entire restoration," said Thomas Edwards of New Hampshire, a year into the war, we must

look carefully into the future, and . . . guard in advance against all possible considerations which may threaten the dismemberment of the country thereafter. From the geographical face of the country, when the great region of the distant West shall have grown to the size of which it is rapidly tending, when it shall begin to feel its sense of independence, unless the relations between the East and West shall be the most perfect and the most intimate which can be established, . . . the empire will be in danger of breaking on the crest of the Rocky mountains, and of separating by the weight of its two sea-girt nations.

A central route across the Far West was now the obvious choice because of fresh developments therein as well as the removal of Southern votes in opposition. The new city of Denver was arising near the base of the Rockies to serve the sudden influx of people to nearby mining camps; at the same time, Virginia City emerged atop fabulously rich silver discoveries in the Washoe Mountains of Nevada, directly across the Sierras from the goldfields of California. Meanwhile, the cost and difficulties of dispatching an army to quell the Mormons had underscored the need to improve the arteries of empire. The overland mail service had been shifted from the Southern Plains to a St. Joseph–Denver–South Pass–Salt Lake City–Placerville–Sacramento route and an overland telegraph line completed along the same in late 1861. In spite of general agreement on a western extension it took weeks of debate to resolve where it should be attached to the existing eastern network.

The primary controversy was between interests centering at St. Louis and those at Chicago, translated into a terminus at or near the mouth of the Kansas River or the mouth of the Platte. The simplest response was to authorize two branches to serve those alignments. The attempt to do so, however, opened up two more issues: at what point the branches should be joined to the trunk, and exactly which places on the Missouri River should become the terminals. These were interdependent matters in that the point of attachment affected the angle of the branch, the distance to the trunk, and the amount of the land grant and other government aid given to the corporate builders. The original bill in each house set this point at 102°W longitude somewhere in the narrow band between the waters of the Republican River and the Platte in central Nebraska. A Minnesotan proposed a branch from his state to connect as far west as 106°W (beyond Laramie), but there were many more attempts to shift this junction eastward to Fort Kearney (99°W), or to 100°W (which was done), to shorten the branches and reduce the largess. The initial concept of two branches serving the Kansas and Platte river routes was quickly challenged and eventually amended to include several others. As the first
and as yet only town on the middle Missouri River to be reached by a railroad, St. Joseph saw itself as having already won the race to be the new gateway to the Far West. The Pikes Peak gold rush had greatly increased its wagon and stagecoach traffic across the Plains. In the end, the designers of the bill gave in not only to St. Joseph but to Leavenworth and Sioux City as well (the latter to appease Dubuque and Minnesota interests). As a result, as one critic of the time observed, “What might have been a great artery . . . became nothing but a sprinkler.” With such a lavish sprinkling of the chances for eager capitalists to make a lot of money without putting up much of their own, a Pacific railroad bill was passed by wide margins in both houses and signed into law by President Abraham Lincoln on July 1, 1862.

In summary, the following routes were authorized (fig. 4):

1. A Union Pacific trunk line from a point on the One-hundredth meridian between the Republican and Platte rivers, “thence running westerly upon the most direct, central, and practicable route” to the western boundary of the Territory of Nevada, “there to meet and connect with the line that the Central Pacific Railroad Company was to construct from a point “at or near San Francisco, or the navigable waters of the Sacramento River, to the eastern boundary of California”;

2. A Union Pacific line from a point on the western boundary of Iowa—designated by the president as Omaha, opposite Council Bluffs—by the most direct and practicable route to 100°W;

3. A line “from the Missouri River, at the mouth of the Kansas River” (Kansas City) to connect with the Union Pacific at 100°W (originally granted to the Leavenworth, Pawnee, & Western Railroad; soon renamed Union Pacific, Eastern Division);

4. An extension of the Hannibal & St. Joseph Railroad (and associated companies) to connect with the Union Pacific at any point east of 100°W;

5. A line by the Hannibal & St. Joseph via Atchison to connect with the line westerly from the mouth of the Kansas River (later named Union Pacific, Central Branch);

6. A line from Leavenworth to connect with the Kansas River line; and

7. Whenever a railroad across Minnesota or Iowa reached Sioux City, a branch from that city to connect with the Union Pacific east of 100°W (Sioux City & Pacific).

Various incentives and limitations relating to construction progress were built into the program and adjusted from time to time. Two are of particular note. A provision allowed either the Central Pacific or the Union Pacific to build beyond the California-Nevada line should the other road not have reached that point to “meet and connect” to form “the whole [trunk] line.” Should the line from the
mouth of the Kansas River be completed to 100°W ahead of the Union Pacific from Omaha, it could continue along the trunk route to meet the Central Pacific. In 1866 a further modification allowed this line (renamed the Kansas Pacific in 1869) to build on past Fort Riley directly west to Denver and fifty miles beyond that city, rather than join the UP at 100°W. These provisions relating to the Kansas route were expressions of continuing intensive lobbying by St. Louis gateway interests to offset the ever-more apparent advantages of Chicago. This competition was also affected by the choice of gauge. The original act decreed a uniform width for the entire line but left the choice up to the president. Lincoln selected five feet (the width of most of the railroads in the South and of a short line in California); whereupon Congress passed a new bill prescribing four feet eight and one-half inches, so as to conform with all the western lines north of St. Louis. The whole system was, by law, to operate "as one connected, continuous line" so that "cars
can be run from the Missouri River to the Pacific Coast," with grades and curves not exceeding the maximum of the Baltimore & Ohio Railroad (America’s first Trans-appalachian trunk line).

Thus after a decade of impassioned, often bitter debate, and only after the federation had partially disintegrated was the central government able to determine where this essential national facility should be built. The difficulties were inherent in both the character of the government and the significance of the choice. The fixing of the nation’s communications axis was such a momentous geographical decision as to produce “a trembling anxiety” in the leadership of every state and city; it was an issue that “so exasperates human passion and so enlists [selfish] human interest” as to paralyze a republican federation. Only by offering a spray of branches to every competing interest could an agreement be reached.

CONSTRUCTION AND OPERATIONS

The vast difference between authorization and realization of such an immense project was well understood, and the original legislation allowed fourteen years for completion. Leland Stanford, president of the Central Pacific, turned the first shovelful on the levee at Sacramento on January 8, 1863, to begin grading eastward, but it was October before the first rails arrived by ship in San Francisco. The ground-breaking at Omaha did not take place until December 2, 1863, and little was accomplished for several months, in part because all materials had to be brought upriver during high-water season from St. Joseph, the only railhead on the Missouri, or hauled by wagons across Iowa from the several lines creeping overland from the Mississippi. Wartime shortages of labor and material as well as chronic problems of financing and adjudication ensured that progress would be discouragingly slow for some years.

The two companies were faced with starkly different physical conditions in the early stages of construction: the Central Pacific with the formidable, heavily ravined wall of the Sierra Nevada a short distance east of Sacramento; the Union Pacific with the plains rising almost imperceptibly for nearly 500 miles to the west with no more than a few shallow streams to cross (fig. 5). Five routes across the Sierra Nevada were closely examined before the shortest route, Emigrant Gap, was decided upon in late 1865, and it took more than two years of heavy work, including many deep cuts (soon covered with forty miles of snowsheds) and several tunnels, to cross the mountains. Not until the spring of 1868 did the track reach Truckee Meadows (Reno) where the rapid push across Nevada could begin. By that time the Union Pacific had surmounted its first physical challenge at the Laramie Range, a spur of the Rockies, and was building across the Wyoming Basin; scarcity of water now posed the main difficulty for both parties. As track laying picked up
5. Profile and Operational Segments.

speed, two major decisions faced the converging forces: whether to skirt the Great Salt Lake on the north or the south and where to meet and to establish the official working junction between the two companies. In spite of the strong urgings of Brigham Young for a route through Salt Lake City and across the broad level salt flats on the south side, the more rugged northern route was chosen, in part because of grave uncertainty about the fluctuating levels of the famous inland sea. Just where the tracks would join was an issue of major financial importance (relating to land grants and per-mile subsidies). Although the heroic labors of the competing construction crews racing across the deserts would receive great public attention, the decisive contest was being fought in Washington, where the rival lobbyists filed hastily compiled survey and optimistic progress reports to induce government decisions in their favor. Rival survey parties ranged hundreds of miles ahead, those of the Union Pacific to Humboldt Wells (Wells, Nevada), those of the Central Pacific through Echo Canyon to the Wyoming border, and the accelerating construction crews graded parallel roadbeds more than a hundred miles past one another. The actual meeting point was negotiated privately in Washington in April 1869, between Collis Huntington of the CP and Grenville Dodge of the UP, who agreed to join tracks at Promontory Summit, to transfer 47.5 miles east of that point from the UP to the CP (for a price), and to create a new city adjacent to Ogden as their joint operating terminal. A month later, on May 10, 1869, "the most significant single act of the historical geography of American transportation was accomplished."

The telegraph that transmitted (or, rather, simulated) the sound of the hammer striking the golden spike set off celebrations all across the land and a gushing
torrent of words proclaiming the immense, transforming importance of this long anticipated moment. On closer examination, however, "the importance of this accomplishment for many years was mainly psychological"; it was "a symbol that far transcended the event." When the well-traveled journalist Samuel Bowles, upon completion of his inspection trip, declared, "The Pacific Railroad—open, is a great fact to America, to the world. . . . It is the unrolling of a new map, a revelation of a new empire, the creation of a new civilization," he was confirming, along with many others, that the symbolic objective had been achieved. Other, more practical objectives were rather more elusive. In a new national icon, the engines at Promontory stood (in Bret Harte's famous phrasing), "Pilots touching,—head to head / Facing on a single track, / Half a world behind each back"—but it would take more than a spiking together of these two flimsy, hastily constructed tracks to wrench world commerce out of its accustomed paths. The Pacific Mail Steamship Company, principal American concern operating in that ocean, continued to focus on Panama and provide serious competition for transcontinental shipments, including much government business (for it, too, was a subsidized service). An 1870 agreement to apportion traffic with the railroads soon broke down, and the competition was considered so debilitating to the fragile railroads as to induce their leaders to invest heavily in the steamship company and try to enforce cooperation. Thereafter a slow trickle of teas and silk gave a tantalizing hint of the "colossal" commerce so long anticipated, but "the last grand revolution" in world intercourse was slow to develop.

Viewed as a developmental line, the results were sporadic but more substantial and assured. By 1870 the frontier of colonization was about a hundred miles west of Omaha, and the huge land grant (every other section in a twenty-mile belt) gave the Union Pacific a major means and incentive to extend this salient along its route as far as farming proved feasible. The three main settlement districts farther west along this central route, Denver and the Colorado mines, the Mormon oasis, and the Washoe mines around Virginia City, were quickly connected by local railroad branches and in every case greatly aided by the new trunk line service. As for the vast stretches in between, there was only a thin scattering of ranches and incipient mines and little local freight, and the towns created by the railroads to serve their own operations were the most substantial settlements (fig. 6). Thus Cheyenne, midway along the Union Pacific, became the main division point, with subdivisions breaking at Grand Island, North Platte, Sidney, Laramie, Rawlins, and Evanston between the Omaha and Ogden terminals. Each of these points of crew change, locomotive servicing, and car inspection, with their roundhouses and repair shops, employed scores or hundreds of men, with smaller numbers spaced along the line at various water, coaling, and helper stations. All across western Nebraska, Wyoming, and Nevada the railroads initiated and in large degree set the
settlement pattern. Thus the main line was readied to serve as a "great stream" from which "rivulets" would flow and "American civilization . . . spring up," although much of this rugged and arid land would never exactly "teem with life."

Paradoxically, the most obvious feature, the physical creation of a railroad to the Pacific, did not in fact result in the primary objective: a national trunk line. When Thomas C. Durant, the erratic promoter and manager of the Union Pacific, cried out exuberantly after the commemorative spikes were driven, "there is henceforth but one Pacific Railroad of the United States," he might seem to be voicing a common assumption that the "one connected, continuous line" Congress had decreed was now ready for operation. But such was far from the case then (as he well knew) and would never really be the case in any full sense (as he helped ensure). What the public and orators had long envisioned—"unbroken communi-
cation by rail across the continent”—made its appearance only in such extravagant displays as the Pullman Hotel Express, a special train created to carry a group of affluent Bostonians (several of whom had helped finance the Union Pacific) on a weeklong journey to San Francisco, whereas the routine service was a daily passenger train each way between Omaha and Ogden and another between Ogden and Sacramento, with the option (after December 1869) of continuing by rail on a subsidiary line to Oakland, or by steamboat to San Francisco. The 1,800-mile journey was scheduled as five and a half days of travel and normally took at least another day because the two trains were not scheduled so as to connect and provide through service (many travelers welcomed the break and the chance to inspect the Mormons).

The fundamental fact was the existence of not “one Pacific Railroad” but two railroads, two separate corporations, authorized by Congress to provide service between Omaha and San Francisco, and any assumption that there would be ready cooperation to obvious mutual advantage was quickly negated. Created and shaped to the interests of powerful leaders, the CP and UP were competitive from the start and remained so long after their tracks were joined. They abandoned the idea of jointly building a new town near Ogden (partly because of Mormon opposition), and they engendered endless problems at the junction they did set up; schedules, transfer time, methods of operating, types of equipment, and, especially, division of rates required constant negotiation. It was soon apparent that the leaders of the Central Pacific saw a much better future in a rapidly developing California than in a debt-ridden elongated line across Nevada, and they created a new instrument, the Southern Pacific, and set out to dominate California and the Southwest. By 1881, through construction and acquisition, they had formed their own “transcontinental” from San Francisco to New Orleans (via the Thirty-second parallel route) as well as a connection at Deming, New Mexico, with the new Atchison, Topeka & Santa Fe to Kansas City and thereafter treated their Central Pacific subsidiary as a secondary line.

The Union Pacific, so emblematic in name and fame, was in fact no more than a segment of a trunk line within the emerging continental system, and a very vulnerable one. For years its Omaha-Ogden route generated relatively little local traffic. Much the most important area tapped was Colorado, but within a year of the golden spike that lucrative region was reached by the Kansas Pacific, offering an alternative route to the east. Moreover, the KP linked with the Denver Pacific comprised a competitive trunk line from Cheyenne eastward via Kansas City and St. Louis and claimed legal equality of access to transcontinental traffic. This Kansas Pacific was the extended redirected version of the original UP, Eastern Division, authorized by Congress to build west from the mouth of the Kansas River, part of the derided “sprinkler” attached to the eastern end of the transcontinental
artery. None of the branches defined in the Pacific railroad legislation was built as originally programmed. For years the Central Branch from Atchison and the extension from St. Joseph were mere tap lines into the prairie, stopping well short of the UP; the Sioux City & Pacific elected to build more south than west (so as to qualify for grants of richer land in Iowa) and only belatedly effected a junction at Fremont, forty miles west of Omaha. As a result, the strategic focus remained on Council Bluffs–Omaha, and it was a point of chronic contention.

The first problem was the Missouri River. An ambiguity allowed the Union Pacific to regard Omaha as its legal terminus. This resulted in an awkward and exasperating connection by ferries, omnibus, and wagons with the several railroads that had reached westward to Council Bluffs. Only after extended litigation was the UP forced to construct a long bridge to comply with the congressional directive to build “west from the Iowa boundary.” Even after this rail link was completed in 1872 a shuttle system (in which several railroad officials had an interest) was imposed on all passengers and freight between the two towns for several years. Much the most volatile problem was that of sharing rates on through traffic with the trans-Iowa companies offering competitive service to Chicago and points east. By 1870 there were three such roads and more would appear. Furthermore, the most vigorous of these, the Chicago, Burlington & Quincy, soon became a direct danger to the UP by invading Nebraska with a line from Plattsmouth to Fort Kearney and threatening to intercept trunk-line traffic (at the very point that had so often been cited in congressional debates as the ideal branching point). Before long the CB&Q would build clear to Denver and give the UP really severe competition. Desperate to find profits somewhere, the Union Pacific sent a long branch from Ogden north to the Montana mines and built the Oregon Short Line to connect with another building east from Portland. In this way it belatedly turned itself into a “transcontinental”—and soon into bankruptcy.

Anyone who traveled across America by rail in the 1870s or was familiar with the actual handling of freight had a clear—and severe—understanding of just how far the world-famed transcontinental was from being the “one grand trunk central railroad” so long envisioned. At best this band of iron was, quite literally, an articulation, “divided into joints,” into four distinct legal and operational segments—Atlantic ports to Chicago, Chicago to the Missouri River, the Missouri to the Wasatch Oasis, the Wasatch to San Francisco Bay—linked at three congested, exasperatingly inefficient junctions: Chicago, Council Bluffs–Omaha, Ogden (and there were often more segments, depending upon which lines one took between the Atlantic and Cheyenne) (fig. 7). It took that form because that was the way the United States had decided to create its railroad system: by as many different sets of capitalist entrepreneurs as could survive the vicious competition to build and operate such facilities. Even so, there had still been the option of
imposing upon private corporations a requirement that in the national interest this one great trunk railroad be operated (as a keen and sympathetic British observer had admonished) "as a united whole from the Atlantic direct to San Francisco" and not "be permitted to be worked in a disjointed manner." After all, it was widely agreed that building this first Pacific railway was a national task and could be accomplished only by lavish government subsidy. But although such aid was bestowed upon these and many other railroad corporations in great amounts, such intervention was never guided by a rational design for a national transportation infrastructure.

The closest thing to such a design was the Gallatin plan of 1808, which was debated and chewed over in revisions and pieces for twenty years, leaving one partially built National Road (authorized earlier and incorporated into the plan) as its only direct legacy (see Continental America, 334–52). No similar plan for a national network of railroads was ever presented. Yet by fixing a first framework for the western half of the country and thereby profoundly affecting the network already in place in the eastern half, the Pacific railroad issue took on something of the character and significance of such a plan. Obviously the central government intervened here more directly in geographically decisive ways than it had anywhere in the East.

Such intervention was always under challenge. There were recurrent suggestions that the decision on the route of the transcontinental be left to the capitalists who would build the line, on the assumption that entrepreneurial risk takers would select the most economical, practicable, and traffic-generating route—that thereby no particular locality would have any advantage "except that given by nature herself"—but the idea was bitterly denounced in the inflamed political
atmosphere of the 1850s. Southerners well understood the almost certain regional consequences of that policy: "Sir, this unequal flow of Government money and Government benefits into the great northern maelstrom has been going on long enough." Even more vehement was the condemnation of an early proposal to let the president of the United States do what Congress seemed unable to do. After the original Gwin plan was rejected, a new committee, despairing of getting any specific designation of an eastern terminal approved, proposed to leave the selection (as well as of the corporations to build the line) to the president as the decision maker most likely to respond to what was best for the nation as a whole. Such a radical deference was immediately denounced by senators from the older South: the granting of such "immense influence . . . in building up one section of the country where it goes, and in injuring that where it does not go" would be a giant step in transforming "a free confederacy of Republican States" into "a consolidated empire." Such "a rape of the Constitution" stood no chance of enactment. The most obvious alternative for such a government was to offer something to every interest. In this bicameral structure it is understandable that a Senate, in which each state had the same number of votes, would be pressured toward three Pacific railroads—despite the enormity of such a commitment at the time—as a way of breaking the stalemate, whereas the House, with proportional representation increasingly favoring the North, would tend to hold out for a single central trunk line. Had the federal crisis not become so nearly mortal on other grounds, it seems likely that a sectional compromise on a two-road program would have been approved, providing for a southern route and a central route (with branches). As it turned out, the Central Pacific–Union Pacific trunk stands as a distinctly national creation achieved on the collapse of the original federation and adapted to provide nominal equity to relentlessly assertive residual regional and local interests.

"Regional interests" refers not only to the rivalries over the eastern terminus but to the very existence of a Central Pacific and a Union Pacific. To the modern eye, in light of the chronic difficulties it engendered, the government's allocation of the proprietorship of this crucial national line to two distinct companies may seem a serious mistake. It was not, however, simply a reflection of congressional bungling or weary compromise. There was of course the practical need to build from both ends, the obvious difficulty that any one company might have in coordinating such a huge and disparate operation, and the value placed on competition as an incentive to hasten progress toward completion. But there was more to it than that. There was the fact of a thriving California, a vigorous diversifying nucleus of 400,000 people. This American colony was not an isolated outpost hanging precariously on the far fringe of the nation, desperate for subsidy and nurture from a distant government; it was a seat of productive wealth and entrepreneurship, a famous city and region already giving stimulus and shape to a larger Pacific world.
FORGING THE IRON BOND

The Big Four of the Central Pacific—Huntington, Stanford, Hopkins, Crocker—were Sacramento merchants (all gold rush emigrants from New York State) who were organizing to build a wagon road and a railroad across the Sierra Nevada before any Pacific railroad bill was passed. When Congress finally did come to a decision, the provisions of the act and the efforts it set in motion represented California reaching out to the nation as much as the nation reaching out toward Pacific shores—indeed, considering the physical obstacles overcome and where the junction was effected, the Californians may be said to have made the more impressive response. Why this should be so, how California had acquired such qualities, calls for a much closer look at it and at other regions of this “distant West.”

However hastily constructed and selfishly operated this famous band of iron across the continent might be, the daily trains trundling along to and from Ogden at a scheduled average of nearly twenty miles per hour wrought a revolution in Western travel. It fixed in place the first full axis and quickened the pulse of the

8. For the Extension of Western Travel.
nation in all its Western extremities. Stage lines now radiated from its stations to mining camps and to distant regions such as western Montana, Walla Walla, and Oregon, and branch railroads would soon follow as they already had to Denver, Salt Lake City, and Virginia City (fig. 8). The hazards of weather did prove greater than expected. In December 1871 blizzards blocked the Union Pacific for twenty-eight days—more than confirming the warnings so relentlessly sounded by proponents of southern routes years before. But by this time other transcontinental projects had been authorized by Congress: the Texas & Pacific, along the Thirty-second parallel route; the Atlantic & Pacific, along the Thirty-fifth parallel route; and the Northern Pacific, along the Forty-seventh and Forty-ninth parallels route. Although the progress of these was as yet barely discernible there could be little doubt but what all the Wests—the whole "magnificent parallelogram" of the United States—would become bound into one vast network by steam and steel. As a writer in Leslie's Weekly declared in 1870: "The railway has so abridged time and space, that the continent is rapidly losing its romance and becoming prosaic. . . . We have almost ceased to speak of the frontier."