

# THE PACIFIC RAILROAD SURVEYS, G. K. WARREN AND THE MAP THAT CHANGED AMERICA

Brad Allen©

[Presented at the Western History Association Annual Conference, Los Angeles, CA, October 26, 2023]



**Map 1:** G. K. Warren and U.S. Department of War, *Map of the Territory of the United States from the Mississippi to the Pacific Ocean*, 1857. Library of Congress

# Racing into the Future without a Map

In the brief span of 25 months, quickly and without precedent, the territory of the United States expanded by an astounding two-thirds. From late December 1845 to early February 1848, settlement of the Oregon boundary dispute with Great Britain, annexation of Texas, and acquisition of *Alta California* and *Nuevo Mexico* following the Mexican-American War added 1.2 million square miles to the territory claimed under the flag of the U.S. Then, with the discovery of gold in the Sierra foothills east of Sacramento everything changed again. What had been a small trickle of emigrants primarily from eastern states into Oregon Territory and the Great Salt Lake Valley turned into a tsunami of human migration from around the globe to golden California.

This explosive growth of both territory and population transformed the country. First, America's attention was inexorably drawn west as the country recognized how little was known of the newly acquired lands. The Native Americans inhabiting the region—their numbers, locations and disposition were all sparsely understood. Also, the complicated physical geography across the trans-Mississippi West was poorly mapped and the vast region's potential for cultivation, resource exploitation and settlement had only been superficially examined. As the Boundary Survey following the Mexican-American War had shown, a comprehensive, systematic and scientific examination of the newly acquired territory was possible—and needed.<sup>1</sup>

Second, against a backdrop of rising nativist sentiment, the country's racial, linguistic, and cultural composition became even more complex. With the entire trans-Mississippi West deemed American territory, several hundred thousand people already living in the newly claimed territory—Mexican, Hispanic, Chinese and Native American—became residents, if not citizens, of the United States. Speaking dozens of languages and dialects, they also brought folkways, traditions and beliefs largely unfamiliar to the dominant white, English-speaking Protestant Christian majority back east.

In addition, a new reckoning on Indian policy was taking place. The Native American presence in eastern North America had been receding since first European contact from a combination of factors, most prominent

being foreign diseases, encroachment of white settlements and conflicts grown more deadly with the introduction of guns. The Indian Removal Act of 1830 opened lands in the southeastern states for settlement and expansion of the slave/plantation economy by forcing tens of thousands of Native Americans to emigrate into “Indian Territory” west of the Mississippi—land deemed part of a permanent Indian Frontier separating indigenous people from Euro-Americans. No more. By the early 1850s, with the entire trans-Mississippi West under the dominion of the United States and the civic religion of *Manifest Destiny* in full bloom, extinguishment of Native Americans' title to these lands and their separation from white settlers by concentrating them onto fixed reservations had become explicit government policy.<sup>2</sup>

Lastly, the growing numbers of Americans heading west put increasing pressure on Washington. Congress was called upon to provide improved conditions along the emigrant trails and quicker communication with families left in “the states” back east. Settlers, miners and travelers along the emigrant trails demanded protection from Indians while the government also recognized the need to protect docile Indians from both white encroachment and more aggressive tribes. Washington also feared that the isolated and prosperous settlements in both the Pacific Northwest and California might seek to break away from the United States and that lucrative California gold fields presented a tempting lure to the global naval power, Great Britain, situated just north of the 49<sup>th</sup> parallel in Canada. As a result, by the mid-1850s, a rail-

road to the Pacific had become a national priority. Such a road had been proposed as a North American trade route to Asia as early as 1834.<sup>3</sup> Now the question of a Pacific railroad was elevated into a military necessity essential for security, territorial sovereignty, and national cohesion. In the first half of the nineteenth century, railroads were being built at a furious pace, especially in North America and Europe, but no iron road had been laid end-to-end across a continental land mass. The young United States, with a rapidly growing population, expanding territory and unbounded optimism, sought to be the first.

Fierce debates erupted over what role, if any, the national government should play in its construction. Personal and political rivalries, as well as competing sectional interests, overtly fueled the contest, with the most contentious arguments raging over exactly where to locate the eastern terminus, as cities up and down the Mississippi vied for the prize of a generation.

Responding to this mounting pressure, lawmakers in Washington became obsessed with “the railroad question” in the closing weeks of the lame-duck 32<sup>nd</sup> Congress. For 23 days they debated virtually nothing but whether, where, and how this most audacious project—a railroad across the North American continent—should be built.<sup>4</sup> Politicians from Virginia and South Carolina led opposition to any role by the national government in “internal improvements” as an unconstitutional violation of state sovereignty, a stance which—perhaps not coincidentally—protected their prosperous coastal shipping interests. Louisiana’s representatives pushed both for a railroad along the Gulf Coast and a shorter rail route across the narrower isthmus of Mexico, either alternative thus protecting New Orleans’ role as commercial gate-keeper at the mouth of the Mississippi. Cities all along the Mississippi and Great Lakes argued for different routes across the continent, favoring Vicksburg, or Memphis, St. Louis, Chicago, or St. Paul—and points in between.

As Congress sought to overcome these parochial arguments in order bind the country with an iron belt east to west, sectional divisions were pulling it apart North from South. inextricably linked to the railroad debate, but rarely an explicit part of the argument, was the question of slavery’s expansion west, an obstacle posing a more formidable barrier to a transcontinental railroad than the high Rocky Mountains or the arid deserts of the South-west.

In the final days of the session, a hopelessly dead-locked Congress, unable to pass legislation to build a railroad, instead funded a study. The lawmakers added \$150,000 to the Army Appropriation Act of 1853, charging the elite Army Corps of Topographical Engineers, or *topogs*, to head west “to ascertain the most practicable and economical route for a railroad from the Mississippi river to the Pacific ocean.”<sup>5</sup> Thus, the largest peacetime expeditionary force the U.S. had mounted prior to the Civil War, the Pacific Railroad Surveys (PRRS) were launched in the vain hope that science and a surveyor’s transit could break through the political impasse.

Jefferson Davis, the new Secretary of War, was tasked with implementing this congressional mandate and reporting back to Congress in an unrealistic eleven months. A West Point graduate, hero of the Mexican-American War, and former Senator from Mississippi, Davis was a vigorous supporter of the Pacific railroad project. Davis was certain that the objective scientific results of the PRRS expeditions would identify the far southern route along the border with Mexico—which favored slave-holding states—as the best alternative. He made no apologies for his views. “If the section of which I am a citizen has the best route, I ask who that looks to the interest of the country has a right to deny it the road?”<sup>6</sup>

Davis was also no stranger to Army bureaucracy or the ways of Washington. In mid-nineteenth Century, the Army’s senior leadership operated very independent of their titular head, the Secretary of War, and this was particularly true of Col. John W. Abert, who headed the Topographical Engineers. So Davis created a new bureau, the Office of Pacific Railroad Explorations and Surveys, which reported directly to him, to oversee the Pacific Railroad project. Davis tapped his boyhood friend and West Point classmate, Major William H. Emory, to head the new bureau. Emory seemed a natural choice. Not only was he a distinguished veteran of the Mexican-American War, Emory was one of the most highly respected of the Corps of Topographical Engineers, having distinguished himself as chief military officer and astronomer on the monumental Mexican Boundary Survey.<sup>7</sup> With his close friend as head of the PRRS project, Davis maintained close oversight while hand-picking the majority of expedition leaders from Abert’s elite topogs.

# The Pacific Railroad Surveys

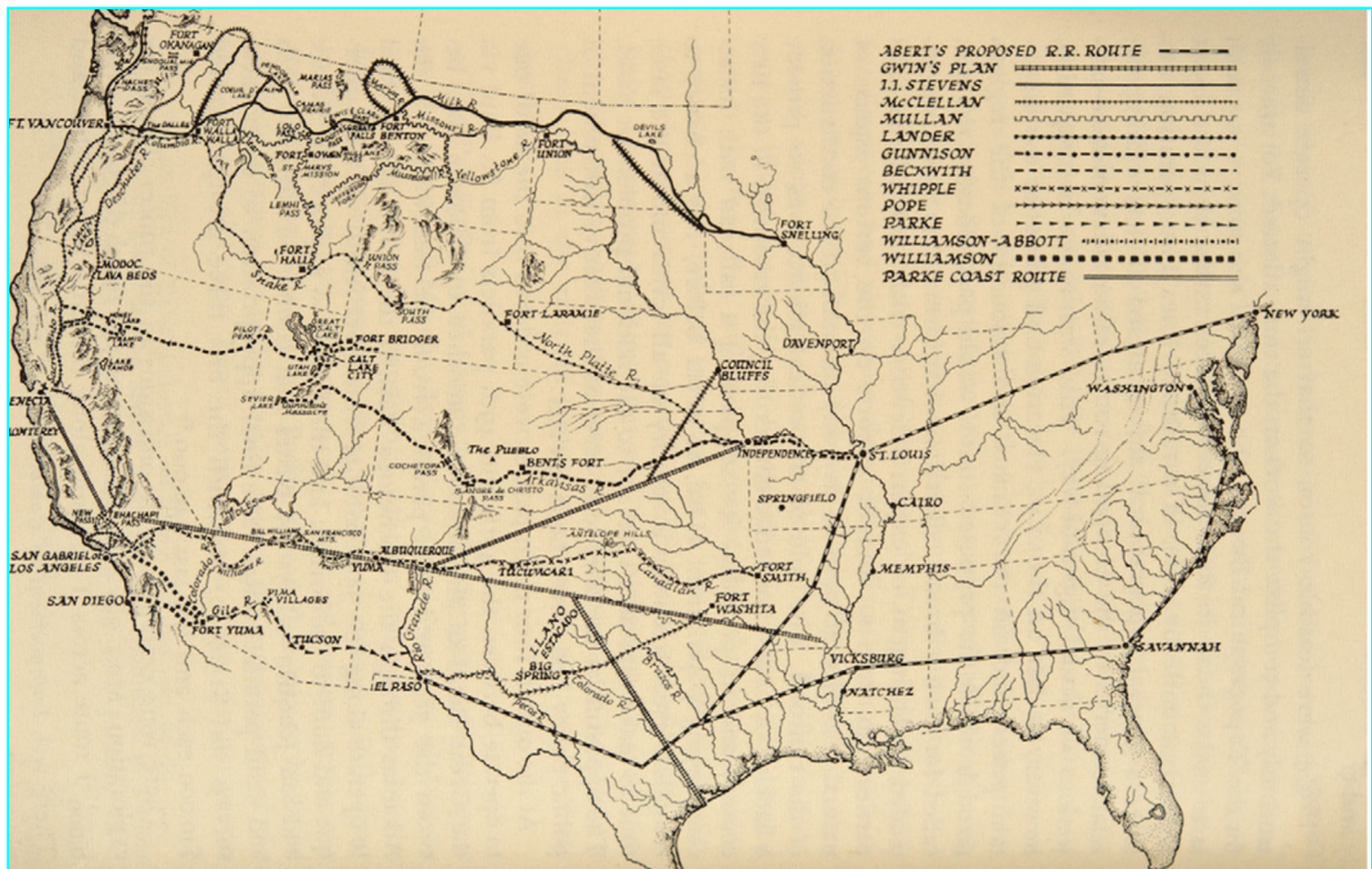
Between 1853 and 1855 hundreds of men, both military and civilian—surveyors, scientists, engineers, soldiers, artists, guides and trail hands—fanned out across the trans-Mississippi West between Canada and Mexico. They examined the four east-west corridors with the most support in Congress and the country, as well as north-south passages paralleling the Pacific Coast (Map 2). They were searching, not for an exact railroad route as much as a path out of the political impasse.

The first and largest expedition was headed by the newly appointed Washington territorial governor, Isaac I. Stevens, who led a reconnaissance examining a wide corridor between the 47<sup>th</sup> and 49<sup>th</sup> parallels from St. Paul to Puget Sound. The second expedition, led by Captain John W. Gunnison, explored the “natural Central route” running along the 38<sup>th</sup> parallel through the middle of the country. (This was the favored route of Davis’s bitter political rival, Thomas

Hart Benton of Missouri, who had long championed the route as the most logical because both St. Louis on the Mississippi and San Francisco Bay on the Pacific coast also lay near that latitude.)<sup>8</sup> After crossing the Continental Divide in the high Colorado Rockies, Gunnison and seven of his men were killed by Paiutes in Utah Territory.<sup>9</sup> His number two, Lieut. Edwin G. Beckwith, routed the expedition to the north along the 41<sup>st</sup> parallel and into California.

Lieut. Amiel W. Whipple led the third reconnaissance through the deserts and mesas of the Southwest along the 35<sup>th</sup> parallel which promised a compromise between northern and southern interests, while Capt. John Pope and Lieut. John Parke each explored segments of Davis’s favored route along the 32<sup>nd</sup> parallel near the border with Mexico as well as through the *Llano Estacado* or the trackless Staked Plains across west Texas and eastern New Mexico. Lieut. Robert Williamson and Parke also reconnoitered north-south corridors between San Diego and Puget Sound and charted mountain passes through the Sierra

**The topogs were searching, not so much for an exact railroad route as for a path around the political impasse in Congress.**



**MAP 2:** Pacific Railroad Surveys and related expeditions and the most prominent of proposed routes; from Goetzmann, *Army Exploration in the American West 1803 - 1863*.

Nevada and Coastal range below the 35<sup>th</sup> parallel. Ironically, one route the PRRS did not explore was the actual path that the first transcontinental railroad would eventually cut across the West some 15 years later.<sup>10</sup>

As he laid out his ambitious goals for the PRRS, Davis's instructions to the expedition leaders were both specific to the territory each was to explore and, as shown by his instructions to Gunnison, they were expansive.

“Competent persons will be selected to make researches in those collateral branches of science which affect the solution of the question of location, construction, and support of a railway communication across the continent, viz: the nature of rocks and soils--the products of the country, animal, mineral, and vegetable--the resources for supplies and material for construction, and means requisite for the operation of a railway, with a notice of the population, agricultural products, and the habits and languages of the Indian tribes. Meteorological and magnetic observations, hygrometrical (humidity) and electrical states of the atmosphere, and astronomical observations for determining geographical points, shall be made, in order to develop the character of the country through which the party may pass.”

The country's imagination had been seized. In the fall of 1853, with the expeditions still in the field, a *Putnam's Monthly* writer captured both public enthusiasm as well as the project's political hurdles when he wrote: “a railroad from the Mississippi to California or Oregon is a foregone conclusion! ... It has been decided that it must be built (to) render the people of the United States the masters of the inconceivable wealth” flowing from trade with Asia. He teased that “as many cities as contended for Homer's paternity enter the lists in an eager strife for the immense prospective benefits of (the railroad's) location.” He then added an ominous warning as he predicted “an intense, exacerbating, and truculent battle will be fought on the point as to whether the Pacific Road shall pour its golden harvests into the lap of a free or a slave territory.” There were other equally prescient warning voices as well. A *California Star* editorialist saw the project's challenges were not only of mountain topography. “This stupendous project (will not be) practicable, nevertheless, for a number of years to come (partly because of) intractable Indians, directly through whose country the route lies.”<sup>11</sup>

So mid-nineteenth Century America was, in a very real sense, a country racing into a hopeful yet precarious future without a map.

## G. K. Warren, Cartographer of the Pacific Railroad Surveys

Graduating second in the West Point class of 1850 with distinction in mathematics, twenty-year-old Gouverneur Kemble Warren (Image 1) won a coveted assignment to the elite Corps of Topographical Engineers. A biographer described the slight (5' 6"; 125 pounds) newly minted second lieutenant at the beginning of his long career in the Army as “a young man of achievement with a strong sense of rectitude shading into self-righteousness, conscious of his mental attainments, with a condescending air of satisfied superiority.”<sup>12</sup>



**Image 1:** G. K. Warren as a fourth year cadet; “a young man of achievement with a high sense of rectitude...” *Gouverneur Kemble Warren - West Point, 1850, Smithsonian Institution,*

Warren's initial posting sent him to Louisiana where he learned the real-world practicalities of field survey work as he mapped and measured the flow of the lower Mississippi River between the Red River and New Orleans. Serving under Capt. A. A. Humphreys, Warren worked on this highly visible and controversial project aimed at taming the recurring floods plaguing the lower reaches of the great river.

Warren's diligence and meticulous attention to detail impressed Humphreys. Warren's reputation also came to the attention of the new Secretary of War Jefferson Davis, looking to staff up his Office of Pacific

Explorations and Surveys. In December of 1853, Davis summoned the young Second Lieutenant to the capital and assigned him to the PRRS project. In early January, Warren reported to the Winder Building at the corner of 17<sup>th</sup> St. NW and F St. NW to coordinate the day-to-day work within the office under the command of Davis's friend, Emory.<sup>13</sup>

Warren later recounted that his first task in his new role was to “read every report, and examine every map of survey, reconnaissance, and travel which could be obtained to ascertain their several values, and to embody the authentic information on the map.”<sup>14</sup> The young cartographer examined the results of more than 40 private and government-sponsored expeditions across the trans-Mississippi West, from Lewis and Clark's trek 50 years earlier to the most recent survey work by the Mexican Boundary Commission. He meticulously reconciled geographic discrepancies between conflicting data, giving greater weight to explorers “whose experience and means of observation were most perfect.”<sup>15</sup> From this laborious examination Warren compiled a base map of the trans-Mississippi West onto which he would add the results of the PRRS expeditions as they returned from the field.

Emory's leadership of the PRRS project soon fell victim to the bitter political rivalry between Jefferson Davis and Missouri's powerful senator turned congressman Thomas Hart Benton, a fierce opponent of slavery's extension into the new western territories and an equally energetic booster of a railroad along the “natural Central route” of the 38<sup>th</sup> parallel, favoring his home city of St. Louis.

Benton suspected the Mississippian of using the PRRS to promote his own sectional interests. When he learned that Emory had made real estate investments in San Diego with his brother-in-law, railroad promoter Robert J. Walker, Benton pounced. Walker, also a Mississippian and former Secretary of the Treasury, had been Davis's political mentor. Now, as president of the Atlantic and Pacific Railroad, Walker was pushing a plan for a rail line extending from Mississippi to San Diego, Davis's favored far southern route. Benton's discovery gave the wily Missourian a powerful political weapon to use against Emory, Davis and the whole PRRS project. Benton threatened to hold up funding for the Gadsden Purchase, recently negotiated with Mexico. This treaty added nearly 30,000 square miles in present-day southern Arizona and New Mexico to the territory of the

United States to resolve outstanding border issues and to provide a needed corridor for a far southern railroad. To save the Pacific railroad project and the possibility of a railroad favoring his beloved South, Davis pulled his friend Emory out of Washington and sent him back into the field to survey the new borders of the Gadsden Purchase.<sup>16</sup>

With his critics defanged, in August of 1854, Davis reached back to the Topographical Engineers and tapped the capable Humphreys to replace Emory. This three-dimensional chess match that was railroad politics in mid-nineteenth century America brought Humphreys and Warren together again in a professional relationship while cementing a personal friendship that would last throughout both men's lives.<sup>17</sup>

## Grand Reconnaissance

Far beyond the political intrigues of Washington, the topogs in the field were busy searching for a route to the Pacific. Using the most modern scientific equipment available, they recorded hundreds of thousands of observations across every aspect of the physical geography—latitude and longitude, climate and weather, altitude and distance. When the weather cooperated, they took celestial observations to fix their positions. Using delicate barometers and, when those were broken, the more time-consuming method of noting the temperature at which water boiled, they calculated altitude changes along each route and the rate of each route's ascent and descent both through the mountains and across the plains. Using mechanical odometers attached to the wagon wheels and more cumbersome surveyor's chains, they measured the distances traveled. They noted and catalogued access to timber, stone, coal and water, materials necessary to build and operate a railroad. As they examined the many potential passes through tangled mountain chains, judging which were the more practicable to build a road through, they also calculated the number, altitude and length of tunnels needed in these crossings. In addition, they noted the relative abundance of game, identified the extent of fertile river valleys and lush grasslands as regions suitable for cultivation and settlement along each route—requirements for the profitable operation of a railroad. Then they estimated the cost of it all.

As the expeditions returned from their western sojourns, each leader submitted his preliminary report. This included not only descriptions of the routes traveled, but topographical and engineering data as well as

a summary of conclusions about the feasibility of a railroad along each particular route. Although Warren had received most of them by late summer of 1854 (several months after the Congressionally-mandated deadline), the final two expedition reports would not be submitted until the end of the year. This eagerly awaited trove of information from across the trans-Mississippi West proved irresistible to members of Congress who “swarmed the office--all eager for the latest information.” The nearly constant interruptions would often push Warren’s actual work on preparing the printed reports and maps late into the evenings.<sup>18</sup>

Secretary of War Davis urged Warren and Humphreys to complete the report before the Congressional session ended on March 3<sup>rd</sup> 1855. Their report would necessarily include a summary evaluation of each route explored, prepared by both Davis and Humphreys, and a series of maps prepared by Warren. Working under intense time pressure, Humphreys, Warren and Warren’s young assistant, Lieut. Henry Larcom Abbot, raced to meet Davis’s deadline. Humphreys pored over the late-arriving expedition reports, carefully weighing each route’s advantages and drawbacks as he readied his evaluation and recommendations in collaboration with Davis. Humphreys and Warren both proofread the text as



**Map 3:** Segment map detail showing the proposed railroad routes skirting the southern end of Salt Lake. Beckwith, *Map No. 1 From Green River to the Great Salt Lake, 1855*, Library of Congress.

it came off the presses in Washington while Abbot shepherded final corrections to the maps through the engraver Julius Bien’s printworks in New York. Days before the early March deadline, the shipper somehow misplaced the maps, heightening pressure on the entire office. Following a frantic and successful search of warehouses around Washington by Abbot and Bien, the 33<sup>rd</sup> Congress received its two-volume unillustrated report and a folio of 14 maps on the last day of its session.<sup>19</sup>

Thirteen of these maps charted segments of each route explored, including paths the topogs had deemed practicable for a railroad. Three maps depicting the Great Basin and the Southwest also included a handful of Native American tribal names indicating areas each occupied. (Maps 3, 4) While this demographic information only represented a small portion of the many indigenous groups spread across the trans-Mississippi West, it was a feature which Warren would expand on in later maps.<sup>20</sup> The map of greatest interest, however, was a small-scale (1:6 million) skeletal map of the western United States (Map 5) which incorporated all the pro-



**Map 4;** Segment map detail showing regions of Indian occupation and proposed railroad route (solid line). Note lack of detail beyond the route of exploration. Whipple, *Map No. 2 From Rio Grande to the Pacific Ocean, 1855*,

posed lines favored by different factions in Congress and the country as well as potential railroad routes recommended by various expedition leaders. Except for major rivers and the highest ridge lines in the mountains, this map lacked topographic detail. Warren described it as “a

hurried compilation... designed to exhibit the relations of the different routes to each other;” while explaining that an “elaborate map” on a larger scale of 1:3 million, was “in an advanced state.”<sup>21</sup>



**Map 5:** “a hurried compilation” - This large scale (1: 6 million) map was issued in March, 1855 in the initial PRRS report to Congress. Warren described it as “a hurried compilation of all the authentic surveys and is designed to exhibit the relations of the different routes to each other; the topography represents only those great divides which form summits on the profile of the routes. An elaborate map on a scale of 1: 3000000 is being compiled and is in an advanced state.” This first PRRS map of the trans-Mississippi West depicted the routes each expedition followed, the potential rail routes along each expedition corridor and the routes most favored in Congress. Rather than resolving the question of where to route the Pacific railroad, the multiplicity of possible routes would only feed arguments for one faction against another. G. K. Warren, and United States War Department, *Map of routes for a Pacific railroad*, 1855, Library of Congress.



# Warren's General Map

The initial version of that more elaborate map soon followed. Referred to as “the General Map” of the PRRS, it depicted an enormous portion of the United States. Bounded by Lake Superior and the Mississippi on the east, the Pacific Ocean on the west, British Canada on the north and Mexico on the south, the map covered more than 26 degrees of latitude and 32 degrees of longitude. Printed on two sheets split horizontally near the 35<sup>th</sup> parallel, the full map measured approximately 42 inches by 46 inches. Also dated 1855, the map depicted not only the routes of each PRRS expedition, but the routes of several dozen prior expeditions listed in a table of “Authorities.” These were mostly government-sponsored expeditions, beginning with Lewis and Clark’s 1804 -1806 trek.

This first edition General Map, depicting convoluted mountain chains and the larger tributaries of the great western rivers, added significantly more topographic detail than the “hurried compilation” map preceding it. This smaller-scale (1:6 million) map nevertheless left almost entirely blank a large area west of the Rocky Mountains between the 36<sup>th</sup> and 46<sup>th</sup> parallels (Map 6). In addition, while mostly ignoring the handful of indigenous groups depicted on some segment maps, Warren included more than 30 different tribal names scattered across the Great Plains.

The admittedly unfinished state of this first “General Map” of the PRRS bore witness to the pressure Warren and Humphreys were under--not only to meet Davis’s demand for tangible results, but also to satisfy the appetite in Congress and the country for definitive answers to what lay west of the Mississippi. Perhaps because it left large areas unfinished, this first edition is absent from most bibliographic listings of Pacific Railroad Survey maps. But the 1855 edition laid the basic visual template for the maps to follow.

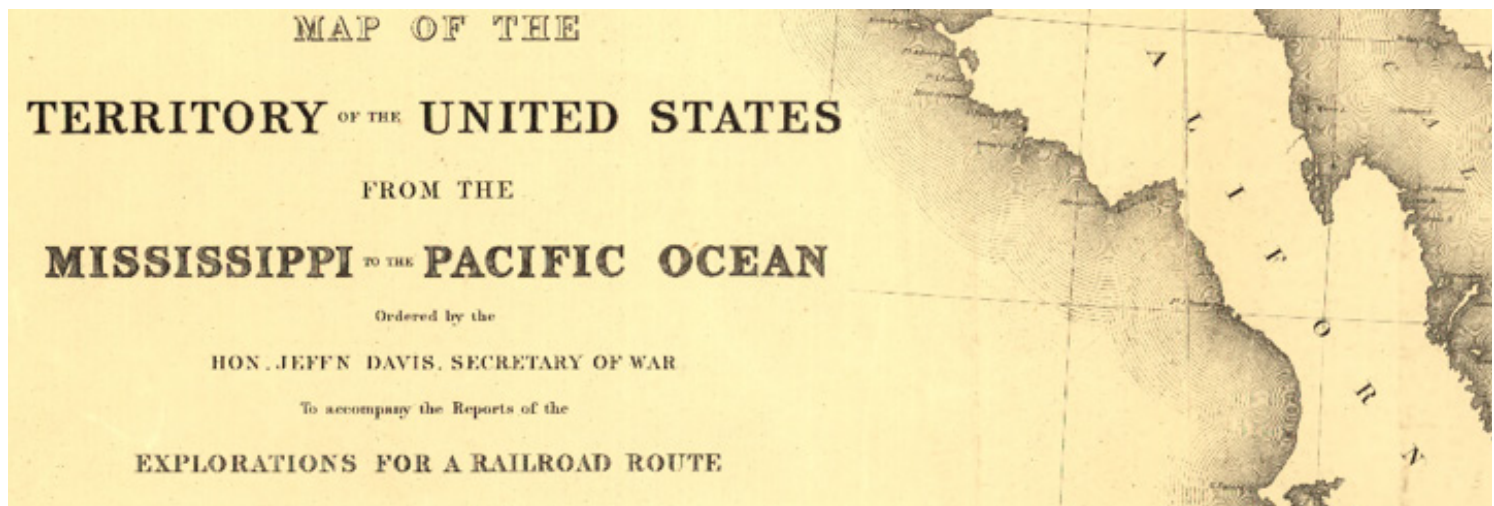
Following this 1855 General Map, the War Department would issue five subsequent editions--dated 1857, 1858, 1867, 1868 and 1873--adding new “Authorities” in the list of explorations, while eliminating some deemed unreliable.<sup>22</sup> Each subsequent edition not only portrayed the western territory with increasing accuracy and detail, taken together they charted the history of the country’s growing geographic knowledge, the extension of roads west and the growth of settlements over nearly two decades.



**Map 6:** Detail from 1st edition General Map lacked topographic detail west of the Rockies outside of the corridors explored by the PRRS expeditions. G. K. Warren and United States Department of War, *Territory of the United States from the Mississippi to the Pacific Ocean, 1855*. David Rumsey Map Collection.

The title printed on all six editions credited Warren and cited “the Army Appropriation Act of March 3, 1853” as the authorizing legislation, thus marking them as the different editions of the Pacific Railroad Survey General Map. The prominent title, (Map 1A, p. 10) printed on the three ante-bellum editions issued through 1858, floats over the Pacific Ocean off the coast of the Baja Peninsula and reads like a coded message from mid-nineteenth century America, signaling a combination of growth, transformation, ambition and conflict.

Defining the map’s scope as “Territory of the United States from the Mississippi to the Pacific Ocean” not only documents the country’s aggressive expansion during the Polk administration, it declares dominion over a large area occupied and controlled by Native Americans even as the United States government was pressuring them to relinquish title and make way for white settlement. Identifying the project as being “(o) rdered by the Hon. Jeff’n Davis, Secretary of War,” dis-



**Map 1A:** Title detail from the PRRS General Maps issued before the Civil War (Map 1, cover) reads like a coded message from mid-nineteenth Century America, signaling a combination of growth, transformation, ambition and conflict.

plays the prominent national role the future president of the secessionist Confederacy occupied before the Civil War, and hints at the strident sectional interests permeating national debate over the railroad question. (Davis's name would be expunged from the General Map editions printed after the Civil War, beginning with the 1867 edition.) Finally, documenting "explorations for a railroad route," the map's title proclaims the young country's audacious ambitions to build the first transcontinental railroad while foreshadowing its rise as an industrial and continental power.

## A Cartographic Milestone

Nearly three years after the release of the first General Map in 1855, the long-awaited comprehensive second edition was issued. Warren's notation declared it "a correct representation of our information as of May 1, 1857," thus this General Map is dated to that year in bibliographies though it was actually issued in early 1858. Printed from "the finest copper plates,"<sup>23</sup> the 1857 General Map represents a cartographic milestone.<sup>24</sup> Warren filled in topographic details left out of the first edition rushed into production in 1855. But more than that, he brought together onto one cartographic document 50 years of western exploration beginning with Lewis and Clark and carefully reconciled discrepancies between various sources, including the vexing problem of determining longitude. Four years after he first entered the Winder Building to join the PRRS project, Warren had created the first comprehensive map of the trans-Mississippi West to accurately portray its major geographic features in proper relation to one another.

Historians of cartography and western exploration have long recognized Warren's achievement. Carl Wheat in his classic *Mapping the Trans-Mississippi West* described the work of the Pacific Railroad Surveys as "paramount and unequalled." The eminent historian of western exploration William Goetzmann called the young Warren "something of a cartographic genius" and described his General Map as "a monumental work ... the culminating achievement of the great Reconnaissance Period." Goetzmann added: "For the first time, a reasonably accurate, instrument-based outline of the entire complex geography of the West was available." Cartographic historian Susan Schulten credits Warren's standardization of longitude with making this General Map "one of the most important foundation maps" of the nineteenth century, the first to bring "precision to the West: carefully representing relief and drainage features," and, in a departure from much of the imaginative cartography preceding it, she notes that Warren "left spaces blank where definitive information was lacking."<sup>25</sup>

Warren's General Map is also noteworthy for what it does not show—railroads. This first comprehensive map to come out of the Pacific Railroad Surveys does not show the recommended routes as depicted on the earlier segment maps and the "hurried compilation" map of 1855. Nor, for that matter, does it show existing railroads east of the Mississippi. (Actual railroad lines did not appear General Maps until the fifth-edition (1868) when the Union Pacific and Central Pacific lines were months from completion.)<sup>26</sup> Thus, Warren's monumental work adhered to scientific accuracy in showing only what existed in the trans-Mississippi West.

# Warren's "Indian Map"

While most often cited for its topographic accuracy and comprehensiveness, Warren's 1857 General Map is also noteworthy for its depictions beyond the physical contours of the land. Warren greatly expanded the demographic layer he first introduced in a few segment maps in 1855 by populating this map with the names of more than 130 Native American tribes across the vast territory of the trans-Mississippi West. Warren thus depicted both the complicated physical geography and the complex human landscape existing across the western half of North America at mid-century, twin topographies which any railroad would have to navigate.

In the spring of 1859, during his last few months of work in the PRRS office, Warren oversaw the production of a special version of the 1857 map, overprinting a patchwork of different colors across the west, the only version of the General Map to include color.<sup>27</sup> This patchwork mosaic highlights the areas occupied by different indigenous groups. (Map 1B) The visual effect is both striking and absorbing as it communicates both the expanse of the western United States and the pervasive presence of Native Americans within it. (Map 1, shown on the cover page of this paper.)

Discussing Warren's thinking about this colored version of the General Map, historian and author David Bernstein in *How the West was Drawn* writes: "Warren called it the 'Indian map,' for obvious reasons. In what he considered the authoritative printing, a colorful patchwork covers the western United States, indicating which tribe(s) controlled which territory. With the exception of a few relocated groups along the Missouri, these regions did not correspond with treaties or any formal claims. Instead, they depicted the current geopolitical situation by acknowledging Indian control of the trans-Missouri West. While other versions of Warren's map were printed, both Warren and A. A. Humphreys... believed that the two thousand four-color maps depicting 'Indian boundaries' were 'much the best.'"<sup>28</sup>

Warren's "Indian Map" contains another feature, less striking than the colored mosaic but visually obvious, nonetheless. Warren added thick red lines across the entire map delineating the borders of seven administrative areas. Prominent red block letters label each as the Military Departments of California, New Mexico, Oregon, Texas, Utah, the West and the East. In addition, 69 red flags, scattered across all but the Department of the East, identify active military posts (Map 1C).



**Map 1B:** Detail from Warren's "Indian" Map (Map 1, cover) along the Red River showing areas of Native American occupation. Warren lobbied Humphreys to print the multi-colored special edition in the last few months of his work on the PRRS project. Both men considered this version "much the best."

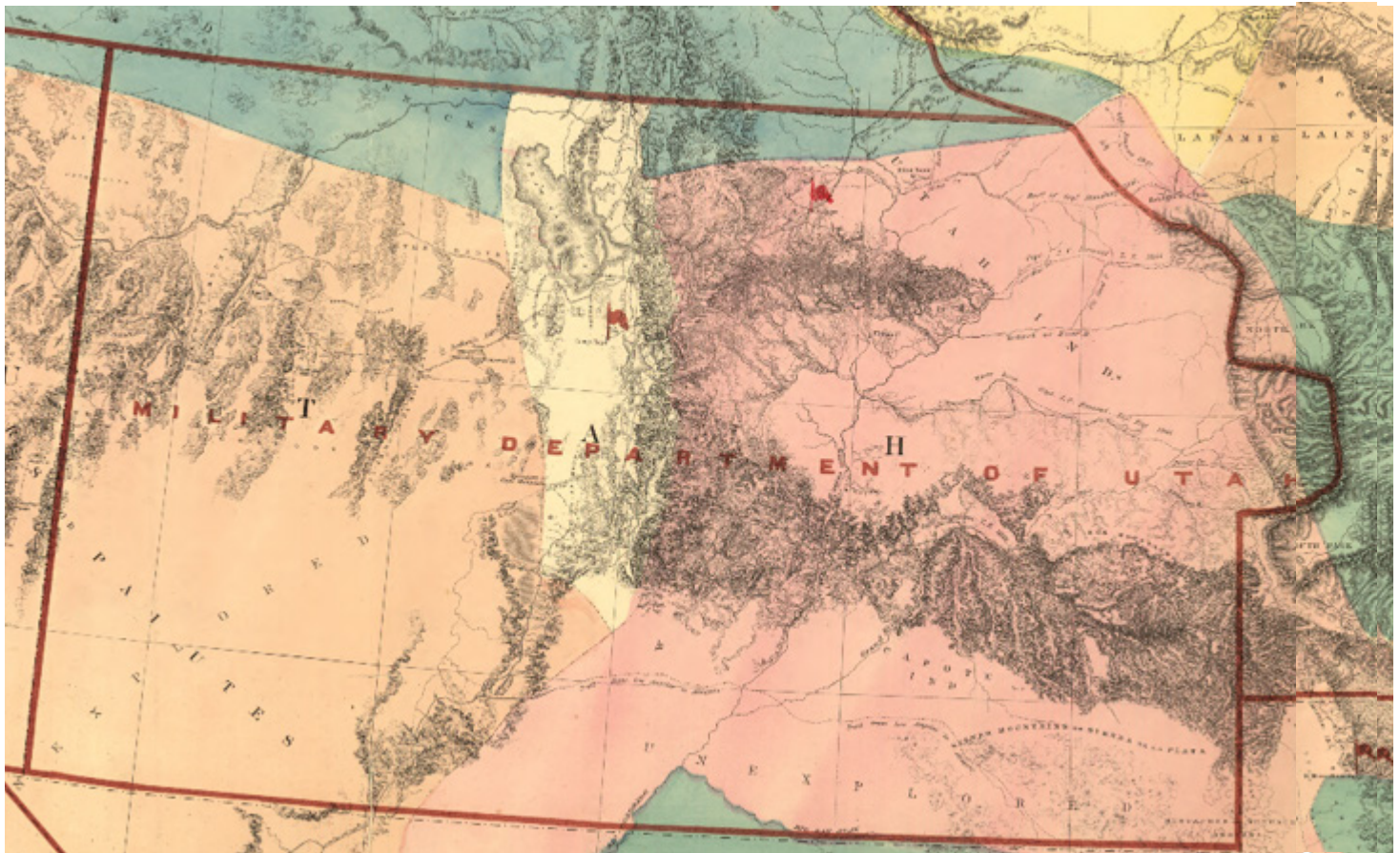
By the inclusion of this administrative layer, Warren fundamentally changed the meaning and purpose of the General Map. The multi-colored mosaic on his Indian Map depicted a complex geopolitical landscape populated by different groups of semi-sovereign people,<sup>29</sup> a reality that the United States would have to deal with in building a Pacific railroad. Read literally, the overlay of these military departments and forts asserted a counter narrative indicating regions of indigenous habitation existing within a military bureaucracy and infrastructure meant to exert control over the people living there.

Army forts were primarily located to maintain order across the West by controlling Native American populations and protecting white settlers, miners and emigrants. But the Army's role also included protecting Indians on reservations and controlling whites. The most obvious example of a fort established overtly to control a white population can be found during the Mormon War, when Camp Floyd was established in 1858 and was, for a time, the largest military post in the country, housing a force of 2,500 soldiers. A flagged Camp Floyd was shown on Warren's Indian/Military Dept. map (Map 1C) within a

pale-yellow area encompassing the Mormon settlements from Great Salt Lake south to below Fillmore.<sup>30</sup>

The addition of military departments and forts transformed what Warren called his "Indian Map" from a cartographic depiction of physical and cultural geography into a military map showing that the trans-Mississippi West was, in fact, under the jurisdiction and therefore the control of the United States. It was an argument as necessary as an accurate depiction of usable passes through the Rocky Mountains or cost estimates for constructing each route in order to reassure Congress, the country, and investors that building a railroad across the continent was possible.<sup>31</sup>

Given the political, diplomatic and economic import of depicting military control over the West, it is worth pointing out that the idea for both the "Indian Map" and inclusion of military departments seems to have been initiated by Warren in collaboration with Humphreys, rather than in response to a command from higher-ups. The evidence is found in correspondence where Warren lobbied Humphreys to authorize an additional \$1260



**Map 1C:** Detail from Map 1 (cover) showing Military Dept. of Utah, Camp Floyd and Ft. Bridger. Not all military posts were focused on control of Indians. Camp Floyd (center) was the largest military post by combined civilian and military population during the "Mormon War" in 1858.

to add both the patchwork color and the departmental boundaries, which Humphreys readily agreed to.<sup>32</sup>

Warren's 1857 General Map had a profound impact. It was as if the country could hold up a mirror and see itself accurately portrayed for the first time. And this mirror offered so much more than just a map. Combined with glowing descriptions of the territory in the expeditions' printed reports, the entire PRRS *geographica* reflected and galvanized Americans' belief in both the promise and the possibility of a nation that could dare to span a continent. And that self-realization arguably changed the country.

## Encyclopedia of the West

In Davis's introduction to the 1855 report to Congress, he summarized the advantages and shortcomings of each route explored and predictably extolled the advantages of the far southern route along the 32<sup>nd</sup> parallel as superior to all others. But the expedition reports themselves undermined Davis's argument as they revealed several possible routes across the continent, boosting supporters' arguments for each against the others.<sup>33</sup>

Although the Pacific Railroad Surveys could not answer the essentially political questions surrounding a transcontinental railroad, they accomplished much. The final *Reports of Explorations and Surveys*,<sup>34</sup> published in 13 quarto-sized volumes between 1855 and 1860, fed a public both in America and around the world hungry for information about this unfamiliar and largely unprobed land. Expedition naturalists' and scientists' meticulous field notes taken in the great natural laboratory of the West were published in several volumes of the PRRS reports while the field specimens sent back to Washington filled the research benches of the young Smithsonian Institution. Even before they were printed in the government reports, the scientific findings were also released separately and shared with colleagues, becoming required reading for a generation of botanists, zoologists and geologists. These contributions of research, collection and cataloguing helped put American science and scientists on equal footing with the leading academies of Europe. It all amounted to what one historian described as a veritable "encyclopedia of the West" and fed a public hungry for any and all information about these newly acquired lands.<sup>35</sup>

Colored lithographs scattered throughout the reports revealed an exotic foreign land that was also a part

of the United States. These illustrations depicted majestic western landscapes, never-before-seen animals and plants, strange geologic formations, and a diverse mix of Native Americans in different costumes and locations, providing a visual feast for the imagination (Images 2A - J, pp. 14 - 15).

As they proceeded west, most of the expeditions noted the locations and numbers of native peoples they encountered, while commenting on their political and military strengths, alliances and enemies. The expedition leaders also informed those they met of the "great road" they were exploring and the advantages it would bring to the lucky inhabitants along the route, a claim sometimes met with silence, but often with pronounced skepticism.<sup>36</sup> In addition, ethnographers compiled dictionaries and described the folkways of the native inhabitants they encountered. A long excerpt from the Whipple expedition report, titled "The Tribes of the 35<sup>th</sup> Parallel," gained much broader public attention when it was published by *Harper's New Monthly Magazine*.<sup>37</sup>

The cost of the printed *Reports of Explorations and Surveys* and accompanying maps exceeded \$1.2 million, almost three times the cost of the expeditions they reported on.<sup>38</sup> While maps were admittedly expensive to produce, the reports also suffered from organizational chaos that not only added cost, but also made them inaccessible to many. Rushed into print as each section was written, the reports were burdened by "the usual extravagant duplication of printing and lithography by both houses of Congress." These bi-cameral editions resulted in slightly different House and Senate versions with revisions and reprints inconsistently applied. The rushed production resulted in other bewildering characteristics as well. Seemingly randomly placed illustrations confuse the reader. Consistent sequential page numbers are almost entirely absent as each separate section begins its own page numbering all over and many tables of contents within each volume lack page numbers altogether. In addition, there is no overall index for each volume, let alone the entire 13-volume set. The Reports have been described as "a bibliographic puzzle," "a collator's nightmare" and "a little like the country they were intended to describe; trackless, forbidding, and often nearly incomprehensible."<sup>39</sup>

The confused presentation of their results and the fact that the PRRS expeditions could not solve the essentially political question surrounding the railroad meant the *Reports of Explorations and Surveys* were

**Images 2A - J: Numerous prints scattered throughout the *Reports* depicted panoramic landscapes, scenes from the trail, exotic flora and fauna, and indigenous peoples inhabiting the trans-Mississippi West.**



**2A**

COO-CHE-TO-PAH PASS



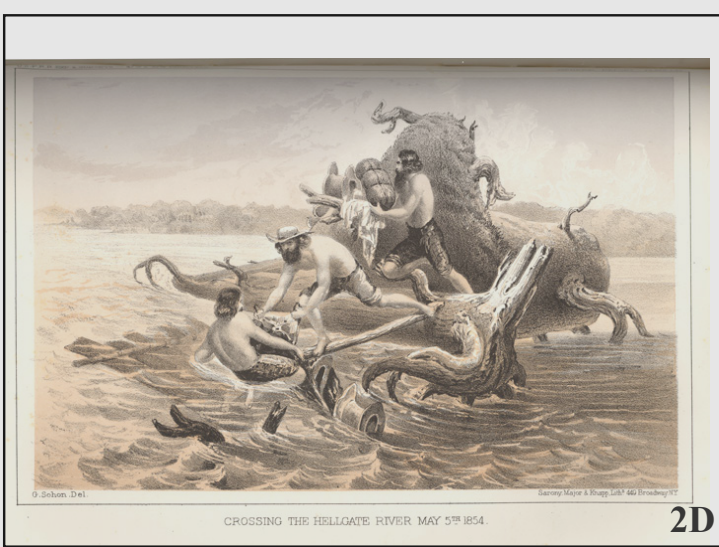
**2B**

HERD OF BISON NEAR LAKE JESSIE



**2C**

VALLEY IN THE SLOPE OF THE GREAT BASIN



**2D**

CROSSING THE HELLGATE RIVER MAY 5th 1854



**2E**

A CONICAL HILL 500 FEET HIGH,  
Standing in the valley of Laguna, Colorado

**2A:** *Coo-Che-To-Pah Pass View Looking Up Sawatch Creek Septbr 1st*, RES Vol II, Part 1, [following p. 46], R. Kern

**2B:** *Herd of Bison Near Lake Jessie*, RES Vol XII, part 1, Plate X, J. M. Stanley

**2C:** *Valley in the Slope of the Great Basin Leading from the Tejon Pass*, Geology Report, RES, Vol V, part 2, Plate XVI, C. Koppel

**2D:** *Crossing the Hellgate, May 5, 1854*, RES, Vol XII, part 1, plate LVI, G. Sohon

**2E:** *A Conical Hill 500 Feet High*, RES, VOL III, 35th Parallel Geology Report, B. Möllhausen



2F: *Mojaves*, RES, Vol III, part 3, , [following p. 50], B. Möllhausen  
 2G: *Navajos*, RES, Vol III, part 3, , [following p. 30], B. Möllhausen  
 2H: *Zuñi Sacred Spring*, RES, Vol III, part 3, , [following p. 44], B. Möllhausen  
 2I: *Indian Designs & Manufacture*, RES, Vol III, part 3, , [following p. 50], B. Möllhausen  
 2J: *Ancient Indian Pottery*, RES, Vol III, part 3, p. 48, B. Möllhausen

“consigned to dust and obscurity.”<sup>40</sup> As rich as this content was for an audience eager for information about the West, it was also (and remains) frustratingly confusing to navigate, tedious reading in many places... and immensely rewarding for the patient reader.

## Into Nebraska Territory

### 1855: Harney Expedition

In August of 1854, as Warren worked in Washington City on his “hurried compilation” map, the killing of a Mormon emigrant’s cow by a hungry Miniconjou Lakota along the North Platte more than 1,400 miles to the west would bring the young second Lieutenant out from behind his cartographer’s table. The bovicide sparked the first armed confrontation between the Sioux and American soldiers. Among the fatalities were the Lakota Brulé (Sicangu) chief Mato Ohiyu or Conquering Bear, thirty soldiers from Fort Laramie, including a hot-headed and unwise lieutenant named Grattan, one drunken interpreter and, in effect, the Fort Laramie Treaty of 1851 which had been carefully designed to secure peace along the emigrant road and throughout the Northern Great Plains. Today known as the Grattan Fight or Grattan Massacre, the incident marked the start of four decades of bloody conflict that would rage intermittently across the Northern Plains.<sup>41</sup>

Secretary of War Davis, urged on by President Pierce and Congress, responded to the Grattan fight and ensuing Lakota-led attacks along the Platte by calling on

an aggressive veteran of the wars against the Seminoles and Mexico, General William S. Harney, to restore order along the emigrant trail. Harney assembled a force of 600 men, nearly a quarter of the entire standing Army, to conduct a punitive raid the following summer. After the first topographer to the expedition resigned from the Army rather than participate, Warren was assigned to accompany Harney.<sup>42</sup>

So, in the summer of 1855, having published the skeletal “hurried compilation” map, 25-year-old Lieut. Gouverneur Kemble Warren headed west on the first of three treks deep into Nebraska Territory (Map 7, p. 23). These expeditions shaped both his career and legacy while transforming his imprint on the West beyond cartography to encompass diplomacy, military strategy and geopolitics.

He joined Harney in late August at Fort Kearney as the expedition began its march up the North Branch of the Platte, the boundary declared by Indian Agent Thomas Twiss as the dividing line between “hostile and friendly Sioux.” (Map 1D) A few days out, Harney’s scouts located an encampment of Brulé and Ogallala Lakota, including Brulé chief Little Thunder, whose band had been involved in the conflicts of the previous summer. More than 50 lodges were spread out along the Meena-To Wauk-pa-lah or Blue Water Creek, a small serpentine tributary of the North Platte near a familiar resting place along the Oregon Trail named Ash Hollow. The Lakota camps lay north of Agent Twiss’s dividing line and therefore were deemed “hostile” in Harney’s calculus (Map 6).



**Map 1D:** Detail from Map 1 (cover) showing forks of the Platte River. In 1855 Harney traveled from Ft. Kearney (A. lower right) toward Ft. Laramie (B. upper left) along the North Fork of the Platte. The Grattan Fight had taken place the previous summer a few miles downriver from Ft. Laramie. Harney’s punitive attack in 1855 occurred near the site of Ft. Grattan, (C. center).



On the night of September 2<sup>nd</sup> - 3<sup>rd</sup>, Harney's force crossed the Platte and began to prepare for a fight. He sent his cavalry north of the Indian camps in a night march to block any retreat up the narrow bluff-lined creek bed. Early on September 3<sup>rd</sup>, as the Indians were preparing breakfast, Harney's infantry began to move up the Blue Water causing the Brulé to abandon their camps. Warren and other members of the general's staff watched from behind the infantry line as Harney met with Little Thunder, who had come out to talk to the soldiers. (Map 6A, p. 18) In his diary, Warren describes how each leader tried to delay the other; Little Thunder to allow the Brulé and Ogallala to escape and Harney to prevent a premature retreat before his encircling cavalry was in position.

The parley ended when the Lakota discovered the hidden horse soldiers and a panicked flight ensued. Realizing too late the trap they were in, mounted Lakota fighters raced off to the northeast pursued for several miles by the cavalry. Harney ordered the infantry to advance

toward the women, children and armed men retreating on foot, who took futile refuge in caves along the bluffs where most of the noncombatant fatalities occurred.

The fighting along the creek ended by nine o'clock and the pursuing cavalry returned by noon. Five of Harney's troops and more than 80 Lakota, mostly men but also some women and children, had been killed. Another 70, all noncombatants, including wives and children of some of the Lakota chiefs, were taken as prisoners and an equal number, including the chiefs Little Thunder and Spotted Tail, had escaped. It was an unprecedented and devastating defeat for the proud and powerful Lakota.

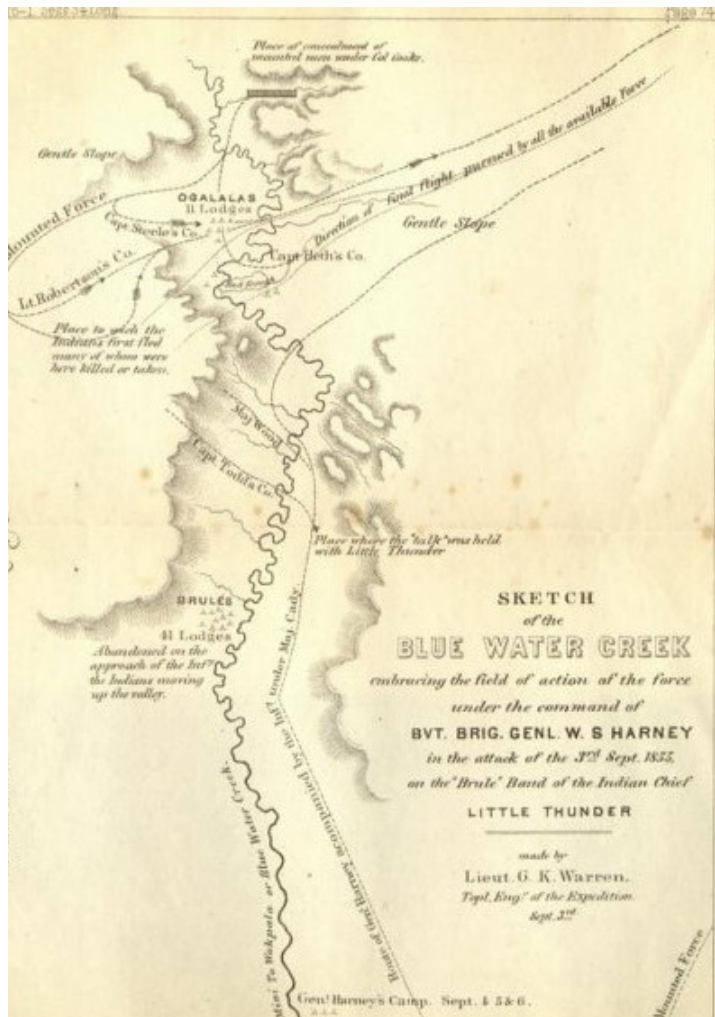
In his private diary describing the events at Blue Water Creek, Warren recorded both his actions and the pathos he felt toward the victims of the attack. "I had endeavored to take a topographical sketch of the scene, but the calls of humanity prevented my doing much." Warren and others bathed and bandaged the wounded while sheltering them from the sun. In his diary, he described a badly wounded young mother holding her also badly wounded baby.

"She cried out so much, and was continually turning to her babe and saying in the most distressing tones *tu-kee-e-e-e-e chick-a-see-e-e-e*. with sobs and sighs her words mean 'O god my poor child.'"

The next day Warren recorded in his private journal: "the wounded baby died this morning, its mother does nothing but cry and moan and as my tent is near the hospital tent it distresses me greatly." He also disparaged the false bravado of some soldiers who took part in the massacre. "I was disgusted with the tales afterwards were of valor on the field for there were but few who killed anything but a flying foe."<sup>43</sup> But not all his private criticisms were reserved for the Army

"The site on the top of the Hill was heart rending -wounded women & children crying & moaning, horribly mangled by bullets.—Most of these had been occasioned by these creatures taking refuge in holes in the rocks and armed Indians sheltering themselves in the same place. These latter fired upon our men, killing 2 & wounding another of the Artillery Company, our troops then fired upon their retreat."<sup>44</sup>

Two days after the fight, Harney ordered Warren to lay out a small sod redoubt to be erected near the entrance to Ash Hollow as temporary quarters for soldiers left in charge of the wounded. In another terse diary en-



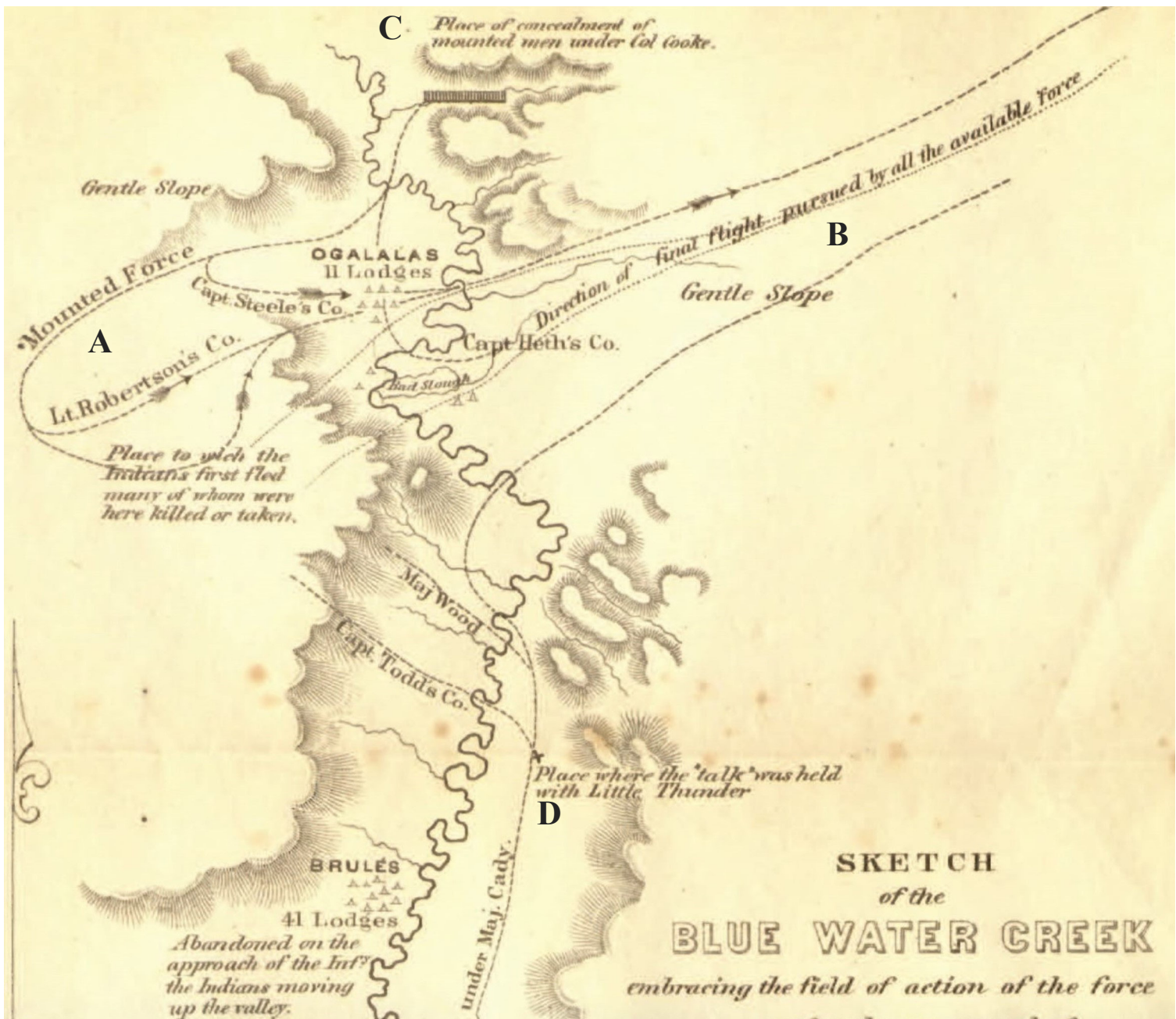
**Map 6:** "Sketch of the Blue Water Creek embracing the field of action..." G. K. Warren in *Explorations in the Dakota Country, in the Year 1855*.

try, Warren noted: “The fort was commenced in the afternoon it is called (F)ort Grattan. All the officers opposed building this Fort.”<sup>45</sup>

In addition to tending to the wounded, mapping the topography, and laying out Fort Grattan during the week he remained in the area, Warren pursued another activity born of his scientific bent, curiosity and friendship with Spencer Baird, assistant director and curator of collections at the Smithsonian Institution. Seeing the large amount of personal belongings left by the fleeing Lakota, Warren set about collecting items of clothing, household goods, robes, blankets, jewelry, and ceremonial items that he found abandoned in the camps. Warren

omits any reference to his collecting activity in his official report and only hints at it in a brief diary entry five days after the massacre. “We found considerable property still lying on the ground.”<sup>46</sup> He sent this trove of artifacts to Baird in what would be one of the Smithsonian’s earliest and largest collections of Northern Plains artifacts.<sup>47</sup> (Images 4A - J, pp. 20-21).

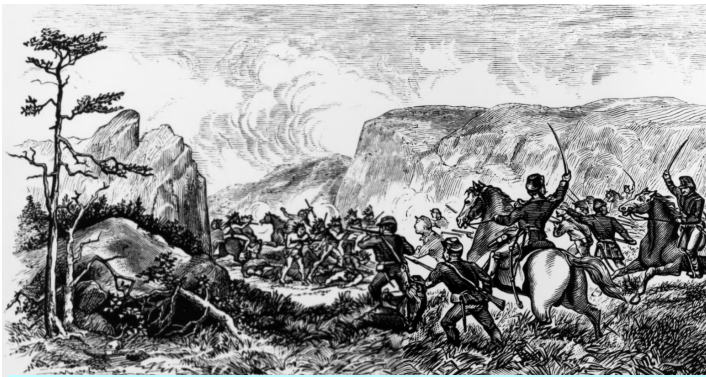
In contrast to his diary, Warren’s 79-page official report, *Explorations in Dakota Country in the Year 1855*,<sup>48</sup> focused on descriptions of the region’s topography and inhabitants. His one-and-one-half page appendix on the action at Blue Water Creek was much terser, circumspect and uncritical than his private musings.<sup>49</sup> He



**Map 6A:** Detail of Map 6 (p.17) showing the movement of troops (A) and retreating Lakota (B). Note the cavalry’s “place of concealment” (C) at top and the place where the “talk” was held, lower center (D).

described the topography around Blue Water Creek and explained away noncombatant casualties as collateral damage caused by troops returning fire against “armed savages.” He praised the expedition guide for “essential service in taking care of the wounded,” and gave a brief description of a few of the prisoners taken. His only description of his own actions following the massacre itself was brief: “I aided in bringing the wounded women and children who were found near the place to which the Indians first fled.” Perhaps thinking it would not serve his Army career, the 25-year-old 2nd Lieutenant, after his first experience of combat, on his first western expedition, and under the command of an experienced and respected senior officer, refrained from sharing the private misgivings of his diary in his official report.

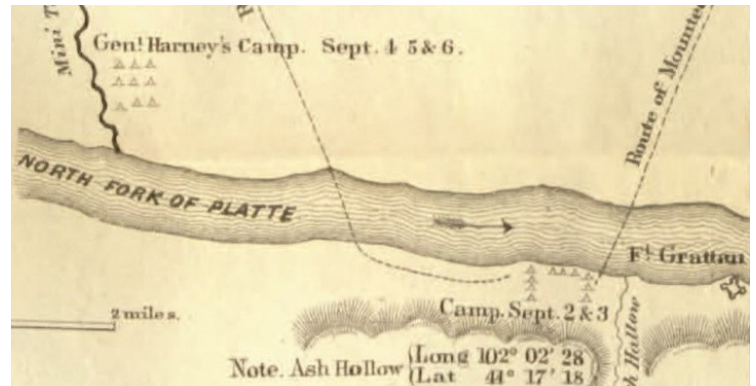
Warren’s annotated sketch map (Maps 6, 6A) is more revealing of his ambivalence, however.<sup>50</sup> Here Warren noted “Route of Gen’l Harney accompanied by the Inf. under Maj. Cady” moving along the east side of the sinuous creek early on the morning of September 3<sup>rd</sup>. Warren’s notation near 41 Brulé lodges read: “Abandoned on the approach of the infantry, the Indians moving up the valley.” Warren also showed the location where Chief



**Image 3:** “Battle of Ash Hollow” from *The Life and Military Services of Gen. William Selby Harney*, by Reavis, Clay, 1878.

Little Thunder, crossing over the creek, met Harney with the notation “Place where the ‘talk’ was held with Little Thunder.” His use of quotation marks around the word “talk” is curious. Perhaps it was his way of indicating that the motive behind Harney’s parley was to stall Little Thunder or maybe to indicate that both protagonists were using the talks for their own purposes. The paths of two infantry companies advancing across the creek and the Lakotas’ line of retreat are shown as well as a label along the embankment which reads “Place to which the Indians first fled many of whom were here killed or taken.” Finally, near the northern border of the sketch map, Warren labeled a ravine: “Place of concealment of

mounted men under Col. Cooke” and showed two lines of attacking cavalry units as they swept through the hiding place and through the Ogallala village in pursuit of mounted Indians fleeing toward sand dunes to the north-east. Warren’s sketch map clearly illustrated both the perfect tactical success Harney achieved and the hopeless position of the fleeing Lakota but nowhere did it show the Lakota as being in any state other than retreat. Read literally, Warren’s sketch map depicted an ambush.



**Map 6B:** Detail from Map 6 (p. 17) showing Ft. Grattan, a small sod redoubt laid out by Warren and erected near the entrance to Ash Hollow to house men caring for the

One other feature of this sketch map deserves comment. In the lower right corner, Warren included Fort Grattan on the south side of the Platte (Map 6B). This temporary sod fort, only occupied by soldiers for a few weeks in the late summer of 1855, would persist on the PRRS General Map until the post-Civil War 1868 edition which instead showed the nearly completed Union Pacific Railroad passing Ash Hollow along the north branch of the Platte, past the forgotten Fort Grattan.

Also included in his report, the 25-year-old junior officer boldly offered his superiors a recommendation on military planning against the Northern Plains tribes.

“The same causes that brought on the war with the Sioux will, no doubt, continue to operate, and the time is not distant when we shall have a similar necessity for chastising the Crows and northern Missouri Dakotas, who have, as yet, seen nothing of the power of the United States, nor feel any respect for it. It seems to me, therefore, in a purely military point of view, of the greatest importance to gain a knowledge of that region, while the peaceful disposition of these tribes may permit, and before they become maddened by the encroachment of the white man.”<sup>51</sup>

# Images 4A - J: Items from the Warren Collection, Smithsonian Institution, National Museum of Natural History



4A

Warren's Diary entry after the Blue Water Creek massacre read: "We found considerable property still lying on the ground." He sent this trove of artifacts to Assistant Director Spencer Baird in what would be one of the Smithsonian's earliest and largest collections of Northern Plains artifacts.



4B



4C



4D

4A: Woman's Beaded Dress  
4B: Deer Skin Robe  
4C: Chief's Leggings  
4D: Indian Horse Blanket  
4E: Ornament, Horse Trapping



4E



4F

4F: Chief's Headdress  
4G: Powder Horn, Pouch & Belt  
4H: Blackstone Pipe  
4I: Powder Horn and Pouch  
4J: Indian Doll



4G



4H



4I



4J

Warren estimated such an expedition would cost \$50,000.<sup>52</sup> The Department of War agreed with the need for further exploration in the Northern Great Plains, though at half the cost. Over the next two summers, Warren led surveying parties deep into Nebraska Territory under orders from the War Department, not attached to another force but in command of his own expedition. During the off-season he continued to work on the maps of the PRRS. As 1855 drew to a close, Warren returned to Washington to resume his cartographic work on the next edition of the General Map that would eventually become known as “the Indian Map” and would establish his reputation as cartographic genius.

## 1856: Along the Yellowstone

In the spring of 1856, Warren led a better equipped expedition by steamboat and on horseback to survey the upper Missouri and Yellowstone rivers to the mouth of the Powder River. (Map 7) As they steamed up the Missouri, Warren focused attention on the region’s inhabitants while his assistants carefully charted the river channels and noted changes in the watershed compared with earlier explorations going back to Lewis and Clark’s expedition five decades earlier.

One vivid passage in Warren’s combined report of the 1856 and 1857 expeditions described a smallpox epidemic then burning through the region. Citing the Lakota Unkpapa Chief Bear’s Rib (whom he was to meet in 1857), Warren reported a total of 3,000 smallpox deaths across the upper Missouri in those two years. While the Crow and Assiniboine bore the brunt of smallpox mortality with 2,500 deaths, he reported that Arikaras, Ihan-tonwans (Yankton Sioux), Sihasapas (Blackfoot Lakota), Gros Ventres and Mandans also suffered wrenching losses. He described village-based Mandans living along the Missouri as being in “constant dread of the diseases which white men have been at times introducing among them” and reported that they pleaded with the Indian agent to “keep sick white men away.” His narrative continued; “(w)hen I returned there in September (1856), and saw them again a victim of that scourge, the smallpox brought among them that year by the steamboat of the rival company to the American Fur Company, and saw the despair depicted on every countenance, it made me feel heartsick to think what wrongs these poor savages had suffered from the cupidity of my own race.” Warren concluded by recommending that the government provide annual vaccinations to “arrest the violence of these scourges.”<sup>53</sup>

## 1857: Into the Black Hills

The following summer, Warren once again headed west on his most consequential trek, with orders to survey alternative military routes between Fort Laramie along the North Platte and the Missouri River and to conduct reconnaissance into the heart of the Lakota realm, *Paha Sapa*, or the Black Hills (Maps 7, 8). In early September, as they approached the western edge of the Black Hills from the south, Warren and his party of 21 met a much larger contingent of Miniconjou Lakota, (Warren referred to them as “Minikanyes”) whom he generally regarded as “friendly to the whites.”<sup>54</sup> They were soon joined by decidedly less friendly Unkpapa and Ogallala, none too pleased to see the soldiers. This chance encounter transformed his last Nebraska expedition from one of military reconnaissance to a diplomatic and geopolitical mission, ensuring that Warren’s legacy in the West would extend beyond map-making.

The Indians were emerging from a momentous gathering of all seven Lakota bands, called together in council to find a communal response following the massacre at Blue Water Creek two years earlier and the ensuing Harney-imposed treaty. One of the chiefs informed Warren that the Lakota were committed to resisting further encroachment by whites. Warren reported that “their hearts felt strong seeing how numerous they were” and “he (the chief) fully believed they were able to whip all the white men in the world.” What Warren did not know was that this Grand Council, in addition to affirming kinship ties and committing to mutual defense, had also drawn a line around the Black Hills, determined to keep whites out of the gold fields that lay within, because the Lakota knew if miners came, their sacred *Paha Sapa* would be lost.<sup>55</sup>

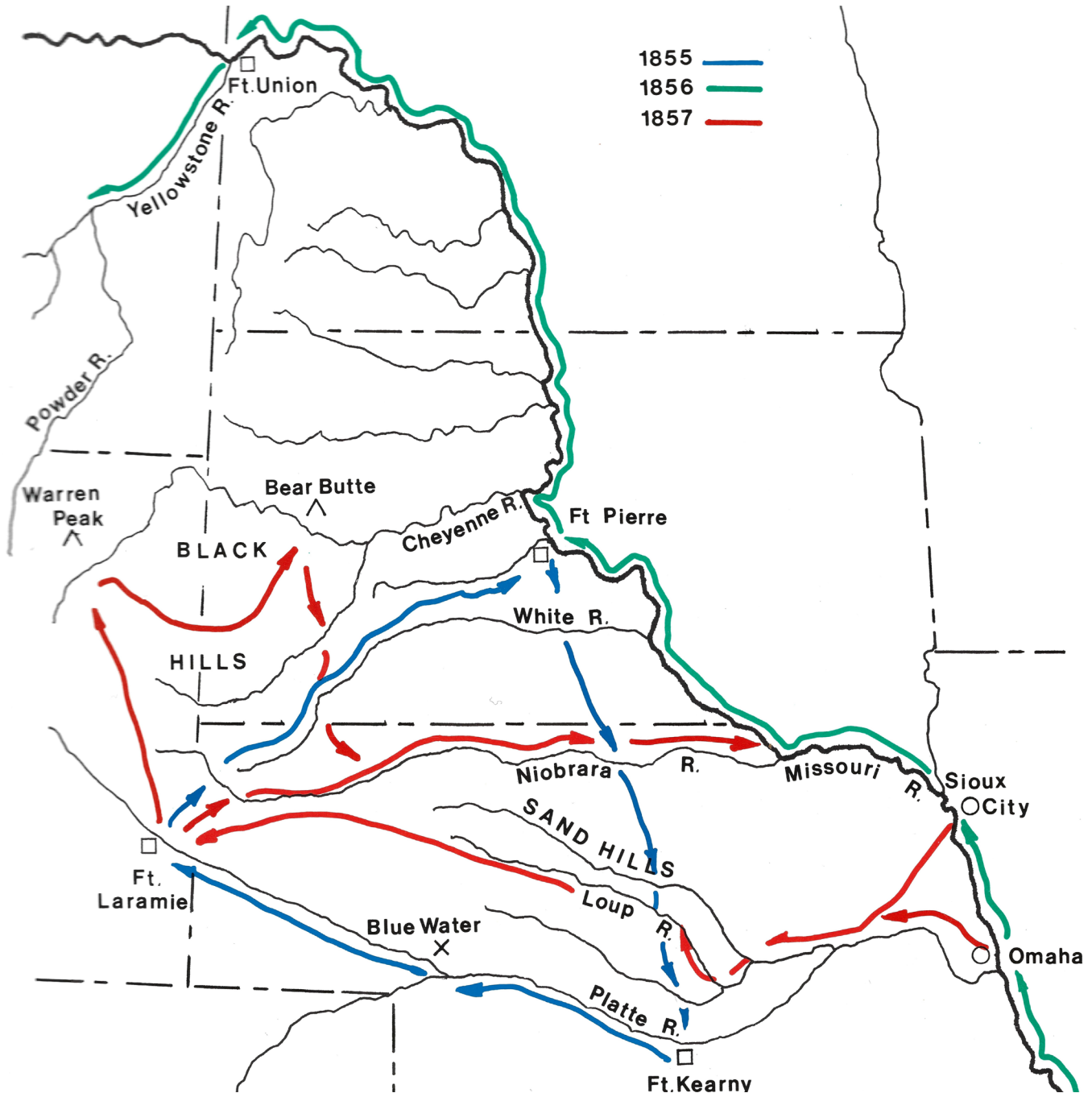
The chiefs demanded that Warren turn his men around and leave their lands. Some of the more belligerent favored attacking Warren’s outnumbered men immediately while others urged caution, fearing that another round of retribution would follow any attack on the soldiers. Warren reinforced their caution by reminding them of “the lesson taught them by General Harney in 1855.” The Indians then proceeded to explain why Warren and his men were not welcome. Warren recounted their fear that interlopers would chase away the large herds of buffalo being allowed to fatten up before the fall hunt. Describing their “very sensible” objections to outsiders’ intrusions, Warren wrote: “(t)heir feelings toward us, un-

der the circumstances, were not unlike what we should feel toward a person who should insist upon setting fire to our barns.”<sup>56</sup>

Protection of the buffalo was not their only concern, however. They reminded Warren that they had an agreement with Harney that whites would be allowed to travel unmolested along the Platte and White rivers and on roads between Forts Laramie and Pierre, but that throughout the rest of the Lakota domain, including the

Black Hills, whites were excluded and the Lakota “must be left wholly to themselves.” Finally, the Indians objected to Warren conducting a military reconnaissance that could be used against them in any future conflict.

The more conciliatory among them pleaded for Warren to “take pity” on them and not proceed. Intent on reaching Bear Butte in the northern Black Hills, Warren refused to turn around. He agreed to await the arrival of the Unkpapa chief, Bear’s Rib, explaining in his report



**Map 7:** Warren’s expeditions into Nebraska Territory in 1855, 1856 and 1857 while he was cartographer for the Pacific Railroad Surveys took him deep into the Northern Great Plains and the heart of the Lakota domain. These expeditions informed his attitudes towards the Plains tribes and helped shape both his career and legacy on the West beyond cartography to diplomacy, military strategy and geopolitics. From James A. Hanson, *Little Chjief’s Gatherings*.

that his actions emanated from a combination of caution and empathy. “I felt that, aside from its being an unnecessary risk to subject my party and the interests of the expedition to, it was almost cruelty to the Indians to drive them to commit any desperate act, which would call for chastisement from the Government.”

When Bear’s Rib had not appeared after three days, Warren retreated south before turning east into the Black Hills again. The Unkpapa chief caught up with them and reiterated the objections to their intrusion. Warren again refused to retreat. Bear’s Rib then agreed to accompany the soldiers part way before returning to his camp to try to forestall aggression against the surveying party. In return, the Unkpapa chief asked Warren to deliver a message to all other whites to stay out of their country. “All they asked of the white people was, to be left to themselves and let alone.” Bear’s Rib also asked Warren to tell President Franklin Pierce that if his gifts (treaty an-

nities) were intended to buy access for whites or induce the Lakota not to make war against their mortal enemies, the Crows, they did not want them. Exhibiting a deep knowledge of his opposite number, Bear’s Rib argued that Harney, who had cautioned the Lakota about going to war against other Indians, had himself been in continuous battle following the encounter at Blue Water Creek, first against the Seminoles and was readying a force to quell Mormon unrest in Utah.<sup>57</sup> Warren reported that “War with them (the Lakota) was not only a necessity but a pastime.” Summarizing the entire episode, Warren reflected: “I was necessarily compelled to admit to myself the truth and force of these objections.”<sup>58</sup>

Warren described the inevitability of future conflict between the Northern Plains tribes and the U.S. government, even as he acknowledged the military strength of the Lakota. He nevertheless asserted the claim of the United States to their territory. “The advance of the settlements is universally acknowledged to be a necessity of our national development, and is justifiable in displacing the native races on that ground alone.”

He then faulted the executive branch for its failure to “prepare the way for settlements by wise and just treaties of purchase from the present owners, and proper protection and support for the indigent race so dispossessed.” He criticized Congress for delaying, and at times refusing, to ratify treaties already struck. Describing a grim dynamic, he pointed out that Indians dispossessed by the encroachment of white settlements had no place to go, unable to move onto territory occupied by other tribes where they were unwelcome. Pointing out the cruel irony of government inaction, he added:

“(W)hen the white settlements advance their frontier, the natives linger about till disease, poverty, and vicious indulgence consign them to oblivion. The present policy of the Government seems, therefore, the best calculated that could be devised for exterminating the Indian.”<sup>59</sup>

Following this somber assessment, Warren then turned to military matters.

“There are so many inevitable causes at work to produce a war with the Dakotas<sup>60</sup> before many years, that I regard the greatest fruit of the explorations I have conducted to be the knowledge of the proper routes by which to invade their country and conquer them.”

He then laid out a campaign plan for attacking the



**Map 8:** Detail of the Black Hills from Warren’s General Map of 1858 (3rd edition). Warren’s party first encountered the Lakota near Inyan Kara (A - not labeled on this map), which lies on the western edge of the sacred *Paha Sapa*, or Black Hills. Warren was determined to cross the region to Bear Butte, shown on the northeastern edge (B). While his actual route through the Black Hills is not shown, the notation “Surv. by Lt. Warren” (C) traces the southeastern edge of the hills. In addition, Warren’s 1857 route along both the Niobrara and Loup Fork rivers further to the south are labeled, but all these notes appear only in the General Map of 1858. G. K. Warren, *Map of the Territory of the United States from the Mississippi to the Pacific Ocean, 1858*, Library of Congress.



Black Hills, where he confidently predicted that “the superiority of the weapons of civilized warfare would secure a victory to us.”<sup>61</sup> Despite that optimism, Warren nonetheless advised the use of Crow, Assiniboine and Pawnee warriors, avowed enemies of the Lakota, in any campaign “to thus spare the lives of the whites.”

Warren ended this grim catalog of advice with a final comment on the masters of the Northern Great Plains:

“I have always found the Dakotas exceedingly reasonable beings, with a very proper appreciation of what are their own rights. What they yield to the whites they expect to be paid for, and I have never heard a prominent man of their nation express an opinion in regard to what was due them in which I do not concur. Many of them view the extinction of their race as an inevitable result of the operation of present causes, and do so with all the feelings of despair with which we should contemplate the extinction of our nationality.”<sup>62</sup>

Warren’s writings and actions while on his Nebraska Territory expeditions portrayed a mix of empathy, curiosity and admiration for the native peoples living there. In his official reports, he offered prescriptions for a peaceful path forward, though doubting they would be adopted. But he also expressed condescension, a sense of entitlement, racial superiority and stereotyping. Despite his words of admiration and empathy, he also laid out an aggressive war plan calculated to crush opposition to white encroachment.

Some of his recommendations strike a deep chord of cynicism as well. Following the 1855 Harney expedition, he wrote: “the time is not distant when we shall have a similar necessity for chastising the Crows.” Following his Black Hills foray in 1857, he observed that Crow and other enemies of the Lakota “could be made most useful allies... to thus spare the lives of the whites” in any future campaigns--and indeed, Crow and Pawnee warriors and scouts would participate alongside U.S. Army regulars in coming years

Warren’s contradictory stances capture, not just the cynicism, but the trade-offs, moral ambiguities, and justifications America would continue to tell itself to explain the bloody wars, punishing military campaigns and brutal dispossession of indigenous people in the coming decades, which he described as “a necessity of our national development.” His writings also hinted at the paternalism and dependence on the federal government which would characterize Indian policy into the 20<sup>th</sup> Century.<sup>63</sup> Taken

as a whole, they were as much blueprint for expansion as was his General Map.

Warren submitted his *Preliminary report of Explorations in Nebraska and Dakota*, in November of 1858 and set to work preparing one more edition of the General Map, at about the same time his multi-colored Indian /Military Departments Map was also being printed. This third edition General Map, dated 1858, has neither colors nor military departments, and shows some three dozen fewer tribal names than were included on his 1857 Indian Map. The cartographic depiction of Native American presence in the trans-Mississippi West was already in retreat.

## POSTSCRIPT

The Black Hills expedition was the last of Warren’s expeditions into Nebraska Territory while attached to the PRRS project. He concluded his report with a recommendation for a 19-month expedition which he hoped to lead, probing further along the Yellowstone and its tributaries, the Powder, Tongue and Big Horn rivers, preparatory to a future Black Hills campaign against the Northern Plains tribes, which he viewed as inevitable. Warren’s recommendation was approved, but he did not go west himself. In August of 1859, he accepted a teaching post at West Point following his father’s death the previous winter, so he could care for his mother and younger siblings who lived nearby.

Warren’s imprint on western exploration primarily centers on his compiling the first accurate map of the trans-Mississippi West, and his reports, eyewitness accounts and military analysis from his three expeditions into Nebraska Territory. They not only connect him to the opening and closing conflicts of the Northern Great Plains Wars, they also constitute a blueprint for Euro-American expansion in the last half of the nineteenth Century.

In the summer of 1874, General George Armstrong Custer led an expedition into the Black Hills to site a fort for the crews working on the unfinished Northern Pacific railroad. Accompanying the publicity-seeking Custer and 900 soldiers were a geologist, civilian miners and a handful of newspaper reporters. As the expedition penetrated into the Black Hills, the geologist and miners confirmed that the sacred Paha Sapa sheltered more than bison herds. When the newspapers reported that gold had been found, the Black Hills Gold Rush was on. This

invasion of outsiders into territory guaranteed by treaty as belonging to the Lakota opened the last act in the great military conflict between Northern Plains tribes and the U.S. Army that had started two decades earlier with the killing of a cow near Fort Laramie and would only end in 1890 at a place called Wounded Knee.

In the early days of the gold rush, Warren's old boss A. A. Humphreys, now chief of the Army Corp of Engineers, recognized the value of Warren's narrative of his Nebraska expeditions, long buried in the 1858 Annual Report of the Secretary of War. Humphreys excerpted the Report of Explorations in Nebraska and Dakota, and republished it as a stand-alone document in 1875. In the cover letter to the reprint, Humphreys wrote: "Recent developments in the Black Hills country have awakened a great interest in that region, and therefore constant inquiries for the report referred to."

Warren's role in American history<sup>64</sup> is memorialized, not by his maps or reports however, but by a statue sitting on a granite ledge in eastern Pennsylvania at a place called Gettysburg. On July 2nd, 1863, less than a decade after his meeting with Bear's Rib in Paha Sapa, Warren climbed the small ridge of unfortified high ground overlooking the union flank, a prominence called Little Round Top. Recognizing an imminent threat of rebel attack which would imperil the Union line, he brought reinforcements to the ridge just in time to defend the position—arguably averting a Union rout and earning him the sobriquet "Hero of Little Round Top." Just as was true in Nebraska Territory, at Gettysburg Warren's

combination of topographical observation, strategic insight, and initiative served his country's needs with immensely consequential results.



**Image 6:** G. K. Warren statue on Little Round Top, overlooking the Gettysburg topography. Erected after Warren's death in 1888, the inscription reads in part: "Led to this spot by his military sagacity, on July 2, 1863, General Gouverneur Kemble Warren, then Chief Engineer of the Army of the Potomac, detected Gen. Hood's flanking movement, and by promptly assuming the responsibility of ordering troops to this place, saved the key of the Union position." Gettysburg National Military Park, NPS.



**Image 5:** G. K. Warren in the 1860s. Smithsonian Institution, National Museum of American History.

# Warren's Blueprint for Expansion

Warren's combined report on his 1856 and 1857 expeditions has become an important document in the history of exploration and expansion across the trans-Mississippi West. In addition to furnishing an overview of the region's topography, climate, vegetation and geology, Warren's report provided brief histories and descriptions of the numerous tribes inhabiting the Northern Great Plains between the upper Missouri and the foothills of the Rockies as well as population estimates, including the number of warriors in each band. The combined report provided a comprehensive geographic guide, an articulate ethnographic summary and an insightful military/political analysis of the trans-Mississippi West as the region sat on the cusp of violent conflict and massive change at midcentury. Below is an excerpt that lays out Warren's views on the political, diplomatic, and military dynamics driving events in the territory, which Warren saw as leading to inevitable war on the Northern Great Plains. In this document he interweaves understanding of and empathy for the Indians with disdain and regret over the actions (and inaction) of white settlers and of the government while simultaneously summarizing, with cold-eyed military logic, the best way to suppress all the Indians across the Northern Great Plains, focusing on the Western Teton Sioux or Lakota (whom Warren referred to as "Dakota"). Originally published in 1858 as part of the much larger Annual Report of the War Department, Warren's report would prove a useful guide when it was republished as a stand-alone document, at the start of the Black Hills Gold Rush 17 years later.

"Of all the aborigines in the Territory under consideration, the Dakotas are probably the ones that have undergone the least material diminution of their numbers since their discovery by the whites. They are still numerous, independent, warlike, and powerful, and contain within themselves means of prolonged and able resistance to further encroachments of the western settlers. Under the present policy of government, which there is no reason to believe will ever be changed, these encroachments will continue, and new wars will result. I do not mean to say that a peaceable advance of the settlements westward might not be affected, but under the operation of present causes, it will not. All of these conflicts end in the discomfiture of the native races, and they are fast melting away. It is not, as many suppose, that those dispossessed retire further west. This they cannot do, for the region to the west of one tribe is generally occupied by another, with whom deadly animosity exists. Hence, when the white settlements advance their frontier, the natives linger about till disease, poverty, and vicious indulgence consign them to oblivion. The present policy of the Government seems, therefore, the best calculated that could be devised for exterminating the Indian.

"The advance of the settlements is universally acknowledged to be a necessity of our national development, and is justifiable in displacing the native races on that ground alone. But the Government, instead of being so constituted as to prepare the way for settlements by wise and just treaties of purchase from the present owners, and proper protection and support for the indigent race so dispossessed, is sometimes behind its obligations in these respects; and in some instances, Congress refuses or delays to ratify the treaties made by the duly-authorized agents of the Government. The result is, that the settler and pioneer are precipitated into the Indians country, without the Indian having received the just consideration promised him; and he often, in a manner that enlists the sympathies of all mankind, takes up the tomahawk in defense of his rights, and perishes in the attempt.

"It is frequently the case that the settlers are unjustly charged with bringing about these wars, and, though I feel for the Indian, I cannot but sympathize with the pioneer, whose life is liable to be sacrificed to the Indians' vengeance.

"The Western settlers are now fighting the Battle of civilization, exactly as our forefathers did on the Atlantic Shores, and under circumstances that command an equal amount of our admiration and approval.

"We are in the habit of looking on the power of the United States as invincible, but it is far from being so regarded by the savages on our frontier. Many of them have never seen or felt it. There, the Indians far outnumber the whites, and, if our sympathies must go with the weak, they should be with the settlers, who are only able, after all, to maintain their ground by the aid of the army.

"One of the chiefs of the Dakotas told me that they had a Grand Council in the summer of 1857, on the North Fork of the Sheyenne, (sic) and that their hearts felt strong at seeing how numerous they were; that if they went to war again they would not yield so easy as they did before. At that council, they solemnly pledged to each other not to permit further encroachments from the whites, and he fully believed they were able to whip all the white men in the world. In truth, they are not without reason and thinking so. They have never seen the whites except in small parties, stealing through their country, unable to resist them or protect themselves from insolence; or they find them shut up in little trading posts, where for

warriors wish to have a frolic, they go and shoot their dogs, chickens, cattle &c., break the windows, and commit any other outrage their fancy may suggest as a diversion. They have seen the Indian agent (their father, as he is called,) the direct representative of the President, assaulted and abused with impunity by their own race, and sometimes in dread of losing his life, and they, many of them, entertain no respect for the power of our government. Numbers of them have never seen a soldier of the United States Army, and scarce credit their existence.

“Bears Rib (a great friend to peace with the whites and the most influential warrior of his nation) said his people could not be controlled by him, and that if he should attempt it, in some cases, his own life would be forfeit.

“There are so many inevitable causes at work to produce a war with the Dakotas before many years, that I regard the greatest fruit of the explorations I have conducted to be the knowledge of the proper routes by which to invade their country and conquer them. The Black Hills is the great point in their territory at which to strike all the Teton Dakotas, except the Brulés and Okandandas. Here they can assemble their largest force, And here I believe they would make a stand. In the event of another outbreak, a post should be established at the mouth of the Sheyenne, on the north side, from which to operate simultaneously with troops from Fort Laramie. From both of these points, wagon trains could move with ease, and supplies could, without difficulty, be sent thus to the troops in the field. These operations would undoubtedly bring on a battle, where the superiority of the weapons of civilized warfare would secure a victory to us. They will not, I think, permit the occupation of the vicinity of these hills without offering a determined resistance. Driven from these, they must go north towards the Missouri, where a still better field to operate against them will be found, as this region is everywhere practicable. In this event, it might become necessary to establish a temporary post above the Sheyenne, And the most suitable and effective location is to be found near Long Lake, on the Missouri.

“Those who may take refuge in the ravines and fastnesses along the Niobrara, or in the Sand Hills, should be operated against from Forts Randall, Kearney, and Laramie. Should the Isanties and Ihanktonwannos be hostile at the same time as the Tetonwans, they should be operated against from Fort Ridgeley.

“It will be perceived that in this plan I have considered a war with all the Dakotas to be on our hands, which at no distant day is probable, and that there will be required a number of columns in a very large force to successfully operate over so much country. These columns need not exceed in any case, a strength of 400 men, and these should be subdivided so as to beat up the country as much as possible, and endeavor to draw the Indians into an engagement where they may have some hope of success. With proper troops and commanders, we need not even fear the result.

“The movement of large, compact columns is necessarily slow, and they can easily be avoided, which the least military skill teaches the Indians to do. The war once begun should not be stopped till they are effectually humbled and made to feel the full power and force of the Government, which is a thing which the Northern Dakotas are entirely wanting.

“I believe a vigorous course of action would be quite as humane as any other, and much more economical and effectual in the end. With proper arrangements the Assiniboins and Crows and Pawnees could be made most useful allies in a war with the Dakotas. I see no reason why they should not be employed against each other, and to thus spare the lives of the whites.

“In giving my opinion of the best way of bringing the Dakotas to submission, in the event of war, I think it my duty to state that I believe many of the causes of war with them might be removed by timely action in relation to treaties, which are from time to time made with them, and a prompt and faithful fulfillment of our own part of the stipulations, and it is to be hoped that Congress will afford the means of carrying into effect the treaty made by General Harney in 1856, and those made by the Indian Bureau in 1857 with the Inhanktonwans and Poncas, and that it will provide liberally for those who have been dispossessed of their lands or impoverished by having their game driven off by the approach of the whites.

“I have always found the Dakotas exceedingly reasonable beings, with a very proper appreciation of what are their own rights. What they yield to the whites they expect to be paid for, and I have never heard a prominent man of their nation express an opinion in regard to what was due them in which I do not concur. Many of them view the extinction of their race as an inevitable result of the operation of present causes, and do so with all the feelings of despair with which we should contemplate the extinction of our nationality.”<sup>65</sup>

# Endnotes

- 1 Goetzmann, William H. *Exploration and Empire* (New York, Alfred A. Knopf, 1971) p. 312-321. Faulk, Odie B., *Too Far North... Too Far South* (Los Angeles, Westernlore Press, 1967) pp. 58 – 65.
- 2 For a discussion of the evolution of Indian policy in mid-nineteenth century see Trennert, Robert A., *Alternative to Extinction,; Federal Indian Policy and the Beginnings of the Reservaton System, 1846-51*, (Philadelphia, Temple University Press, 1975) and Prucha, Francis Paul, *American Indian Treaties; The History of a Political Anomaly*, (Berkeley, University of California Press, 1994), pp. 1 – 19 and 237-260.
- 3 Francaviglia, Richard V., and Jimmy L. Bryan. “Are We Chimerical in This Opinion?” Visions of a Pacific Railroad and Westward Expansion before 1845.” *Pacific Historical Review* 71, no. 2 (2002): 179–202. <https://doi.org/10.1525/phr.2002.71.2.179>.
- 4 For a detailed discussion of the Congressional deliberations, see Albright, George Leslie, *Official Explorations for Pacific Railroads, 1853-1855*, (Berkeley, California, University of California Press, 1921) pp 29 – 38.
- 5 Cong. Globe, 32 Cong., 2 sess. (1852-53), Journal of the House of Representatives, Vol 48, March 2, 1853, p. 363-364.
- 6 “Jefferson Davis Remarks on Pacific Railroad Bill, Dec. 14, 1856” in Rowland, Dunbar, ed. *Jefferson Davis; Constitutionalist: His Letters, Papers and Speeches* 10 volumes, (New York, J. J. Little & Ives Company, 1923) vol. 3, p. 366.
- 7 Norris, , L David, Milligan James C. and Faulk, Odie B., *William H. Emory; Soldier Scientist*, (Tucson, University of Arizona Press, 1998), p. 2.
- 8 For discussion of the “natural Central Route” see: i Allen, Brad, *Crossing Cochetopa: Time Travel, Exploration and Dsiccovery Across the Continental Divide*, Proceedings of the 12th International Cartography Association (ICA) Mountain Cartography Workshop held in Snow Mountain Ranch, Colorado, April 11 -14, 2023. See also Horn, Jonathan C. “North Branch of the Old Spanish Trail” *Spanish Traces*, Vol 28 No. 1, pp. 28 -35, Old Spanish Trail Association, (Spring 2022). Agee, Fred B. and Cuenin, Joseph M. “History of Cochetopa National Forests (Paper published by *The Salida Mail*, Salida, CO, 1924).
- 9 Gunnison, with 11 men, had split off from the man contingent to explore the Sevier and a possible connection to the California Trail. His party was attacked early on the morning of October 26, 1853, as they were finishing breakfast. The attackers, by most accounts, were a band of Paiutes seeking revenge for the killing of an elder by a California-bound emigrant train a few weeks prior to Gunnison’s arrival. Rumors arose in some quarters that the Mormon hierarchy were behind the massacre, stoking anti-Mormon sentiment which was already high, in a prelude to the Mountain Meadows massacre and the Mormon War a few years later. See Mumey, Nolie, *John Williams Gunnison* (Denver, Artcraft Press, 1955) for an account of the attack and Fielding, Robert Kent, *The Unsolicited Chronicler; An Account of the Gunnison Massacre, Its Causes and Consequences* (Brookline, MA, Paradigm Publicaions, 1993) for a critical examination of the Mormon role in the events surrounding the massacre.
- 10 Davis acknowledged that the route ultimately followed by the Union Pacific through the Laramie Plains sounded promising and deserved further study. United States. War Dept., *Reports of Explorations and Surveys, to ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean*, Vol. I, p. 16. [33<sup>rd</sup> Cong., 2<sup>nd</sup> sess., Sen. Exec Doc No. 78.] The various PRRS Reports were printed in twelve volumes between 1855 and 1860. They are referred to in subsequent notes as RES with the appropriate Volume number.
- 11 \_\_\_\_\_, “The Pacific Railroad and How it is to be Built” in *Putnam’s Monthly Magazine of American Literature, Science and Art* Volume 0002 Issue 11 (November 1853), pp. 505 – 506. \_\_\_\_\_, *California Star*, May 20, 1848 (II, no. 20), p. 25.
- 12 Jordan, David M. *Happiness is Not My Companion; The Life of General G. K. Warren*, (Bloomington, University of Indiana Press, 2001). p. 6.
- 13 Jordan, p. 14., Percy p. 91. Recently purchased by the government, the new Winder Building, touted as Washington’s first “skyscraper,” housed offices for the Army and the Navy.
- 14 RES, Vol XI, p. 2.
- 15 *ibid.*, , p. 92.
- 16 It didn’t help that Emory had testified against Benton’s son-in-law, John C. Frémont, in the latter’s court martial trial during the Mexican-American War. For discussion of the dispute between Benton, Davis, Walker and Emory see Goetzmann, *Army Exploration*, pp. 266 – 274; Norris, Milligan and Faulk, pp. 151 – 156. For a detailed history of the Mexican Boundary Survey, see Faulk, *Too Far North... Too Far South*.
- 17 On Warren’s relationship with Humphreys see Percy, Matthew T., “Science, Politics, and Bureaucracy; Andrew A. Humphreys and the Office of Pacific Railroad Explorations and Surveys,” in *Military History of the West*, vol. 38 (2008), pp 92-93.
- 18 *Ibid.* p. 94.
- 19 *Ibid.* pp. 95 – 99 for a detailed narrative of the printing of the PRRS reports.
- 20 Beckwith’s 41<sup>st</sup> parallel map #2 identified “Goshoot,” “Shoshone,” and “Snake” while his map #3 listed “Pah-Utah or Root Digger Indians” and “Bannack Indians.” Whipple’s 35<sup>th</sup> parallel map #2 listed “Pah -Utahs (Chem-e-hue-vis),” “Mojaves (Hamook-häbi),” “Yampais,” “Tontos,” “Cosinos,” “Pinolennos,” “Coyoteros,” “Moquis” (Hopis) and “Navajos.”
- 21 Warren, G. K., United States War Department. Office Of P. R. R. Surveys, and Bien & Sterner. *Map of routes for a Pacific railroad*. [Washington, D.C.: Office of P. R. R. Surveys, 1855] Map. <https://www.loc.gov/item/2007626788/>.
- 22 While an exhaustive examination of each edition of the General Map is beyond the scope of this paper, a closer look at the second edition of Warren’s General Map, the one dated 1857, reveals its significance beyond the cartographic achievement for which it and Warren are rightfully recognized. In addition, examining three expeditions he undertook deep into Nebraska Territory in 1855, 1856 and 1857 while working on this map reveal his often contradictory and ambivalent attitudes toward Native Americans and white settlement, a duality which found expression in both his writing and his cartography.
- 23 *Contract between Selmar Siebert and A. A. Humphreys, September 11, 1854*; Box 4, Binder 2; Letters Received Relating to the Printing and Publication of the Pacific Railroad Survey Report; Entry A1 724, Correspondence, 1852-61; Office of Exploration and Surveys, Record Group 48; National Archives at College Park, Md.
- 24 The second edition General Map includes a note on sources, signed by Warren, stating in part: “...this map is a correct representation of our information up to May 1, 1857 and the engraving has been carefully verified.” As a result, the map is dated 1857 in bibliography references.
- 25 Wheat, Carl, *Mapping the Trans Mississippi West*, Vol. 4, p 2; Goetzmann, *Exploration and Empire*, p. 314, Schulten Susan, “Mapping American History” in *Maps Finding Our Place in the World*, James R. Akerman and Robert W. Karrow, Jr, eds. Chicago, University of Chicago Press, 2007) pp. 184-185.
- 26 Freyhold, Edward, G. K Warren, Julius Bien, Millard Fillmore, and United States War Department. *Territory of the United States from the Mississippi River to the Pacific Ocean; originally prepared to accompany the reports of the explorations for a Pacific railroad route*. [Washington, D.C. War Dept, 1868] Map. <https://www.loc.gov/item/gm71000836/>.
- 27 Subsequent correspondence between Warren and the printer Julius Bien indicates that the colored version of the map, the “Indian Map,” was not issued until April of 1859, a year after the uncolored version of the otherwise identical map was released. See *J. Bien to G. K. Warren, April 9, 1859*; Box 4, Binder 1, Letter # 74; Letters Received Relating to Printing and Publication of the Pacific Railroad Survey Report; Entry A1 724, Correspondence, 1852 – 1861;

- Records of the Office of the Secretary of the Interior, Office of Exploration and Surveys, Record Group 48; National Archives at College Park, Md. The uncolored version of Warren's General Map was included in *RES*, Vol. XI, "the Maps Volume," but that version is unremembered in most bibliographies and descriptions of the General Map. Although Susan Schulten includes the uncolored version in "Mapping American History" (p. 184), this uncolored map is rarely displayed in publications discussing Warren's General Map. The "Indian Map" can be viewed at the Library of Congress: The uncolored version can be viewed at the Stanford University's David Rumsey Map Collection: <https://exhibits.stanford.edu/r/catalog/cj543jb2881>.
- 28 Bernstein, David, *How the West was Drawn*, (Lincoln, University of Nebraska Press, 2018) pp 198 – 199. Looking at Warren's map through the lens of place names, Bernstein describes it as a creation of both indigenous and "American" geographic knowledge, arguing that Warren's Indian map "neither revealed an objective reality nor obscured an authentic indigenous existence. Instead, Warren's map exemplified the contested nature of how the West was drawn." For an extended discussion of Warren's map, see also, pp. 204 - 219.
- 29 Prucha, *American Indian Treaties*, pp. 2 – 9.
- 30 Subsequent editions of the General Map, with the exception of the 1867 map, dropped the Military Departments, and none included flags designating active military posts. For an overview of military posts in the 19<sup>th</sup> Century See Prucha, Paul, *A Guide to the Military Posts of the United States, 1789 – 1895*, (Madison, The State Historical Society of Wisconsin, 1964) ,pp 1 – 34.
- 31 Warren was not shy about proclaiming the military utility of his cartography. He titled the map compiled from his explorations in Nebraska Territory from 1855 to 1857 a military map and, as described in the narrative, argued that the fruits of these explorations were primarily military reconnaissance in anticipation of conquering the Native Americans inhabiting the Northern Great Plains. See United States Army, Corps of Topographical Engineers and G. K. Warren. *Preliminary report of Explorations in Nebraska and Dakota, in the years 1855 - '56- '57*. Washington, Govt. Print. Off, 1875. p. 7, 54.
- 32 G. K. Warren to A. A. Humphreys, March 23, 1859, Letter #66, and A.A. Humphreys to G. K. Warren, March 25, 1859 Letter # 61, Box 4, Binder 1. Records of the Office of the Secretary of the Interior, Office of Exploration and Surveys, Letters Received Relating to Publication of the Pacific Railroad Survey Report; Entry A1 724, Correspondence, 1852 – 1861; Records of the Office of the Secretary of the Interior; Office of Explorations and Surveys, Record Group 48; National Archives at College Park, Md.
- 33 The failure of Davis to support compromise route along the 35<sup>th</sup> parallel doomed the 32<sup>nd</sup> parallel route in Congress. While Davis may have had engineering reports and cost estimates on his side, there was enough favorable evidence from each reconnaissance to feed arguments favoring alternate routes. Davis tilted the reports in favor of the 32<sup>nd</sup> parallel, though more neutral observers have pointed out that the far southern route's cost and construction advantages could not overcome its political burdens. Davis refused to seek an alternative compromise route, A. E. Whipple's 35<sup>th</sup> parallel route being the most obvious. Instead, he reported Whipple's cost estimates, which Davis acknowledged were inflated and erroneous, tilting his evaluation in favor of the 32<sup>nd</sup> parallel route. See Faulk, pp. 164 – 165; Albright, pp 157 – 158; Goetzmann, *Army Exploration in The American West, 1803 – 1863* (Lincoln, Nebraska University of Nebraska Press, 1979) pp. 266 – 274 and *Exploration and Empire*, pp. 281-293.
- 34 United States. War Dept., *Reports of Explorations and Surveys, to ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean*,
- 35 For an extended discussion on the importance of the PRRS reports themselves see Goetzmann, *Army Exploration*, pp 305-337.
- 36 Isaac Stevens encounter with Assiniboines illuminates both the skepticism of Indians and the positive description Stevens gives both to the Indians of the benefits of a railroad and to Congress in recounting how easily he claimed he could win them over. *RES*, Vol XII, pp. 73 – 76.
- 37 \_\_\_\_\_ "The Tribes of the Thirty-Fifth Parallel" *Harper's New Monthly Magazine*, Vol XVII, Sept 1858, pp 448 – 467.
- 38 Subsequent appropriations put the price tag for the expeditions themselves at approximately \$450,000.
- 39 Wheat, p 68; Goetzmann, *Army Exploration*, p. 313.
- 40 Goetzmann, "Death Stalked the Grand Reconnaissance" *American Heritage*, Vol 23, Iss. 6, Oct. 1972. <https://www.americanheritage.com/users/william-h-goetzmann>
- 41 For more detailed discussion of both the Grattan fight and Harney's punitive Sioux expedition see: Hafen, LeRoy R. and Young, Francis Marion, *Fort Laramie and the Pageant of the West, 1834 – 1890* (Lincoln, University of Nebraska Press, 1984), pp 224 – 232; Hyde, George E., *Red Cloud's Folk* (Norman, University of Oklahoma Press, 1959), pp 50 – 75. Hämäläinen, Pekka, *Lakota America: A New History of Indigenous Power* (New Haven, Yale University Press, 2019) p. 224 - 231.
- 42 Capt. Thomas J. Lee resigned his Army commission April 30, 1855 after a 25-year career rather than serve on the Harney Sioux expedition. [https://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/America/United\\_States/Army/USMA/Cullums\\_Register/593\\*.html](https://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/America/United_States/Army/USMA/Cullums_Register/593*.html)
- 43 Warren Journal entry Sept 3 as reprinted in Hansen, James A., *Little Chief's gatherings: The Smithsonian Institution's G. K. Warren 1855-1856 Plains Indian collection and the New York State Library's 1855-1857 Warren Expeditions Journals*, (Chadron Nebraska, Fur Press, 1996), p 106.
- 44 Ibid.
- 45 Ibid. p. 107.
- 46 Ibid.
- 47 Ibid. pp. 11-20 for a discussion of the origins of this collection. For photographs of the Warren collection at the Smithsonian See [https://www.si.edu/search/collection-images?edan\\_q=Lt.%20Gouverneur%20K.%20Warren&](https://www.si.edu/search/collection-images?edan_q=Lt.%20Gouverneur%20K.%20Warren&) [accessed 23 October 2023.]
- 48 Warren, G. K. and United States. Army. Corps of Topographical Engineers, *Explorations in the Dakota Country, in the Year 1855* (Washington, D.C.: A.O.P. Nicholson, Senate Printer, 1856).
- 49 Ibid, pp. 38 -39.
- 50 Ibid. Warren, G. K. *Sketch of the Blue Water Creek embracing the field of action of the force under the command of Bvt. Brig. Genl. W. S. Harney in the attack of the 3<sup>rd</sup> Sept. 1855 on the "Brule" band of the Indian Chief Little Thunder" in Explorations in the Dakota Country, in the Year 1855*. Unnumbered end-paper.
- 51 Ibid, pp. 38 -39.
- 52 Ibid, *Explorations*, p. 19.
- 53 Warren, G. K and United States Army. Corps Of Topographical Engineers, *Preliminary report of Explorations in Nebraska and Dakota, in the years 1855 - '56- '57*. Washington, Govt. Print. Off, 1875., pp. 50-51.
- 54 Ibid. p. 20 and p. 48.
- 55 Ibid. pp. 18 -21 for Warren's narrative of this encounter. See also Hämäläinen, p. 234 – 235.
- 56 Ibid. Warren, p 19.
- 57 Harney was not sent to Utah but instead remained in Kansas to deal with civil unrest there. Sidney Johnston led the Utah Brigade instead.
- 58 Op cit. Warren, *Preliminary Report*, . p. 52,

59 Ibid.

60 Warren used the term “Dakota” when referring to any member of the to the Teton Sioux or Lakota.

61 Ibid. pp. 53.

62 Ibid. p. 54.

63 Paul Prucha’s elucidation of the paternalism and dependency inherent in American Indian policy is spelled out in the first two chapter of: Prucha, Francis Paul, *The Indians in American Society From the Revolutionary War to the Present* (Berkeley, University of California Press, 1985.)

64 At the outbreak of the Civil War Warren joined the fight, rising in rank and responsibility for his performance in the field during the Peninsular Campaign, at Gaines Mill, Second Manassas and Chancellorsville. His most memorable engagement occurred at Gettysburg, where his timely call for reinforcements saved the key Union position at Little Round Top. But Warren’s combat career ended in the decisive engagement near the end of the war at the battle of Five Forks outside of Petersburg, Virginia, the Confederacy’s bastion protecting supply lines to its capital at Richmond. Warren’s effective breach of the Confederate line forcing the rebels to retreat led, within a week, to Lee’s surrender at Appomattox.

Warren’s methodical and analytical approach, and his willingness to offer his own strong opinions when receiving orders he did not agree with, however, were traits that did not sit well with his commander, Gen. Philip Sheridan, who relieved Warren of command after the battle. Sheridan, supported by Gen. Ulysses S. Grant, charged that Warren had been too slow in mounting his attack and disobedient. Warren resigned his command, returned to being an Army engineer at lower rank, and spent the remaining 17 years of his life seeking to have his reputation restored. A court of inquiry exonerated him, three months after Warren was buried as a civilian without military honors at his own request, at age 52. See Jordan, 210 - 317.

65 Warren, G. K and United States Army, Corps Of Topographical Engineers, *Preliminary Report of Explorations in Nebraska and Dakota, in the years 1855 - '56- '57*. Washington, Govt. Print. Off, 1875., pp. 51-54

## Acknowledgments

I would like to gratefully acknowledge the help, encouragement and support I have received from several individuals, each of whom has contributed to my understanding of different aspects of this story and my telling of it.

In particular, I am indebted to Dr. Larry Skogen, Bismark State College (ret.); Dennis Drabble and Tim Loughman, for their willingness to read early drafts of this paper and give detailed and invaluable comments. In addition, David Bernstein, who, in his important book, *How the West was Drawn*, asked some of the same questions about G. K. Warren that I had, was generous with his time, thoughts and suggestions. I also thank Mark Howe, International Boundary and Water Commission; Peter Caulfield, University of North Carolina Asheville (ret.); John Schlotterbeck, DePauw University (ret.) Marty Friedman and Don Lee who all read drafts of this paper in different stages and offered thoughtful comments, advice and continued encouragement.

Peggy Ann Brown, a skillful, organized and thorough independent researcher helped me navigate the records and pull needles out of the haystacks at the National Archives. Thanks also to M. Amelia Raines and Cynthia Smith, Library of Congress; Katherine Seitz, National Archives; Jennifer Voigtschild, U. S. Military Academy Command Historian; Jeff Fields, Parks Superintendent, Nebraska Game and Parks Department; and Clay Shelly, Camp Floyd State Park Manager, Utah Department of Natural Resources. These archivists, librarians, and public history custodians were invariably helpful and enthusiastic in responding to my queries.

I also want to thank Prof. Patricia Limerick, University of Colorado, Boulder, whose enthusiasm for the topic, her observations and willingness to share her time and ideas have been a great source of encouragement. Finally, I owe a great debt to Brad Westbrook, now retired from the Utah Division of Indian Affairs, who early on encouraged me to share my work with gatherings of professional historians. Without his initial prodding, continued encouragement and support, I never would have presented at the Western History Association conference and this paper would likely still be mostly in my head. Thanks, Brad.

*There is before and there is after. It's only when looking back through portals of meaning that have been obscured from us by the rush of events, by our own distractions and lack of distance, by as-yet-undiscovered new facts, and by the passage of time itself, that we can say "Ah, yes, it's different now."*

For more the Pacific Railroad Surveys visit:

[www.bdallen.com](http://www.bdallen.com)

[brad@bdallen.com](mailto:brad@bdallen.com)