope* was published in 1870. It joined the many books of the time that featured Promontory as the place where national, and international, history was made.