On Writing with Photography

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How does one picture an unknown territory? In the map drawn by the 1841 U.S. Exploring Expedition led by Charles Wilkes, a band of text describes a large blank area in the center of the arid American
West as a “waste of sand.” A limited number of pioneer routes—mostly following Native American pathways—cut across the vast dry landscape that lies between the Midwestern plains and the California coast. Literally and metaphorically, the new nation turns inward to define what is, perhaps, its final frontier. Early and quasi-scientific explorations of the desert West, including the expeditions of the Colorado River and Utah canyonlands being led by Major John Wesley Powell—the topic of this chapter—struggle with this fundamental question of representation; in this moment when artistic and scientific sensibilities merge and diverge, their choices will impact how the land is thought of and used in the years to come.

In his book *Canyons of the Colorado*, Powell casts his journey in grand and dramatic terms, as in this passage about entering the Grand Canyon:

AUGUST 13.— We are now ready to start on our way down the Great Unknown. Our boats, tied to a common stake, chafe each other as they are tossed by the fretful river. They ride high and buoyant, for their loads are lighter than we could desire. We have but a month’s rations remaining. The flour has been resifted through the mosquito-net sieve; the spoiled bacon has been dried and the worst of it boiled; the few pounds of dried apples have been spread in the sun and reshrunk to their normal bulk. The sugar has all melted and gone on its way down the river. But we have a large sack of coffee. The lightening of the boats has this advantage: they will ride the waves better and we shall have but little to carry when we make a portage.

We are three quarters of a mile in the depths of the earth, and the great river shrinks into insignificance as it dashes its angry waves against the walls and cliffs that rise to the world above; the waves are but puny ripples, and we but pigmies, running up and down the sands or lost among the boulders.

We have an unknown distance yet to run, an unknown river to explore. What falls there are, we know not; what rocks beset the channel, we know not; what walls rise over the river, we know not. (Powell, *Canyons*, 247)

Until Powell’s 1869 expedition down the Colorado River, the closest any survey team had come to visualizing the Utah canyonlands was an expedition led by Lt. Joseph Ives. His expedition of the War Department’s
Corps of Topographical Engineers, 1857–58, departed from the mouth of the Colorado at the Sea of Cortez and traveled past Fort Yuma through the Mojave Valley and on to the Colorado plateau and along the South Rim of Grand Canyon high above the river, before continuing on to Fort Defiance, Colorado, where the survey ended. In what surely must have served as a model for Powell’s reports, Ives’s text includes an adventuresome illustrated narrative followed by scientific expositions. His narrative is full of dramatic encounters with natives and grizzlies and descriptions of all sorts of physical challenges, which are made all the more difficult by the heat of the western sun. Ives writes dramatically, “as the great globe of fire mounted the heavens its rays seemed to burn the brain” (111). His description of a descent into the Grand Canyon reads: “We were deeper in the bowels of the earth than we had ever been before” (107). For officials in Washington who did not have other means to picture the frontier, the stories provide a personal, human view of the new lands and created heroes out of the adventurers who went to these places and wrote about them; of course, many others were heading west as prospectors, hunters, and settlers, with far less prospect of fame. In
the reports, the personal lens helped to attribute accountability; however, in reports like Ives's and Powell's, capturing the essence of a voyage and the places it surveyed may have been more highly valued than factual detail.

In the above image (Figure 2.2), two lone figures stand on a precipice in an engraving by J. J. Young, based on a sketch by F. W. Egloffstein who, along with Edward Möllhausen, created illustrations during Ives's voyage. Perhaps the presence of these unidentifiable figures indicates (Euro-American) man's arrival in the Great Unknown—a testament to Euro-American man's exploratory feats. Certainly, the figures are reference points by which to measure the scale of the surrounding landscape and its apparent lack of other human life—that is, in human terms, its emptiness. The presence of the lone explorers and the concept of emptiness become common motifs in images of the West; this is a land yet to be filled by humans, as Powell will indicate on the day of his departure from Green River City.

On May 24, 1869, a thirty-five-year-old, one-armed Civil War veteran, Major John Wesley Powell (1834–1902) and nine crewmembers begin an
exploring expedition of the Green and Colorado Rivers. The novel expedition launches from below a train trestle near Green River City, Wyoming. About one thousand miles and ninety-nine days later, the expedition concludes at the mouth of the Virgin River in southwestern Utah, although a few of the crewmembers decide to float onward down the calm and better-known waters of the lower Colorado toward Yuma and the Sea of Cortez. Powell’s voyage is mostly funded by private money. Crewmembers are promised a modest payment and additional income for animal pelts they hunt en route; it is unclear if this becomes one of the sources of discontent on the troubled voyage, but what few opportunities arise for hunting are mostly oriented around finding food after many of the rations are lost and destroyed in river wrecks.

Perhaps with rushed plans, the major seizes on the moment to make this historic journey. The exploring expedition corresponds closely with the joining of the first transcontinental railway lines just two weeks earlier at Promontory Point, Utah. Rail service was opening the desert West (it also facilitates the delivery from Chicago of Powell’s four boats). By 1869, Powell is hurrying to beat others to the task of exploring the Colorado River and its canyons.1 In a similar vein, Ferdinand Hayden is putting together a team to explore—and picture—Yellowstone, accompanied by the young artist Thomas Moran, who will later figure in Powell’s story.

Powell publishes a day-by-day chronicle of the journey in his report to the U. S. Congress (Exploration of the Colorado River, 1875); including the narrative had been a requirement of the congressional funding to publish the report of his findings.2 This chronicle is serialized in Scribners’ Monthly (1875), which also supports the cost for producing some of the illustrations. Later it will become the centerpiece for Canyons of the Colorado (1895), a book Powell publishes near the end of his career.

As with Ives’s report, Powell’s adventuresome although supposedly non-fictional, day-by-day chronicle of the voyage is accompanied by scientific expositions, particularly on the topics of geology and ethnology. Powell’s report differs in its range of imagery as well as in its focus on native cultures. The images include maps, panoramic drawings, photographs, and illustrations such as those that largely support the narrative account; it is a multimedia work.
The boats depart from a train trestle near Green River City. Powell’s brother describes the experience of waiting to depart: “We were thoroughly tired of our sojourn at Green River City, which is situated in a desolate region, surrounded by sandy barren bluffs”; and Colton Sumner even less kindly describes Green River City as a “miserable adobe village” (Ghiglieri 84). The morning of the departure, Sumner suggests, the crew are hung over and not the merriest of men. The major is more circumspect in his description, noting in his letter to the Chicago Tribune, “The
good people of the city came to see us off. This does not indicate a great crowd, as the cities here lack people . . . there are plenty of vacant lots yet” (ibid.). The image that is commonly associated with the launch of the journey depicts ten men crowded into three large white boats with onlookers waving goodbye.

Thomas Moran’s etching (Figure 2.4) represents this historic departure in both official and popular documents. However there were no artists or photographers on the first trip, and the image is probably based on a photograph taken on a little-discussed second voyage that took place in 1871–72 using different boats. It is almost like a child’s game to spot the differences between the illustration of the Wild West and the photo it came from. Bushes become trees, spires appear where none belong, and a vast scenery is compressed into a single dramatic and romantic vision. One might wonder what was wrong with the photo, which is itself strange, beautiful, and remote. Or, ironically, given the fabrication of the illustration, did it matter that the photo did, actually, document a second departure while the almost identical etching is timeless?

![Image of boats lined up](Image)

Figure 2.5. Lining of boats through a rapid at Ashley Falls. U.S. Geological Survey, Department of the Interior. Photograph by E. O. Beaman.
The first trip begins badly. The selection of the rudderless Whitehall boats (not pictured in the departure illustration) on the first voyage was perhaps not the best choice for the challenges of a river run (see Ghiglieri 51–66). Although these boats are stable, they would not have been easy to navigate through the tight and rocky rapids. Within two weeks, the team loses one of their four boats at a site that became known as Disaster Falls. Thereafter, a great deal of time is spent lining the boats through the rapids by pulling them through with ropes instead of speedily running through the aquatic turbulence and falls. This must have added to a level of frustration and exhaustion that Bradley describes in this passage from June 11: “Have been working like galley-slaves all day... The rapid is still continuous and not improving. Where we are tonight it roars and foams like a wild beast. The Major as usual has chosen the worst camping-ground possible. If I had a dog that would lie where my bed is made tonight I would kill him myself and burn his collar and swear I never owned him” (Ghiglieri 120).

In the above photograph (Figure 5.8), crewmembers are shown lining the boats through Ashley Falls.3 The photos are recorded in stereo. When placed in a viewer the images create the illusion of a three-dimensional world. The viewing device offers a kind of virtual travel to an unfamiliar place. That stereographic images were commonly sold as postcards contributes to this spirit of travel; form ironically connects with content in that the stereoscopic postcards depict places where there are no post offices or mail services.

Movement becomes blurred. The white water of a rapid is transformed into an evocative, velvet surface. With the exception of a few photographs of Powell, most individuals pictured in the photographs are unidentifiable, and they are commonly dwarfed by the canyon landscape.

These illustrations (Figure 2.6a–d) depict a world of natural splendor, fearsome, prehistoric forms, strange shapes, and terrible rapids as well as a place of calm beauty and serenity coupled with an invitation to take a seat in the empty boat at water’s edge.

Most of the crewmembers on the first voyage are, like Powell, veterans of the Civil War and most are hunters and trappers living in the Rockies.4
Figure 2.6: Illustrations from J. W. Powell's *Canyons of the Colorado*. (a) “Horseshoe Canyon”; (b) “Mukun’tuweap Canyon”; (c) “Gunnison Butte, Gray Canyon”; (d) “Noonday Rest in Marble Canyon.”
The crewmembers are rarely pictured in the many images that accompany Powell’s description of the expedition. Perhaps this is due to the fact that the etchings are made from photographs from a second trip. But even in the photographs of the second trip, crewmembers are mostly anonymous (and, to their dismay, the crewmembers of the second trip are largely ignored in Powell’s reports of his canyon research). The facelessness heightens the impression of this being a generalized story in the emerging American tradition of man (an everyman often alone or in a small group) overcoming the challenges of wild nature—a nature he will eventually tame and settle. Such myth-making representations are complemented by a vague sense of time that the mishmash of visual sources advances.

Figure 2.7. “The Rescue” from J. W. Powell’s Canyons of the Colorado.
One of the illustrations by A. Muller in Powell's *Canyons of the Colorado* depicts a dramatic moment when the one-armed major becomes stuck on a precipice while taking scientific measurements and is rescued by a crewmember (Figure 2.7). Powell writes:

June 18.— We have named the long peninsular rock on the other side Echo Rock. . . . Looking about, we find a place where it seems possible to climb. I go ahead; Bradley hands the barometer to me, and follows. So we proceed, stage by stage, until we are nearly to the summit. Here, by making a spring, I gain a foothold in a little crevice, and grasp an angle of the rock overhead. I find I can get up no farther and cannot step back, for I dare not let go with my hand and cannot reach foothold below without. I call to Bradley for help. He finds a way by which he can get to the top of the rock over my head, but cannot reach me. Then he looks around for some stick or limb of a tree, but finds none. Then he suggests that he would better help me with the barometer case, but I fear I cannot hold on to it. The moment is critical. Standing on my toes, my muscles begin to tremble. It is sixty or eighty feet to the foot of the precipice. If I lose my hold I shall fall to the bottom and then perhaps roll over the bench and tumble still farther down the cliff. At this instant it occurs to Bradley to take off his drawers, which he does, and swings them down to me. I hug close to the rock, let go with my hand, seize the dangling legs, and with his assistance am enabled to gain the top. (Powell, *Canyons*, 168–69)

Crewmembers' accounts, which recently have been published by Michael Patrick Ghiglieri in *First through Grand Canyon: The Secret Journals and Letters of the 1869 Crew Who Explored the Green and Colorado Rivers* (2003), raise questions about the accuracy of Powell's reports. Take for example the above passage from Powell's narrative in *Canyons of the Colorado*. The crewmembers' original diary notes make little mention of such an event on this date, although a seemingly similar event is described as occurring at another time and place. On June 18, the date of the event above, the crew is stationed near Echo Rock for a couple of days to do observations. Bradley comments on the good fish he is catching, and Howland writes about the severity of the conditions. Did Powell confuse this date with a similar event that happened later and at another location despite having
logs at his disposal? Or, as with the illustrations by Moran and others, did Powell recombine elements of the overall experience for the sake of his story? And, if so, why might a story about hanging from a cliff be better than reflections on his scientific process?

The etching by Thomas Moran of the departure at Green River City (Figure 2.4) was probably based on this photograph (Figure 2.8) that shows the departure of Powell’s second exploring expedition (1871). Compare the 1871 photo of the launch site with the illustration by Moran used to introduce Powell’s chronicle. The trees are in fact mere bushes both near and far. There are no mountains and pinnacles on the horizon, and the details do not fade into a romantic soft light down river on the left-hand side. The picture of the launch is made by E. O. Beaman, who had been hired on the recommendation of E. and M. T. Anthony Photographic Supply Company of New York (Fowler 18). Beaman is the first of three photographers on Powell’s 1871 voyage.

At its launch, Powell’s first trip is a minor affair—a little-heard-of private expedition by a self-taught scientist from a small Midwestern university. It

Figure 2.8. Departure at Green River City. U.S. Geological Survey, Department of the Interior. Photograph by E. O. Beaman.
gains national attention when, on July 8, a con artist named John A. Risdon announces to newspapers that he is the sole survivor of a boat wreck that killed Powell and the rest of the crew. The newspapers take up the story of this tragedy in the great unknown; the news complements the popular narratives of the desert West as a savage and dangerous place where men confront death. Dramatically, just a few days later, a letter sent by Powell from the Uinta Tribal Center arrives, and newspapers announce that Powell lives! The story transforms a little-mentioned private expedition into a national story not for Powell’s death, but for his survival. Risdon’s fantastic tale of tragedy in the end calls attention to the heroism of the crew, and their letters from the trip become widely published. Powell’s serialized written and illustrated account of the journey in Scribner’s—from which many of the images in his report to Congress were derived—builds up this same sense of drama.

Figure 2.9. Frederick Dellenbaugh is seated and reflected in the water at the Heart of Lodore, Green River. U.S. Geological Survey, Department of the Interior. Photograph by John Hillers.
Powell must have been keenly aware of the need for documentation and image-making on this second trip both to support his scientific goals and to make money in mass culture. Part of the arrangement with Beaman is to share profits from sales of stereoscopic photographs of the region. It takes time to carry the materials to viewpoints and to prepare the plates, shoot the images, and process them in a portable darkroom for developing the collodion wet-plate negatives; between the photography and scientific studies, the second voyage would be a slow one. Beaman and his makeshift assistants on the crew make over four hundred negatives during the survey from Green River City to Lee’s Ferry at the end of Glen Canyon.

Beaman’s images construct the romantic narrative of the (male) explorer in the pastoral setting (Fresonke 156). The explorer is most often seen from afar, as a substitute for the viewer perhaps, is pictured in a routine moment of passing time, or is absent, as with moored boats, as if waiting for the viewer to take his spot. While the photos document the river experience, their tone shifts toward narrative painting and story, a tendency that, as Kris Fresonke points out, endures in his writing. When the crew winter over in a Mormon village, Beaman quits the trip and sets out to tour the canyonlands with a Native American guide. He publishes several popular accounts of his travels.

When Beaman quits, Powell’s relative Clem attempts to produce photos but fails to master processing techniques, and the major quickly hires a local photographer named James Fennemore to take over. An Englishman working as an assistant in Charles Savage’s photographic gallery in Salt Lake City, Fennemore serves as the photographer for several months, particularly on short photographic land expeditions in the canyonlands with the oarsman John “Jack” Hillers while Powell is away raising funds. Hillers is a German immigrant who had fought in the Civil War as a teenager and then worked in the Brooklyn Police Force and in the Teamsters. He had been hired for his strength as a boatman. However, the boatman takes a strong interest in photography, launching an important career as a photographer of the Western lands and peoples. Being able and willing to carry the heavy equipment over the difficult terrain, he takes on the role of assistant to photographers Beaman, Clem, and Fennemore. Fennemore is generous in teaching Hillers photographic and processing techniques and even shares
credit with his assistant for the photos they shoot together (Current 91). When Fennemore quits due to illness, Powell appoints Hillers as the voyage photographer. They work well together, and Hillers follows Powell on his rise. He is hired as the official photographer on a third voyage Powell makes in 1873, and as Powell is made leader of one of four geographic surveys of the West and later the U.S. Geologic Survey’s national director, Hillers becomes one of the agency’s most important photographers.5

Powell’s West is a place of grandeur as well as danger; a place of sublime moments and strange encounters; a place for the discovery and the recovery of time lost. In this image (Figure 2.10a), illustrators have created an anthropomorphic totem from Sentinel Rock (Figure 2.10b). The artists exaggerate the human-like attributes of the rock, enlarging the “head” and narrowing the “legs,” which have also been elongated. The radically altered perspective miniaturizes the onlookers standing at their peaceful riverside camp under the majesty and mystery of the full moon.

But, then, how to capture the moods of a moonlit night that cannot be photographed, or the differing rhythms of the days, as the boats float along, not always in high adventure or scientific enterprise? Writing about the second trip, Frederick Dellenbaugh recalls a song (a poem by Isabel Athelwood) that Major Powell would often sing as they boated along—not with the finest voice but with passion:

I love it, I love it, the laugh of a child.
Now ripping, now gentle, now merry and wild.
It rings through the air with an innocent gush,
Like the thrill of a bird at the twilight’s soft hush,
It floats on the breeze like the tones of a bell,
Or music that dwells in the heart of a shell.
Oh the laugh of a child is so wild and so free
’Tis the merriest sound in the world to me. (Dellenbaugh 73)6

There is no one mode of expression sufficient for all uses—some things are better expressed in the rhythms of a song or the colors of a painting.
Figure 2.10. Etching and photograph of Sentinel Rock in Glen Canyon. (a) “Island Monument in Glen Canyon,” Canyons of the Colorado, by J. W. Powell. (b) U.S. Geological Survey, Department of the Interior. Photograph by E. O. Beaman.
But lessons lie in the accuracy of these details in art as in science. The poetics of a vast rock and its relation to its surroundings are likely quite differently perceived on a full moon night and on a moonless one. Moon calendars indicate they would have had at most a half moon on the first trip and a new moon on the second trip when the expedition reached Sentinel Rock. Although Moran stresses the importance of precise knowledge in his 1903 essay, “Knowledge a Prime Requisite in Art,” the illustration indicates the fanciful imagination of an illustrator, probably back East, imagining a canyon night based on a daytime image. In illustration, as later in cinema, the West becomes a place of dreams.

Figure 2.11.
(a) Dellenbaugh’s etching of Lava Falls from Canyons of the Colorado, by J. W. Powell, based on (b) a photograph presumably by John Hillers, U.S. Geological Survey, Department of the Interior.
The seventeen-year-old Frederick Dellenbaugh is the graphic illustrator for the second voyage, and the global traveler and founder of the Explorers Club later writes one of the most popular accounts of early travels in canyons. Powell already keeps scant notes, and Dellenbaugh points out that a significant set of those from the later part of the first voyage are
lost when three of the crew are murdered in the canyon hills. The three—Dunn and the Howland brothers—had just abandoned the trip at what became called Separation Rapids. The lack of notes may explain some of the inconsistencies in Powell’s reports that are noted by Ghiglieri.

Although Powell’s diarist account of the journey is primarily accompanied by Moran’s illustrations, the etchings come from many hands including C. Bogert, W. J. Linton, A. Muller, H. H. Nichols, and others. Dellenbaugh creates the etching above (Figure 2.11a) from a photograph shot on the second journey by John Hillers (Figure 2.11b). Except for a few fleeting glimpses late in the journey, the crewmembers on the first voyage report almost no encounters with native inhabitants. Mostly they see remnants of native activities on the shoreline if at all, and sometimes the crew steal some food from meager Native American farm plots near the river.
In this illustration of a campsite at Flaming Gorge (Figure 2.12a), a stereographic camera is improbably placed within the image highlighting the process of its production. A crewmember sewing is replaced by a man carrying a pole or gun, and a geometrically sound lean-to is added. Perhaps for the sake of our visual pleasure, trees have been cut back to reveal a peak that rises in the background. Small trees are added to the far bank, which is stretched back to magnify space and grandeur, while vast imaginary canyons are added to the front region of the mountain, significantly increasing its apparent height.
The exploration narratives of the great unknown transform it into an imaginable place—one where others will soon come and perhaps settle. The surveys therefore serve both political-cultural agendas and quasi-scientific ones. What is lost between? The singing captain that Dellenbaugh describes? The light of night in desert canyons? Encounters with traces of native cultures? The song of a canyon wren and its relation to local groves of willows? What is excluded is an overall sensory experience that these and many other qualities of a canyon journey are a part of. The diverse media that Powell collects suggest such a world. Yet, in its final presentation many diverse elements are cut, and more limited, linear narratives and exposi-
tions are instead presented. However, there is a contradiction; the limited narratives serve immediate agendas of political expansion, but they are insufficient to stand up to the greater tasks of development and settlement. For Powell and for the explorers of the West in general, artistic and scientific activities diverge. While pictures of a romanticized West—of the unknown territory—decorate government offices and postcard racks, the known land awaits division into borders, territories, use categories, and deeds. As a geographer Powell attempted to slow the expansion of the West that his stories seemed to play into; his reasoned assault on unsustain-
table settlement was rejected.

In 1873, Powell invites Thomas Moran to join a third expedition, this one a land expedition via the Virgin River and Kenab to the Grand Canyon. Moran comes for seven weeks with his own funding from The Aldine, Appleton’s Journal, and Scribner’s Monthly, and many of the etch-
ings in Powell’s publications carry his name. Art and science blur. As described earlier, Moran had been a member of Hayden’s exploration of Yellowstone around the time of Powell’s first Grand Canyon voyage. He was not, however, the official artist nor was he originally invited (Truettner 241); rather, the Pennsylvanian had joined with a friend’s letter of recom-
mendation and with funding from Scribner and the Northern Pacific Rail-
road with the charge of producing watercolors for them. The easterner becomes enamored with the desert West and by the experience of outdoor adventure.
In 1872, Moran’s painting *Grand Canyon of the Yellowstone* is purchased by Congress for an astonishing $10,000, and two years later Moran receives another $10,000 for his painting of the Grand Canyon, the *Chasm of the Colorado* (Figure 2.13). The painting must have captured a spirit of the time, at least within the halls of Congress. William Truettner (247) suggests that Powell’s adding Moran to his journey might have been a benefit in raising funds, and more broadly Powell held great admiration for the work, work that Powell claims “not only tells the truth . . . it displays the beauty of the truth” (Truettner 248).

In her essay “Time’s Profile: John Wesley Powell, Art, and Geology at the Grand Canyon,” Elizabeth Childs suggests that Powell likely believed that using paint instead of photographs would elevate the status of his journey (21). This possibly also extends to his choice to use illustrations over photographs in his congressional report. In working with Moran, Powell embraced the romantic aesthetic of the moment to weave a personal journey into a national narrative. Childs writes:

A painter of the Grand Canyon could help legitimate Powell’s endeavors by linking fine art with that of elite science. Painting offered public celebration,
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commemoration, poetic commentary, and the aura of uniqueness in a way that survey photography could not. Painting also opened the doors to elite social and political spaces—gallery shows, museums, the halls of Congress—the domains of the educated and the powerful. (21)

Decorating political institutions, parks, and travel materials, Moran’s images invoke classical themes of Western dominion. Powell’s works participate in this narrative and draw clear ties with Moran’s sensibilities, perhaps at the expense of greater range. While several crewmembers kept diaries of the first voyage, these are largely ignored in the narrative and report, which combines a memory of one trip with documentation from another. Powell relies on dominant approaches to writing and representation (with images, photos, maps, etc.) that subsume expressions of a Great Unknown into relatively singular sensibility. Yet, facing issues of settlement and law over exploration and adventure, times are changing.

The photographers emphasize the human relation to landscapes, the aesthetic beauty of views, and the adventures of Powell’s crew. Artists rendering the first voyage into illustration seize on these aspects. However, the marriage of an artistic aesthetic and political agenda begins to unfold. The initial pictures offer Eden-like images of natural splendor—a mythic heritage for a nation. As new waves of settlers arrive, geological survey teams with scientifically trained cartographers redraw the Western territories. In 1880, Clarence Dutton initially hires both Moran and William Henry Holmes to participate in the latest U.S. Geological Survey. The style of the latter, a trained geologist, dominates—the aesthetics and goals have changed (see Childs 32–33).

The self-trained Holmes was mentored under paleontologist F. B. Meek at the Smithsonian in drawing shells and learning methods of lithography. There he also met members of Hayden’s 1873 Yellowstone expedition that Moran had joined, and through the Smithsonian connections he was able to join later ones (Nelson 263–65). His chromolithograph panoramas offered an approach that was very different from painting or photography. Nelson writes, “Holmes conveyed specific strati-graphic, structural, and geomorphic
information in a way that no contemporary camera could reproduce, even those of Jack Hillers. . . . The panoramas themselves seem timeless; no diurnal or seasonal effect of light or shadow obscures any portion of the views’ (274–75).

Lines define contours and boundaries. Names and numbers mark peaks and canyons. The empty space of the map is filled with fact, order, structure, lineation, and limitation. All the information that is necessary to locate boundaries is visible, codified, and timeless. This is land that will be bought, owned, used, subdivided, reclaimed, irrigated, mined, developed, and/or dammed and flooded. Creative, scientific, and legal agendas no longer coincide. This separation of imagery into separate domains of art and science—one that runs parallel with the rise of scholarly disciplinary divisions—marks a fundamental transformation. A West constructed in romantic imagery and narrative language is quickly fading into the stuff of history and legend, of popular media and imagination, while the practices of the local actuality are drawn in lines and grids and written out in deeds and laws, preparing a very differently imagined landscape for a future that awaits it. 10
Notes

1. Powell first visited the area two years earlier in 1867, when, as a professor of natural sciences at Illinois State Normal University, he led a group of amateur geologists and students to collect rock samples in Colorado. He set his ambitions on returning to explore the waterways of the Colorado River, which he began mostly with limited funding from sources in Illinois and his own salary (deBuys 12).

2. Ghiglieri (5) points out that Ohio Representative James A. Garfield, who was chairman of the Appropriations Committee, had told Powell that he would only be granted funding for his explorations if he promised to include an account of his 1869 exploration in his report. This is an interesting point, in that it re-affirms a congressional interest in including both narrative and scientific representations, as had been the case in prior reports such as Ives's; it also corresponds with the integration of differing kinds of imagery, of both graphic and artistic natures, during this period.

3. Lining is the process of dragging boats along with ropes. Crewmembers despaired at Powell's insistence, following accidents such as the wreck of the No Name at Disaster Falls, of performing this tedious task.

4. For more on the accomplishments before, during, and after their participation in the Colorado River Exploring Expedition of 1869 as well as some discussion of conflicting views of their relationship to Powell and each other during the voyage, see Ghiglieri, which is dedicated, in part, to the crewmembers (and, notably, not the expedition leader).

5. The bond endures Powell's rise and fall, and Hillers serves as a pallbearer at Powell's funeral in 1902 (Fowler).

6. Isabel Athelwood, "The Laugh of a Child." The poem is published in Balfour. This along with the poetic selection in the naming of the Canyon of Ladore offer evidence that poetic language and sensibility impact the voyage.

7. The circumstances described by Thomas Moran (Bassford and Fryxell 41–42) are further discussed in Childs 22.

8. Curiously, Moran's painting of the Grand Canyon is less successful than his painting of Yellowstone because it does not fill the proper myth of the West. It is critiqued in the New York Times and Atlantic Monthly for expressing the West as a barren wasteland—a place of nightmares not dreams (Truettner 249–50).

9. For more on Holmes's work at the Smithsonian, see Kubler 157–58 and Nelson 255–64. In a curious twist, Holmes largely discontinues making stratigraphs after the surveys lose funding in the 1880s, and he develops a curatorial career, eventually becoming the first director of the National Gallery.

10. The relationship between Powell's exploration narrative and its representation is addressed further in my interactive work, Voyage into the Unknown, which is part of the Unknown Territories project, http://www.unknownterritories.org.
Works Cited


