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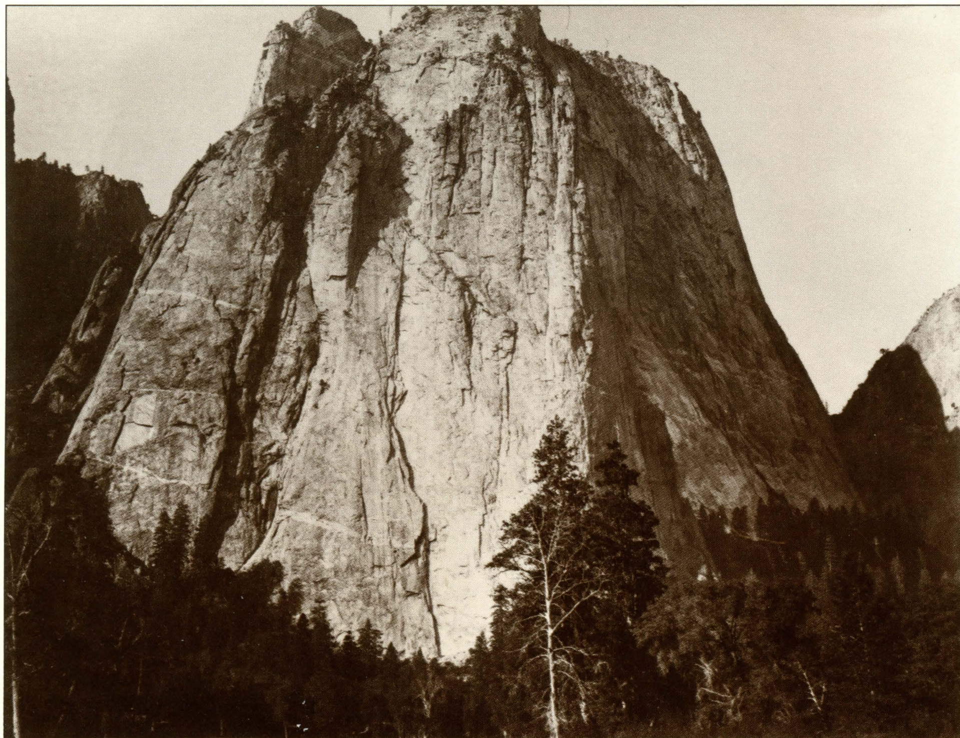

MAPPING THE WEST

Nineteenth-Century American Landscape Photographs from the Boston Public Library

BOSTON UNIVERSITY ART GALLERY

September 18–November 8, 1992

Cover illustration: Carleton Watkins, *Cathedral Rock, Yosemite*, 1865-66

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Exhibition and Catalogue by Kim Sichel

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Acknowledgments

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This exhibition results from my curatorship seminar taught in the spring of 1992 as part of Boston University's Museum Studies Certificate Program. The hardworking and enthusiastic members of the class contributed substantially to all phases of its organization, including object selection, original research, and writing of the artist entries. Authors' names are listed with the entries. Students included Kathryn Acerbo, Todd Bachmann, Katherine Dalton, Lisa Diercks, Karen Haas, Kathleen Hohlstein, Mary Louise Hoss, Sharon Jordan, Karen Kuwayti, Laura Muir, Reyahn King, Susan L. Navarre, Sydney Resendez, and Elizabeth E. Simmons.

Kim Sichel
Director

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Mapping the West
Landscape Photographs in Context

Kim Sichel

The photographic mule is packed with dark-tent, chemical boxes and camera, and out we start . . . having found a spot from whence three or four [views] can be had, we make a station, unpack the mule, erect the tent, camera, etc. . . . One finds difficulty in flowing a 10 x 12 plate with thick enough collodion to make a sufficiently strong negative without redevelopment, and to have a plate ready for development that has not dried, on account of the distance the plate has been carried, and time intervening between sensitizing and development . . . these troubles are constant.[1]

— *William Bell, 1873*

Making a photograph with the wet-collodion process in the western wilderness was no simple task, as William Bell relates about his work on the Wheeler Survey. Photographers hauled darkroom equipment and glass for negatives by mule trains to the remote sites, set up their tents, poured the emulsion onto large sheets of glass, exposed and then developed the glass plates while they were still wet, rinsed the finished negatives in huge trays of water, and then struggled to keep them unbroken until their return to their headquarters. Carleton Watkins, on his 1861 trip to Yosemite, traveled with a formidable amount of luggage: a dozen mules, a mammoth-plate camera measuring thirty by thirty-six inches when extended, a stereographic camera, tripods, dark tent, glass plates weighing four pounds apiece, chemicals, processing trays, assistants, and camping gear.[2]

These cumbersome tools and conditions ensured that western photographers, recording the geological, industrial, ethnographic, and touristic wonders of the landscape during the years directly after the Civil War, worked not as solitary artists but as collaborative partners. A variety of patrons bankrolled their efforts, and their visual products served many purposes, ranging widely from fine art object to scientific document to entrepreneurial advertisement. Together, all these different images created a perception of a new, tamed West. This exhibition presents four kinds of collaborative projects: Carleton Watkins's mammoth-plate Yosemite photographs sold to tourists and collectors, Alexander Gardner's railroad portfolio intended to promote the Kansas Pacific Railroad's building project, Timothy O'Sullivan's photographs for Lieut. George M. Wheeler's Geographical Surveys of the Territories of the United States West of the 100th Meridian, and John K. Hillers's photographs of native

American culture for ethnographer and survey leader John Wesley Powell. Many of these projects also produced for sale smaller stereographs, double images which assumed a startling three-dimensional effect when seen through a viewer.

Because of the limpid clarity, great beauty, and often spectacular size of the photographs made with the wet-collodion process and printed on smooth albumen-coated paper, they have often been seen as art objects alone. Weston Naef, in *Era of Exploration*, exemplifies the elevation of western photographs to fine art status, separating them from their historical context to call this the "golden age of landscape photography."[3] Rosalind Krauss, in her article "Photography's Discursive Spaces,"[4] counters this connoisseur's viewpoint. She argues that the photographs derive meaning not from the authors' intentions but from the classifying and categorizing structures of the library file systems in which they were stored. Recent approaches begin to balance the issues, and the writings of Alan Trachtenberg, Martha A. Sandweiss, and others place the photographs in their cultural context as riveting images made by individuals within a network of patrons, use patterns, and viewers.[5] Trachtenberg ties the images to similarities in contemporary literary production, and Sandweiss and others study the historical conditions surrounding the creation of the pictures.

Many western views, however, demonstrate the compelling power of the photographic language to persuade and proselytize. The photographs behave like forms of speech or discursive objects, and this exhibition presents beautiful landscape images as compelling messengers of historical and cultural interpretation. They contribute to the changing myth of the American West during these years, in a variety of ways. Western photographers adopted certain accepted symbols of the West, such as the great American desert and the Indian as noble savage. Yet the photographs, through their lyrical imagery and their enticing captions, act as powerful tools of visual persuasion to beckon settlers and investors westward. The photographs' formal framing devices helped easterners to mentally shape and therefore control the uncharted new terrain the United States had just acquired. In the images, the great American desert becomes the Garden of Eden, the void becomes farmland, Indians represent not a current enemy but a passing civilization, and the topography itself is transformed from a sublime wilderness to a manageable territory for mining and other land uses.[6] Encoded in their formal compositions are the cultural messages of manifest destiny.

The American national identity was so closely intertwined with expansion into its enormous landmass that the idea of manifest destiny emerged as early as Benjamin Franklin's writings of 1751.[7] The phrase itself attained its first specific nineteenth-century imperial sense in John L. O'Sullivan's writing in the *Democratic Review* in December 1845.[8] Ralph Waldo Emerson, addressing the Mercantile Library Association of Boston on February 7, 1844, summarized the changes needed to tame the West existing in the imagination:

> *The bountiful continent is ours, state on state, and territory on territory, to the waves of the Pacific sea; . . . and new duties, new motives await and cheer us. The task of planting, of surveying, of building upon this immense tract, requires an education and a sentiment commensurate thereto . . . . The arts of engineering and*

of architecture are studied; scientific agriculture is an object of growing attention; the mineral riches are explored; limestone, coal, slate and iron; and the value of timber-lands is enhanced.[9]

Vast new territories had been acquired just before the Civil War. By 1845 the United States government had annexed Texas, the Oregon treaty with Britain was signed in 1846, and the Treaty of Guadalupe Hidalgo at the end of the Mexican War in 1848 added 1.2 million square miles, including areas of California, New Mexico, and Utah, to the American territories.[10] The tensions of trying to establish control over the various native American groups in these areas, of planning railroad routes to the West Coast, of surveying the new territories, and of promoting the new settlements to eastern settlers and visitors remained unresolved during the Civil War. With its end in 1865, however, these activities received renewed attention, and photographers actively participated in the settlement of the West.

Because of its unique history, the Boston Public Library holds in its collections some of the most spectacular post–Civil War photographs in the country. The Library itself does not merely collect nineteenth-century materials, but during the last century it participated actively in the primary role of the photographs as records and promotional tools. Boston families funded major western railroad projects and gave photographic materials to the Library; its storage facility served and still serves as the major state repository for federal government publications, and numerous nineteenth-century photographs entered its collections from unknown sources as late as 1910.[11] The real strength of its western Americana material derives from the fact that most of these images remain in the books, albums, or portfolios that originally housed them. Any study of this collection benefits from the large number of examples by each photographer, enabling a close analysis of series, narrative structures, style, technique, and subjects, which is impossible with single, non-unified bodies of imagery. In isolating the work of Watkins, Gardner, O'Sullivan, and Hillers, we have chosen the library's earliest and most eloquent examples of photography's primary western usages: tourism, railroad boosterism, geological survey, and ethnographic record.

The four projects in this exhibition all contribute to the activities of shaping the post–Civil War West, and are limited to the period between the war's end in 1865 and the year 1880, when the style and use patterns of large-plate photography began to change. We use the term *mapping* to symbolize the various ways in which photographs began to change perceptions about the wilderness. The photographs act like maps in two distinct senses. The first is physical: scientists, entrepreneurs, ethnographers, and the military primarily wished to visually chart this vast space in a series of definable forms so that easterners could begin to take advantage of the new raw resources available to them. The second is psychological: the photographs recorded the changing myth of the West in a series of images which pictorially redefined the great American frontier as a paradise.

Carleton Watkins's photographs of Yosemite Valley in California, for instance, convinced easterners early on that the supposedly arid West might be seen as a pastoral Garden of Eden. These enormous, luminous albumen prints advertise the great scenic wonders of Yosemite,

from Half Dome to the peaks of the Three Brothers, and their visual equations of Yosemite with the Claudian landscape traditions of European painting render the Sierra Nevada Mountains approachable rather than threatening. Previously inhabited by the Awahnechee Indians before the Texas Rangers and Captain James D. Savage challenged them in 1851, the Valley was lush and extraordinarily beautiful. From 1852 onward, visitors and explorers alike visited the Valley, and journalist accounts date from about 1855.[12] Carleton Watkins first made mammoth-plate views there in 1861 and returned in 1865–66. His photographs had an international impact. It was partially due to the pictures distributed to Congress that President Lincoln signed the Yosemite Bill in June 1864, assigning the Valley and Mariposa Grove to the state of California for public use and recreation.

Yosemite was not virgin land; it was landscaped for tourism, and quickly became a national icon for a western paradise. Along with Watkins, many photographers sold images to promote it, including Robert Vance, C. L. Weed, and Eadweard Muybridge. They competed fiercely for business and artistic success. Although Watkins photographed Yosemite for Josiah Dwight Whitney's California State Survey in 1865–66, he marketed his views for the commercial trade, grouping them in albums, selling them as souvenirs of the mountains, and actively promoting them as aesthetic objects. They came to epitomize the new perception of the West as a lush, idyllic landscape far different from the inhospitable territory imagined earlier.

At the close of the Civil War, government and industry alike rushed to establish railroad links from the East to the new territories and California, and they collaborated with photographers like Alexander Gardner in their efforts. Rival railroad companies fought over the right to link the two coasts: the Union Pacific Railroad headed west from Omaha, Nebraska; the Central Pacific Railroad moved eastward from Sacramento, California; and the Kansas Pacific Railroad proposed an alternative to the mountainous northern route of the first two, building westward from Saint Louis along the more temperate thirty-fifth parallel. The East finally met the West, after much rivalry and bitterness, when the Union Pacific and Central Pacific joined their tracks in Promontory, Utah, in May 1869. As Leo Marx says, "the new railroad was often made into a virtual allegory of the Enlightenment belief in the impending liberation of humanity from the age-old constraints of nature."[13] The transcontinental railroads were metaphors for progress as well as physical paths for the westward movement of investment and industry. In addition, they symbolized the eastern control over the native Americans as well as over the land itself.

The railroads actively made use of photographers. Andrew Joseph Russell published an album of fifty photographs, *The Great West Illustrated,* in 1869, documenting the Union Pacific Railroad in a series of views which privileged the pastoral over the arid landscapes,[14] and William Henry Jackson also photographed along the line of the Union Pacific Railroad in 1869.[15] Alexander Gardner's *Across the Continent on the Kansas Pacific Railroad (Route of the 35th Parallel)* (1867–68), however, precedes Russell's by two years, and maps one of the earliest instances of boosterist photographic advertisement for this type of industrial/commerical enterprise.[16] Gardner's views were also used to illustrate William Palmer's official railroad

Timothy O'Sullivan, *Canon de Chelle (Walls of the Grand Canyon About 1,200 Feet in Height)*, New Mexico, 1873.

survey of the thirty-fifth parallel. Gardner's rational images and unwavering serial progression suggest the eventual triumph of the railroad over difficult terrain while simultaneously creating an illusion of an unalarming, picturesque, and potentially productive land to be settled and exploited. Ironically, this southern route was not completed until decades later.

Timothy O'Sullivan's photographs for Lieut. George M. Wheeler's Army survey had a similar mandate to promote industrial, transportation, and agricultural possibilities. In addition to specific railroad surveys, four great government surveys attempted to measure and explore the new territories in the immediate postwar period. Clarence King's Geological Explorations of the 40th Parallel set out in 1867; Ferdinand Vandiveer Hayden's Geological Survey of the Territories also began in 1867; John Wesley Powell's expedition first charted the Colorado River in 1869 the year before his Survey officially commenced in 1870; and Wheeler's Geographical Surveys of the Territories of the United States West of the 100th Meridian began

in 1871. They mapped, photographed, and recorded a wide variety of scientific and topographic information about the western regions. The government merged the four surveys into the United States Geological Surveys in 1879 under King's and then Powell's command.

The surveys employed various photographers, including William Henry Jackson, William Bell, Timothy O'Sullivan, and John K. Hillers, to supplement geological and topographical maps with photographic illustrations. King, Hayden, and Powell were civilian scientists, often promoting new geological or ethnographic theories, but Wheeler, sponsored by the Department of the Army, had a different mandate. The practical-minded Wheeler had little interest in Clarence King, who made dramatic attempts to prove Catastrophist geological theories. King trumpeted: "here in America, our own species has seen the vast, massive eruptions of Pliocene basalt, ... has felt solid earth shudder beneath its feet and the very continent change its configuration."[16] Despite the recent linkage of O'Sullivan's visual style with King's Catastrophist ideas,[17] O'Sullivan's meticulously detailed photographs for Wheeler seem to illustrate gradual changes in the earth's crust. Therefore, they may have had affinities with the Uniformitarian geological theories of Grove Karl Gilbert, senior geologist for the Wheeler Survey. O'Sullivan's views also served Wheeler's primary aims of mapping unknown topography, settling new regions, opening up areas for industrial exploration, and subduing the Indian uprisings in the new territories.

Indian conflicts continued beyond the end of the Civil War. In contrast to Jackson's policy of extermination, and in a continuation of Jefferson's belief in assimilation, President Grant's "peace policy" of 1869 placed many Indians on reservations, removing their rights to roam their ancestral lands.[18] The hostilities continued well past 1876, when the Sioux temporarily defeated Custer at the Battle of the Little Bighorn, only to be crushed by American troops afterwards. As early as 1867, Gardner's Kansas Pacific portfolio stressed the importance of controlling the native Americans along settlement routes like the railroad. The four geological surveys also began to document Indian tribes as part of a national effort to enclose and control native populations in the 1870s, and they used photography as one of many documentary tools. O'Sullivan and Jackson, for example, extensively recorded Indians for the Wheeler and Hayden surveys.[19]

Among the survey leaders, Powell was the most interested in native American culture; he was a formidable linguist, and he sponsored various ethnographic studies both in the surveys and in the Bureau of Ethnology, which was established in 1879. John K. Hillers worked with Powell for nearly thirty years, and many of his photographs aid Powell's ethnographic attempts to categorize, educate, and colonize Indian populations. These studies and activities tried in all good faith to elevate the Indians from what easterners saw as a barbarous state to a civilized one,[20] although their terms seem colonialist to twentieth-century eyes.

The camera framed both the army's military efforts to enclose and eradicate the native populations, and the Smithsonian Institution's ethnographic attempt to establish control by scientific means. This exhibition presents the Boston Public Library's complete collection of Hillers's photographs. Some images depict nomadic tribes and landscapes, but the largest

group consists of Hillers's photographs of southwestern Pueblo Indians made for Powell during his tenure at the Smithsonian Institution and the Bureau of Ethnology. They demonstrate a slight twist on the control that the government had endeavored to impose on the Indians in the West. Unlike nomadic peoples such as the Navaho, various sedentary Pueblo tribes conformed in many details to the "civilized" state the government was trying to impose on all native Americans. These agricultural communities had occupied their sites for centuries; since the Pueblos did not roam, they were effective models for a new American Indian definition. The Pueblos also disproved the older European notion that wild land bred wild men — clearly inappropriate inhabitants for a terrain about to be developed — allowing instead a definition of a new American ethnology which no longer saw the land or its native people as beyond redemption. Thus, Hillers's beautifully classicizing images of Pueblo architecture anticipate the tamed West, with native American populations and cultures under the power of the United States government.

Watkins's Yosemite pictures in 1865–66; Gardner's Kansas Pacific Railroad project in 1867–68; O'Sullivan's photographs for the Wheeler Survey in 1871, 1873, and 1874; and Hillers's work for Powell in the 1870s and 1880s demonstrate the integral role that photography played in the shaping of the frontier, whether for tourism, industry, army, or science. Richard Slotkin defines myth as: "a set of narrative formulas that acquire through specifiable historical action a significant historical charge."[21] The visual power of these photographs lent them a persuasive voice; they participated in creating the grandiose post–Civil War myth of the frontier as American ingenuity and productivity itself. The photographs of Gardner, O'Sullivan, Watkins, and Hillers are not mere by-products of this era; they actively defined it.

Carleton Watkins and the Yosemite Tourist Trade

Kathryn Acerbo, Laura Muir, Sydney Resendez

I can tell you nothing of the beauty and grandeur of the scenery — I could not speak, my breath was gone, no person can give any idea of it. It is truly the great work of God.

— Description of the view from Inspiration Point by an early visitor to the Yosemite Valley.[1]

Carleton Watkins's images from 1865–66 of the Yosemite Valley (from the collection of the Boston Public Library) are among the most breathtaking and awe-inspiring of his entire career. Although taken while Watkins was photographing for the California State Geological Survey, these images, now disbound, were probably part of a commercially sold album. Entitled *Yo-Semite Valley: Photographic Views of the Falls and Valley of Yo-Semite in Mariposa County, California*, it records the famed landmarks of the Yosemite Valley.

When he first visited the Valley in 1861, Watkins was experimenting for the first time with his custom-made mammoth-plate camera, photographing views of the spectacular scenery on glass plates measuring eighteen by twenty-two inches, double the size of the negatives used by Watkins's competitors.[2] Although Watkins had originally ordered the camera out of a practical need for a larger image more suitable for his work as a land survey photographer,[3] the mammoth-plate camera allowed him to describe more fully the dramatic beauty of the landscape.

Watkins returned to the Yosemite Valley many times over the next twenty years until his last visit in 1881. In 1865 and 1866 he joined the California State Geological Survey on two trips to the Valley as the official photographer of geological sites specified by J. D. Whitney. These views were sold in his galleries as mammoth prints, and were also published in *The Yosemite Book* (1868). Although these images were geared toward a geological understanding of the region, it is quite clear that Watkins was always conscious of aesthetics, paying careful attention to composition and the effects of light on the subjects he photographed.

By 1865–66 Watkins had mastered the mammoth-plate process, using it to its full potential and producing images of outstanding technical quality. Instead of photographing his subjects through trees and over rivers, as was his practice in 1861 in a romanticized style reminiscent of European stereographic views, in 1865–66 Watkins directly addressed his subjects, eliminating the distractions of picturesque elements.[4] Whether this was due to his role as a survey photographer or whether it was a personal stylistic decision, Watkins's views are strikingly beautiful

Carleton Watkins, *Piwyac,* [or] *Vernal Fall and Mt. Broderick, 300 feet,* circa 1865–66.

and clearly communicate the awe and wonder these elements of nature inspired in him and those who visited the Valley.

The images in this exhibition are representative of the 1865–66 photographs and focus on three main themes: water, panoramic views, and monumental rock formations — the three most outstanding features of the Yosemite Valley. Long exposure times account for the exquisitely smooth quality of Watkins's water images, which range from rippling river currents to the glassy surfaces of limpid still waters perfectly reflecting the nearby landscape. His famous images of waterfalls, like *Piwyac,* [or] *Vernal Fall and Mt. Broderick, 300 feet* (illus.), are also characterized by a soft, misty quality. To photograph the panoramic views, Watkins left the floor of the Valley, seeking out high vantage points from which to capture the expanse of the landscape, emphasizing its depth and height

Carleton Watkins, *First View of Yosemite Valley from the Mariposa Trail,* circa 1865–66.

while recording with amazing clarity the details of the topography. In his photographs of the *Three Brothers, Cathedral Spires,* and *Washington Column* the rocks themselves are the primary focus of each image, communicating a wealth of geological information.

When Watkins first visited Yosemite he was much more experienced at taking stereographs than he was at taking mammoth-plate views. Before coming to terms with their differences, Watkins often took negatives for stereographs and large images simultaneously. Stereographs offered a startlingly three-dimensional vision of a landscape and allowed the viewer to experience a sensation similar to actually being there. Watkins's Yosemite stereographs were popular among tourists, as souvenirs, but also among people who had never seen the Valley. Although they were not wildly successful, stereographs represented one of Watkins's few commercial endeavors that produced some financial rewards.

Much has been made of Watkins's lack of business acumen. From 1867–75 Watkins expe-

rienced a period of relative financial security. His stereographs sold briskly, and his large negative views met with great artistic success. In 1867 Watkins exhibited twenty-eight mammoth-plates and three hundred stereographic views at the Paris International Exposition, where he received a gold medal. Despite the acclaim he won abroad, however, the market in the United States, especially for the expensive mammoth-plate photographs, was limited. Once tourism to Yosemite increased, travelers wanted standard, easily recognizable views of the area to take home, undermining support for artistic experimentation on the part of the photographer. The market soon became glutted with second-rate, cheaply produced works, and the sale of Watkins's images suffered as a result. In addition, Watkins would often work for free for his friends. Whitney, for example, published woodcuts of Watkins's photographs of Yosemite in his progress report for the California State Geological Survey, 1860–64, "by permission," suggesting that Watkins had not asked to be recompensed for them. [5]

In 1871–72 Watkins moved into a new gallery at 22 and 26 Montgomery Street in San Francisco, spending considerable sums on lavish decorations and promotion of the facility, which he called the Yosemite Art Gallery. The mammoth-plate photographs occupied the most display space, but stereograph sales provided the bread-and-butter income of the gallery. Unfortunately, Watkins relied very heavily on borrowed capital, and lost his studio, photographic inventory, and most of his negatives to a competitor, I. Taber, in a bankruptcy suit in 1876. Taber continued printing from Watkins's negatives, without crediting him, which further contributed to his financial ruin. Watkins was then faced with the arduous task of re-shooting all of his negatives of Yosemite which he christened "Watkins' New Series." He also took the precaution of copyrighting all of his negatives from that point on. In the following years Watkins's career faltered, and he died penniless at the age of eighty-seven in 1916.

Watkins's successful development of a new landscape aesthetic and involvement in the preservation of Yosemite as a state park were recognized only years after his death. Yet his photographs promoted Yosemite during the 1860s, actively contributing to the tourist trade boom. In 1864 the smart set flocked to spas and flourishing resorts from New England to the southern springs. Tour books from this period describe a range of holidays to accommodate varying budgets, though lengthy travel remained an entitlement of those in the upper classes. The tourists who arrived in Yosemite relied heavily on guide books to instruct them in seeing the sights. These texts advised, "Give ten days, if you can, to the Valley itself. You can 'do' it in three, but you will be sorry. . . ."[6] Watkins had recorded all of these destinations: Bridal Veil Fall, El Capitan, North Dome, Cathedral Rocks and Spires, The Three Brothers, Sentinel Dome, Vernal Fall, Nevada Falls, and Yosemite Falls. All are seen in his albums and Whitney's *The Yosemite Book* of 1868. J. M. Hutchings, one of the first white settlers and hoteliers in the Valley, authored a popular tour book clearly appealing to the tourist market. He directed the reader to Bridal Veil Fall, "let us therefore, not be out of fashion. . .,"[7] encouraging visitors to approach Yosemite by one of the three existing routes and depart by another, so as to see as many sights as possible.[8] Watkins rightly included *Hutchings' Hotel and Sentinel Rock* in his mammoth prints of important Yosemite views.

Tour books also provide a glimpse of the

period reaction to Yosemite's wonders: "Don't mention figures yet, please. When a man is overwhelmed with the sublime, don't plunge him into statistics."[9] Watkins, too, expresses the awe that overcomes the first-time visitor to Yosemite. Both writers and photographers felt a sense of inadequacy in their descriptive methods, so they gave in to the temptation to increase dramatic effect with verbosity and numerical statistics. (For example, notice the frequently included peak heights in Watkins's titles.)

In Romantic terms, Yosemite was ideal. It displayed the great and powerful forces of creation. It was pristine yet bountiful — Edenic. The Valley had tremendous park-like potential, with its lush green floor contained by walls of stone. One guidebook lamented,

> *. . .it is a pity the State does not appropriate a sufficient sum of money to make the Valley as lovely artificially as it already is naturally. It is now a very rough spot; if Mr. Olmsted could be engaged to spend one hundred thousand dollars on it, he would make it the loveliest "place of recreation" in the world.* [10]

Naming peaks such as *Cathedral Rock* (cover) after familiar European monuments helped raise Yosemite's status; such dramatic imagery was fashionable for a great part of the later nineteenth century, and added to Yosemite's grandeur beyond the park's borders. As the author of an encyclopedic French guidebook observed, the name Yosemite was to Americans what Mecca was to the Muslims.[11] Through these comparisons, Americans felt they possessed a land on a par with Europe. California became a living exhibition of botanical, geological, and agricultural wonder for tourists and settlers alike.

Watkins Checklist

Yo-Semite Valley: Photographic Views of the Falls and Valley of Yo-Semite in Mariposa County, California; Executed by C.E. Watkins, San Francisco, California, 1863 [sic].

These images are selected from the forty-one Yosemite views in the collection of the Boston Public Library, dated circa 1855-66. The sequence of the photographs is loosely based on the order found in related albums held by the Center for Creative Photography at the University of Arizona and the Syracuse University Library. In these albums, horizontal photographs precede vertical ones. The images represent the most popular tourist sites in the Yosemite Valley.
All photographs are albumen silver prints.
Boston Public Library Cab. No. 80.234.1

Hutchings' Hotel and Sentinel Rock, c. 1865–66
20 3/8 x 15 3/8 in.
J.M. Hutchings's hotel was one of the first in the Yosemite Valley.

Yosemite Valley, California, Mirror Lake and Mt. Watkins, c. 1865–66
20 3/4 x 15 7/8 in.
The practice of affixing the names of important people to western sites was prevalent during the Whitney Survey of 1866 and 1867. In this manner, Mount Watkins was named after the photographer.

Album Frontispiece, c. 1865–66
18 1/2 x 13 1/2 in.
The frontispiece was designed and drawn by San Francisco writing master Fulgenico Seraqui in 1863. However, Watkins continued to use a photographic reproduction of this page, date and all, in editions of the Yosemite presentation albums produced throughout the 1870s.

First View of Yosemite Valley from the Mariposa Trail, c. 1865–66 (illus.)
15 1/8 x 20 1/2 in.

Yosemite Valley, From Mariposa Trail, c. 1865–66
15 3/4 x 20 5 /16 in.

Yosemite Valley, California, Inspiration Point, c. 1865–66
15 7/8 x 20 7/8 in.

Cathedral Rock, Yosemite, c. 1865–66 (illus., cover)
15 1/2 x 20 1/4 in.

Half Dome from the Valley, c. 1865–66
15 1/8 x 20 3/8 in.

The Three Brothers, [or] *Pom-pom-pa-sus, 4,480 feet,* c. 1865–66
15 1/2 x 20 1/4 in.
The name for this trio of peaks was taken from its native name, possibly meaning "mountains playing leapfrog."

River View Towards North Dome, c. 1865–66
14 3/4 x 20 3/8 in.

Tasayac, [or] *Half Dome from Sentinel Dome,* c. 1865–66
15 3/4 x 20 1/2 in.

Yosemite Valley, California, View from Sentinel Dome, c. 1865–66
16 1/2 x 20 7/8 in.

Cathedral Spires, Yosemite Valley, 12,200 feet, c. 1865–66
21 1/4 x 16 1/2 in.
Names invoking Christianity and European civilization were often given to sites such as Cathedral Spires. The land masses were presented as evidence of cataclysmic change, signaling the presence of a divine power.

Yosemite Falls from Camp Grove, c. 1865–66
20 7/8 x 16 1/8 in.

Yosemite Valley, California, Mt. Starr King, c. 1865–66
20 3/4 x 16 1/2 in.
This mountain was named after the preacher and lecturer Thomas Starr King (1824–1864), a Boston pastor who came to the San Francisco Unitarian Church in 1860.

Washington Column from Merced River, 2,082 feet, c. 1865–66
20 5/8 x 15 5/8 in.

Piwyac, [or] *Vernal Fall and Mt. Broderick, 300 feet,* c. 1865–66 (illus.)
21 3/8 x 16 1/2 in.

Yosemite Valley, California, Bridal Veil Fall, c. 1865–66
20 3/4 x 15 7/8 in.

Mariposa Grove of Big Trees, California, "Grizzly Giant," Circumference 94 feet, Diameter 31 feet, c. 1865–66
20 3/8 x 16 in.
Though not actually in the Yosemite Valley, the Big Trees at Mariposa Grove were another "must see" for tourists.

Stereographs

These stereographs were published throughout Watkins's career. Publication dates have been determined, when possible, by gallery addresses printed on the stereograph cards.
All photographs are albumen silver prints.
Boston Public Library, unnumbered, purchased 1971.

The Yosemite Valley from the Mariposa Trail, Yosemite Valley, Mariposa County, Cal., c. 1869–71
Watkins' Pacific Coast.
429 Montgomery Street, San Francisco.
[No.] 1136.; 3 1/4 x 6 7/8 in.

Tutocanula, or El Capitan, 3600 feet, Yosemite Valley, Mariposa County Cal., c. 1875–76
Watkins' New Series, Yosemite and Pacific Coast
26 Montgomery Street, Carleton Watkins and Woodward's Garden, S.F.
[No.] 1019.; 3 7/16 x 6 13/16 in.

Cathedral Spires, 2200 ft., Yosemite Valley, Mariposa Co, Cal., n.d.
Pacific Coast Views. C.E. Watkins, San Francisco.
[No.] 3063; 3 1/2 x 7 in.

Pompompasos, or The Three Brothers, 4480 feet, Yosemite Valley, Mariposa County, Cal., n.d.
Watkin's Pacific Coast.
No. 1 Montgomery St., cor. Post, San Francisco.
[No.] 1014; 3 1/2 x 6 15/16 in.

Tasayac, or the Half Dome, from Glacier Point, Yosemite Valley, Mariposa County, Cal., c. 1871–75
Watkins' Pacific Coast.
26 Montgomery St. opp. Lick House Entrance, San Francisco.
[No.] 1153.; 3 3/8 x 6 3/4 in.

Washington Column, 2,082 feet. Yosemite Valley, Mariposa Co., Cal., n.d.
Pacific Coast Views.
C.E. Watkins, San Francisco.
[No.] 3037; 3 7/16 x 6 15/16 in.

Piwyac, or the Vernal Fall and Mount Broderick, 300 feet, Yosemite Valley, Mariposa County, Cal., n.d.
C.E. Watkins, Pacific Coast.
[No.] 20.; 3 1/4 x 6 11/16 in.

Section of the Grizzly Giant, 33 feet diameter, Mariposa Grove, Mariposa County, Cal., n.d.
Watkins' Pacific Coast.
429 Montgomery Street, San Francisco.
[No.] 1164.; 3 7/16 x 7 7/8 in.

Alexander Gardner and the Kansas Pacific Railroad

Kathleen Hohlstein, Mary Louise Hoss

In 1868, Alexander Gardner published *Across the Continent with the Kansas Pacific Railroad (Route of the 35th Parallel),* an unbound portfolio of 127 photographs he had taken in 1867 and 1868. Presented in strict east-west sequence, beginning with an image of a rail depot in St. Louis and ending with a view of Seal Rocks at San Francisco, the photographs in the portfolio follow the Kansas Pacific's completed tracks in Kansas and its proposed path to the west coast through southeastern Colorado, New Mexico, Arizona, and California.[1] Numbered and accompanied by title, captions, mileages west of the Missouri River, and Gardner's name, the photographs describe landscapes, geological and botanical subjects, and native American peoples encountered along the Kansas Pacific's route.

Gardner was already an experienced documentary photographer, publisher, and businessman when he undertook the railroad project in 1867. Born in Scotland in 1821, he served as proprietor of the *Glasgow Sentinel,* where he editorialized in favor of humanitarian reforms. He learned the photographic process during the 1840s and 1850s and briefly operated a studio in Glasgow before emigrating in 1856 to the United States, where he joined the firm of Mathew Brady in New York. Gardner opened and managed Brady's Washington studio before opening his own in 1863. During the Civil War, he made a name for himself as both a portrait and field photographer, publishing *Gardner's Photographic Sketch Book of the War,* the 1866 album of images and text for which he is best known today.[2] It is not surprising that with projects of historic importance to his credit, Gardner looked to the West for new opportunities during the late 1860s. Easterners were eager for views of the West, and Gardner, a shrewd businessman, must have sensed a strong profit potential in railroad photography.

The government had recognized the need for a transcontinental railway as early as 1848, when California and the Southwest were won from Mexico. Army topographers and various regional groups conducted initial, general explorations of the forty-ninth, forty-seventh, thirty-eighth, thirty-fifth, and thirty-second parallels during the 1850s, but bitter sectional rivalries and the issue of slavery's expansion into western territories led to an impasse. The outbreak of the Civil War in 1861 restricted the choice of the route to the northern latitudes, and in 1863, the Central Pacific and Union Pacific railroads, subsidized by government land grants and bond issues, broke ground on lines that were to meet in Utah. But construction was slow and expensive, especially in the Sierra Nevada Mountains, where in addition to grading and tunneling, crews were forced to build snow sheds over lengthy stretches of track.[3] In 1867, the line was

Alexander Gardner, *Mushroom Rock on Alum Creek, Kansas, 211 miles west of Missouri River,* 1867.

still far from complete, and the Union Pacific was embroiled in financial scandal. The time seemed ripe for promoters of the Kansas Pacific to announce their own transcontinental ambitions. That summer they sent teams under William Jackson Palmer to survey southern routes along the thirty-fifth and thirty-second parallels. Palmer, a man with extensive railroad building experience, had served as the Kansas Pacific's secretary and treasurer since 1865. His task was to complete a thorough survey report for use in a vigorous campaign for government aid.[4] After photographing along completed tracks in Kansas, Gardner joined the survey teams in New Mexico in the autumn of 1867. One team headed south to explore the thirty-second parallel, while the other, led by Palmer himself and accompanied by Gardner, surveyed the thirty-fifth parallel.[5]

The Kansas Pacific may or may not actually have employed Gardner, but twenty of his photographs were tipped in to some copies of Palmer's report for the railroad,[6] and a strong overall correlation between the images in Gardner's portfolio and the text of the report suggests that Gardner worked closely with Palmer

and believed in the Kansas Pacific's objectives. For example, Palmer stressed the ease with which a railroad could be built along the thirty-fifth parallel, and many of Gardner's images illustrate this point. *On the Great Plains of Kansas* describes the vastness, openness, and convenient flatness of much of the route, while *Crossing the Sierras at Tehachapa Pass* demonstrates the picturesque beauty of the spot where the route would cross California's most formidable mountain range. Indeed, the surveyors found no snow in this arable pass in February 1868, and in his report, Palmer noted that Tehachapa posed none of the difficulties that the Central Pacific had faced further north at Donner Pass, a much higher elevation.[7]

Many photographs in Gardner's portfolio relate to Palmer's emphasis on the economic potential of the lands along the thirty-fifth parallel. The survey report included detailed analyses of climate, water resources, soil, vegetation, and mineral deposits, and recommended uses for every region along the route. While some areas, like Tehachapa Pass, could be farmed, others were suitable for ranching or mining. Palmer reported the presence of gold and silver in Arizona's Mogoyon Range and extolled Mount Agassiz, its highest peak, as scenic and ideal for development as a resort. Gardner's *Mount Agassiz, Arizona, on the Mogoyon Range,* composed in the manner of traditional landscape paintings, echoes Palmer's enthusiastic description. Less conventional is Gardner's *Partridge Creek, Western Base of the Mogoyon Range, Arizona; Mescal Plant in Foreground,* a botanical study related to Palmer's suggestion that the yucca and mescal plants thriving in arid areas could be used in manufacturing rope and liquor.

In concluding his report, Palmer argued that by aiding the Kansas Pacific Railroad's transcontinental project, the government could not only reap economic rewards but bring about a peaceful solution to the "Indian Question" in the Southwest. Palmer saw the railroad as a means of bringing native Americans into the fold of eastern civilization:

> *Build the road and the tribes of the Plains and mountains will give us no further trouble than the Indians now do in eastern Kansas . . . In truth, except on the Plains, they will be employed in large numbers by the road itself, in construction, and subsequently in operation, and in furnishing supplies . . . Give them the constant opportunity for labor, at fair wages, and with the deprivation of their hunting grounds, I believe they will cease roving and stealing and take to steady work.*[8]

Gardner's images of native American peoples and sites seem to concur with Palmer's text, emphasizing the Indians' potential for acculturation and the role of the railroad in bringing this process about. In *St. Mary's Mission, Kansas, Pottawattamie Indian School,* a photograph taken along existing tracks, native American girls in Victorian dress pose politely for the camera. Gardner also recorded the ancient culture of the Kansas tribes. In *Indian Hieroglyphic Rock on Smoky Hill River, Kansas,* the former locus of Indian hunting rituals becomes an archeological curiosity, an attraction for future rail passengers. Farther west, as Palmer noted, many tribes maintained their native ways. Gardner's *Mohave Indians, on the Colorado, Arizona* was taken at Fort Mohave, a U.S. Army outpost. The central presence of the Army wife in this image suggests that the surrounding Mohaves in native costume could be assimilated into this Christian culture.

Unfortunately for both Gardner and Palmer,

Alexander Gardner, *"Westward the Course of Empire Takes its Way," Laying Track, 300 miles west of Missouri River,* October 19, 1867.

and in spite of Palmer's aggressive lobbying effort, Congress refused to subsidize the Kansas Pacific's transcontinental extension.[9] Gardner made a second trip to the West in the spring of 1868 to photograph Indian treaty conferences; he spent the rest of his career as a photographic portraitist in Washington. Palmer went on to found Colorado Springs, Colorado, and to build the Denver & Rio Grande, Rio Grande Western, and Mexican National railroads. The Kansas Pacific built its line to Denver and was purchased by Jay Gould, who consolidated it with the Union Pacific in 1880. In 1885, the Atchison, Topeka & Santa Fe Railroad completed a line along the thirty-fifth parallel to California.

Physically organized in a westward sequence, Gardner's railroad photographs reflect the nineteenth-century concept of progress as linear and inexorable. This concept underlies Palmer's report and is suggested in its strip-like foldout map of the Kansas Pacific's route from St. Louis to San Francisco. Moreover, both Gardner's photographic sequence and Palmer's linear map suggest the movement of a train, the century's most potent symbol of progress,[10] toward the Pacific.

As the train became a fact of life in America, artists established two methods for dealing with this powerful icon. One method emphasized nature, while the other focused on the train itself. *In Banks of the Kaw, near Fort Riley,* the railroad appears within a picturesque, Claudian landscape.[11] Following the curve of the river, the tracks harmonize with nature, an example of what Leo Marx calls the "landscape of reconciliation."[12] In *"Westward the Course of Empire Takes its Way," Laying Track* (illus.), on the other hand, Gardner emphasizes the locomotive itself and the process of rail construction. Taken from an eighteenth-century poem by George Berkeley that was frequently quoted by nineteenth-century American expansionists,[13] Gardner's title makes the relationship between technology and progress clear. The strong diagonals in the foreground quickly lead the eye to the train, which dominates the composition. That this photograph was intended to promote the railroad, and by extension, progress, is demonstrated by its use opposite the summary in Palmer's *Report of Surveys*[14] and on the title page of William A. Bell's travel book, *New Tracks in North America.* Indeed, Bell explicitly defined the railroad's nation-building role:

> *[B]ut in the Great West, where continuous settlement is impossible, where instead of navigable rivers, we find arid deserts, but where nevertheless, spots of great fertility and the richest prizes of the mineral kingdom tempt men onward into those vast regions, railways become almost a necessity of existence — certainly of development: and the locomotive has to lead instead of follow the tide of population.*[15]

Gardner's photographic journey and linear sequencing lead west as surely as the steam-driven locomotive itself.

Gardner Checklist

Across the Continent on the Kansas Pacific Railroad (Route of the 35th Parallel)

Gardner's unbound portfolio of photographs was made in 1867–68 and published in 1868. The Boston Public Library owns the most complete set of these photographs, having acquired 125 of the 127 titles by purchase in 1907. The images selected here follow the westward progression of the portfolio and the railroad project.
All photographs are albumen silver prints.
Boston Public Library Cab. No. 23.42.3

Depot of Pacific Railroad, St. Louis, Missouri, 1867
Plate 1; 6 x 8 in.

Indian Farm at Stranger, Kansas, 1867
Plate 9; 6 x 8 in.

Massachusetts Avenue, Lawrence, Kansas, 38 miles west of Missouri River, 1867
Plate 10; 5 7/8 x 8 in.
"Mr. Gardner, a photographic artist from Washington City, is in Lawrence, having come to Kansas for the purpose of taking photographic views of remarkable and noted places in our state. He comes here, we believe, under the auspices of the Union Pacific Railway to make draughts of points on the road. He will take a view of Massachusetts Street this forenoon." (*Lawrence Daily Tribune,* September 21, 1867)

St. Mary's Mission, Kansas, Pottawattamie Indian School, 90 miles west of Missouri River, 1867
Plate 18; 5 15/16 x 8 in.

Banks of the Kaw, Near Fort Riley, 135 miles west of Missouri River, 1867
Plate 20; 5 15/16 x 8 in.

Mushroom Rock on Alum Creek, Kansas, 211 miles west of Missouri River, 1867 (illus.)
Plate 28; 5 7/8 x 8 in.
This unusual geological formation was reproduced, along with plates 39, 80, and 84, as a wood engraving in William Bell's book, *New Tracks in North America* (1869).

Indian Hieroglyphic Rock on Smoky Hill River, Kansas, 215 miles west of Missouri River, 1867
Plate 31; 5 7/8 x 8 in.
A wood engraving based on this photograph was included in W.E. Webb's book, *Buffalo Land* (1872), as was *Mushroom Rock,* plate 28.

View Near Fort Harker, Kansas, 216 miles west of Missouri River, 1867
Plate 32; 5 7/8 x 7 15/16 in.

Hays City, Kansas, Aged Four Weeks, Kansas, 289 miles west of Missouri River, 1867
Plate 35; 5 7/8 x 8 in.
As they progressed westward, railroad construction crews hastily erected lodgings and other essential structures. Within weeks the workers moved on, leaving rudimentary cities like this one to arriving settlers.

United States Overland Stage Starting for Denver from Hays City, 289 miles west of Missouri River, 1867
Plate 36; 5 7/8 x 8 in.
When Gardner photographed at this site in late September or early October 1867, Hays City was the Kansas Pacific's western terminus. From there, troops, travelers, and mail could reach the West Coast only by a slow, arduous, and dangerous overland journey. Gardner's photograph suggests that the railroad would replace stage travel with a swifter, safer mode of transportation. It is interesting to note that the westbound soldiers atop the stage in the photograph are black.

On the Great Plains of Kansas, September, 1867, 294 miles west of Missouri River, 1867
Plate 37; 5 7/8 x 8 in.
This was one of twenty tipped-in photographs, along with plates 39 and 106, in William J. Palmer's special edition of *Report of Surveys Across the Continent in 1867–'68.*

"Westward the Course of Empire Takes its Way," Laying Track, 300 miles west of Missouri River, October 19, 1867 (illus.)
Plate 39; 5 7/8 x 8 in.

Indian Church at Isletta, New Mexico, on the Rio Grande, Below Albuquerque, 871 miles west of Missouri River, 1867
Plate 67; 5 7/8 x 8 in.

Engineer Camp at the Zuni Pass, Sierra Madre, New Mexico, 975 miles west of Missouri River, 1867
Plate 77; 5 7/8 x 8 in.

El Moro, or Inscription Rock, Western New Mexico, 1000 miles west of Missouri River, 1867
"Here Passed, on the 18th of February, 1526, Don Basconzeles, Cornet, while Making a Campaign through this Country, by Permission of the King, at his own Cost."
Plate 80; 5 7/8 x 8 in.
Gardner's was one of the first photographic views of Inscription Rock, taken six years before Timothy O'Sullivan's 1873 image, also in the exhibition.

Mount Agassiz, Arizona, on the Mogoyon Range, in the "Tonto Pass," Near Highest Summit of the Nine, Which is 7,510 Feet Above Tide; December, 1867, 1,200 miles west of Missouri River, 1867
Plate 84; 6 x 8 in.
In his survey report, William J. Palmer noted the rich mineral deposits and convenient passes of the Mogoyon Range and renamed its highest peak, called Mount San Francisco by earlier Spanish explorers, after the American natural scientist Louis Agassiz (1807–73). Remarking on its scenic beauty, temperate year-round climate, and proximity to the Grand Canyon and the proposed Kansas Pacific route, Palmer predicted that Mount Agassiz would become a popular tourist resort.

Partridge Creek, Western Base of Mogoyon Range, Arizona; Mescal Plant in Foreground, 1,280 miles west of Missouri River, 1867
Plate 90; 5 7/8 x 8 in.

Mohave Indians, on the Colorado, Arizona, 1867
Plate 98; 5 7/8 x 8 in.

Cañada De Las Uvas, or Tejon Pass in California, 1,690 miles west of Missouri River, 1868
Plate 106; 6 x 8 in.

Crossing of the Sierras at Tehachapa Pass, California, 1868
Plate 116; 6 x 8 in.

"Seal Rocks," in the Pacific Ocean, Near San Francisco, 1,955 miles west of Missouri River, 1868
"Last scene of all in this strange, eventful history."
Plate 127; 6 x 8 in.
Gardner ended his portfolio of photographs with this image of Seal Rocks off the coast of San Francisco, the ultimate terminus of the proposed Kansas Pacific route. To this final view, Gardner appended a line from Shakespeare's *As You Like It.*

Timothy O'Sullivan and the Wheeler Survey

Reyahn King, Susan L. Navarre, Elizabeth E. Simmons

Of the four great post–Civil War surveys, Lieutenant George Montague Wheeler's was the only one to be run by a military man and sponsored by the War Department.[1] The War Department needed expansive and general topographical maps to provide strategists with knowledge of the land necessary for military operations against the Indians, and to give settlers and developers practical information. Less valued by the military were the more detailed and scientific geological maps produced by the Hayden, Powell, and King surveys. The personnel of the Wheeler Survey typically consisted of several renowned scientists, a reporter, topographical assistants, packers, guides, laborers, soldiers (for protection), artists, and a photographer. In 1871, 1873, and 1874 this photographer was Timothy O'Sullivan.[2] Wheeler's methods put a priority on speed and scale above accuracy, and his surveys were neither systematic, nor of a standard to compare with rival civilian, scientific expeditions. In 1871 the exploration party covered areas of eastern California, Nevada, Arizona, and southern Utah. In 1873, O'Sullivan rejoined the survey, which focused primarily on Arizona and New Mexico, but also entered Colorado and Utah. In each of these years the survey covered more than 72,000 square miles. However, by 1874 Wheeler had updated his mapping strategies and his more thorough methods are reflected in the amount of land he covered that year in California, southern Colorado, and northern New Mexico: less than 23,300 square miles.[3]

The final report of the survey is published in seven volumes covering: geography, astronomy and meteorology (including barometric altitudes), geology and minerology, paleontology, zoology, botany, and archaeology.[4] Wheeler himself wrote the first volume and in it summarizes each year of the survey, which ran from 1871 to 1879. Each of the volumes is illustrated with drawings, lithographs, chromolithographs, and photographs; several of these are based on albumen prints taken by O'Sullivan. Other publications of the Wheeler Survey include annual preliminary reports, fifty topographical atlas sheets, more than one hundred maps, and sets of photographs and stereographs by O'Sullivan which were used for promotion and public relations.[5]

O'Sullivan began his career as a photographer with Mathew Brady around 1856 or 1857. At Brady's studio he may have been exposed to discussions of some of the aesthetic issues of the day, including popular concerns of how to represent the sublime, beautiful, and picturesque, as in traditions of landscape painting.[6] In 1861, O'Sullivan began to photograph the Civil War. During this period, he began the practice of photographing multiple views of one location, an aspect of his technique that recurs in his

views of the West.[7] O'Sullivan first ventured west in 1867 as a member of Clarence King's Survey of the 40th Parallel, which was notable for the importance of its scientific research, especially in geology.

When O'Sullivan joined the Wheeler Survey in its first season, Wheeler proved to have very different concerns from King's. With less regard for science than adventure, the Lieutenant posed as a daring explorer and subjected his party to some considerable hardship. Perhaps the most remarkable expedition undertaken by Wheeler was the trip up the Colorado River, from Camp Mohave to Diamond Creek in the Grand Canyon, in 1871. Powell had traveled down the river in 1869 and was completing a second survey in 1871. While Wheeler's decision to fight the rapids upstream seems superfluous and calculated to show up his competition at any cost, the Army justified the trip as an attempt to determine the limits of practical navigation up the Colorado River for strategic purposes. The endeavor proved exhausting and disastrous as the boats had to be towed upstream, and thirty days into the trip Wheeler's boat was entirely destroyed in the rapids. With it his papers and data for a large portion of the report were lost along with valuable equipment and rations. O'Sullivan took many negatives on this trip, for example, *Black Canon, Colorado River, Looking Below, Near Camp 7*, but most were lost en route to Washington D.C. after the river expedition.

On both the King and Wheeler surveys, O'Sullivan occupied a position of seniority, and when the surveyors split into investigative parties, he often led a group and was left to his own initiative.[8] A combination of the aesthetic and practical in his photographs enables one to see both the fulfillment of the survey's needs and the expression of O'Sullivan's personal vision. While impressing the viewer with their aesthetic impact, his landscape views might also illustrate the lay of the land, serve as scientific tools, or provide an idea of potential land use to prospective settlers.[9] For example, *Ancient Ruins in the Canon de Chelle, N.M.*, published in the final report, combines aesthetic, historical, and geological information: Wheeler discusses the great beauty of O'Sullivan's image, the nature of the ruins, and finally the vertical and horizontal weathering of the rock. Because photographs could record particular features, such as the inclination of strata, then, as today, they enabled scientists to study out of the field. O'Sullivan's colleague, the renowned geologist Grove Karl Gilbert, prized the possibilities for detailed accuracy in photography, commenting, "... but to photography the complicated is as easy as the simple ... a guarantee of accuracy afforded only by the work of the sun."[10] An example of such geological detail is O'Sullivan's *Rock Carved by Drifting Sand, Below Fortification Rock, Arizona* of 1871, while topographical accuracy is apparent in *Canon of the Colorado River Near Mouth of San Juan River, Arizona* of 1873.

The geologist Gilbert, who accompanied the Wheeler expedition from 1871 to 1874, shared interests and affinities with O'Sullivan. While previous scholarship has asserted that O'Sullivan's photographic sensibilities were influenced by Clarence King,[11] it is possible Gilbert was as influential as King on the subject and style of O'Sullivan's photographs. King believed in Catastrophist patterns of violent creation and destruction, which he felt demonstrated the power of God. In contrast, Gilbert's conception of geological change was broadly Uniformitarian, that is, interested in the gradual physical forces of nature. A *Harper's New Monthly*

Timothy O'Sullivan, *Shoshone Falls, Snake River, Idaho, View across top of the Falls,* 1874.

Magazine article of 1869 is a good source of information on O'Sullivan's own interests and attitudes, as it is based on an interview with the photographer.[12] In it, O'Sullivan describes various views of Shoshone Falls as beautiful and sublime; thus, his photographs of Shoshone Falls, such as *Snake River Canon, Idaho, View from above Shoshone Falls,* have been described as reflecting King's aesthetic and geological interests.[13] However, unlike O'Sullivan, King loathed Shoshone Falls and described it as an inferno.[14] Like Gilbert's approach to geology, O'Sullivan's Wheeler Survey photographs reflect a fascination with transformation through natural, physical forces. For example, *Snake River Canon, Idaho, View from above Shoshone Falls* shows the path of the canyon created by the river's falling water, which has gradually eroded the rock, and thus provides evidence against Catastrophist theory.[15] Further, it is documented that the two men worked together, and that O'Sullivan taught Gilbert how to take photographs.[16] Many of

Timothy O'Sullivan, *Ruins in Ancient Pueblo of San Juan, Colorado,* 1874.

O'Sullivan's photographs illustrate geological and geographical features that Gilbert discusses in the geology volume of the Wheeler Survey final report. For example, *Wall in the Grand Canon, Colorado River* of 1871 shows a talus-cone — a geological formation made up of debris from the cliff face which has been deposited at its base.[17]

In addition to providing settlers with practical topographical information, the Wheeler Survey documents Indian life from a point of view comforting to potential settlers. In 1873 and 1874 there were numerous Navaho, Apache, and Zuni Indian subjects in both photographs and stereo views. Throughout the survey, Wheeler includes data on where Indians were encountered, the names of each tribe, their dialects, agricultural practices, and occasional anecdotes of his meetings with them. In some cases he refers to them in terms of the older ideal of the Indian as noble savage, yet in others Wheeler expresses a more vitriolic prejudice

against Indians and his firm belief in the white man's right to own the West. For example, he expresses his dismay with the Indian's violent resistance to white settlers and exploring parties:

> *Unfortunately the bones of murdered citizens cannot rise to cry out and attest the atrocious murders of the far-spreading and wide extending border lands of the Great West, and while the fate of the Indian is sealed, the interval during which their extermination as a race is to be consummated will doubtless be marked, in addition to Indian outbreaks, with still many more murderous ambushes and massacres.*[18]

A more conciliatory view of the Indian, which would have been encouraging to potential settlers, can be found in the survey's treatment of Zuni Pueblo. Here, as in William Manning's "The Ancient Pueblos of New Mexico and Arizona," in *Harper's New Monthly Magazine* in 1875, illustrated with lithographs from O'Sullivan's Zuni photos, [19] the living peoples of the Pueblo are compared to an extinct, ancient population and described in exotic and classical terms. For example, Manning comments on the lithograph which reproduces O'Sullivan's stereograph *Zuni Indian Girl with Water Olla* :

> *These ollas are adroitly balanced on the head while the bearer is climbing the ladders to the house-tops, and, with the graceful Romanesque costumes of the women, add to the strangeness of the scene, which seems rather Oriental . . .*[20]

The Wheeler Survey also attempted to disprove the idea of the West as a barren desert.[21] Photos such as *Cooley's Park, Sierra Blanca Range, Arizona,* and the views taken near the head of the Conejos River depict beautiful views of fertile land, and Wheeler chose *Cooley's Park* to reproduce as a chromolithograph in the final report. Wheeler also writes of the Sierra Blanca area, "[t]hese slopes, unlike their counterparts in the Sierra Nevada, face on smiling valleys and glades well grazed and watered, in a section of rare luxuriance and marking a grand oasis."[22] Such passages, in addition to the survey report's illustrations, can be seen as refuting the common contemporary belief that Arizona was an inhospitable wasteland.

The ultimate aim of the Wheeler Survey was to aid the future settlement of the West. O'Sullivan's photographs function as documents of the existing wild landscape and peoples destined for change. In *Ruins in Ancient Pueblo of San Juan, Colorado* (illus.), the past is hauntingly evoked by the hazy figure of a man emerging from a ruin's dark shadow.[23] Opposite him a nineteenth-century jacket hangs on the ancient wall. The presence of a box of equipment and a yardstick symbolize the mapping function of the expedition. Thus the West, like the figure in the photo, began to emerge from obscurity; with the survey the future had arrived.

O'Sullivan Checklist

Geographical and Geological Explorations and Surveys West of the 100th Meridian, 1st Lieut. George M. Wheeler, Corps of Engineers, U.S. Army.

These images are selected from the Boston Public Library's sixty photographs from the Wheeler Surveys of 1871 through 1874. Views dating from 1872 are not included in this checklist, as they were photographed by William Bell, rather than O'Sullivan. The library owns a complete set of twenty-five landscapes from 1871 to 1874 (published in an edition of two hundred by the War Department in 1875–76), as well as many other views from the Wheeler Surveys. Images are organized chronologically to represent highlights of the specific years. All photographs are albumen silver prints.
Boston Public Library Cab. Nos. 78.15.4 and 78.15.5

Alpine Lake, in the Sierra Nevada, California, 1871
Plate 16; 7 15/16 x 10 3/4 in.
The Survey Report illustrates *Alpine Lake* and describes it as a typical mountain reservoir and valuable source of water.

Black Canon, Colorado River, Looking Below, Near Camp 7, Nevada, 1871
Plate 6; 7 11/16 x 10 9/16 in.

Black Canon, Colorado River, From Camp 8, Looking Above, Nevada, 1871
Plate 3; from a set of twenty-five, published by the War Department in 1875–76, 7 11/16 x 10 5/8 in.

Wall in the Grand Canon, Colorado River, Arizona, 1871
Plate 11; 10 3/4 x 8 in.

Rock Carved by Drifting Sand, Below Fortification Rock, Arizona, 1871
Plate 14; 8 x 10 13/16 in.
This demonstrates geologist Grove Karl Gilbert's interest in the often beautiful patterns of erosion caused by exposure to wind and sand.

Water Rhyolites, Near Logan Springs, Nevada, 1871
Plate 13; 7 15/16 x 10 3/4 in.
This view of a tiny mining town combines historical and geological record with information useful for Wheeler's military sponsors, since Logan Springs was also the location of a negotiable mountain pass over the Pahranagat Range.

Apache Lake, Sierra Blanca Range Arizona, 1873
Plate 1; 7 13/16 x 10 11/16 in.

View of Apache Lake, Sierra Blanca Range, Arizona, Two Apache Scouts in the Foreground, 1873
Plate 3; 10 9/16 x 7 3/4 in.
This menacing portrayal of Indians is unusual. It may be explained by the fact that the Apache were especially feared for their fierceness in resisting "civilizing" measures.

Cooley's Park, Sierra Blanca Range, Arizona, 1873
Plate 5; 7 9/16 x 10 7/16 in.
Described by Wheeler as "one of the most desirable of all stock ranches," this view was intended to demonstrate the pastoral beauty of the setting.

Canon of the Colorado River, Near Mouth of San Juan River, Arizona, 1873
Plate 13; 7 13/16 x 10 5/8 in.

Looking Across the Colorado River to Mouth of Paria Creek, Arizona, 1873
Plate 12; 7 7/8 x 10 11/16 in.

South Side of Inscription Rock, N.M., 1873
Plate 14; 7 15/16 x 10 3/4 in.

Historic Spanish Record of the Conquest, South Side of Inscription Rock, N.M., No. 3, 1873
Plate 9; 7 15/16 x 10 13/16 in.
While Wheeler was interested in earlier Spanish exploration of the Southwest, he considered residual Spanish influences anachronistic, and sites like the seventeenth-century carving at Inscription Rock were recorded as of archaeological interest only.

Ancient Ruins in the Canon de Chelle, N.M. (In a Niche 50 feet above present Canon Bed), 1873
Plate 11; from a set of twenty-five published by the War Department in 1875–76, 10 13/16 x 7 7/8 in.

Canon de Chelle (Walls of the Grand Canon About 1,200 Feet in Height), New Mexico, 1873 (illus.)
Plate 15; 7 15/16 x 10 3/4 in.
The military importance of the Canyon de Chelly had already been proved in a battle between Kit Carson and local Navaho Indians. Carson's control of the cliffside ruin determined the victory.

Old Mission Church, Zuni Pueblo, N.M. View from the Plaza, 1873
Plate 18; 7 5/8 x 10 3/4 in.

Ruins in Ancient Pueblo of San Juan, Colorado, 1874 (illus.)
Plate 21; from a set of twenty-five published by the War Department in 1875–76, 7 11/16 x 10 1/2 in.

View Near Head of Conejos River, Col., 1874
Plate 17; from a set of twenty-five published by the War Department in 1875–76, 7 11/16 x 10 3/4 in.
This view, combined with plate 18, was made into a panoramic lithograph for the final Wheeler Survey Report. The panorama was altered to remove the foreground tree. The combined version portrays the beauty of the setting as well as topographically illustrating the potential of the fertile floodplain for agricultural use.

Park Near Head of Conejos Canon, Col., 1874
Plate 18; from a set of twenty-five published by the War Department in 1875–76, 7 5/8 x 10 3/4 in.

Snake River Canon, Idaho, View from above Shoshone Falls, 1874
Plate 25; from a set of twenty-five published by the War Department in 1875–76, 7 5/8 x 10 15/16 in.
Despite the dramatic beauty of the scene and rising spray, which might suggest the geological drama of Catastrophism, this view, in fact, supports a Uniformitarian interpretation of geology. The falling water has gradually worn down the rock at either side, creating a gully.

Shoshone Falls, Snake River, Idaho, View across top of the Falls, 1874 (illus.)
Plate 23; from a set of twenty-five published by the War Department in 1875–76, 7 5/8 x 10 9/16 in.
O'Sullivan made at least twenty full-plate images and more than thirty stereographs of Shoshone Falls between 1868 and 1874.

Stereographs

These stereographs are part of a set of fifty cards published in an edition of one thousand by the War Department in 1875–76.
All photographs are albumen silver prints.
Boston Public Library Cab. No. 78.15.6

Types of Mojave Indians, 1871
No. 5; 3 15/16 x 7 in.
These were among the thirteen Mojave Indians who accompanied the Wheeler Colorado River expedition.

The Start from Camp Mojave, Arizona, 1871
No. 1; 3 15/16 x 7 in.
This stereograph was taken at 11:35 a.m. on September 15. "Boat expedition under Lieutenant Wheeler, the first and only one to ascend the Colorado through the Grand Canon to mouth of Diamond Creek."

Shoshone Falls, Snake River, Idaho, looking through the timber..., 1874
No. 49; 3 15/16 x 7 in.

Shoshone Falls, Snake River, Idaho, Gorge and natural bridge..., 1874
No. 50; 3 15/16 x 7 in.

View of Grand Canon walls, Near Mouth of Diamond River, 1871
No. 6; 3 15/16 x 7 in.
This photograph was probably used for triangulation: the mathematical method of measuring distance and altitude for mapping. "From water line to first shelf 1,500 feet, from shelf to top of table 3,500 feet. Distance from point of view to top of walls 3 miles."

Indian Pueblo of Zuni, New Mexico, 1873
No. 16; 3 15/16 x 7 in.

Gardens Surrounding the Indian Pueblo of Zuni, 1873
No. 18; 3 15/16 x 7 in.

Zuni Indian Girl with Water Olla, 1873
No. 17; 3 15/16 x 7 in.

War Chief of the Zuni Indians, 1873
No. 20; 3 15/16 x 7 in.

Navajo Boys and Squaw, in Front of the Quarters at Old Fort Defiance, 1873
No. 28; 3 15/16 x 7 in.

Navajo Brave and his Mother, 1873
No. 29; 3 15/16 x 7 in.
"Navajos were formerly a warlike tribe until subdued by U.S. Troops, in 1859–1860. Many of them now have fine flocks, and herds of horses, sheep and goats."

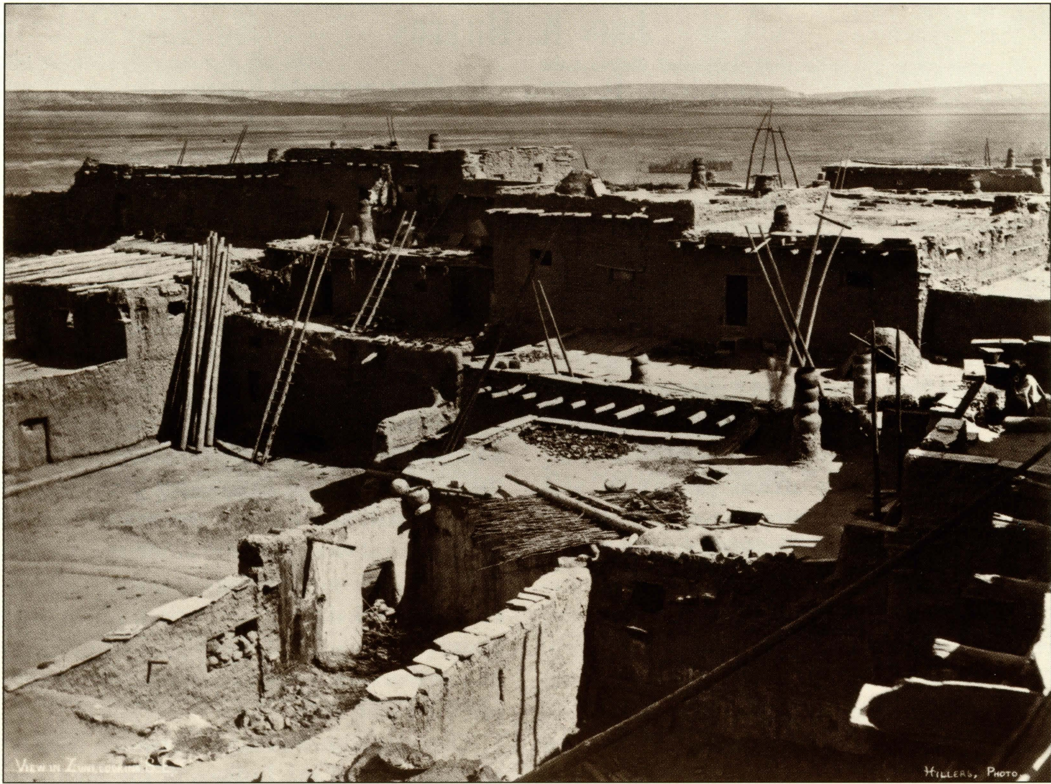
Apache Indians, as they appear ready for the war-path, 1873
No. 33; 3 15/16 x 7 in.

John K. Hillers and the Bureau of Ethnology

Todd Bachmann, Katherine Dalton, Karen Haas

In August of 1879 an expedition sponsored by the newly founded Bureau of Ethnology traveled to the New Mexico and Arizona territories to collect data on the Pueblo Indian tribes of the region. Contemporary accounts differ as to the dates of the group's arrival, departure, and length of stay, but, during survey trips to the more than twenty Indian settlements along the Rio Grande between 1879 and 1881, photographer John K. Hillers carefully recorded the various sites, including San Juan, Santa Clara, Nambe, Laguna, Tesuque, and Cochiti — all represented in this exhibition.[1] The mandate of the expedition was to document the lifeways of the various indigenous native American communities that they encountered. The group was headed by James Stevenson, formerly of the Hayden survey, and also included Frank Hamilton Cushing, and Stevenson's wife, Matilda Coxe Stevenson. This was the first extensive study trip conducted by the bureau, which was directed by geologist, ethnologist, and linguist John Wesley Powell.[2] During the course of their many years in the field working for Powell, Stevenson and his wife collected archaeological and ethnographic material for the Smithsonian, while Cushing, the museum's young naturalist, acted as ethnologist, eventually staying on and living for several years at Zuni pueblo in western New Mexico.[3] Hillers, as the expedition's official photographer, produced a visual record of the pueblo architecture, as well as of the daily and ceremonial life of the Indians. The majority of Hillers's pictures in the Boston Public Library's collection date from these three years, and the Zuni images, in particular, represent the site of his most exhaustive photographic documentation. In fact, the mainly distant architectural views that constitute the library's holdings are not entirely representative of Hillers's work during this period, which often featured close-ups of the Pueblo inhabitants engaged in making traditional crafts or carrying out their daily tasks.

Over the course of his long career, Hillers's photographs of the Indians of the Southwest were seen by thousands of visitors to major exhibitions like the Philadelphia Centennial and the Chicago World's Columbian Exposition, his stereo views of the Grand Canyon sold widely, and many of his images were reproduced in the form of engravings in popular magazines, such as *Scribner's Monthly, The New York Graphic,* and *Century.* However, surprisingly little is known about Hillers's earliest years, prior to his chance meeting with John Wesley Powell in 1871.[4] Hillers was born in Hanover, Germany in 1843, but came to this country with his family when he was still a young boy. He grew up in New York City and in 1861 enlisted in the Union Army, though he saw little action during the Civil War. During the early years of Recon-

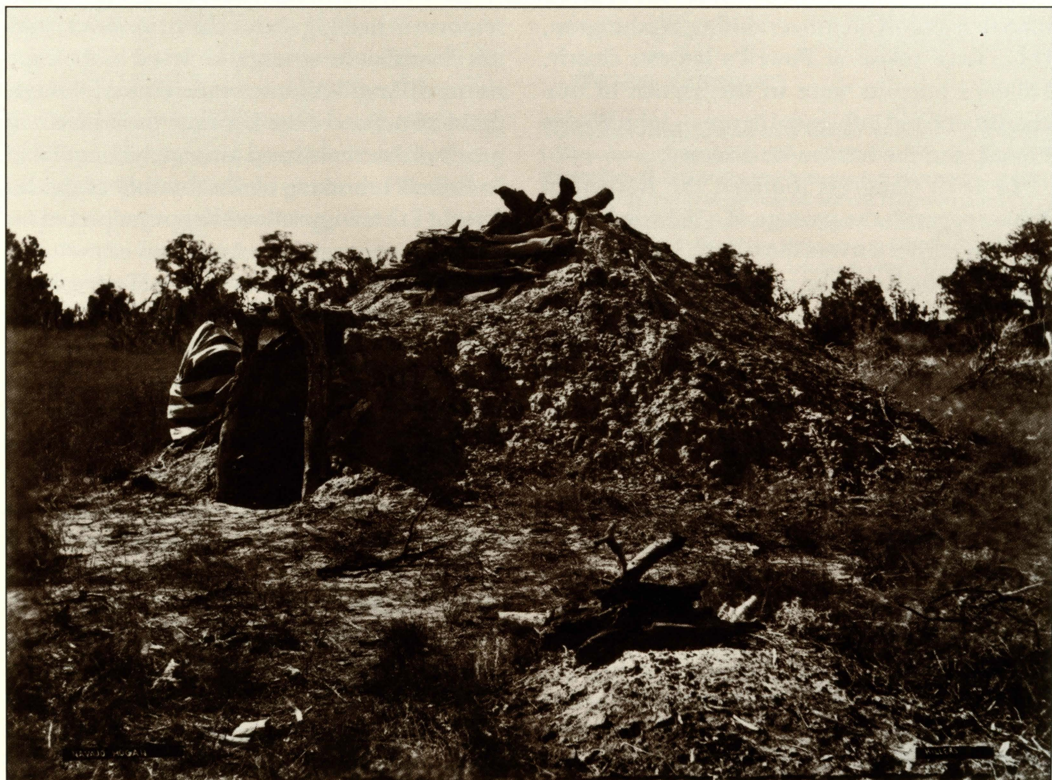


John K. Hillers, *View in Zuni, Looking S.E., New Mexico*, 1879.

struction, Hillers remained in the service and was finally discharged at the rank of sergeant in 1870. Not long after that he headed west, first to California and then to Salt Lake City, Utah, where he was working as a teamster when he first encountered Powell. Powell was immediately impressed by the young man's strength and sense of humor, and hired him as a boatman on his second expedition down the Colorado River.[5] Unlike Powell's initial journey on the previously uncharted river, which had made him into something of a national hero, this, the last of the four great surveys, had financial backing from Congress and a professional photographer as part of its crew. E.O. Beaman, the photographer who accompanied the 1871 expedition, introduced Hillers to the medium and taught him the intricacies of the wet-collodion process.[6] In fact, Beaman and his subsequent replacement, James Fennemore, trained the eager novice so well that the following year, when Fennemore became ill, Hillers was capable of taking over as sole photographer for the survey.[7]

Even during his two successful Colorado River expeditions, which focused primarily on topographical mapping and geological surveying,

Powell had begun, as early as 1869, to research the languages and customs of various southwestern Indian tribes. In 1872, he instructed Hillers to make a series of pictures of the Southern and Kaibab Paiutes who lived in the canyon country of Utah. It was the Paiutes who gave Hillers his Indian name "Myself in the Water," referring to his seemingly magical ability to capture their likenesses on his glass photographic plates. Never one to miss an opportunity to publicize his expeditions, Powell also encouraged landscape painter Thomas Moran to join the members of the survey on a trek into Zion and the Grand Canyon in 1873, and Hillers later maintained that Moran advised him on how to pose his Indian subjects in "effective" and artistic attitudes.[8] Between 1872 and the pueblo project, which began in 1879, Powell sent Hillers on many such assignments among the Ute, Paiute, and Hopi Indians. In 1875 he made a series of photographs at the Hopi sites along the First, Second, and Third Mesas in northeastern Arizona, and that year he also documented members of the relocated tribes



John K. Hillers, *Navajo Hogan,* circa 1882.

present at the annual Grand Council meeting in the Indian Territory of Oklahoma. Still, for all the recognition that Hillers received for his earlier Indian studies, the 1879–81 expedition, the first by Powell's new Bureau of Ethnology, inspired his largest and most cohesive group of native American photographs of the Pueblo Indian sites along the Rio Grande and to the west, at Nutria and Zuni. These classically composed and coolly detached images, like *View in Zuni, Looking S.E., New Mexico* (illus.), are among his most successful photographs, and they represent a dramatic departure from his earlier dressed up and self-consciously posed Indian pictures.[9] Even his late studio portraits of Indian delegation members visiting Washington, D.C., were made at Powell's behest; clearly, Hillers's pursuits were in the service of one charismatic and influential figure—John Wesley Powell, and the bureau he directed.

In 1879 Congress founded the Bureau of Ethnology with the passage of a bill combining the four earlier surveys into the U.S. Geological Survey. Powell was the obvious choice to head the new bureau, due to his previous experience compiling data for the classification of Indian tribes, and his job as Special Commissioner of the Bureau of Indian Affairs in the mid-1870s. Eventually, in 1881, Powell was named director of both the Geological Survey and the Bureau of Ethnology. In setting out the goals of the bureau, Powell outlined eight categories by which to study the American Indian— somatology, philology, mythology, sociology, customs, technology, archaeology, and the history of Indian affairs.[10] As director, he decided to focus initially on the southwestern Pueblo Indian tribes as an ideal example of a group considered "ethnologically purer" than other Indians, such as the Creeks, Chickasaws, Cherokees, Choctaws, and Seminoles, who had been forced to leave their native lands and settle in Indian Territory in the 1830s and 1840s. Powell, however, remained relatively uninterested in forming theories or drawing conclusions from the voluminous findings gathered by his bureau ethnologists; instead, he amassed as much raw data as he could, including the photographs by Hillers, in each of his eight categories of Indian study. Arguing for immediate attention to the documentation of this vanishing indigenous culture, Powell wrote: "In a few years it will be impossible to study our North American Indians in their primitive condition except from recorded history."[11] He was not expressing nostalgia or remorse in making such a claim, however, since it is clear that he strongly believed in the superiority of Anglo-American society and thought the destruction of the Indians' "primitive" culture both inevitable and ultimately beneficial.[12]

Powell's thinking about the role of the Bureau of Ethnology reflects the principles of two of the most prominent American ethnologists of the nineteenth century—Henry Rowe Schoolcraft and Lewis Henry Morgan. Schoolcraft was the first ethnologist to espouse the use of close scientific observation and the in-depth study of linguistics as a means of understanding a culture. His main contribution to modern ethnology was his early formalized scholarship on the American Indian. Schoolcraft's theory held that the Indians, over the course of their long history, had gradually degenerated from a higher state to their present primitive condition, and were therefore incapable of assimilation into American society.[13] Lewis Henry Morgan, on the other hand, elaborated on the social Darwinian theory of cultural stages of evolution in his work on the Indians; the evolutionary stages that he described were savagery, barbar-

ism, and civilization.[14] Within this construct, the Indians were not perceived as a specific racial type, but as a group having reached a certain level of development. According to Morgan, the Pueblo Indians had achieved the stage of barbarism and would inevitably achieve a civilized state, but he, and others like him, saw nothing wrong in trying to accelerate the process of acculturation.[15] For this reason, it is not surprising that Powell's research and Hillers's photographs concentrated on the long-established, urban, and agrarian character of the Pueblo people and their communities, although Hillers also documented the temporary shelters of the region's nomadic tribes, as in *Navajo Hogan* of circa 1882 (illus.).

Hillers's active interest in the life of the pueblos was shared, not only by Powell, but also by the bureau's ethnologist Frank Cushing. Cushing's five-year experiment with living among the Indians at Zuni was one of the first of its kind — a ground-breaking trial in cultural immersion. In his successful attempt at penetrating the Zuni culture and observing it from within, Cushing contributed valuable information to the field of ethnology. It was probably due to his extended contact with the tribe that his friend Hillers was able to photograph many of the secret ceremonies of the Zuni people.[16] In fact, the extent of Cushing's acceptance among the Pueblos was without precedent, and Hillers's photographs consequently reveal an in-depth view of this society unmatched by any other photographer, before or since. Cushing's was a very different approach than that of other outsiders, whose goal had historically been to "civilize" the Indians by educating them, teaching them English, or converting them to Christianity. The southwestern pueblos had experienced extended and invasive contact with the Spanish dating back as early as the sixteenth century,[17] and by 1879, when Hillers, Cushing, and the Stevensons arrived, American missionaries also lived and worked among the Indians.[18] Nevertheless, the traditional life of the Pueblos remained relatively untouched and Hillers's photographs are timeless accounts of an enduring indigenous people.

Hillers Checklist

The Boston Public Library owns sixteen loose photographs by Hillers, dating from about 1875 to 1882. Working for John Wesley Powell, first at the Smithsonian and then at the Bureau of Ethnology and U.S. Geological Survey, Hillers focused much of his attention during these years on the Pueblo Indians who lived along New Mexico's Rio Grande River and farther west at Zuni, near the Arizona border. The photographs in the exhibition are arranged by approximate date and are organized geographically, tracing the southward course of the Rio Grande.
All photographs are albumen silver prints.
Boston Public Library, unnumbered, purchased 1971.

Mok-ta-vo-into, "Starving Elk," Cheyenne, 1875
9 1/4 x 7 3/8 in.
In the spring of 1875 Powell, who was then with the Bureau of Indian Affairs, directed Hillers to visit Indian Territory in Oklahoma and make photographs of the various tribes gathered there for the annual convention of the Grand Council, which included visiting delegates from the Cheyenne, Pawnee, and Arapaho tribes. Four years after this picture was taken, Cheyenne warrior Starving Elk took part in his beleaguered tribe's march from the Indian Territory back to their land in Montana and Wyoming, which ended tragically in their mass arrest and incarceration.

Wolpi, Mokitown, First Mesa, Arizona, 1875
10 x 13 1/8 in.
Hillers exhibited several photographs of this site at the

Centennial Exhibition in Philadelphia in 1876. The Smithsonian's Indian exhibits were housed in the fair's vast Government Building and featured ancient artifacts, traditional costumes, and contemporary crafts, as well as pictures by Hillers and fellow western photographer, William Henry Jackson.

San Juan, New Mexico, c. 1880
10 1/8 x 13 3/8 in.

Santa Clara, New Mexico, c. 1880
10 1/8 x 13 3/8 in.

Pueblo de Nambe, New Mexico, c. 1880
10 x 13 1/4 in.

Pueblo de Tes[u]que, New Mexico, c. 1880
10 x 13 3/8 in.

Cochitea, New Mexico, 1880
10 x 13 1/4 in.

Pueblo Laguna, New Mexico, 1879
10 x 13 1/8 in.

Zuni, New Mexico, 1879
9 3/4 x 13 1/4 in.
Hillers exhaustively documented the pueblo at Zuni, making many photographs of its architecture, environment, and inhabitants over the course of two visits, one in 1879 and another in 1881. The following four images, as well as the view of Nutria, a small outlying settlement of Zuni, are typical of his approach. Hillers not only photographed distant views of the pueblos, but also recorded ethnographic details, such as corn and chili peppers drying on adobe rooftops, and the domed outdoor ovens (*hornos*) in which the Indians baked their bread. Not included in this particular group of images are the individual artisans, tribal leaders, and ceremonial dances that make up a large part of Hillers's photographs of this period.

Middle Court of Zuni, New Mexico, 1879
10 x 12 3/4 in.

View in Zuni, Looking S.E., New Mexico, 1879 (illus.)
10 x 12 7/8 in.

View in Zuni, Looking S.W., New Mexico, 1879
10 x 13 in.

Neutria, New Mexico, c. 1879
10 x 13 1/4 in.

Navajo Hogan, c. 1882 (illus.)
10 x 13 1/4 in.
Hillers photographed many of the southwestern tribes. Here he frames a lone hogan, the traditional dwelling of the Navaho. Seated at left of the entrance is the figure of an Indian wrapped in a blanket.

Navajo Church, Near Fort Wing[ate], New Mexico, 1882
13 3/8 x 10 1/8 in.

Monument in Cañon del Muerte [sic], *Arizona,* c. 1881
13 x 9 5/8 in.
In 1882 a Navaho guide led James Stevenson, Hillers and others into this previously unmapped offshoot of Canyon de Chelly. There they found the remains of several bodies, which inspired Stevenson to call the site Mummy Cave and the newly discovered canyon Cañon de los Muertos (Canyon of the Dead). The Stevenson party was the first group of non-Indians to visit and photograph this area.

Stereographs

The Boston Public Library's collection includes seven stereographs by Hillers, all of which date from the Powell Surveys of the first half of the 1870s. As Powell was quick to attribute nearly all of his expedition photography to Hillers, it is sometimes difficult to distinguish early images like these from those of his predecessors on the survey, E.O. Beaman and James Fennemore. Hillers's stereographic sets were particularly popular and their brisk sales were an important boost to the survey's finances during this period.
All photographs are albumen silver prints.
Boston Public Library, unnumbered, purchased 1971 and 1973.

Mu-Av Cañon, Views on the Colorado River, c. 1871–73
No. 219; 4 1/2 x 7 in.
Grand Cañon Series, Published by William B. Holmes, 646 Broadway, New York
"This cañon is 217 1/2 miles long and from 4,500 to 6,200 feet in depth."

Views on Water Pocket Creek, In the Cañon, 1875
No. 181; 4 1/2 x 7 in.
Department of the Interior, U.S. Geological and Geographical Survey of the Territories, Second Division, J.W. Powell in charge
"This stream heads at the foot of what is known as the Great Fold, in Utah Territory, runs along its base, and empties into the Colorado River."

Notes: Mapping the West

1. William Bell, commenting on a day's work for the Wheeler Survey in 1872, "Photography in the Grand Gulch of the Colorado River," *The Philadelphia Photographer* 10, No. 109 (January 1873): 10.

2. Peter Palmquist, *Carleton E. Watkins: Photographer of the American West* (Albuquerque: Amon Carter Museum and the University of New Mexico Press, 1983), p. 16.

3. Weston J. Naef, *Era of Exploration: The Rise of Landscape Photography in the American West, 1860–1884* (New York: Albright-Knox Art Gallery, and The Metropolitan Museum of Art, 1975), p. 12.

4. Rosalind Krauss, "Photography's Discursive Spaces," *Art Journal* XLII (Winter 1982): 311–319.

5. Alan Trachtenberg, *Reading American Photographs* (New York: Hill and Wang, 1989); Martha A. Sandweiss, ed., *Photography in Nineteenth-Century America* (Fort Worth: Amon Carter Museum, and New York: Harry N. Abrams, 1991).

6. For discussions of the mythical meanings of the American landscape, see Henry Nash Smith, *Virgin Land: The American West as Symbol and Myth* (Cambridge and London: Harvard University Press, 1970) and Leo Marx, *The Machine in the Garden* (New York: Oxford University Press, 1964).

7. Howard Lamar, "An Overview of Westward Expansion," *The West as America* (Washington, D.C.: Smithsonian Institution Press and National Museum of American Art, 1991), p. 2.

8. Ibid.

9. Ralph Waldo Emerson, "The Young American," *Dial* IV (April 1844): 484–507, passim; reprinted in Norman A. Graebner, ed., *Manifest Destiny* (Indianapolis: Bobbs-Merrill Company, Inc., 1968), pp. 6–7.

10. Patricia Hills, "Picturing Progress in the Era of Westward Expansion," *The West as America*, p. 103.

11. I would like to thank Sinclair Hitchings and Karen Shafts for information on the Library's role as a collecting institution.

12. See William Goetzmann, "The New Mountain Men: California's Geological Survey," *Exploration and Empire* (New York: Norton, 1966), pp. 368–369.

13. Leo Marx, "The Railroad-in-the-Landscape: An Iconological Reading of a Theme in American Art," *The Railroad in American Art* (Cambridge: MIT Press, 1988), p. 190.

14. See Susan Danly, "A.J. Russell's *The Great West Illustrated*," in *The Railroad in American Art*, and Nancy Rich, "Politics and the Picturesque: A. J. Russell's *Great West Illustrated*," *Views* 10–4/11–1 (Summer/Fall, 1989): 4–6, 24.

15. Peter Bacon Hales, *William Henry Jackson and the Transformation of the American Landscape* (Philadelphia: Temple University Press, 1988).

16. Alfred A. Hart was the official photographer for the Central Pacific as early as 1866, and John Carbutt produced stereos for the Union Pacific the same year. (Sandweiss, *Photography in Nineteenth Century America*, p. 324.)

16. Clarence King, "Catastrophism and Evolution," *The American Naturalist* 11, No. 8 (August 1877): 449–470, cited in Joel Snyder, *American Frontiers: The Photographs of Timothy H. O'Sullivan 1867–1874* (Millerton, New York: Aperture, 1981), pp. 48–49.

17. For example, see Snyder, *American Frontiers*; and Krauss, "Photography's Discursive Spaces," *Art Journal* (1982).

18. Lamar, "An Overview," *The West as America*, p. 17.

19. Paula Richardson Fleming and Judith Luskey, *The North American Indians in Early Photographs* (New York: Harper and Row, 1986), pp. 105–106.

20. Christine Hult has shared with us her study of Lewis Henry Morgan's nineteenth–century career as an ethnologist as it applies to photographic ethnographic activities. Morgan's classifications of the different stages of development from savagery to barbarism, to civilization are paralleled in the work of Hillers, at least.

21. Richard Slotkin, *The Fatal Environment: The Myth of the Frontier in the Age of Industrialization 1800–1890* (New York: Atheneum, 1985), p. 31.

Notes: Watkins

1. A letter from Laura Park to her mother, June 12, 1861; cited in George Dimock, *Exploiting the View: Photographs of Yosemite and Mariposa by Carleton Watkins* (North Bennington, Vermont: Park-McCullough House, 1984), p. 31.

2. Nanette Margaret Sexton, "Carleton E. Watkins: Pioneer California Photographer (1829—1916): A Study in the Evolution of Photographic Style, During the First Decade of Wet Plate Photography" (Ph.D. diss., Harvard University, 1982), p. 130.

3. Martha A. Sandweiss, "Foreword," Palmquist, *Carleton E. Watkins*, p. xi.

4. Weston Naef, "Carleton E. Watkins," *Era of Exploration*, p. 82.

5. J. D. Whitney, *Geological Survey of California. Geology. Volume I. Report of Progress and Synopsis of the Field-Work, From 1860–1864* (Philadelphia: Caxton Press of Sherman and Co., 1865), p. 408.

6. Charles Nordhoff, *California: A Book for Travellers and Settlers* (New York: Harpers and Brothers Publishers, 1872), p. 69.

7. J. M. Hutchings, *Scenes of Wonder and Curiosity in California* (New York and San Francisco: A. Roman and Company, Publishers, 1870), p. 123.

8. Ibid.

9. Bancroft's Tourist's Guide, *Yosemite* (San Francisco: Albert L. Bancroft and Company Publishers, 1871), p. 45.

10. Nordhoff, *California: A Book for Travellers and Settlers*, p. 77.

11. M. Théodore Kirchhoff, "Les merveilles de la vallée de Yosemiti," M. Eduoard Charton, ed., *Le Tour du monde* (Paris: Librarie Hachette et Cie., 1876), p. 177.

NOTES: GARDNER

1. Originally called the Union Pacific Railway, Eastern Division, this company changed its name to the Kansas Pacific Railroad in 1869.

2. For overviews of Gardner's career, see Brooks Johnson, ed., *An Enduring Interest: The Photographs of Alexander Gardner* (Norfolk, Virginia: The Chrysler Museum, 1991) and D. Mark Katz, *Witness to an Era: The Life and Photographs of Alexander Gardner* (New York: Viking, 1991).

3. On antebellum railroad surveys and the first transcontinental railroad, see Goetzmann, *Exploration and Empire,* pp. 265–302. On construction in the Sierra Nevadas, see Nancy K. Anderson, "'The Kiss of Enterprise': The Western Landscape as Symbol and Resource," *The West as America,* pp. 259–268.

4. On the railroad's campaign for government aid, see William R. Petrowski, "The Kansas Pacific Railroad in the Southwest," *Arizona and the West* 11 (Summer 1969): 129–146. Palmer's career is recounted in John S. Fisher, *A Builder of the West: The Life of General William Jackson Palmer* (Caldwell, Idaho: Caxton Printers, Ltd., 1939).

5. William A. Bell, *New Tracks in North America,* 2 Vols. (London: Chapman and Hall, 1869), Vol. 2, pp. 7–11, 166.

6. William J. Palmer, *Report of Surveys Across the Continent in 1867-'68 on the Thirty-fifth and Thirty-second Parallels for a Route Extending the Kansas Pacific Railroad to the Pacific Ocean at San Francisco and San Diego* (Philadelphia: n.p., 1869).

7. Susan Danly, " Across the Continent," *An Enduring Interest,* pp. 87, 89.

8. Palmer, *Report of Surveys,* p. 189.

9. Petrowski, "The Kansas Pacific Railroad in the Southwest," *Arizona and the West* (1969): 144–146.

10. On the railroad as a symbol of progress, see Marx, "The Railroad-in-the-Landscape," *The Railroad in American Art,* p. 190.

11. Pointed out by Danly, "Across the Continent," *An Enduring Interest,* pp. 90–91.

12. Marx, "The Railroad-in-the-Landscape," *The Railroad in American Art,* pp. 198–200.

13. Hills, "Picturing Progress," *The West as America,* p. 100.

14. Danly, "Across the Continent," *An Enduring Interest,* p. 89.

15. Bell, *New Tracks in North America,* Vol. 1, p. xxv.

NOTES: O'SULLIVAN

1. Mary Louise Hoss, "Documenting the View: Timothy O'Sullivan and the Wheeler Surveys" (M.A. paper, Boston University, 1991), p. 6.

2. In 1872 O'Sullivan returned to the King Survey of the 40th Parallel, and Wheeler replaced him with William Bell.

3. Richard A. Bartlett, *Great Surveys of the American West* (Norman: University of Oklahoma Press, 1962), p. 351.

4. George M.Wheeler, *Geographical and Geological Explorations and Surveys West of the 100th Meridian* (Washington, D.C.: Government Printing Office, 1889), Vols. I–VII.

5. Hoss, "Documenting the View," p. 11.

6. Snyder, *American Frontiers,* p. 11.

7. Rick Dingus, *The Photographic Artifacts of Timothy O'Sullivan* (Albuquerque: University of New Mexico Press, 1982), pp. 39–41 and 62–64.

8. Snyder, *American Frontiers,* p. 27.

9. Hoss, "Documenting the View," pp. 40–41.

10. George Wheeler, *Progress Report Upon Geographical and Geological Explorations and Surveys West of the 100th Meridian in 1872* (Washington, D.C.: Government Printing Office, 1874), pp. 11–12.

11. Dingus, *Photographic Artifacts,* pp. 86–89.

12. John Samson, "Photographs from the High Rockies," *Harper's New Monthly Magazine* (September 1869), pp. 327–333.

13. Dingus, *Photographic Artifacts,* pp. 86–89.

14. Sandweiss, "Undecisive Moments: The Narrative Tradition in Western Photography," *Photography in Nineteenth Century America,* pp. 120–121, and Trachtenberg, *Reading American Photographs,* pp. 142–143.

15. Conversation with R. Bruce King, March 21, 1992.

16. Stephen J. Pyne, *Grove Karl Gilbert, A Great Engine of Research* (Austin: University of Texas Press, 1980), p. 41.

17. Wheeler, *Surveys West of the 100th Meridian,* Vol. III, p. 63.

18. Ibid., Vol. I, p. 35.

19. William C. Manning, "The Ancient Pueblos of New Mexico and Arizona," *Harper's New Monthly Magazine* (August 1875): 327–333.

20. Ibid., p. 329.

21. Hoss, "Documenting the View," p. 29.

22. Wheeler, *Surveys West of the 100th Meridian,* Vol. I, p. 64.

23. Dingus, *Photographic Artifacts,* pp. 101–102.

NOTES: HILLERS

1. For information on the photographer's life and career, see Don D. Fowler, ed., *"Photographed All the Best Scenery": Jack Hillers's Diary of the Powell Expeditions, 1871–1875* (Salt Lake City: University of Utah Press, 1972); and Fowler, *Myself in the Water: The Western Photographs of John K. Hillers* (Washington, D.C.: Smithsonian Institution Press, 1989). Also, see Karen Current, *Photography and the Old West* (New York: Harry Abrams, 1978), pp. 88–130.

2. For a discussion of Powell's career, see William Culp Darrah, *Powell of the Colorado* (Princeton: Princeton University Press, 1954); Don D. Fowler and Catherine S. Fowler, "John Wesley Powell, Anthropologist," *Utah Historical Quarterly 39*

(1969): 152–172; and Wallace Stegner, *Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West* (Boston: Houghton Mifflin, 1962).

3. Cushing published a serialized account of his time at Zuni in *Century* magazine in 1882–83 (Vols. 25–26); reprinted as *My Adventures in Zuni* (Palo Alto: American West Publishing Co., 1970). The articles are illustrated with engravings made after Hillers's photographs by two artists who specialized in images of the American West — Henry Farny and Willard Metcalf.

4. Fowler, *Myself in the Water*, pp. 15–43.

5. For a description of these trips, see Goetzmann, *Exploration and Empire*, pp. 530–576.

6. F. Dennis Lessard, "E. O. Who?," *American Indian Art Magazine* 12, No. 2 (1987): 52–61.

7. Fowler, *Myself in the Water*, pp. 23–29.

8. Ibid., pp. 44–53.

9. Ibid., p. 49. Fig. 22 is an example of an image of awkwardly posed Paiute Indians dressed by the survey members in inauthentic costumes and headdresses.

10. Neil Judd, *The Bureau of Ethnology* (Norman: University of Oklahoma Press, 1967), p. 4.

11. Curtis M. Hinsley, *Savages and Scientists: The Smithsonian Institution and the Development of American Anthropology, 1846–1910* (Washington, D.C.: Smithsonian Institution Press, 1981), p. 148.

12. Frederick E. Hoxie, *A Final Promise: The Campaign to Assimilate the Indians, 1880–1920* (Lincoln: University of Nebraska, 1984), p. 22.

13. Hinsley, *Savages and Scientists*, pp. 20–24.

14. Lewis Henry Morgan, *Houses and House-Life of the American Aborigines* (Washington, D.C.: Government Printing Office, 1881), p. 39.

15. Hoxie, *A Final Promise*, pp. 18–20.

16. After the turn of the century, photography of these sacred dances was no longer allowed and, as a result, Hillers's images remain among the primary documents of these ceremonies today.

17. Joe S. Sando, *The Pueblo Indians* (San Francisco: The Indian Historian Press, 1976), p. 5. Also, due to the Indians' longstanding contact with the Spanish, most pueblos had a mission church and celebrated their major ceremonies on Catholic saints' days, but these were only nominal displays of Christianity.

18. For example, Taylor and Mary Ealey, two Presbyterian missionaries who ran a school at Zuni, were in close contact with members of the bureau survey group, and Hillers made a series of photographs of them posed with their Indian students. See Norman J. Bender, *Missionaries, Outlaws, and Indians: Taylor F. Ealey at Lincoln and Zuni, 1878–1881* (Albuquerque: University of New Mexico Press, 1984).

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855 Commonwealth Avenue

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