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PATTERNS OF PROMISE

MAPPING THE PLAINS AND PRAIRIES, 1800-1860

JOHN L. ALLEN

During the great drive of the American people to the Pacific, the vast area lying between the Mississippi River and the Rocky Mountains was, for the better part of the nineteenth century, a zone of passage rather than a region of settlement. "Crossing the plains" became an epithet for what, to many, was a tedious but necessary part of a long journey to the dramatic Rockies, the exotic Southwest, or the bucolic Pacific Coast. In the romanticism that gripped America during the years between the opening of the nineteenth century and the Civil War, the supposedly featureless plains were largely devoid of the symbols that lured Americans—both spiritually and physically—to other areas. Yet, unappealing as the plains may have been, they had to be crossed in the migration toward the Pacific. Among all the regions of western North America, the plains were unique in the extent to which they were traveled and mapped

long before they were settled permanently by an American population.

It was even longer before the plains were understood; the fact that they were mapped and traveled does not suggest that they were known in any proper sense of the word. Although much progress was made in the mapping of the region between 1800 and 1860, there was little understanding of the plains environment at the time of settlement following the Civil War. The settlers themselves were uncertain about what the plains really were, perhaps because the great empty spaces presented too few visual images that were familiar or concrete. Where there is little to focus on, the mind's eye may behold a great deal and, not knowing what it sees, see only what it knows.

Such was the case with the many and varied groups who mapped the plains prior to the Civil War.¹ The visual images of the plains that were recorded on the maps tended to support the preconceptions of the cartographers as they focused on those things that were of critical interest to them. Each of the groups who were eventually responsible for the mapping of the plains—trappers and travelers, merchants and missionaries, soldiers and surveyors—were charting not always what they found, but sometimes

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what they wanted to find. Their work was a mapping of the geography of hope and expectation rather than the geography of reality—a mapping of patterns of promise.

1800-1810: EARLY EXPLORATION AND MAPS OF THE PLAINS

As the nineteenth century opened, maps of the plains were based almost entirely on imagination and conjecture. Knowledge of the area was sketchy, at best, and on most maps of the period the great vastness of the plains was exaggerated. This is particularly true of the products of commercial cartographers, the primary source of geographic information on the plains in the early 1800s. In a classic sample of this type of cartography the Philadelphia engraver Samuel Lewis shows the plains as an immense open region stretching from the Mississippi to a range of mountains near the Pacific Coast (fig. 1). A few major streams of the plains are shown on this map, but they are sadly out of place and their courses are mostly imaginary. During the decade from 1800 to 1810, exploration was the primary agency by which some of those misconceptions began to be swept away.

Two major "official" explorations into the plains took place during the first decade of the century: Lieutenant Zebulon Pike's journey to the upper Arkansas and the expedition of Captains Meriwether Lewis and William Clark up the Missouri and thence to the Pacific and back.² Pike was sent west by General James Wilkinson, governor of Louisiana Territory, to explore the country of the plains tribes and to investigate the headwaters of the Arkansas and Red rivers. His trek in the summer of 1806 led him from St. Louis up the Missouri to the Osage River and on to the Kansas River, the Arkansas, and the Rockies. In a vain hope of locating the source of the Arkansas, Pike wandered into the tortured terrain of the southern

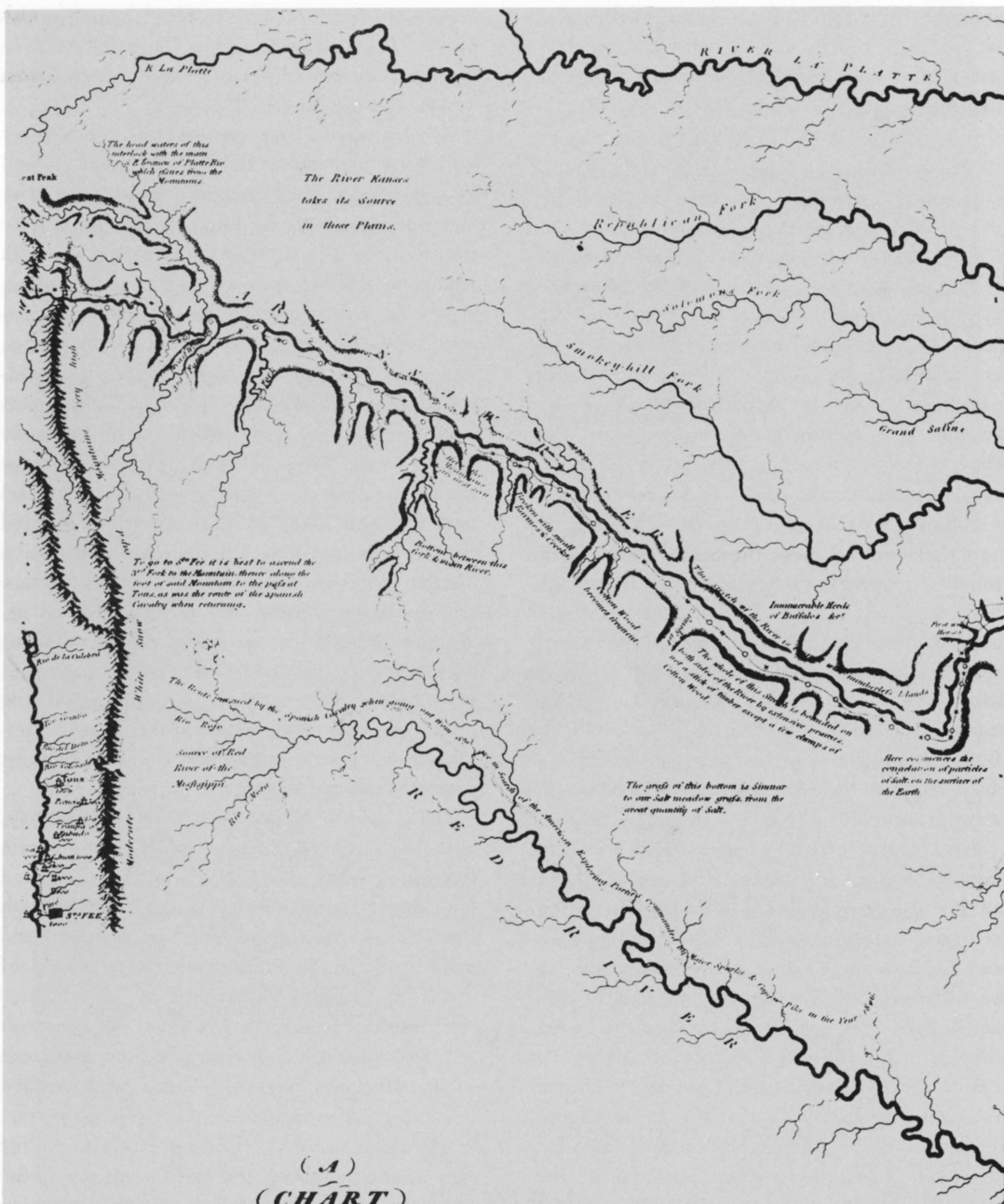
Rockies, where he was captured by a Spanish patrol. Taken first to Santa Fe and then Chihuahua, he eventually made his way back across Texas to Natchitoches.

On his travels Pike saw much of the country Wilkinson had instructed him to map, as well as a good portion of the southern plains that he had not bargained for (fig. 2). His maps were the first of the southern plains to bear the stamp of "official surveys," and for their time, they were reasonably accurate.³ Two major errors appeared on Pike's picture of the plains, however: one was his insistence that the headwaters of both the southern and northern plains rivers were in the same region of the Colorado Rockies; the other was his confusion of the Canadian River (a tributary of the Arkansas) with the upper Red River. Both errors plagued geographers and cartographers for well over a decade, particularly because Pike's information was hungrily adopted by commercial cartographers. In spite of his errors, Pike's mapping was important if for no other reason than that it reduced the east-west dimensions of the plains to their proper proportions, thus correcting an erroneous impression created by most previous maps of the region.

The mighty plains rivers on Pike's map, with their sources adjacent to those of waters flowing toward the Pacific, were represented with more optimism than accuracy. Although there may have been some pessimism and disillusionment in Pike's verbal assessments of much of the area he mapped as "desertlike," the interconnecting headwaters of eastward- and westward-flowing rivers became a pattern of promise that deluded those who studied maps of the plains for nearly forty more years.

At approximately the same time that Pike was wandering about the open stretches of the southern plains, the Lewis and Clark expedition was traversing the plains via the Missouri River, far to the north.⁴ Sent forth by President Jefferson to locate the most practicable water route across the continent, Lewis and Clark believed, both before and after their expedition, in the inherent promise of the plains streams as the ultimate Passage to India. Their

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FIG. 1. "North America" by Samuel Lewis, 1804. (Library of Congress)



(A)
(CHART)
of the
(INTERNAL PART)
OF
(LOUISIANA.)

Including all the hitherto unexplored Countries,
lying between the River Le Platte of the Missouri
on the N. and the Red River on the S. West
Mississippi East with the Mountains of Mexico
West with a Part of Santa Maria & the Province
of Texas by Z.M. PIKE Capt. U.S.A.

*Above the first Fork of the Arkansas the bank becomes
very rough which adds narrow carries a quantity of
water of a red colour and is the left branch of the Arkansas
which connects with the Red River of the Mississippi which
is extremely easy distinguishable in ascending; at about a
few miles above nearly in a parallel line, a high Ridge
bearing off at right angles from the main River.*

route in 1804–1805 took them up the Missouri to its head, across to Columbian waters, and down to the Pacific. On their return in 1806 they covered not only the Missouri but most of the course of its major tributary, the Yellowstone, as well. They did not locate a passage between the upper Missouri and the Columbian source region, but crossed the mountains via a tortuous four-hundred-mile stretch of rugged mountain terrain instead of a short portage (fig. 3).

In their mapping of the rivers of the northern plains, Lewis and Clark believed they had discovered a passage farther to the south. The Missouri's major southern tributary, the Yellowstone; its southern tributary, the Big Horn; the Platte; the Arkansas; and even the southernmost of plains streams, the Rio Grande—all had their sources near the headwaters of both the Lewis or Snake River and the mighty Multnomah, which was thought to be an extension of the Willamette. This information was obtained from the captains' geographical views after their explorations and from the maps of the first fur trappers in the plains and Rockies. It was presented on Clark's large 1810 manuscript map of the West and the published version that accompanied their journals.⁵ Although Clark's maps were the best available on the northern plains for decades, his representation of the southern plains was derived from Pike and was subject to the same errors. Chief among those errors was the promising but misleading pattern formed by the interlocking headwaters of plains streams and the rivers that drained to the Pacific.

1810–1820: COMMERCIAL CARTOGRAPHERS DISCOVER THE PLAINS

The great explorations of Lewis and Clark and of Pike continued to bear cartographic fruit into the second decade of the century. It was

too early for fur trader lore to be incorporated into maps, and most of the significant maps of the decade were produced in the commercial ateliers of London and Paris.⁶ But perhaps the greatest map of the decade was one produced not in the ateliers of Europe or even the eastern United States but in Natchez. This was the large map by Dr. John Hamilton Robinson, a member of Pike's party in 1806 (fig. 4). From the Platte north, Robinson followed the published version of the Lewis and Clark map. South of the Platte he relied on Pike's journals and map, on hearsay, and on hope. Near the western margins of the southern plains where commercial cartographers had shown areas of "light ash sand," a suggestion of aridity, Robinson found silver mines and added the notation "excellent wines made here." There were no pessimistic desert connotations for Robinson; the interstitial areas separating the plains rivers are clearly marked "prairies." Finally, via his colored boundaries, Robinson achieved an annexation that did not occur in reality for nearly thirty years; the whole of Texas and the region west and north through New Mexico is enclosed within a line bearing the legend "Limit of the United States." Robinson's map was an augury of the future rather than a reflection of the past, and among all the maps of the decade it most clearly depicted the patterns of promise.⁷

1820–1830: AN EXPLORER, AN ENGRAVER, AND AN ENTREPRENEUR

The decade of the twenties was important for the mapping of the plains, particularly by commercial cartographers. Of the three most significant maps of the decade, however, only one was a commercial production. A map produced by a government explorer was another influential cartographic contribution, not just during the decade but for the next generation. A third notable map of this period was not even a finished product, but a manuscript of field sketches.

The first map, Henry Tanner's "North America" from his 1822 Atlas, had a great influence

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FIG. 2. "A chart of the internal part of Louisiana" by Zebulon Pike, 1810. (Library of Congress)

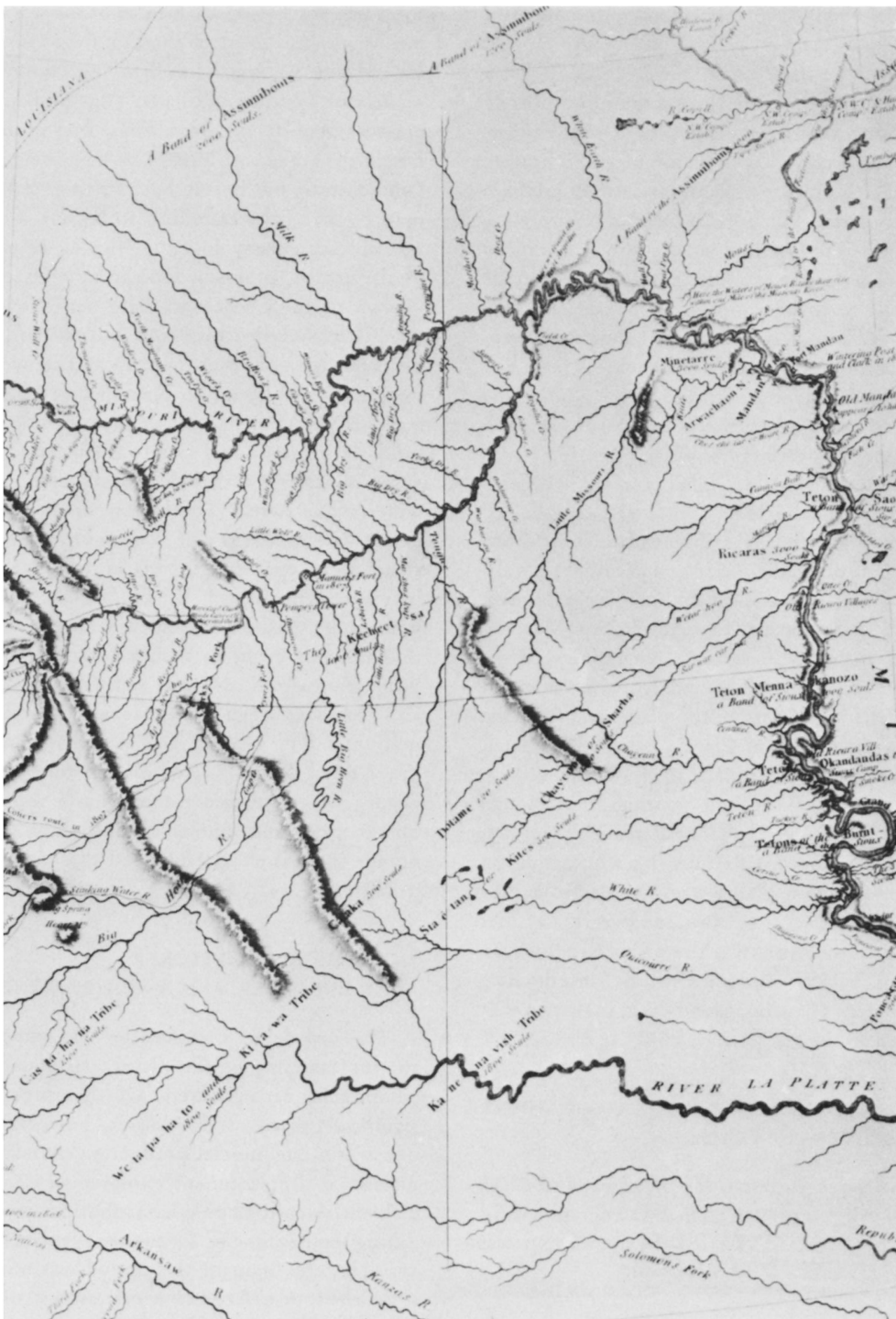


FIG. 3. Detail from Samuel Lewis's engraving of William Clark's map of 1810, published in 1814. (From Biddle, *History of the Expedition*, 1814)

on later commercial cartography, particularly in its representation of the areas lying west of the crest of the Rockies.⁸ Tanner's depiction of the plains was also important in that it fairly accurately indicated the state of geographical knowledge about that region in the early 1820s. The northern section of the plains on Tanner's map was drawn from Lewis and Clark data. Tanner made use of Pike's material as well, and depended on the work of Stephen Long for most of the detail for the central and southern plains.⁹ Because of its relatively small scale, the Tanner map necessarily simplified much of the geography of the plains. Within those limitations, it was a reasonable, if not perfect, depiction of the region in its time.

The second map, compiled by Stephen Long in 1823 after his exploration of the central and southern plains in 1819–1820, may have been one of the most important of all maps of the plains produced before the Civil War (fig. 5).¹⁰ Long had traveled up the Platte River from Council Bluffs to the Rockies (via the South Platte) and then southward along the Front Range to the Arkansas River and across the plains to what he believed, on the basis of Pike's map, would be the source region of the Red River. Locating what he assumed was the upper Red, Long turned eastward and finally realized that he was on the Canadian Fork of the Arkansas, thus clearing up this misconception in plains cartography. Long's map, drawn as a result of these travels, was a "master map" in that it was followed by many later cartographers. This great map correctly depicted the course of the Platte to the forks and then the South Platte, although Long failed to get the North Platte with any degree of accuracy. Far to the south, the mistaken identification of the Canadian River with the Red River that had appeared on earlier maps was corrected. The country between the Platte and the Arkansas was shown with remarkable accuracy for the time and the nature of the geographical data. Far to the north, the Yellowstone and Big Horn were shown with their sources near their true location, correcting another major false

impression from the earlier Lewis and Clark and Pike maps. Like most maps of the plains, however, Long's map reflected the disjunction between mapping what was seen and seeing what was mapped, for across the western edge of the plains, in the area between the Platte and the Red, appear these words in large and bold type: "GREAT AMERICAN DESERT." Although Long was not the first to so label the area, his desert colored the view of the plains for many who read his map. Finally, Long made his contribution to the region's future by showing "the Great Spanish Road," a major portion of which soon became the Santa Fe Trail.

The third important map of the decade was, unlike the Long and Tanner maps, devoid of any features of the imagination in terms of rivers, mountains, or fuzzy estimations of land quality. Joseph Brown mapped and surveyed the Santa Fe Trail shortly after Long's prophetic rendering of the "Great Spanish Road," and although Brown's sketches were never published, they may have been accessible to later surveyors.¹¹ Closed to American traders during the period prior to American independence, Santa Fe and Taos began to welcome trade with Americans in 1821, and by 1824 enough trade was flowing across the southern plains to require an accurate survey of the road by the government of the United States. In 1826 Brown made the first survey from Fort Osage to Santa Fe, and his manuscript field sketches of the route might have been of great value both to traders and to the military in the southern plains. Although crudely drawn and demonstrating little or no care in topographic representation, Brown's sketches were relatively accurate because they were based on careful observation and instrument readings.¹² While other maps of the period may have been more important as base maps for printed government or commercial charts, Brown's use of instrumentation was significant. In this case, the pattern of promise was not just in the presaging of trade on the Santa Fe Trail but in the use of a method of obtaining data that became standard in later mapping of the plains.

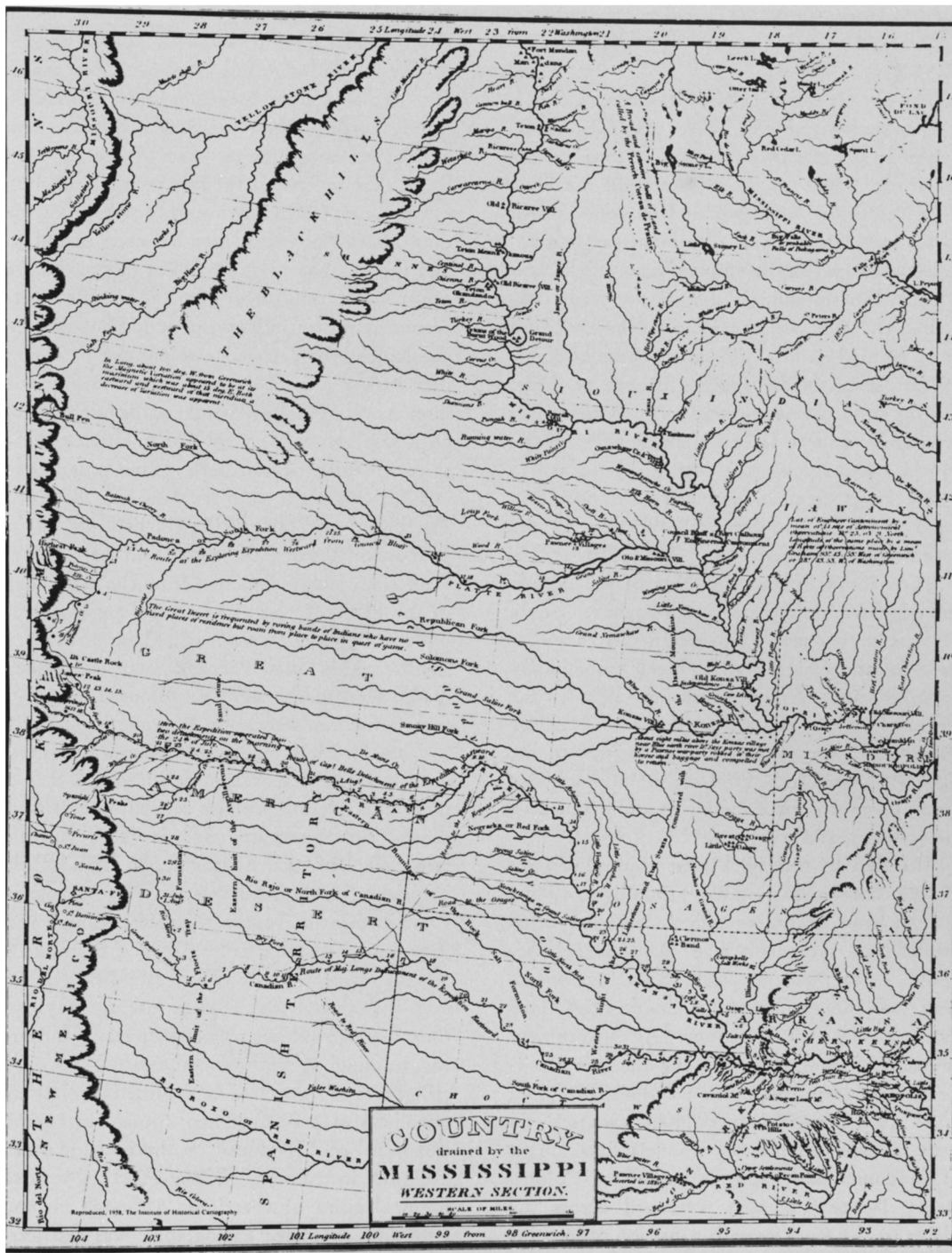


FIG. 5. "Country drained by the Mississippi, western section" by Stephen Long, 1823. (Library of Congress)

1830-1840: SCIENTIST,
SOLDIER, AND PRIEST

The decade of the thirties represents a watershed in the cartography of the plains. For nearly the first time, the geographical lore of the fur trade, which had been active in the West since the return of Lewis and Clark, began to work its way in small increments onto published maps. Naturally enough, most of the new information stemming from the fur trade concerned the Rockies and what lay beyond, and most of this material did not become available to cartographers for another decade or more. But the fur trappers and traders knew the plains intimately, and to fail to mention them in the annals of mapping the region would be to ignore the existence of one of the most brilliant bodies of geographical discovery in the nineteenth century.¹³

Three other mapping efforts of the decade had greater immediate significance, partly because they represented increments to earlier views of the plains that appeared immediately on maps, and partly because they signaled the entry of new groups into the cadre of those responsible for charting the plains before the Civil War. These new groups were military men (as opposed to army explorers and engineers), missionaries, and scientists.

The first of the three most important maps of the decade was drawn primarily to show the location of Indian tribes. Maps of tribal location in the plains had been made since 1809, when William Clark, then superintendent of Indians, made a manuscript map locating key tribal groups. As government strategies began to dictate the possible movement of Indian populations westward, other maps were drawn by government agents.¹⁴ Finally, in the summer of 1835, a detachment of dragoons under the command of Colonel Henry Dodge was sent westward across the plains to the Rockies with a mission of locating tribal patterns. Accompanying this expedition was Lieutenant Enoch Steen. His manuscript map of the dragoons' route shows both the state of geographical knowledge on the plains

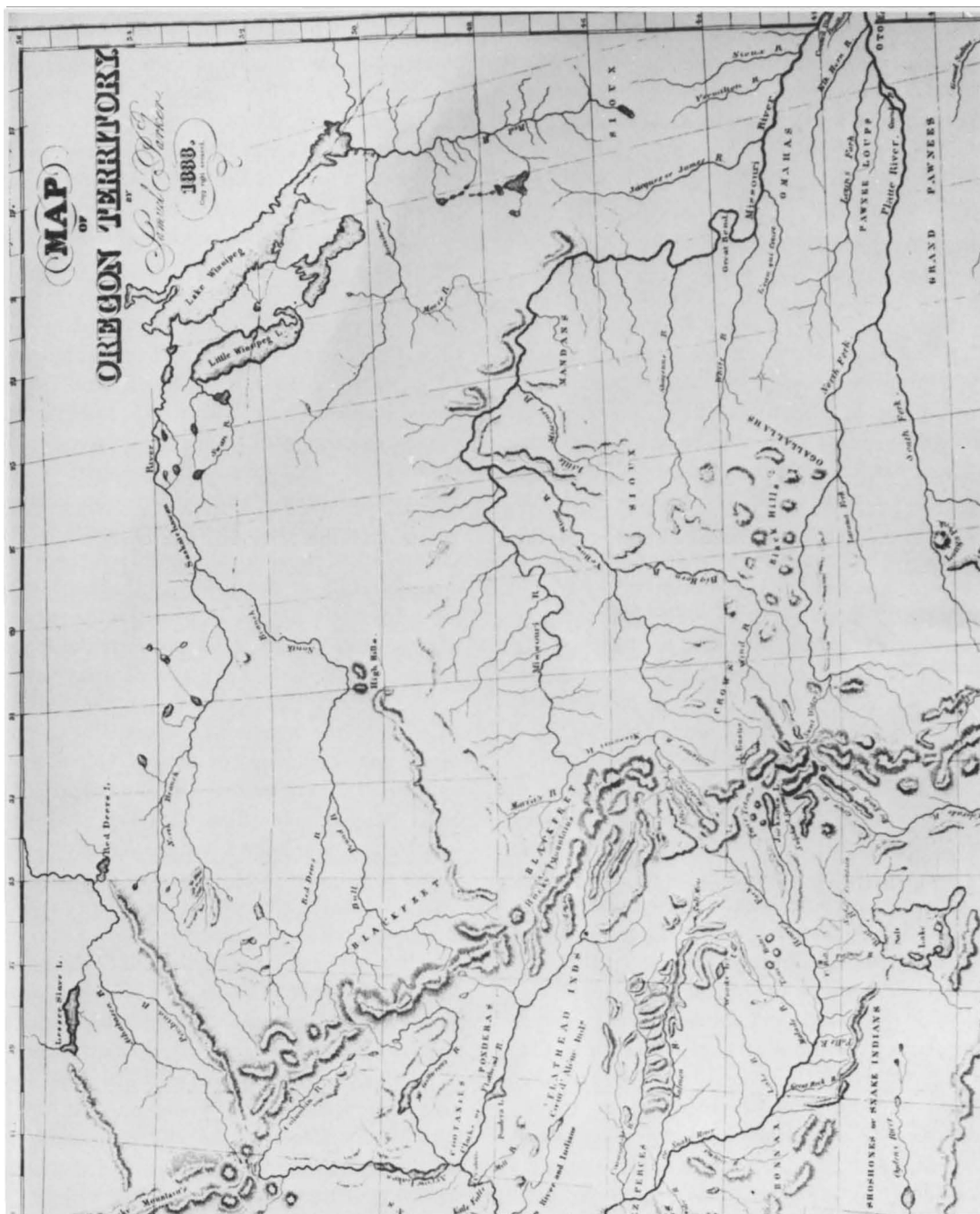
and tribal patterns on the frontier in the mid-thirties.

The second significant map of this period also shows Indian locations, but presumably for different reasons. In 1838 missionary Samuel Parker drew a large "map of Oregon Territory" that represents the northern plains with a fair degree of accuracy in terms of their key details, particularly the area between the Platte and the Missouri (fig. 6).¹⁵ For one of the first times on a published map, the Yellowstone system is shown in its proper configuration and the North Platte is accurate enough to suggest that Parker must have had access to fur trade lore. As on virtually all other maps of the plains until just before the Civil War, the Black Hills—a key feature of northern plains geography—wander about the country between the North Platte and the Missouri, stretched far out of proportion toward the south and west. Long's Peak is curiously detached from the main chain of the Front Range to stand as a single sentinel out in the plains to the east. These errors were significant in that Parker's map was widely read, particularly among potential migrants, many of whom were soon crossing the plains.¹⁶

The third key map of the thirties is less relevant in its representation of the plains than in its symbolism and promise of what was to come during the succeeding decade. This was the large map of the hydrographic basin of the Upper Mississippi, drawn by an immigrant French scientist, Joseph Nicollet, and his young American assistant, John Charles Frémont.¹⁷ Nicollet possessed excellent scientific training and introduced to western cartography—not only through his own map but especially through his training of Frémont—a measure of scientific precision that had heretofore been lacking. Nicollet's map of the Mississippi's hydrographical basin was produced on the basis of nearly 100,000 instrument readings and 326 astronomical point observations. Although his contribution to plains cartography was restricted

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FIG. 6. "Map of Oregon Territory" by Samuel Parker, 1838. (Library of Congress)



to the territory north and east of the Missouri, it was, nevertheless, the first really accurate map depicting any portion of the trans-Mississippi West. Nicollet's concept of the hydrographical basin, which was foreign to American science, bore fruit in Frémont's mapping efforts during the next decade.

1840-1850: THE GREAT DECADE IN PLAINS CARTOGRAPHY

While the maps by the U.S. Army Corps of Topographical Engineers are inarguably the most important maps of the decade of the forties for the West in general, many other distinctive maps were produced during that period, particularly for the area of the plains. The trickle of maps in the beginning of the century had become a flood by the end of the 1840s, and during the decade the number of different groups engaging in mapping the plains increased greatly. Many of the plains cartographers of the forties represented vested interests; the notion that much of the critical work done in mapping the plains focused on promise rather than reality was at no time more true than during the period between 1840 and 1850.

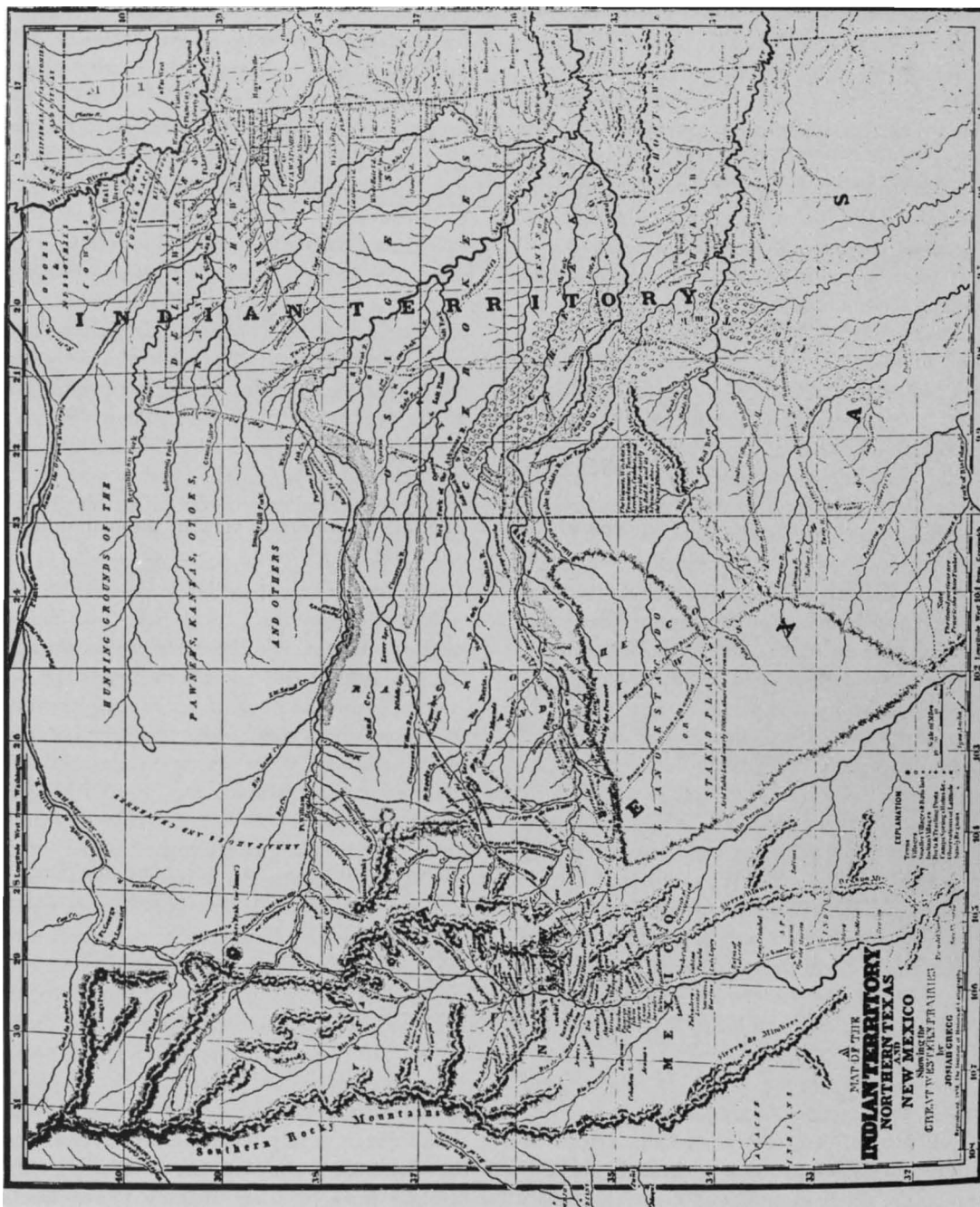
Examples of such optimistic maps were the Santa Fe Trail charts of Josiah Gregg, important for their delineation of a vital trading link across the plains, for their description of the southern plains terrain, and for their wide circulation.¹⁸ The most important Gregg map was the large map of "Indian Territory" published with his *Commerce of the Prairies* in 1844 (fig. 7). This map covers the entire southern half of the plains, from the Platte on the north to the Rio Brazos and Rio Colorado of Texas on the south. Showing a multitude of wagon roads, identified by their discoverers or primary users, and depicting "prairie" and wooded country, the 1844 map is also marked by a stippled pattern that may represent sandy areas adjacent to the water courses. In the western plains, the Gregg map shows innumerable settlements, divided by symbols into forts and trading posts; Indian villages; and Spanish towns, villages, and "ranchos." Conveying the impression of a well-

populated region, the map must have whetted the interest of prospective traders on the trail to New Mexico. Finally, in a concession to geographic reality, Gregg mapped—for the first time—the Llano Estacado, or Staked Plain, which he identified as "Arid Table Land nearly 2000 feet above the Streams." A blend of optimism and reality, Gregg's map was certainly one of the best of the southern plains before the Mexican War.

A work of nearly equal creditability for the northern plains, although carrying less detail than Gregg's map, was the first cartographic effort of the Belgian Jesuit missionary, Father Pierre Jean De Smet.¹⁹ This map, published in France and compiled from several cartographic products of U.S. government mappers of the thirties and forties, is important in its illustration of the consensus view of the plains during the mid-forties and, more critically, in its demonstration of the variety of the mappers of the plains. De Smet's map faithfully renders that portion of the plains between the Platte on the south and the Saskatchewan on the north, showing the North Platte, the Yellowstone, and the Missouri in essentially correct detail and depicting an almost unbelievable number of tributaries for each of those streams, many of them identified with the names by which they are known today. A dotted line shows what was fast becoming the Oregon Trail, and key landmarks along that vital folk migration route are identified. In a curious omission, there are no Black Hills. This migratory and mysterious upland region seems to have been as absent from De Smet's cosmography as from the images of earlier mappers of the plains. But De Smet missed little else, and his representation of the plains was one of the more precise efforts of the decade among those maps drawn by persons who were not trained surveyors or topographical engineers.

In addition to merchants such as Gregg and

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FIG. 7. "A map of the Indian territory" by Josiah Gregg, 1844. (Library of Congress)



MAP OF THE
INDIAN TERRITORY
NORTHERN TEXAS
NEW MEXICO
GREAT WESTERN TERRITORIES
Showing the
Indian Tribes
and their
Hunting Grounds
JOSIAH GREGG

EXPLANATION
Indian Tribes
Hunting Grounds
Indian Reservations
Indian Villages
Indian Trails
Indian Roads
Indian Cattle
Indian Horses
Indian Sheep
Indian Goats
Indian Pigs
Indian Cattle
Indian Horses
Indian Sheep
Indian Goats
Indian Pigs

HUNTING GROUNDS OF THE
PAWNEES, KANSAS, OTTOMAS,
AND OTHERS

STANFORD PLAINS

Southern Rock Mountains

missionaries such as De Smet, other "lay" or "amateur" cartographers were active in drawing at least parts of the plains in the forties. Foremost among these were migrants or travelers along the Oregon, California, and Mormon trails across the plains. Most of the trail-related maps did not, however, dwell at length on the plains; the end of the journey was more alluring than the lands along the way. Those emigrant maps that are relevant in the context of plains cartography are those that were either done to illustrate emigrant guides or designed to accompany published journals of the transcontinental trek. Representative of the first group was a map of "Routes to California and Oregon," published with Oliver Steele's *Western Guide Book and Emigrants' Directory* in 1849, and limited in its portrayal of the plains to showing the major emigration routes, along with the plains rivers those routes paralleled.²⁰ Steele's map is probably derived from the Pike and Long maps of an earlier generation. The major rivers are shown with a fair degree of accuracy, but the mostly unnamed tributaries to those streams are laid out in a highly regular fashion, as if the cartographer were using calipers to measure precisely the distance between them so they would all enter into their parent streams at equal distances from one another. To the west, along the base of the Rockies, Steele resurrected Long's "Great American Desert," stretching from the Platte to the Red River. The map's rendition of the plains is striking in its simplicity—it is clear that the purpose of the map was to get travelers across the empty spaces as quickly as possible to the promise that lay beyond.

Among the second group of migrant and traveler maps, those accompanying journals of travels in the West, the cartographic efforts of Rufus B. Sage are both representative and among the finest examples of the genre. Sage's map of 1846, drawn to accompany his *Scenes in the Rocky Mountains*, is outstanding in its portrayal of the territory east of the Rocky Mountains (fig. 8).²¹ From the Missouri on the north to the Canadian River on the south, Sage drew as accurate a map of the plains as any

mid-nineteenth-century cartographer's, except for the maps of topographical engineers. His delineation of the courses of virtually all the major plains streams and their tributaries is nearly without fault; he identified both the Oregon and California trails with care and precision; and he located, as accurately as any, the territories of the major plains tribal groups. Like other cartographers of the period, Sage did not have the Black Hills correctly, showing them as a linear chain running northwest from the Sweetwater to the Missouri. In a concession to both the patterns of promise and the pessimism that were evident among mappers of the Plains, Sage's "Great American Desert" sprawls in flourishing letters across the plains south of the Arkansas, while in the heart of "proposed Ne-Bras-Ka Territory," straddling the Platte and identified in even more florid style, are the "Grand Prairies."

Another group whose work appeared in the forties were private citizens who were interested in mapping the plains for the purpose of locating what would become the ultimate nineteenth-century symbol of promise—a network of railroad lines linking the Mississippi Valley with the Pacific. Chief among these proponents of a new Passage to India was New Yorker Asa Whitney. Whitney's 1849 book, *A project for a railroad to the Pacific*, was graced with a small outline map limning the prospective rail routes across the plains.²² It was not Whitney's purpose to show the geography of the plains with any degree of precision. The plains were an area to be crossed, and the central feature of his map was the depiction of the crossings themselves—or at least the proposals for such crossings. The plains are presented in the barest possible detail. Nothing adorns the map except a half dozen or so place names and river names. But dominating the map, for all to see, are the straight lines of what Whitney hoped would become iron roads, linking forever the American territory east and west of the plains crossing. There is no clearer example of the patterns of promise than those bold lines etched across the face of the empty plains by Asa Whitney.



FIG. 8. "Map of Oregon, California, New Mexico, N.W. Texas, & the proposed territory of Ne-bras-ka" by Rufus B. Sage, 1846. (Author's collection)

While hordes of emigrants were crossing the plains, sometimes drawing sketch maps as they went, and while other untrained but competent traveler-cartographers were drafting maps of western geography, a small group of well-trained and highly skilled cartographers were engaged in constructing the official maps of the West, including the plains, that must stand as the most important contributions to plains cartography in the decade of the forties and through the next ten years as well. These men were members of the U.S. Army Corps of Topographical Engineers.²³ Their outstanding maps, although more prosaic than the renditions of other draftsmen, were a great deal more precise. The work of the topographical engineers can be exemplified by the cartographic labors of two men in the middle years of the decade: Lieutenants John C. Frémont and W. B. Franklin. Each of these men produced or was directly responsible for the production of major maps. Each of them faithfully represented plains geography as it had been measured, not simply seen. It was not their task to amaze and enchant their audience. Nor were they trying to make a point about the suitability of the plains for agricultural settlement or as a prospective highway to the Pacific. Rather, in the spirit of science as it was emerging at West Point, where many of the engineers were trained, they viewed their job to be the true and accurate rendering of the topography in detail. In this, given the limitations of their time and place, they succeeded.

Typical in this regard was Frémont's large map of 1845, showing the West from the Missouri to the Pacific and illustrating his 1842 expedition up the North Platte to South Pass as well as his expedition of 1843-44 in which he crossed the Rockies, viewed the Great Salt Lake, circumscribed the Great Basin, and in general saw more of the West in a shorter period of time than almost anyone had.²⁴ Frémont's map was, in his own words, "strictly confined to what was seen and to what was necessary to show the face and character of the country." The portion of the map showing the "face and character" of the plains was

therefore restricted to the lines of Frémont's crossings and delineates the Platte and Kansas systems, along with a short portion of the Arkansas River east of the mountains. There are vast areas of bare paper on the map—not suggesting that Frémont did not know anything of those regions but that, as a good scientist, he was confining his published statement to what he had been able to observe and measure. The courses of the rivers as laid down on Frémont's 1845 map are correctly represented for the first time in both latitudinal and longitudinal coordinates, as are key landmarks such as Chimney Rock and Scotts Bluff along the Oregon Trail. Although the real significance of Frémont's map lies in his depiction of the farther West, his accurate charting of the Platte and Kansas systems is in itself an outstanding contribution to plains cartography.

The 1845 map of W. B. Franklin was drawn to accompany the report of Colonel Stephen Watts Kearney's expedition to the Rockies in the summer of 1845.²⁵ Although considerably smaller in scale and scope than Frémont's map the Franklin map is similar in its reliance on measurement as well as observation. Franklin utilized Frémont's data for the Platte system and filled in some of the blank spaces on Frémont's map for the Arkansas River below Bent's Fort. Like Frémont's map, Franklin's production contains a lot of blank space—and for the same reason.

1850-1860: A PROCESS COMPLETED AND A NEW PROMISE BEGUN

The last years of the forties were momentous for plains cartography. The new demands produced by the war with Mexico and by the discovery of gold in California meant that it was even more crucial that the best and fastest routes across the plains be located with some precision. Since these events brought people across the southern reaches of the plains, the area most frequently shown on maps derived from these twin imperatives was the region from the Arkansas to the Rio Grande. The most notable maps of the plains that were

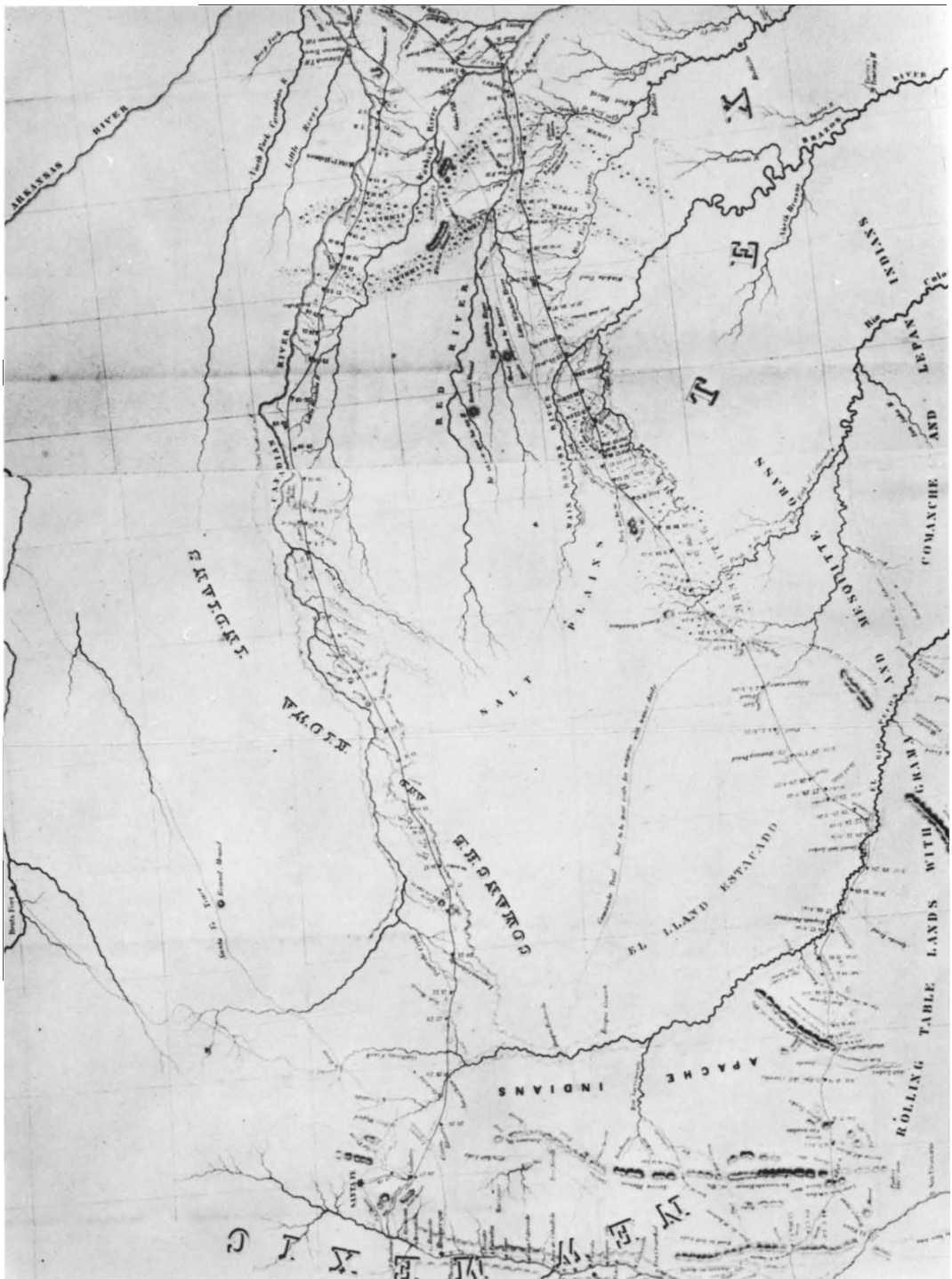
produced in the early 1850s were based primarily on source materials from either the war or the forty-niners' rush to California. As the fifties progressed, four new mapping incentives came to the fore: the surveys of the United States boundary in the north and south; the surveys for a railroad to the Pacific; the mapping of the routes to the newly discovered gold fields of the Rockies; and the surveys the U.S. Land Office made as the plains were prepared for the entry of agricultural settlers.

The first year of the decade saw the publication of a map that effectively distilled the knowledge gathered during the Mexican War and, at the same time, reflected the new demand of California migrants for accurate travel directions across the southern plains. This map was drawn to accompany the report of Captain Randolph B. Marcy's 1849 expedition from Fort Smith, Arkansas, to Santa Fe.²⁶ Marcy's expedition had as its primary objective the discovery of a practical and reasonably easy trail to California via the southern route. Using data obtained on this journey by compass, chain, and viameter readings, and combining that data with War Department maps of the Mexican War campaigns, Marcy constructed a map of the southern plains that was both accurate and informative, carrying information on land quality as well as distance and direction (fig. 9). Marcy showed the Cross Timbers country, noted the presence of mesquite timber between the Brazos and the Pecos, and identified the salt plains that lie north of the Brazos, near the head of the Red River. He described the territory between the Pecos and the Rio Grande as "rolling table lands with grama and mesquite grass," and although he placed the legend "El Llano Estacado" north of the Pecos, he made no commentary on the character of that region. All in all, Marcy's map was an optimistic appraisal of both the land and the ease of passage across the southern plains. Indeed, in his journals, Marcy noted that over the greater portion of the area he covered, the terrain was so perfectly level that "it would appear to have been designed by the Great Architect of the Universe for a railroad"—a

prophetic statement that was soon tested by the surveys for the Pacific railway.

Before those surveys began to yield results, however, another official government survey of the plains and other western territories was under way. The U.S. Boundary Survey was begun in the late 1840s to settle the dividing line between the United States and Mexico on the south and between the United States and Canada on the north.²⁷ The driving force in these surveys was the topographical engineer William H. Emory; his large map of the "United States and their Territories Between the Mississippi and the Pacific Ocean," which consolidates the results of the boundary surveys, and Lieutenant G. K. Warren's synthesis of the Pacific railroad surveys together represent the highwater mark of western cartography before the Civil War.²⁸

The detail on Emory's magnificent map of 1857 is so great that it defies description. Suffice it to say that his map, like others produced by the topographical engineers, was highly accurate and presented data as obtained through scientific observation rather than speculation. From the Rio Grande to the Missouri, Emory outlined and named virtually every water course known in the plains, and on his map the future political divisions of the plains states begin to take shape. Only two areas of the plains are limited in detail: the Llano Estacado, although named, is shown as a blank region and labeled "unexplored"; and in the northern plains, the location of the Black Hills and their drainage system, along with the Badlands country, is inaccurate. The lettering in the legend "Black Hills" stretches from the Tongue River to the upper reaches of the Cheyenne, and the Badlands appear just north of the White River, not far from Fort Laramie. In the case of the first empty area, Emory was absolutely correct—the Staked Plains were unexplored. As for the Black Hills country, no one had ever come close to showing that region as it really is. To Emory's credit, he at least did not confuse the Black Hills with the Laramie Range extension of the Colorado Front Range, as so many others had done throughout the nineteenth century.



The other great set of maps produced in the 1850s emerged from the work of the Pacific railroad surveys, and once again, a single name, Lieutenant Gouverneur Kemble Warren of the Corps of Topographical Engineers, stands out among the rest.²⁹ The Pacific railroad surveys of 1853–55 were designed to locate, through a comprehensive and systematic exploration, the most practicable rail routes to the Pacific along the 47th, 41st, 38th, and 32nd parallels. Some of the great names of western exploration were associated with the survey, but it fell to Warren to draw together the information gathered by the surveys into a “master map” of the American West. Before commencing the final stages of his great map of the West, however, Warren determined the need to reconnoiter further the route that had not been investigated by the survey. The so-called central route along the Platte Valley had been left unsurveyed by the official parties on the grounds that it was already very well known from the Frémont expeditions and the crossing of countless emigrant parties. In 1855, ’56, and ’57, while detached from his official duties with the Pacific railroad surveys, Warren explored the country north of the Platte; his “Map of Nebraska,” based on that exploration, was produced in 1857 (fig. 10). A highly accurate map of the northern plains, Warren’s first 1857 product was unique in two respects—it was the first map that accurately located and defined the Black Hills and the Badlands terrain on the southern and eastern flanks of that range; and it was “corrected” by reference to the largest collection of fur trapper maps that had ever been assembled.³⁰

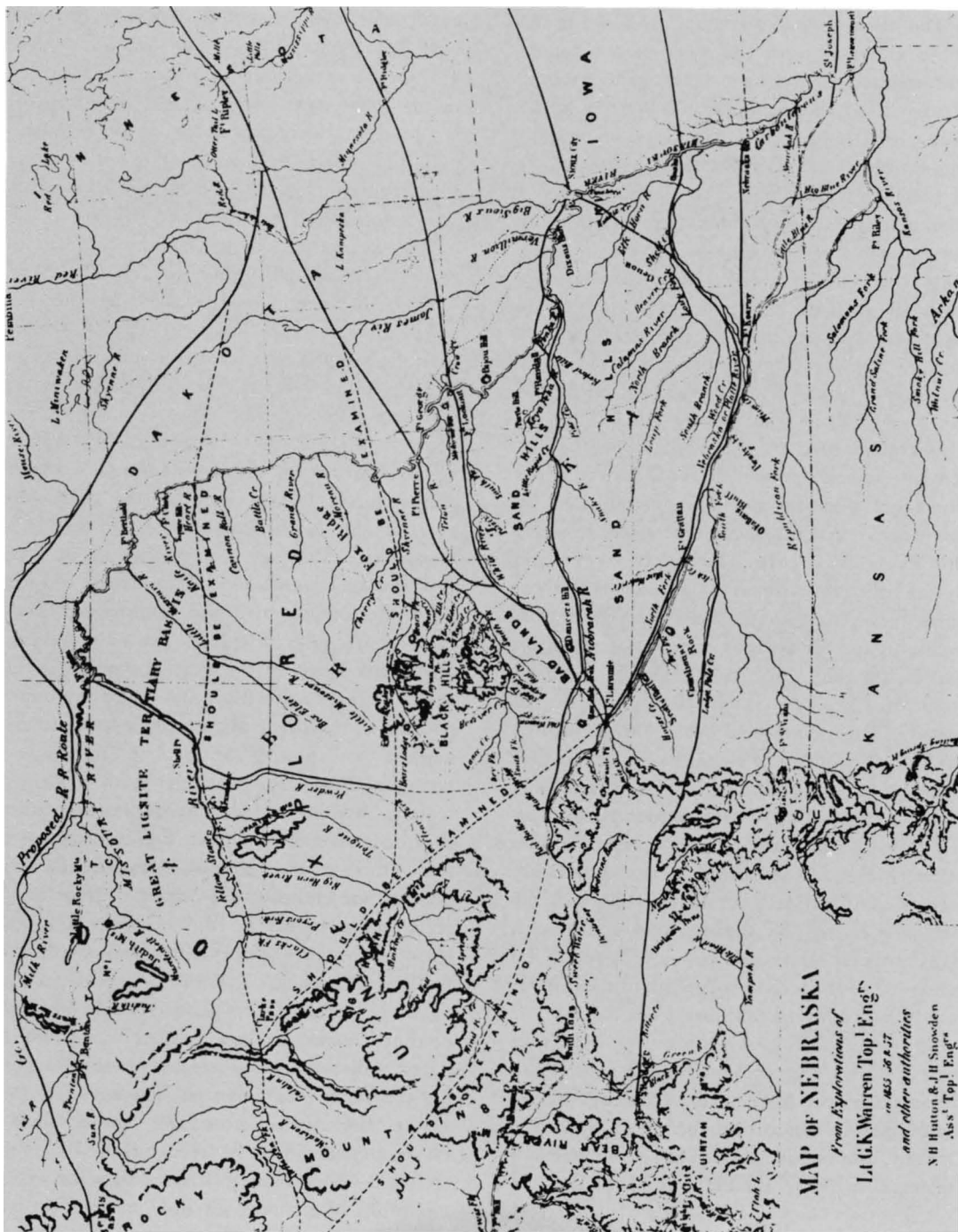
As remarkable as Warren’s first 1857 map was, it was overshadowed by the completion of his “General Map of the Territory of the United States from the Mississippi to the Pacific Ocean,” also completed in 1857.³¹ In Warren’s report, attached to the map, he noted that the

map contained materials obtained through “official” exploration in the West since 1800. The list of authorities consulted was provided in the lower right corner of the map itself. It is a long list—forty-four entries in all, beginning with Lewis and Clark and ending with government surveys “to date” from the topographical engineers and the U.S. Land Office.

The Warren map of 1857 is the capstone of western cartography prior to the Civil War. William H. Goetzmann has called it “the first reasonably accurate map of the American West,” and although that statement is a bit hyperbolic in reference to the plains alone, Warren’s map certainly is the best map of the plains before 1860.³² The “General Map” is equally precise for the northern and southern plains—a rare feat in itself. In the south, the area of the Llano Estacado is still largely a blank space; although Warren does not indicate that the area is unexplored, he clearly did not have information on it and, consequently, left the region empty of detail. The only comparable blank space in the northern plains is the area of the Powder River Basin and the upper courses of the Little Missouri and Knife rivers, marked “unexplored” on the map. To compensate for these two relatively small unknown regions, Warren added a geographical feature that had never been shown before on a major map. North of the Platte and south of the Niobrara River appears the legend “Great Sand Hills.” Like the earlier 1857 map, the “General Map” shows the Black Hills, along with the Badlands. In addition, Warren’s representation of the courses of the plains streams was not confined merely to drawing solid lines on blank paper. Adjacent to the streams he used hachuring and other techniques to show such features as the Missouri Breaks and the “coasts” of the Platte. Finally, in a recognition of their strategic importance, Warren shows the tribal territories of virtually all the Plains Indian nations, thus providing both a clear ethnographic picture of the plains prior to the Civil War and a prophetic comment on the significance of those locations for the coming conflicts between different cultures.

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FIG. 9. “Topographical map of the road from Ft. Smith, Arks. to Santa Fe, N.M.” by Randolph Marcy, 1850. (National Archives)



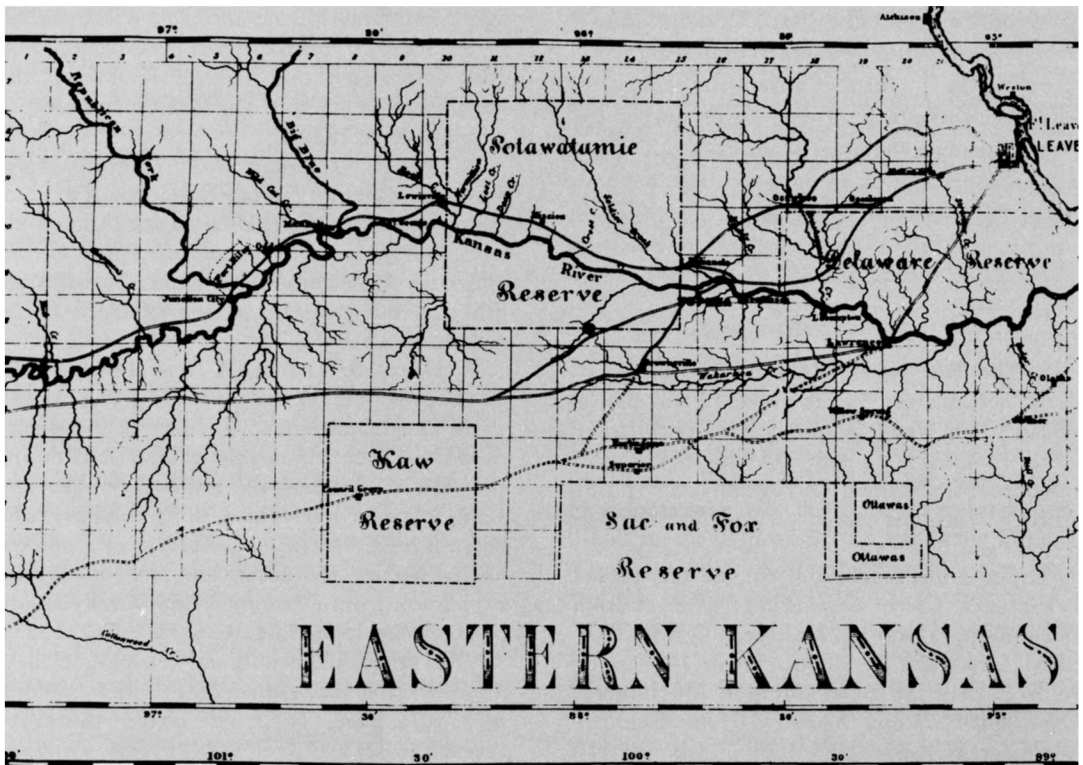


FIG. 11. "Central or Smoky Hill Route to the gold fields of western Kansas" by Tennison. (Denver Public Library)

Although Warren's map signifies the culmination of American efforts to map the plains during the first six decades of the nineteenth century, it is not the end of the story. For the decade of the fifties ended as the first decade of the century had begun—with two types of maps that showed patterns of promise. The first of these were maps drawn to accompany the more than two dozen guide books published in 1859 to instruct the gold-hungry in the fastest and easiest routes to the newly discovered gold regions near Pike's Peak. Most of these maps show little of the plains other than the major streams along which the various routes to the Rockies are laid out. In this sense, they resemble

many other maps of the period in demonstrating cartographically that the crossing of the plains is full of promise—primarily for what lies at the end of the journey rather than in the country traversed.³³

The second set of maps from the sixties are those derived from the U.S. Land Office surveys in the eastern plains (fig. 11).³⁴ Like many others, they are maps of promise—but for the first time, the promise is in the plains region itself and not in what lies beyond. On these maps appear the tidy squares first envisaged by President Jefferson three-quarters of a century earlier: the squares of the range-township-section system of survey; the squares that promised good farmland and a familiar landscape; the squares that an agricultural population permanently stamped on the plains after the Civil War. As yet those neat geometric shapes were only symbols, but soon they were

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FIG. 10. "Map of Nebraska" by Gouverneur Warren, 1857. (National Archives)

to become a reality for a settling rather than a traveling population—whether that reality was to be met in the form of poverty or prosperity. All of the mapping of the plains during the years preceding the great sectional conflict had led to a pattern of promise on, not beyond, the plains.

NOTES

1. The best source on the cartography of the American West in the pre-Civil War period is Carl Irving Wheat, *Mapping the Transmississippi West, 1540-1861*, 5 vols. (Menlo Park, Calif.: Institute of Historical Cartography, 1957-63). Wheat's work has served as a major reference for this article.

2. See Donald Jackson, ed., *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 2d ed., 2 vols. (Urbana: University of Illinois Press, 1978), and John L. Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest* (Urbana: University of Illinois Press, 1975) for the Lewis and Clark Expedition. The best source on Pike is Donald Jackson, ed., *The Journals of Zebulon Montgomery Pike with Letters and Related Documents*, 2 vols. (Norman: University of Oklahoma Press, 1966).

3. Pike's maps were published along with his account in 1810. See Zebulon Montgomery Pike, *An Account of expeditions to the sources of the Mississippi, and through the western parts of Louisiana* (Philadelphia: J. A. Conrad & Sons, 1810).

4. On the expedition of Lewis and Clark, see the works by Allen and Jackson above, along with the explorers' original journals, in Reuben Gold Thwaites, ed., *Original Journals of the Lewis and Clark Expedition, 1804-06*, 8 vols. (New York: Dodd and Mead, 1904-1905).

5. Clark's manuscript map has been reproduced and published by Yale University (1950); the published version of the map first appeared in the official history of the expedition, the so-called Biddle edition, edited by Nicholas Biddle of Philadelphia but with Paul Allen's name appearing in the work as the editor: Paul Allen, ed., *History of the expedition under the com-*

mand of Captains Lewis and Clark to the sources of the Missouri, thence across the Rocky Mountains and down the River Columbia to the Pacific Ocean, 2 vols. (Philadelphia: Bradford and Innskeep, 1814).

6. Wheat (*Mapping the Transmississippi West*, vol. 2, ch. 3) gives a fine account of commercial mapping of the West during this period.

7. See Jackson, *Journals of Pike*, vol. 2, appendix 3; an obituary of Robinson was published in the *St. Louis Missouri Gazette* on 24 November 1819.

8. Henry S. Tanner, *A New American Atlas* (Philadelphia: H. S. Tanner, engraver, 1823).

9. The Tanner map became a progenitor of many other commercial productions during the 1820s and 1830s; in this way Pike and Long material was passed along to those who had not read their official exploratory accounts.

10. Stephen H. Long, *An Account of an expedition from Pittsburg to the Rocky Mountains* (Philadelphia: H. C. Carey and Lea, 1823); see also Roger L. Nichols and Patrick L. Halley, *Stephen Long and American Frontier Exploration* (Cranbury, N.J.: Associated University Presses, 1980).

11. Brown's field sketches and notes are in the collection of the National Archives, Washington, D.C. Wheat gives a good summary of the Brown maps.

12. See Gouverneur Kemble Warren, *Memoir to accompany the map of the Territory of the United States from the Mississippi to the Pacific Ocean . . .*, 33d Cong., 2d sess., Sen. Exec. Doc. 78 (1859), p. 19.

13. The greatest of the fur trade cartographers was Jedediah Strong Smith, whose master manuscript map of the American West, drawn in the winter of 1830-31, has been lost for nearly a century and a half. Evidence of this map exists in the form of annotations made by a George Gibbs on a Frémont 1845 map. The discovery of this "Gibbs-Frémont-Smith" map was made by Carl Wheat and is discussed in his *Mapping the Transmississippi West*, 2: 120-29. Evidence that Gibbs had seen Smith's manuscript map is found in an entry by geologist F. H. Bradley in Ferdinand V. Hayden, *Sixth Annual Report of the U.S. Geological Survey of Territories* (Washington, D.C.: GPO, 1873), p. 233. Information on Smith and his mapping may be found in Carl I. Wheat and

Dale L. Morgan, *Jedediah Smith and his Maps of the American West* (San Francisco: California Historical Society, 1954). See also LeRoy R. Hafen, ed., *The Mountain Men and the Fur Trade*, 10 vols. (Glendale, Calif.: A. H. Clark, 1972), 9: 224.

14. See the *Report* of Isaac McCoy, 20th Cong., 2d sess., H.R. Report 87, ser. 177 (Washington, D.C., 1832); also Lt. J. P. Kingsbury, *Journal of an expedition of Dragoons . . . to the Rocky Mountains*, 24th Cong., 1st sess., H.R. Exec. Doc. 181, ser. 289 (Washington, D.C., 1836).

15. See Samuel Parker, *Journal of an Exploring Tour beyond the Rocky Mountains* (Ithaca, N.Y.: Andrus, Woodruff, and Gauntlett, 1838).

16. This is particularly true for New Englanders; judging from the number of Parker maps still available in New England archives and "family" historical collections, his work must have been very popular indeed.

17. See Martha Coleman Bray, *Joseph Nicollet and His Map* (Philadelphia: American Philosophical Society, 1980); several Nicollet maps, including the 1838 "Hydrographical Basin . . ." are reproduced in Bray's volume.

18. See Josiah Gregg, *Commerce of the Prairies* (New York: Henry E. Langley, 1844). Some Gregg manuscript maps are in the collection of the National Archives, but it is not known whether Gregg was the actual author of the map appearing in his published work or whether the final map was simply completed under his supervision.

19. The De Smet map was published in *Voyages aux Montagnes Rocheuses* (Paris: Malines, P. G. Hanicq, 1844).

20. See Oliver G. Steele, *Steele's Western Guide Book and Emigrants' Directory* (Buffalo, N.Y.: Oliver G. Steele, 1849). A similar work, also with important maps of the emigrant trails, is Joseph E. Ware, *The Emigrant's Guide to California* (St. Louis: J. Halsall, 1849).

21. Rufus B. Sage, *Scenes in the Rocky Mountains* (Philadelphia: Carey and Hart, 1846). Whether Sage drew the map himself or had it drawn for publication is not known.

22. Wheat gives an excellent description of the railroad promoters, including Whitney, in vol. 3 of *Mapping the Transmississippi West*. The Whitney manuscript map is in the collection of the National Archives. See also Asa

Whitney, *A project for a railroad to the Pacific* (New York, privately printed, 1849).

23. An excellent study of the U.S. Topographical Engineers is William H. Goetzmann, *Army Exploration in the American West, 1803-1863* (New Haven, Conn.: Yale University Press, 1959). A later and more abbreviated study is Frank N. Schubert, *Vanguard of Expansion: Army Engineers in the Trans-Mississippi West, 1819-1879* (Washington, D.C.: GPO, 1980).

24. Frémont's work is examined in detail in Wheat, *Mapping the Transmississippi West*, vol. 2. See also Donald Jackson and Mary Spence, eds., *The Expeditions of John Charles Frémont*, 3 vols. and map portfolio (Urbana: University of Illinois Press, 1970-84). Frémont's most important map was the large 1845 map, published in the *Report of the Exploring Expedition to the Rocky Mountains in the year 1842 and to Oregon and North California in the Years 1843-44*, 28th Cong., 2d sess., Sen. Exec. Doc. 174, ser. 461 (Washington, D.C., 1845). While it has become conventional to refer to this map as "Frémont 1845," the cartographer was actually George Carl Ludwig Preuss, a German draftsman who accompanied Frémont and who had emigrated to the United States in 1834. For details on Preuss, see E. C. and E. G. Gudde, *Exploring with Frémont* (Norman: University of Oklahoma Press, 1958).

25. This map was printed as part of W. B. Franklin, *Report of a Summer Campaign in the Rocky Mountains*, 29th Cong., 1st sess., Sen. Exec. Doc. 1, ser. 470 (Washington, D.C., 1846).

26. Randolph B. Marcy, *Route from Fort Smith to Santa Fe*, 31st Cong., 1st sess., H. Exec. Doc. 45, ser. 577 (Washington, D.C., 1849).

27. William H. Emory, *Report of the United States and Mexican Boundary Survey* (Washington, D.C.: Cornelius Wendell, 1857).

28. The reports of the Pacific railroad surveys were published in twelve volumes by the government as *Pacific Railroad Reports*, 33d Cong., 2d sess., Sen. Exec. Doc. 78 (Washington, D.C., 1855).

29. There is no biography of Warren, a curious gap in the scholarly literature in light of the significance of Warren's role in the pre-Civil War West. Some information may be

found in William H. Goetzmann's *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West* (New York: Alfred A. Knopf, 1967), and his *Army Exploration in the American West*; the primary manuscript source is the Warren Papers in the New York State Library in Albany.

30. These fur trapper maps, seven in all, are in the Warren Papers, New York State Library, Albany, New York.

31. This map was published by the government as part of the reports on the Pacific rail-

road surveys; 33d Cong., 2d sess., Sen. Exec. Doc. 78.

32. See Goetzmann, *Exploration and Empire*, pp. 314-16.

33. Cf. T. Parker, *The Illustrated Miner's Handbook and Guide to Pike's Peak* (St. Louis: Parker and Huyett, 1859).

34. The map illustrated was drawn by a cartographer named Tennison and lithographed by Middleton, Strowbridge and Co. of Cincinnati, Ohio, in 1859. A photostat copy is in the Denver Public Library.