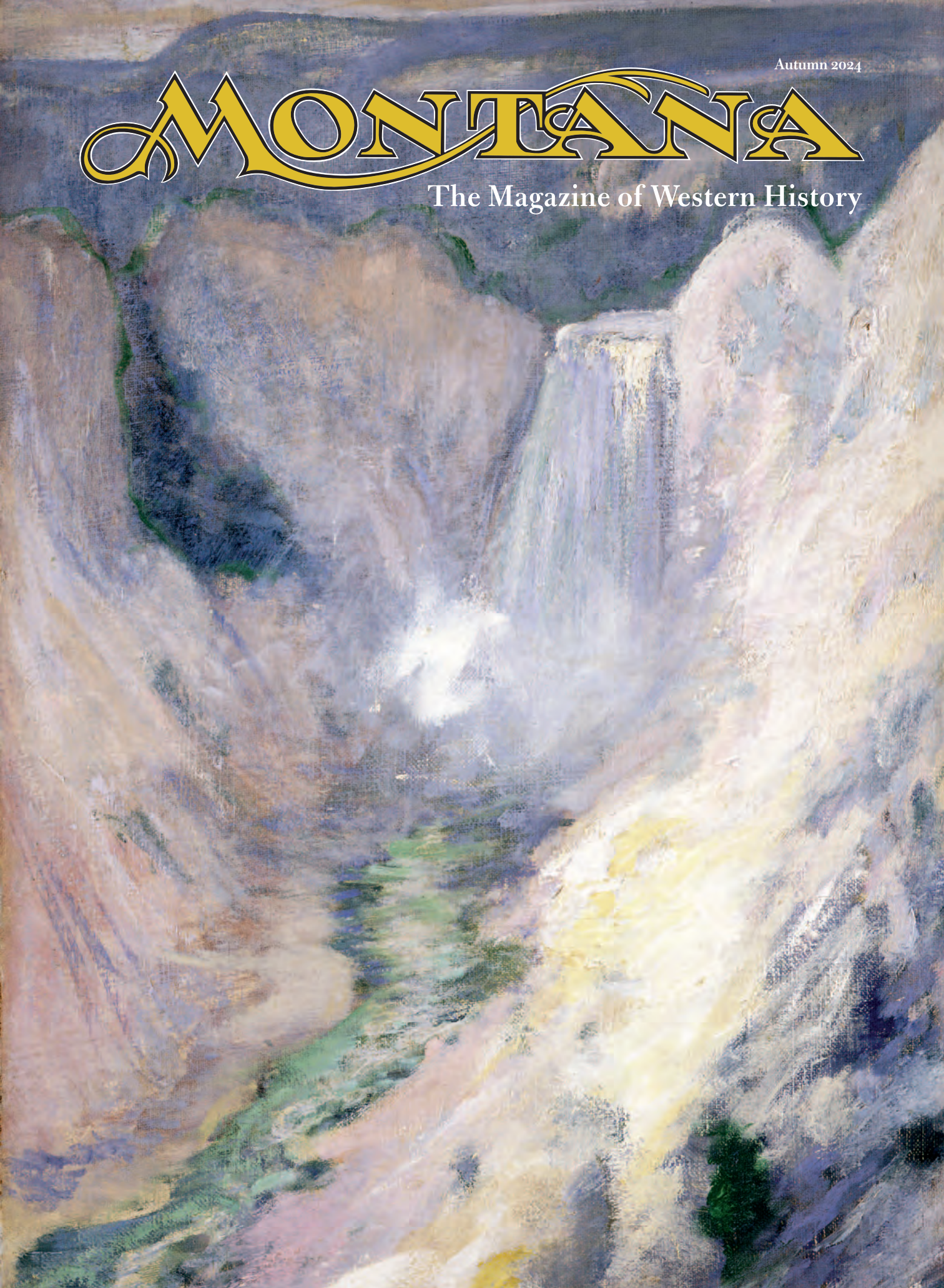


Autumn 2024

MONTANA

The Magazine of Western History



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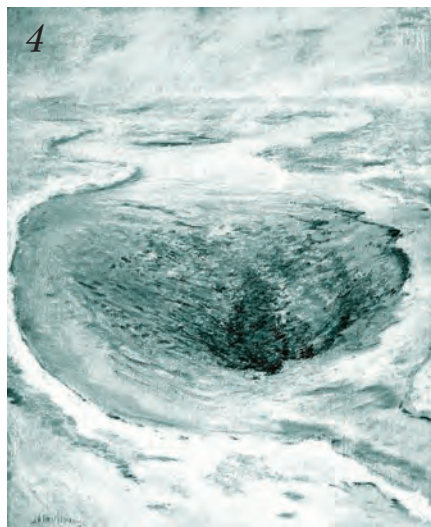
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ON THE COVER (front) In 1895, American Impressionist John Henry Twachtman visited Yellowstone National Park and produced sixteen known paintings, including *Lower Falls*, *Waterfall in Yellowstone*. Impressionists derived their inspiration from observations of their contemporary settings, and used vibrant colors and dynamic brush techniques to record their spontaneous reactions to their subject matter.

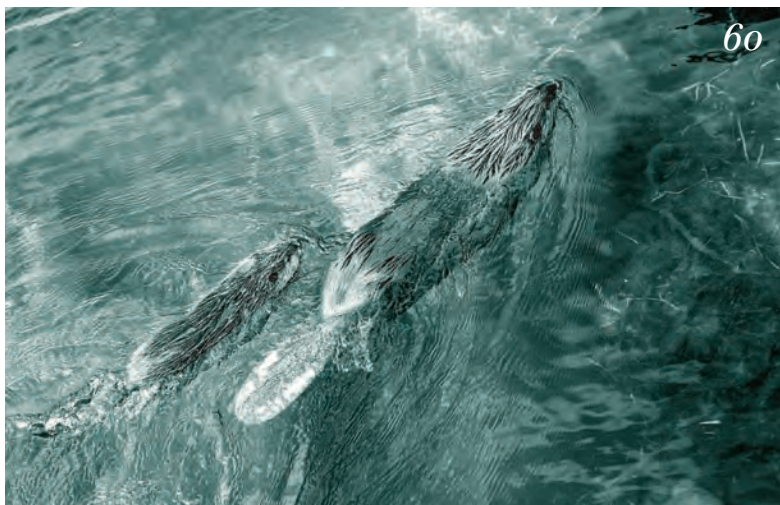
John Henry Twachtman, artist, 1895. *Lower Falls, Waterfall in Yellowstone*, oil on canvas, 25 3/8" x 16 1/2", Gift of Mr. and Mrs. Cornelius Vanderbilt Whitney, Buffalo Bill Center of the West, Whitney Western Art Museum, Cody, Wyoming

(back) Joe De Yong, a friend and protégé of Charles M. Russell, was fascinated with the West and with the cowboy lifestyle. At some point, De Yong sketched a small, untitled drawing of a mounted rider leading a pack string, reflecting an ideal of the horse-powered West. After working under Russell, De Yong moved to California and consulted on western films, bringing an appreciation of authenticity to the genre.

Joe De Yong, artist. Pen and ink on paper, 2012.22.09, MTHS Museum Collections

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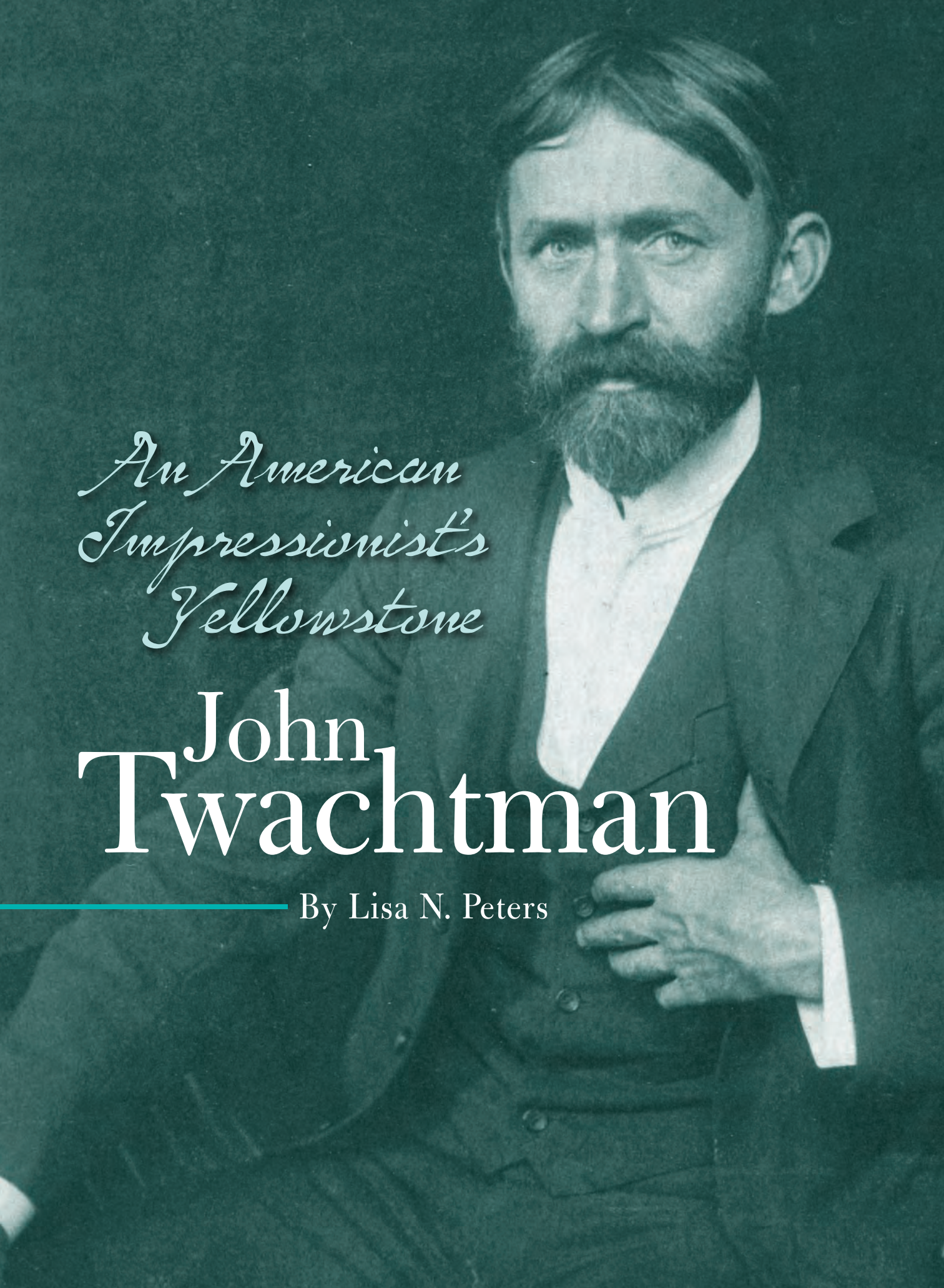
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Montana The Magazine of Western History (ISSN 0026-9891) is published quarterly by the Montana Historical Society. Subscriptions are \$35 per year or \$65 for two years. Foreign orders add \$15 per year for postage in U.S. funds. Direct subscription and advertising questions to Business Manager and editorial correspondence to Editor, Publications, Montana Historical Society, 225 N. Roberts St., P.O. Box 201201, Helena, MT 59620-1201. Authors are responsible for the interpretation in their articles. Articles are abstracted and indexed in *Historical Abstracts and America: History and Life*, Santa Barbara, CA; *Web of Science: Arts & Humanities Citation Index*, Clarivate, Philadelphia. Reproduction in whole or in part without written permission is prohibited. Periodicals postage paid at Helena, MT, and additional mailing offices. POSTMASTER: Send address changes to Montana Historical Society, P.O. Box 201201, Helena, MT 59601. © 2024 Montana Historical Society. USPS 594 320 • Volume 74 Number 3 Fall 2024



*An American
Impressionist's
Yellowstone*

John
Twachtman

By Lisa N. Peters



From its beginning in Paris in the late 1860s, Impressionism grew to become a transnational movement of artists who felt truth existed not as mimesis—consisting of the belief in an underlying objective reality—but as appearances and subjective experience. Instead of drawing on subject matter from classical antiquity, French Impressionists and their international artistic cohort derived inspiration from observations of contemporary life, using vibrant color and dynamic, gestural brushwork to record their firsthand, spontaneous responses to their motifs.

Among late nineteenth-century American artists, John Twachtman was a leading exponent of Impressionism. Born in Cincinnati in 1853, Twachtman spent much of the first part of his career—from the mid-1870s through the mid-1880s—in Europe, where he studied in Munich and Paris. In the late 1880s, he was one of the first American artists to transition to Impressionism. He had always been a plein-air painter, and therefore Impressionism was less a dramatic change in his art than a matter of brightening his palette. In 1891, an article about the spread of Impressionism in the United States—covered in newspapers from coast to coast—was titled, “These are Blue Days in Art.” In it, Twachtman was “the craziest of all blue men.” He was often considered to be the closest American counterpart to Claude Monet (1840–1926), especially after an 1893 New York exhibition paired his work with that of Monet, and there are many parallels in the 1890s in the con-

centration of the two artists on painting their home grounds—Monet in Giverny and Twachtman in Greenwich.¹

Twachtman settled in Greenwich, Connecticut, in February 1890, with his wife Martha. Five of their seven children survived to adulthood. While living in Greenwich until December 1899, Twachtman never tired of depicting his home and seventeen acres of property through which Horseneck Brook wound. Impressionism provided him with a flexible and expressive vocabulary with which to explore familiarity, considering the ways in which a neutral physical and geographical space becomes personally meaningful. When he was spending the summer in Gloucester, Massachusetts, in August 1902, he died from a brain aneurism.²

Twachtman’s interest was in the subtle distinctions in subject matter he had come to know intimately. Depicting the same subjects

John Henry Twachtman was a leading American Impressionist. In 1895, Twachtman traveled to Yellowstone National Park and created sixteen paintings of some of the park’s major landmarks.

Gertrude Käsebier, photographer. Macbeth Gallery records, 1947-1948, Archives of American Art, Smithsonian Institution

at different times of day and from slightly different angles, like Monet, he explored how places are a function of how they are seen, while gaining insight into his own subjectivity. It is surprising that in his only two major departures during his Greenwich years from painting his immediate surroundings, he chose to portray famed icons of the American landscape: Niagara Falls, which he depicted in the winter and summer of 1894 in thirteen known paintings, and Yellowstone, which he painted in September 1895 in sixteen known paintings. In the latter, Twachtman departed in his images from the message-laden romantic ideologies of sublimity, Transcendentalism, and nationalism in the Yellowstone works of other nineteenth-century artists. Thomas Moran (1837–1936) was the most prominent of these artists, and he made the park his special artistic domain after joining Ferdinand Hayden’s 1871 expedition that led to Yellowstone’s designation as the world’s first national park in the following year. Whereas Moran created his Yellowstone paintings in his studio from studies, Twachtman rendered his paintings directly from his sites, having carried his easel, paints, and canvases with him to the park. In dynamic on-site works, he brought his Impressionist eye to Yellowstone. He translated the materiality of the park with the viscosity and coloristic possibilities of oil paint and recorded ecological factors that often resulted from natural and human interactions in the land. Finding the scenery shockingly different from the modest rockbound hills of Connecticut, he produced abstract depictions of Yellowstone, including images of tranquil geysers monumentalized within the picture plane, drawing viewers into their jewel-like depths, and views capturing the sunlit patterns in the sheer rock walls in Yellowstone’s Grand Canyon and the canyon’s prismatic Lower Falls.³

Twachtman’s trip occurred one year after the passage of the landmark 1894 Yellowstone National Park Protective Act. This legislation established an enforcement regime in Yellowstone that had not existed previously. As it turns out, Twachtman’s patron on his park journey, William Austin Wadsworth (1847–1918), played a key role in the act’s passage. Through this connection, Twachtman’s Yellowstone art can be linked more closely to historic events than has been known in the past.



William Austin Wadsworth sponsored Twachtman’s trip to Yellowstone. Descended from a venerable Connecticut family, Wadsworth was the wealthiest individual in Geneseo, New York, and a Harvard University alumnus. He was one of the founding members of the Boone and Crockett Club and served on the club’s executive committee when it advocated for the passage of the 1894 Yellowstone National Park Protective Act.

Courtesy of the Boston Athenaeum

There is an intriguing connection between the timing of Twachtman’s renderings of Niagara Falls and Yellowstone: both had been subject to major administrative changes that focused on restoration just before he painted them. At Niagara, during the 1870s, the land had come into private hands, and swindlers and hucksters charged fees to visitors to see the falls. A commission—established in 1885—turned Niagara into a state park, removing the blight and commercialization that had overtaken it. Twachtman’s images allude to this. Instead of the overhead and expansive perspectives of his predecessors, he depicted the falls from below, ignoring scale considerations to draw the viewer directly into shimmering effects of water, mist, spray, foam, and ice (plate 1). An apt critic commented that a Niagara work Twachtman showed at the Society of American Artists in April 1895 captured “the brilliancy of light seen through falling water.”⁴

Like Niagara Falls, Yellowstone became compromised by inattentiveness. Under its founding legislation

in 1872, the park was to be a place free of private enterprise where wildlife was protected. However, Congress did not establish regulations or funding to enforce these commitments, with dire results. The Northern Pacific Railroad's tourism promotion resulted in the spread of concessions throughout the park's main areas. The tourist industry along with timber harvesting and accidental fires damaged the park's ecosystem. The killing of game animals by poachers and to feed park workers and visitors decimated the park's wildlife. Mine owners in nearby Cooke City, Montana, were pushing for a railroad right-of-way through a corner of the park.⁵

Although regulations outlawed hunting in the park starting in 1884, poaching continued, even after the US Army arrived in August 1886 to take over the park's management. It was the illicit slaughter of Yellowstone's wildlife that most outraged a group of men belonging to an elite rifle-hunting club. This was the Boone and Crockett Club, initiated in 1888 by Theodore Roosevelt (1850–1919), then an up-and-coming politician, and cofounded by zoologist George Bird Grinnell (1849–1938). From its earliest days, the club—dedicated to fair-chase hunting for sport rather than for profit—made the protection of Yellowstone its special cause, and *Forest and Stream* magazine regularly covered its efforts in support of new park legislation. Grinnell was the magazine's chief editor.⁶

Twachtman's patron, William Austin Wadsworth, was one of the club's original and most active members. A descendant of a venerable Connecticut colonial family, Wadsworth was the wealthiest individual in Geneseo, New York, where he was best known for establishing the Genesee Valley Fox Hunt. An 1870 Harvard graduate, Wadsworth was a friend and confidante of Roosevelt, a fellow Harvard alum. By 1893, Wadsworth was on the club's five-man executive committee. In the wake of the capture of a notorious bison poacher in Yellowstone in March 1894, the club used the publicity to make headway in Congress, and Wadsworth was one of seven club members who lobbied for the legislation that led to the passage of the Yellowstone National Park Protective Act on May 7, 1894. The club claimed credit for the act in its 1895 book *Hunting in Many Lands*, calling it a "final triumph" that

— ❖ —
Wadsworth's pride in his contribution to the act's changes in the park was a possible factor in his arrangements with Twachtman.
— ❖ —

was "a matter of congratulation to every sportsman interested in the protection of game." The publication stated that for those not conversant with the subject, it may seem "astonishing that, from the establishment of the Park in 1872 to the passage of the Act in 1894 no law protecting either the park, the animals, or the visitors was operative within the Yellowstone Park—a region containing about 3,500 square miles."⁷

A watershed in the history of the park, the act provided the legal and prosecutorial means for the park to enforce its original commitment to preserve the park's wildlife and protect it from environmental harm. An article in the *Sterling Standard* reveals the act's effectiveness, reporting that "all the game in the reservation is now being preserved, and any attempt to hunt within the boundaries of the Park is met with swift and sure punishment." In *Forest and Stream* in December 1895, George Smith Anderson (1849–1915), the park's army superintendent, stated: "The act of May 7, 1894 seems to have had a most healthy effect upon the poachers who surround and prey upon the Park. I believe that those of the north, the east, and the south sides have nearly or quite ceased troubling it." The act strengthened the prohibitions against the defacement by tourists of the park's thermal features and souvenir hunters from chipping off parts of rock formations.⁸

The army visibly implemented these rules. An article in the *Chicago Record* in October 1895 reported: "There have been some arrests and convictions for violating the rules regarding campfires and there have also been arrests of tourists of both sexes for throwing rocks into the geysers in violation of park regulations." The *Sterling Standard* remarked that all people "were forbidden to remove or injure the sediments around the geysers or hot springs or deface the same by writing."⁹

Wadsworth's pride in his contribution to the act's changes in the park was a possible factor in his arrangements with Twachtman. Although Wadsworth may have known of Twachtman by reputation—especially after Twachtman showed his work with Monet's in 1893—his main introduction to the artist no doubt resulted from his friendship with Dr. Charles Cary (1852–1931) and his wife, artist Evelyn Rumsey Cary (1855–1924), with whom Twachtman stayed in Buffalo

while painting Niagara Falls. Wadsworth was clearly aware of Twachtman's work by April 1894, when he purchased a landscape depicting reflections in a pond that Twachtman sent to the spring annual of the Buffalo Society of Artists, in which Evelyn Cary also participated. Perhaps Wadsworth knew Twachtman's Niagara works. If so, they may have inspired him to wonder how Twachtman would portray Yellowstone as it entered its own new era. Relevant to his support of Twachtman's trip, Wadsworth visited Yellowstone in September 1894 and hunted game outside of the park borders. On September 28, 1894, *Forest and Stream* reported that, pleased with his new .45-70 rifle and having killed all the game he needed, he had returned East.¹⁰

One motivation of the Boone and Crockett Club was that by keeping Yellowstone as an undisturbed game preserve and breeding ground, animals could overflow from the park, providing hunting opportunities for years to come. The effectiveness of the new restrictions was recognized by Anderson in an article in the *Youth's Companion*, published in October 1895, in which he stated: "The thorough protection of the game within the park has made it a reservoir from which all the surrounding country has been fed, so that now this region is the best hunting-ground in America."¹¹

As Wadsworth only ended up owning four of Twachtman's Yellowstone paintings, his patronage was more than strictly a commission. He was generous in the support he gave Twachtman. This is clear in a letter Evelyn Cary sent to him on September 6, 1895. In it, she stated that Twachtman was "basking in his situation financially," while noting that he had "gleefully left his home—[including] some obstreperous boys [for the park]—with considerable equanimity."¹²

On August 24, 1895, an article in the Brooklyn *Standard Union* announced that Twachtman would soon discontinue his summer art classes in Cos Cob, Connecticut, to "start on a trip to Yellowstone Park, to remain until October." He likely traveled on the luxurious Northern Pacific Railroad's Wonderland route from New York to St. Paul and on to Cinnabar, Montana. After a short stagecoach trip, he reached the park. There, Anderson may have greeted Twachtman. As a

member of the Boone and Crockett Club and a friend of Roosevelt and Grinnell, Anderson perhaps received foreknowledge of Twachtman's arrival from Wadsworth. An ideal liaison between the park and the club, Anderson fit well into both the elite men's clubs of New York City and the rough outdoor life of Yellowstone.¹³

It is apparent that Twachtman and Anderson were in contact with each other in Yellowstone because Twachtman inscribed a painting he gave to Anderson (plate 2). Dated 1895, it depicts Bunsen Peak, near the army barracks. Around it is the vast countryside that Anderson oversaw. Anderson and Twachtman would have seen eye-to-eye. Anderson was driven to fulfill the provisions of the 1894 act, and he perceived

Yellowstone through a proudly nationalistic and aesthetic lens. He described the park's rock formations as "beautiful" and bemoaned tourists who chose to visit the Alps over the greater attractions of Yellowstone. He forced visitors who carved their names into rocks to un-carve them before he expelled them from the park. Even if Twachtman knew little of the act when setting out for Yellowstone, Anderson likely informed him of it, perhaps touting his own role in the park's recommitment, under his watchful eye, to environmental and wildlife protection. In

addition, the park management made visitors well aware of the new regulations.¹⁴

In the park, Twachtman would have followed the usual counterclockwise travel circuit. However, he only depicted three locations in Yellowstone: the northern end near Mammoth Hot Springs, the Upper Geyser Basin, and the Grand Canyon of the Yellowstone. It is possible that due to Wadsworth's funding, he reached these locales by private coach rather than tourist shuttle to accommodate his own timetable. Aspects of his itinerary can be pinpointed from a letter he wrote on September 22, 1895, to Wadsworth on the stationery of the Grand Canyon Hotel. The letter reveals that by this time, he had already seen the park's geysers and that he was then focusing his attention on the canyon and its Lower Falls.

He probably stayed first at the Mammoth Hot Springs Hotel before traveling south, and he returned to Mammoth at the end of the trip. Although there was a tent hotel near Old Faithful in the Upper Geyser

Perhaps Wadsworth knew Twachtman's Niagara works. If so, they may have inspired him to wonder how Twachtman would portray Yellowstone as it entered its own new era.

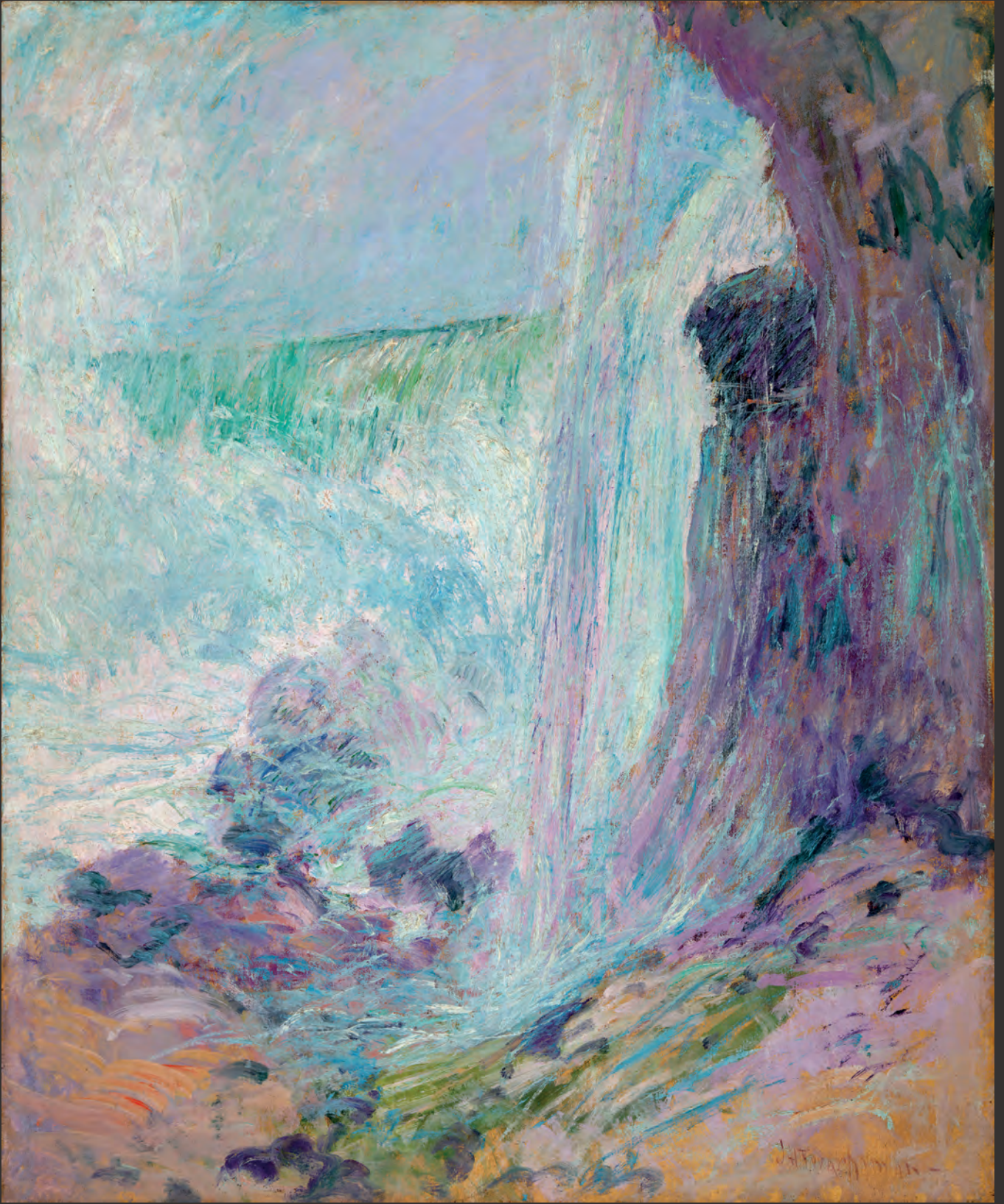


PLATE 1
John Henry Twachtman
Niagara Falls, ca. 1894, oil on canvas, 30" × 25 1/8"
Gift of John Gellatly, Smithsonian American Art Museum, Washington, DC



PLATE 2
John Henry Twachtman
Yellowstone View
(Bunsen Peak), ca. 1895,
oil on canvas,
24 ³/₄" × 15 ³/₄"
Yellowstone National Park
Museum, Wyoming



PLATE 3: *Above*
John Henry Twachtman
Morning Glory Pool, ca. 1895,
oil on canvas, 29 ³/₄" × 24 ¹/₂"

Gift of Hannah L. Henderson in memory of her husband J. Wells Henderson, Philadelphia Museum of Art, Pennsylvania

PLATE 4: *Left*
John Henry Twachtman
Edge of the Emerald Pool, Yellowstone,
ca. 1895, oil on canvas, 25" × 30"

Stark Museum of Art, Orange, Texas, Purchase of the Nelda C. and H. J. Lutchter Stark Foundation, 2006, 31.266.1



PLATE 5

John Henry Twachtman
Emerald Pool, Yellowstone,
ca. 1895, oil on canvas,
25 3/4" x 30 3/4"

Wadsworth Atheneum Museum of Art, Hartford,
Connecticut, Bequest of George A. Gay, by exchange,
and the Ella Gallup Sumner and Mary Catlin Sumner
Collection, 1979.162



PLATE 6

John Henry Twachtman

Yellowstone Park, ca. 1895,

oil on canvas laid down on board,
30" × 25"

Private collection



PLATE 7: *Top*
 John Henry Twachtman
Canyon in the Yellowstone,
 ca. 1895, oil on canvas,
 30 1/4" x 25"

Courtesy of American Museum of
 Western Art—The Anschutz
 Collection, Denver, Colorado

PLATE 8: *Bottom*
 Thomas Moran
*Grand Canyon of the
 Yellowstone*, 1872,
 oil on canvas mounted
 on aluminum,
 84" x 144 1/4"

US Department of the Interior
 Museum, Washington, DC





PLATE 9
John Henry Twachtman
Waterfall, Yellowstone, ca. 1895,
oil on canvas, 30 $\frac{1}{8}$ " \times 25 $\frac{1}{8}$ "
Private Collection



PLATE 10: *Top*
John Henry Twachtman
The Rapids, Yellowstone,
ca. 1895, oil on canvas,
30" × 30 1/8"

Worcester Art Museum, Massachusetts



PLATE 11: *Bottom*
John Henry Twachtman
Emerald Pool, ca. 1895,
oil on canvas, 25" × 25"

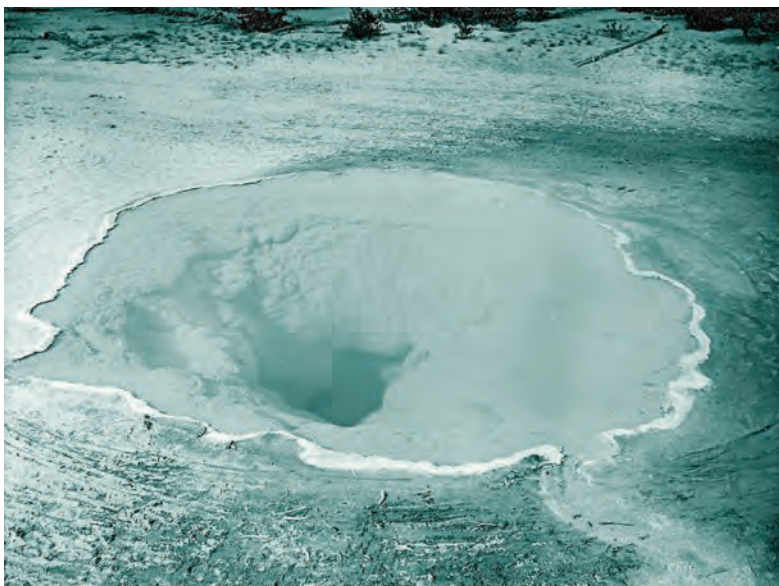
The Phillips Collection, Washington, DC

Basin, it is more likely that Twachtman stayed at the Fountain Hotel in the Lower Geyser Basin. Built in 1891, the hotel housed 350 guests and had steam heat and electric lights. The Fountain Geyser area was a half mile from the hotel, but Twachtman presumably used the hotel as a base for day trips to the Upper Geyser Basin. Once there, he avoided tourist-thronged gushing geysers such as Old Faithful, which other artists had often depicted. Instead, he featured only three relatively quiet pools: Morning Glory Pool; Artemisia Geyser, north of Old Faithful; and Emerald Pool, west of Old Faithful. He probably felt his artistic interest in nuances of light and form were better served by sites more conducive to contemplation than awe, and such locales enabled him to feel absorbed in their beauty undisturbed by preening tourists and their loud exclamations of astonishment.¹⁵

Despite their lack of dramatic eruptions, these were popular Yellowstone sites, recommended to visitors for colors and shapes often suggestive of flowers, jewels, and chalices. This was especially the case for Morning Glory Pool due to its flower-associated name. The pool was also accessible because of its closeness to a road at the basin's north end. On seeing this site on a visit to the park in 1884, Ashley W. Cole, a British-born New York newspaper editor, wrote: "It is about ten feet wide and fifteen feet deep. Its sides taper down from the shell-shaped rim to the bottom with the beautiful lines of a convolvulus or morning-glory, in honor of which graceful flower it was most fitly named." Artemisia Geyser, about half a mile to its

north, is a large, irregularly shaped crater, and it is known to erupt every nineteen to forty hours. True to his Impressionist commitment to the transitory, Twachtman captured it in a typical tranquil moment rather than in one of the sporadic explosions that drew tourists. In the painting, only a small amount of steam implies the geyser's restive geothermal activity.¹⁶

In images of both sites, Twachtman created abruptly cropped, forward-tilted perspectives, framing the pools within vertical canvases that emphasize upward movement across the canvas surface. The use of perspective less for distance than for aesthetic effect, a careful consideration of forms in relation to pictorial space, and the simplification of motifs to line and shape suggest the influence on Twachtman of Japanese woodblock prints, which he studied avidly with his friends Theodore Robinson and J. Alden Weir in the early 1890s. In his diary in 1894, Theodore Robinson had noted the "extraordinary combination of convention and reality" in "Japanese work," which provided the artists with "a new enjoyment." Twachtman's reductive abstractions distill his subjects to vivid color harmonies, decorative sinuous borders, and reflective light. It is no wonder that these works were much admired by early twentieth-century modernists. For example, when a Twachtman retrospective at New York's Century Club in 1920 exhibited *Morning Glory Pool* (plate 3), a critic stated that the work was "exactly the sort of thing that all the young artists of the day are trying," noting that it "represented the minimum of subject and the maximum



Photographer F. Jay Haynes captured Morning Glory Pool from above in this 1885 image.

F. Jay Haynes, photographer. H-01562.1, MTHS Photograph Archives

of an opportunity to study color values and other purely technical considerations.”¹⁷

Despite their abstract qualities, Twachtman’s pool paintings reveal that he studied his subjects closely. In them, he expressed their dynamic materiality, which was due both to natural phenomena as well as anthropogenic change. He recorded places impacted by evolutionary factors over time as well as more recent human interventions. In *Morning Glory Pool*—in which other pools in the Morning Glory group can be seen suffused in the atmospheric distance—he used color layering and blending directly on canvas to denote the porous density of the ground cover. He captured how the upraised sinter accumulation around the pool’s edge was broken in two places, where rivulets are indicative of runoffs from a time when the dormant pool was eruptive. The breakage in places of this coral fringe may have been due to souvenir hunters. With touches of yellow and pink-peach tones intermixed with the greens and blues in the pool, Twachtman referenced a bacterial life that was both natural and altered, due to items thrown into the pool by tourists, who often used the pool as a wishing well or a place to wash clothing. In fact, the unusual coloristic properties in Yellowstone pools have recently been found by scientists to be the result of the human-cast debris over time, which made them “happy homes to photosynthetic microorganisms that probably did not live there before.” With Impressionism’s immediacy and versatile methods, Twachtman recorded a much more complex ecology than it might seem at first.¹⁸

The Emerald Pool—about two miles west of Old Faithful—was a site favored by tourists for its jewel-like, glistening blue-greens. On visiting the park in 1894, J. Sanford Saltus, a New York philanthropist especially active in the American Numismatic Society, wrote of this site: “Fill a goblet with Crème de Menthe, on the top drop a few ‘beads’ of absinthe, and you will have a faint, only a faint idea of the glistening green glory of Emerald Pool.” This pool’s colors, too, were impacted in part by the buildup of refuse, algae, and their interaction, which is suggested in the pink, yellow, and lime green accents in Twachtman’s two images of the site. Having made his way through the Black Sand Basin to the pool, he probably created both works on the same day. His perspective is above the level of the pools, but

it is not completely overhead. Indicating where he stood and what he saw, he places the viewer in the landscape so that we feel part of these scenes, without the artist-narrator as an intermediary. This present-ness is a dramatic change from the panoramic perspectives of Moran, such as in *Great Blue Spring of the Lower Geyser Basin, Firehole River, Yellowstone*, a studio-derived watercolor, in which Moran reaches beyond the scene for a narrative of exploration. Twachtman’s views, instead, intensify moments of pleasurable immersion in which the viewer notices more upon sustained gazing.¹⁹

Twachtman centered the pool in *Emerald Pool* (plate 5), absorbing the viewer from an almost aerial viewpoint in subtleties of light, reflections, rising steam, translucency, and sediment. For *Edge of the Emerald Pool* (plate 4), he set his easel at the pool’s right edge and angled his view upward, cropping the pool so that the steam on its surface and the atmosphere blend seamlessly, creating an ethereal experience in which land and sky, heaven and earth come together. The sequential nature of these works conveys a real-time temporality, expressing Twachtman’s intense concentration on the pool as it changed over the course of a day. Implicitly, the works allude to the new regulations, which disallowed park visitors from carelessly harming geyser sediments and encouraged Yellowstone to be venerated as art, rather than as a spectacle for tourists to be entertained and pass by quickly. Reflective of the attitude Twachtman captured, a writer for the *Jersey Journal* credited as J.A.D., who was on a concurrent trip, remarked on the park’s “in-describable extravagance of beauty of color” and its “most beautiful rock forms that sparkle with hues that vie successfully with a rainbow or peacock’s tail,” and commented that attention to these qualities would “best repay the loiterer who seeks the profit of an innocent and elevating pleasure, which the multitude so unwisely neglects.” Twachtman’s paintings convey the idea that by linking beauty and care an aesthetic appreciation of nature has environmentalist consequences.²⁰

On the park’s counterclockwise travel route, stagecoaches usually took travelers from the Fountain Hotel to the Lake Hotel overlooking Yellowstone Lake. As Twachtman did not depict the lake, it seems likely that he headed east from the Lower Geyser

Despite their abstract qualities, Twachtman’s pool paintings reveal that he studied his subjects closely.

Basin to the Grand Canyon Hotel, also known as the Cañon Hotel. The second iteration of the hotel—built in 1890 and consisting of 250 rooms—was a three-story frame building set on the hillside above Yellowstone’s Lower Falls. It had a drab, uniform façade but offered the amenities and comforts of the other, more outwardly elegant, prominent park hotels.²¹

Twachtman stayed at the hotel, and on September 22, 1895, he wrote a letter to Wadsworth on the hotel’s stationery. Twachtman conveyed his amazement at Yellowstone and his gratitude for the opportunity to experience the park. He expressed his incredulity at the park’s scenery, which he described as “fine enough to shock any mind.” Referring to Greenwich, he remarked that the park made him realize that he had been too long in one place, and he commented that “the trip felt like that of a city boy to the country for the first time.” He described the park’s pools as “refined in color,” and observed that he found much romance in the canyon and its falls.²²

Twachtman featured the canyon in seven paintings, the largest number of his Yellowstone works in one lo-

cation. The romance he expressed in these works did not consist of Transcendental romanticism, revealing the spiritual meanings invested in nature. Instead, in an Impressionist awareness that reality lies in experience, not in nature itself, he used the “shocking” scenery before him to explore new chromatic vivacities, juxtapositions, and spatial complexities, such as in views of canyon walls with the blue ribbon of the Yellowstone River as a twisting line far below in *Yellowstone Park* (plate 6). In these works, he joined close observation and aestheticism, resulting in a tension between depth and surface patterning. In *Canyon in the Yellowstone* (plate 7), he used a delicate palette of muted tones and treated rock formations as flat, superimposed forms outlined by snow on their ridges. His image can be contrasted with the lurid hues and dizzying perspectives Moran was still using in 1900 as well as purposefully steep perspectives, such as in James Everett Stuart’s *Looking Down Yellowstone Canyon from Point Defiance*, 1887. As in Moran’s and Stuart’s scenes, Twachtman’s drops off precipitously, but his feels safer, indicating that his vantage point was probably behind a guardrail

A view of the Grand Canyon of the Yellowstone, looking downstream from Inspiration Point.

F. Jay Haynes, photographer. H-03151.1, MTHS Photograph Archives



on a well-marked path, intended for tourists to enjoy the view for its beauty rather than experience the awe, grandeur, and immensity of the sublime.²³

Twachtman did not shy away from the park's most famous view, looking across the soaring walls of the canyon to the Lower Falls, which descends twice the distance of Niagara Falls. His images are clearly conceived artistically. He emphasized mass—how forms coalesced—over detail and unified his compositions with flattened shapes and harmonious pastel tonalities. Nonetheless, he did not exceed his visual scope in these works, including only the cross-sections of the huge canyon visible to him from the North Rim.

Twachtman's eye-level gaze, which centers the viewer at the same height as the waterfall, can be contrasted with the distant, aerial perspective in Moran's 1872 *Grand Canyon of the Yellowstone* (plate 8), which Congress acquired a few months after it established the park. In it, Moran depicted the light-filled canyon and its tower- and pinnacle-like jagged rocks framed by dark-shadowed wings in the European picturesque, romantic landscape tradition. In this iconic prospect-view, Moran expressed pride in the land's conquest, conveying the belief—the Manifest Destiny—that it was the providential obligation for Euro-Americans to control and settle the continent. Moran made this evident in the tiny figures on the precipice at the base of the canyon. They consist of the geologist, Hayden, gesturing toward the vast terrain before him and an "Indian" beside him, who is turned away from the view. Whereas Hayden's gesture indicates the handoff of the land to the nation and its future as the nation's possession, the diverted gaze of the Indian signifies the imminent displacement of Native Americans from the land. By contrast, Twachtman's images are of a place whose ownership no longer needs justification. Possessed and pacified, Yellowstone has become "a resort," offering pleasure-seekers physical and mental restorative benefits. In ads posted in newspapers nationwide, Charles S. Fee, the general passenger agent of the Northern Pacific Railroad, declared: "Shut up your house and take your wife and family to the Park. Have the greatest outing you ever will have. Two weeks in that mountain region with such scenery will do more to re-invigorate you than anything else you can do." A Wonderland

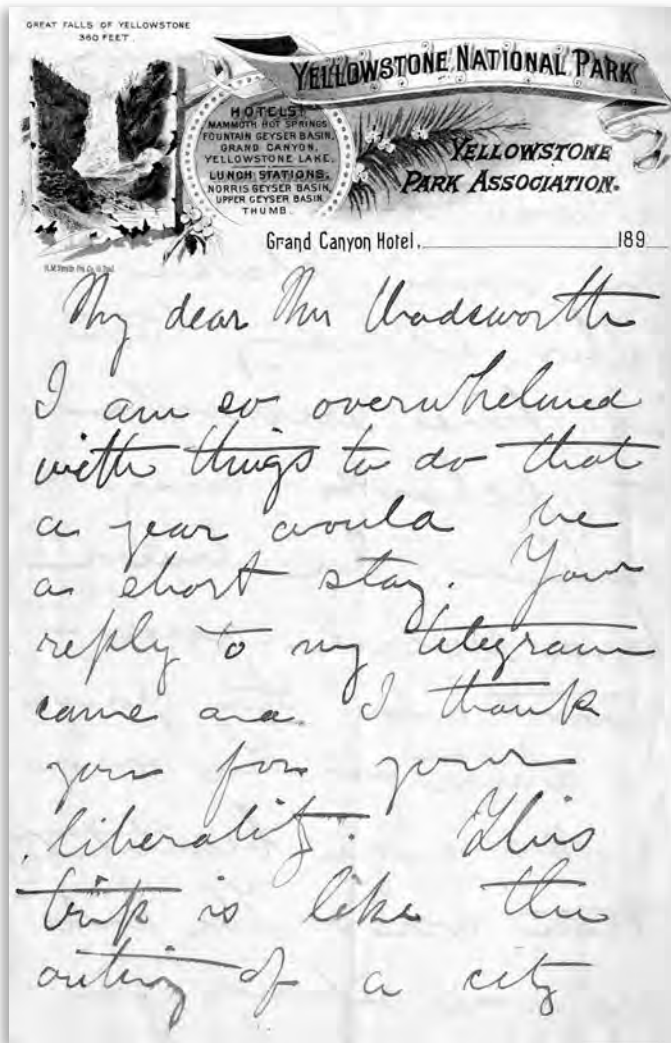
brochure, produced by the railroad in 1897, advised "men and women of wealth and leisure who are sated with the monotonous humdrum of the sea shore [and] fashionable watering places" to visit a "region, far away from artificiality, where one can drink in the inspiration and life from the very clouds themselves."²⁴

In addition to such enticements, the park had become more appealing after the act's passage to elite East Coast travelers who no longer would have had to encounter people bathing in park pools, maligning rocks with their signatures, or throwing detritus in geysers. The new regulations reinforced the idea that the park would be maintained and protected in perpetuity, fulfilling its founding promise to be "a pleasuring ground for the benefit and enjoyment of the people."²⁵

Two other images, *Lower Falls, Waterfall in Yellowstone* (cover) and *Waterfall, Yellowstone* (plate 9), appear more close-up than Twachtman's wider canyon views. However, to render these images, he was still looking down on the falls because the river, above the brink of the cascade, is in view. Twachtman seems to have created the two works in quick succession, uniting process and product, and expressing the energy of the falling water through the action of loose brushstrokes loaded with varied hues and applied with dynamic vigor. In his method itself, he expressed the exuberant revitalization he found in Yellowstone. He conveyed this as well in his letter to Wadsworth, commenting that "he was busy from morning until night" and that he "had never felt so fine" in all his life. An energized communion with nature, expressed in these images, would have appealed to Boone and Crockett Club members.²⁶

In addition to the Bunsen Peak painting he gave to Anderson, Twachtman rendered a few other images near the park's northern entrance. One is a work today titled *Emerald Pool* (plate 11). However, this inaccurate title was given to the painting in 1921 when it was acquired by Duncan Phillips for the Phillips Collection. The painting does not depict the Emerald Pool in the Upper Geyser Basin but instead is a view across a pool in the upper terraces at Mammoth Hot Springs. Making use of a high horizon line, Twachtman emphasized surface patterning. Yet he also captured the site's specific characteristics, translating the sunlight on the travertine limestone ground before him into wet pliant paint

In his method
itself, he expressed
the exuberant
revitalization he
found in Yellowstone.



Twachtman reported on his trip in a letter to Wadsworth, written on the stationery of the Grand Canyon Hotel. His letter reads:

My dear Mr. Wadsworth

I am so overwhelmed with things to do that a year would be a short stay. Your reply to my telegram came and I thank you for your liberality. This trip is like the outing of a city boy to the country for the first time. I was too long in one place. This scenery too is fine enough to shock [sic] any mind. We have had several snowstorms and the ground is white—the canon looks more beautiful than ever. The pools are more refined in color but there is much romance in the falls and the canon. I never felt so fine in my life and am busy from morning until night. One can work so much more in this place—never tiring.

My stay here will last until the first, perhaps I want to go to Lower Falls, they are fine. There are many things one wants to do in this place.

Believe me

Sincerely yours

J. H. Twachtman

Sep 22—1895

John H. Twachtman, Yellowstone National Park, Wyoming, to William A. Wadsworth, September 22, 1895, Wadsworth Family Papers, Milne Library, State University of New York at Geneseo

the eye of a modern painter.” Another anonymous critic acknowledged the work’s modernity, stating that most artists and laymen would make nothing out of the painting without a knowledge of recent artistic conventions. What the critic meant was that viewers must be able to appreciate a work of art purely for its aesthetic qualities rather than for its verisimilitude. However, the critic perceptively

went on to say that those who took the time—such time was worth it—would discover “a picture clear, distinct, accurate, and unmistakable of the fashion in which sandstone cliffs in an early stage of erosion . . . present themselves in the chill vision of quiet air.” The critic remarked that the work spoke for itself without the “need for a diagram or explanation.”²⁷

At the northern end of the park, Twachtman sought out another waterfall: Undine Falls, situated a few miles east of Mammoth, where it issues from Lava Creek and spills over a basalt lava face, dropping sixty feet in three plunges. Twachtman’s *Waterfall (Undine Falls)* recorded how the cascade, even as experienced today, seems to hang in the air as a distinct and almost static ornamental shape against its lush surroundings. The flow of the water forms an S-curve through the compositional space, expressing the organic beauty of nature, as in contemporary Art Nouveau designs.²⁸

brushed into veiny curves. In doing so, he conveyed the actual softness and flowing stratum in a terrain quite different from the hardened silicon dioxide in the park’s southern geyser basins. At the left, he featured the flat-topped Mount Everts, created by a downward rather than an upward flow of lava. To the right is the edge of the funnel-shaped Bunsen Peak. Between the mountains is the ridge line of the Washburn Range, which Twachtman used to connect the two peaks visually. The limited depth in his painting, which flattens the image, actually matches this view itself.

Twachtman only exhibited a few of his Yellowstone works in his lifetime, and the painting later titled *Emerald Pool* is probably the work he showed as *The Pool* at the Philadelphia Art Club in 1896. Reviewing the exhibition, one unnamed critic stated: “Twachtman has recently rediscovered the Yellowstone, and his picture gives us some idea of how that country looks to

In 2022, I made a trip to Yellowstone in advance of participating in the conference “Conversations on Collecting Yellowstone” held at Montana State University that June. On the sojourn, which I took along with my twenty-three-year-old son, I located the sites of all of Twachtman’s Yellowstone paintings, with the exception of one: *The Rapids, Yellowstone* (plate 10). The work features snow-covered mountains above river rapids. Knowing that Twachtman rarely ventured far in search of his painting locations, I looked for and photographed rapids on the Yellowstone and Firehole Rivers in areas close to his other sites. However, none closely matched the painting’s scenery. A few Yellowstone specialists I consulted did not recognize the site and wondered if Twachtman had taken liberties, perhaps combining aspects of two different places. However, Twachtman was not a painter of composites, as it went against his artistic principles. Then one day, while scrolling through Hiram Chittenden’s 1895 *The Yellowstone National Park*, an image caught my eye, captioned “Gardiner [*sic*] River.” Chittenden described it as a view in Montana of “the Gardner Cañon,” a “precipitous valley of loose gray walls suggestive of danger from falling rocks. . . . The most striking feature of the cañon is the river, a typical mountain torrent of such rapid fall over its rocky bed that it is a continuous succession of foaming cascades.” This site seemed close to the view in Twachtman’s image, yet the painting did not feature Eagles Nest Rock, which can be seen in Chittenden’s image.²⁹

When I corresponded with Tamsen Emerson Hert, a conference organizer, she helped verify that the Gardner River was Twachtman’s site, and she sent me a postcard to confirm this. Further searches revealed that

the locale Twachtman depicted was one-half mile south of Eagles Nest Rock, at approximately the 45th Parallel of Latitude. Including both sides of the river in his image, it is possible that Twachtman set up his easel on a bridge spanning it, looking west toward the Gallatin Range. Because of the location near the park’s entrance, today along US 89, Twachtman could have rendered the painting at the beginning of his trip or at the end. However, the only snowstorm he encountered in Yellowstone—the first of the season—occurred between September 20 and September 22. It is more likely that the painting was among his last Yellowstone works. It is his only Montana scene and the only depiction of Montana by a prominent late nineteenth-century American Impressionist.³⁰

Twachtman likely exhibited this painting as *Grand Cañon in Winter* at the 1896 spring annual of the Society of American Artists. Twachtman was notoriously careless in titling his works, hence the inaccuracy in this title. Reviewing the show, the *New York Times* observed: “Mr. Twachtman’s agreeable color sense has rarely been better demonstrated than in his ‘Grand Cañon in Winter’ wherein the artist, keeping his tones very high, has, nevertheless, achieved much brilliancy of opalescent qualities with his pigment, and produced a delicate harmony.” The opalescence he achieved was not just a matter of light effects on snow. With forceful vertical brush movements, he conveyed the tactility of the snow clinging to the striations in the sandstone cliff whose inherent light-toned colors were interactive with that of a patchy rather than a thick fall snowfall. A harbinger of winter, the snow-covered landscape may have made Twachtman aware that his time in the park had ended.

N. A. Forsyth captured this stereograph looking down the Gardner River toward Eagle’s Nest Rock, ca. 1905.

N. A. Forsyth, photographer. ST 001.528, MTHS Photograph Archives



2. Gardner River and Eagle Nest Rock, Y. N. P.



To help confirm the location of Twachtman's *The Rapids, Yellowstone*, Tamsen Emerson Hert provided this postcard, looking down the Gardner River toward its confluence with the Yellowstone River.

Courtesy of Tamsen Emerson Hert

As he noted in his letter to Wadsworth, he would be leaving Yellowstone on October 1.³¹

Rendered in September 1895, Twachtman's on-site Impressionist paintings concur with the new conservation ethos of the era—promoted by the Boone and Crockett Club and codified by the Yellowstone National Park Protective Act—in which there was an awakening and reckoning that human effort was required to reverse and remediate anthropogenic change. They convey the spirit of a post-conquest age when Yellowstone was well-established, accessible, and controlled. With Native Americans forced onto reservations, gone were fears of “Indian dangers,” and the park was no longer considered a vast wilderness space that required expeditionary skills to survey and record its features with scientific precision. Instead, Twachtman's images captured the park in the present moment, for itself, rather than as a demonstration of the ideology of Manifest Destiny to reveal creation still in progress and prove American supremacy over Europe, where history consisted of man-made forms. Yet, Twachtman's vivid, alluring paintings suggest the undimmed pride in the beauty of the American land-

scape. His works concur with the intention of the 1894 act to keep Yellowstone free from “desecration.” This word, referencing both destruction and sacrilege, was a means of acknowledging the national awareness that such beauty would not maintain itself, and thus that human effort was required for its sustenance.³²

Twachtman's paintings are in accord with the act's reaffirmation of the nation's responsibility in forestalling environmental damage. They convey the complex matrix of the ecological, ideological, and cultural experience of the park during

Twachtman's visit. Capturing immersive moments of grounded-in-place present-ness, their materiality seems a means of stopping time, as if to suggest that the park's safeguarding, through an act of Congress, would be assured in perpetuity. They evoke the idea that an aesthetic appreciation of nature can protect against its violation and destruction. Nonetheless, as the world faces the enormous challenge of escalating climate change, it is clearly no longer the case that a single legislative act can have such an impact. Twachtman's images of Yellowstone convey an important message that remains valid. Drawing us into a close connection with the tactility, aesthetic qualities, and vulnerability of Yellowstone's distinctive environment, they remind us that together we are all part of the natural world, as it is part of us.

An independent scholar specializing in American art, **Lisa N. Peters** received her PhD in art history from the Graduate Center of the City University of New York. She is the author of the *John Henry Twachtman Catalogue Raisonné* (jhtwachtman.org), published online in 2021 in collaboration with the Greenwich Historical Society, where she curated a 2022–23 Twachtman exhibition. Along with several publications on Twachtman, since the late 1980s, Peters has lectured and written exhibition catalogues, articles, and book chapters on numerous American art topics from the colonial era to the present.

Abbreviations used in the notes include Montana Historical Society Research Center and Archives, Helena (MTHS); and *Montana The Magazine of Western History (Montana)*. Unless otherwise noted, newspapers were printed in Montana.

John Twachtman (Peters)

1. For documentation on Twachtman's works and a comprehensive bibliography, see Lisa N. Peters, *John Henry Twachtman Catalogue Raisonné* (Greenwich, CT: Greenwich Historical Society, 2021), www.jhtwachtman.org (hereafter *Twachtman Catalogue Raisonné*). "These are Blue Days in Art, in Paint as Well as Market," (*Helena Daily Independent*, Mar. 31, 1891, 7. The four-artist exhibition also featured the work of the French painter Paul-Albert Besnard and Twachtman's close friend, the painter J. Alden Weir. Held at the American Art Galleries, New York, from May through November 1893, the show was intended as an attraction for New York visitors at the time of the World's Columbian Exposition in Chicago. Among reviews comparing Twachtman and Monet is "Some Dazzling Pictures," *New York Times*, May 4, 1893, 9.

2. On Twachtman's Greenwich art in relation to his home grounds, see Lisa N. Peters, *Life and Art: The Greenwich Paintings of John Henry Twachtman*, exh. cat. (Greenwich, CT: Greenwich Historical Society, 2021).

3. The second government-led expedition to the Yellowstone region was the U.S. Geological Survey, headed by Hayden (1829–1887). Moran joined the expedition as an independent artist, funded in part by the Northern Pacific Railroad. Many sources on Moran document his Yellowstone travels and art. Among them are Nancy K. Anderson, *Thomas Moran*, exh. cat. (Washington, DC: National Gallery of Art, 1997) and Rebecca Bedell, *The Anatomy of Nature: Geology and American Landscape Painting, 1825–1875* (Princeton: Princeton University Press, 2001), 123–46. See also Peter H. Hassrick, *Drawn to Yellowstone: Artists in America's First National Park*, rev. ed. (Cody, WY: Buffalo Bill Center of the West, 2015). I would like to thank Tracy L. Baetz, chief curator, US Department of the Interior Museum, for clarifying details of Moran's *Grand Canyon of the Yellowstone*, 1872, which belongs to the museum. Anne Whelan, "Ahead of His Time, Twachtman Comes into His Own," *Bridgeport Post*, Jun. 9, 1940, B5.

4. The iconic image of Niagara Falls is the monumental overhead, panoramic view painted by Frederic E. Church in 1857, held in the National Gallery of Art, Washington, DC. "Society of American Artists, Second Notice," *New York Evening Post*, Apr. 1, 1895, 7.

5. Among articles on this topic, see "The National Park: Threatened Invasion by the Clark's Fork Railroad," *New York Herald*, May 29, 1886, 2. Yellowstone literature is too vast to cite here. Among the more recent sources of note are publications by Bruce T. Gourley, Aubrey L. Haines, and Lee H. Whittlesey.

6. The slaughter of wildlife in the park by visitors in the 1870s and 1880s, the eventual curtailment of this killing by the army after 1886, and the survival of animal species in the park are addressed in Lee H. Whittlesey, "Abundance, Slaughter, and Resilience of the Greater Yellowstone Ecosystem's Mammal Population: A View of the Historical Record," *Montana* 70:1 (Spring 2020): 3–26. On Grinnell's visits to the park and his use of *Forest and Stream* as a platform for its preservation, see Whittlesey, "Abundance, Slaughter, and Resilience," 13–25. Many sources reference the history of the Boone and Crockett Club, which still exists today; see Boone and Crockett Club: www.boone-crockett.org/. Among them are William G. Sheldon, "A History of the Boone and Crockett Club: Milestones in Wildlife Conservation," 1955, manuscript collections, University of Montana, <https://scholarworks.umd.edu/sheldon/1>; John F. Reiger, *American Sportsmen and the Origins of Conservation* (New York: Winchester, 1975), 114–41; Douglas Brinkley, *The Wilderness Warrior: Theodore Roosevelt and the Crusade for America* (New York: Harper Collins, 2009), 201–16; Michael Punke, *Last Stand: George Bird Grinnell, the Battle to Save the Buffalo, and the Birth of the West* (New York: Harper Collins, 2007). Some examples are "The Boone and Crockett Club," *Forest and Stream* 30 (Mar. 8, 1888): 124; "Yellowstone Park Petition," *Forest and Stream* 30 (May 10, 1888): 310; "Yellowstone Park Petition," *Forest and Stream* 30 (Apr. 19, 1888): 224–25; "The Press on the Park," *Forest and Stream* 30 (Apr. 26, 1888): 270–71.

7. "The Boone and Crockett Club," *Forest and Stream*, 124: Wadsworth is mentioned as a member of the club, along with Albert Bierstadt, Heber R. Bishop, Benjamin F. Bristow, J. Coleman Drayton, D. G. Elliott, George Bird Grinnell,

Arnold Hague, James H. Jones, Clarence King, W. H. Merrill Jr., Thomas Paton, Archibald Rogers, John Roosevelt, John E. Roosevelt, J. W. Roosevelt, Theodore Roosevelt, and Rutherford Stuyvesant. On Wadsworth, see Alden Hatch, *The Wadsworths of the Genesee* (New York: Coward-McCann, 1959), 100–120; and "Funeral of Maj. Wadsworth, Famous Genesee Valley Hunter, Held This Morning at Genesee," *Buffalo Enquirer*, May 6, 1918, 4. Wadsworth's papers belong to the Wadsworth Family Collection, State University of New York (SUNY), Genesee. The connection between the two is revealed in extant correspondence from Roosevelt to Wadsworth, in which Roosevelt urged Wadsworth to take on the club's presidency in 1893 (this did not occur until 1897) and put Wadsworth in charge of the club's Hunter's Cabin display at the 1893 World's Columbian Exposition in Chicago. Wadsworth held the longest tenure as the president of the club, lasting from 1897 to 1918. The dates of letters from Roosevelt to Wadsworth at SUNY, Genesee, are Feb. 7 and Feb. 15, 1893; Mar. 14, Mar. 22, and Mar. 30, 1893; Apr. 12, Apr. 14, Apr. 15 (two letters), and Apr. 24, 1893; and May 5, 1893. For assistance with the Wadsworth papers, I would like to thank Elizabeth Argentieri, Special Collections Library, Milne Library, State University of New York, Genesee. See Theodore Roosevelt and George Bird Grinnell, eds., *American Big-Game Hunting: The Book of the Boone and Crockett Club* (New York: Forest and Stream, 1893), 340. Sheldon states, "The Boone and Crockett Club . . . acting through the personality of Geo. G. Vest, Arnold Hague, Wm. Hallett Phillips, W. A. Wadsworth, Archibald Rogers, Theodore Roosevelt, and George Bird Grinnell, was finally successful in carrying through the law of May 7, 1894, and so saved the Park." The act was also known as the Lacey Act because its sponsor was John F. Lacey (1841–1913), an Iowa congressman. The incident in which bison poacher Edgar Howell was captured has been much discussed. An especially noteworthy article is Alan C. Braddock, "Poaching Pictures: Yellowstone, Buffalo and the Art of Wildlife Conservation," *American Art* 23 (Fall 2009): 36–57. Theodore Roosevelt and George Bird Grinnell, eds., *Hunting in Many Lands: The Boone and Crockett Club* (New York: Forest and Stream, 1895), 403.

8. Much literature exists about the act, which curtailed the previously unfettered development of railroads. It restrained the Northern Pacific Railroad from its plans to extend tracks to and through the park and ended the depletion of Yellowstone's natural resources. The legislation set down rules for wildlife protection, prosecuting and jailing offenders. "Yellowstone Park: Mr. Galt's Trip through Wonderland Continued," *Sterling Standard* (Illinois), Sep. 19, 1895, 10; George Smith Anderson, "The Yellowstone Park," *Forest and Stream* (Dec. 7, 1895): 492.

9. "In Yellowstone Park: Changes in the Reservation," *Chicago Record*, Oct. 9, 1895, 12; "Yellowstone Park," *Sterling Standard*, Sep. 19, 1895.

10. The work, currently titled *Pond, Branchville*, is most likely a Greenwch scene; see *Twaachtman Catalogue Raisonné* (OP.1124). "The Big Game Hunters," *Forest and Stream* (Sep. 28, 1894): 270.

11. George S. Anderson, "Camping in the Yellowstone Park," *Youth's Companion*, Oct. 17, 1895, 3569.

12. Wadsworth owned *Emerald Pool*, Wadsworth Atheneum, Hartford, Connecticut (OP.1311); *Edge of the Emerald Pool*, Stark Museum of Art, Orange, Texas (OP.1313); *Geyser Pool, Yellowstone* (Artemisia Geyser), private collection (OP.1315); and *Kepler Cascades*,

Yellowstone, location unknown (OP.1301). Evelyn Rumsey Cary to William A. Wadsworth, Sep. 6, 1895, Wadsworth Family Papers, Milne Library, State University of New York, Geneseo.

13. "Cos Cob's Painting Class Will Be Discontinued. Connecticut's Summer Glow," *Standard Union* (Brooklyn), Aug. 24, 1895, 4. The son of a New Jersey judge, Anderson was a West Point graduate. Before taking command of the park, he taught physics at West Point, spent time observing the French army in Paris, and served as an engineer in the Indian Wars. See photograph, Captain George Anderson, acting superintendent of Yellowstone Park, standing at right with park visitors, ca. 1894, Montana Historical Society. Many sources cover Anderson and his stewardship of Yellowstone as superintendent from 1891 to 1897. Among them are Aubrey L. Haines, *The Yellowstone Story: A History of Our First National Park: Volume Two*, rev. ed. (Boulder, CO: Yellowstone Association for Natural Science, History & Education, 1997), 454–55; Mary F. Anderson, *George Smith Anderson 1849–1915: A Biographical Sketch*, unpublished, 1939; Michael Punke, *Last Stand: George Bird Grinnell, the Battle to Save the Buffalo, and the Birth of the New West* (Washington, DC: Smithsonian Books, 2007), 192–218;

George S. Anderson, *Annual Reunion of the Association Graduates of the United States Military Academy at West Point, New York, June 11, 1915* (Saginaw, MI: Seeman and Peters Inc., 1915) 164–66, USMA Library Digital Collection, digital-library.usma.edu/digital/collection/aogreunion/id/14441/rec/1.

14. See *Report of the Acting Superintendent of the Yellowstone National Park to the Secretary of the Interior* (Washington, DC: Government Printing Office, 1895), 4.

15. His visit either overlapped or followed shortly after that of Louis C. Tiffany (1848–1933), the painter and stained-glass artist, who is listed along with his wife as a guest at the Mammoth Hot Springs Hotel during the week ending September 16, 1895. "Yellowstone Park," *Inter-Ocean* (Chicago), Sep. 9, 1895, 23. Haines, *The Yellowstone Story*, 116. The report of a tour through the park by the Denver Club Excursionists describes a trip on July 20, 1892, that left the Fountain Hotel at 7:30 a.m. and arrived at the Upper Geyser Basin and a return, leaving the latter at 4:30 p.m. and reaching the Fountain Hotel at 6 p.m. B., "Doing the Continent," *Union-Leader* (Wilkes-Barre, PA), Jul. 29, 1892, 3. See also "Special Ten Day's Trip to Yellowstone Park," *Chicago Tribune*, Jun. 18, 1897, 13, which describes leaving the Fountain Hotel at 8 a.m. for the



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Upper Geyser Basin, with a return to the Fountain Hotel at 2 p.m. For other examples, see Albert Bierstadt, *Old Faithful Geyser*, 1881 (Buffalo Bill Center of the West); Grafton Tyler Brown, *Old Faithful Geyser, Yellowstone National Park*, 1887 (Buffalo Bill Center of the West); and James Everett Stuart, *Old Faithful Geyser, Yellowstone National Park*, 1885 (Yellowstone National Park Heritage and Research Center). Twachtman's depiction of Artemisia Geyser is held in a private collection (OP.1315 in the *Twachtman Catalogue Raisonné*).

16. Ashley W. Cole, "The Yellowstone National Park," *Manhattan* 4 (Aug. 1884): 143.

17. Theodore Robinson diaries, Feb. 17, 1894, Frick Art Reference Library, New York. "Century Club Shows Paintings by Twachtman: Retrospective Exhibition of Work of Great American Impressionist," *Sun and New York Herald*, Mar. 8, 1920, 7.

18. Adam Hoffman (*Science Friday*), quoted in Laura Clark, "Tourist Trash Has Changed the Color of Yellowstone's Morning Glory Pool," *Smithsonian Magazine* 45 (Feb. 12, 2015), www.smithsonianmag.com/smart-news/tourist-trash-has-changed-color-yellowstones-morning-glory-pool-180954239/. This article is based on Paul W. Nugent, Joseph A. Shaw, and Michael Vollmer, "Colors of Thermal Pools at Yellowstone National Park," *Applied Optics* 54 (Feb. 1, 2015): B-128-39.

19. J. Sanford Saltus, *A Week in the Yellowstone* (New York: Knickerbocker,

1895), 49-51. Cited in Lee H. Whittlesey, *Yellowstone Place Names* (Helena: Montana Historical Society Press, 1988), 98. Before leaving the area, Twachtman painted a view of Kepler Cascades (location unknown; OP.1301), south of Old Faithful. Probably rendering it from a viewing stand, he captured how the Firehole River's narrow waterway rushed down from the mountains before suddenly widening in its longest drop, where it then cascaded over rocks and continued on. Thomas Moran's *Great Blue Spring of the Lower Geyser Basin, Firehole River, Yellowstone*, is held in the Whitney Gallery of Western Art Collection, Buffalo Bill Center of the West, Cody, Wyoming.

20. J.A.D., "Chronological Confusion," *Jersey Journal* (Jersey City, NJ), Sep. 21, 1895, 2. Sent from "Yellowstone Park, September 14, 1895."

21. On the hotel and the history of its three buildings, see Tamsen Emerson Hert, "Luxury in the Wilderness: Yellowstone's Grand Canyon Hotel, 1911-1960," *Yellowstone Science* 13 (Summer 2005): 21-36.

22. John H. Twachtman, Yellowstone National Park, Wyoming, to William A. Wadsworth [Geneseo, New York], Sep. 22, 1895, Wadsworth Family Papers, Milne Library, State University of New York, Geneseo.

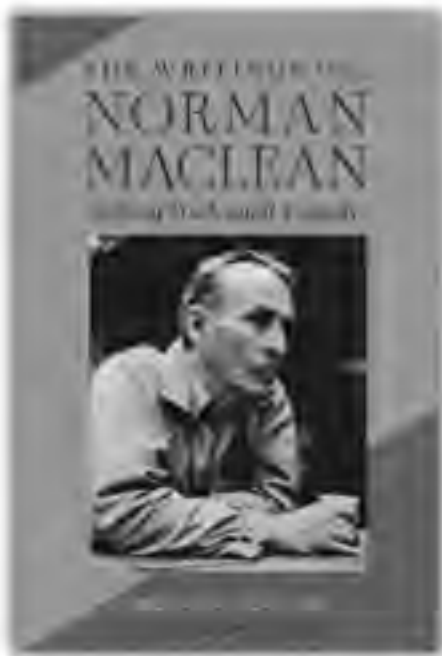
23. Beyond the views of the canyon shown in the plates, Twachtman also painted *Yellowstone* (OP.1307), viewable in *Twachtman Catalogue Raisonné*. Thomas

Moran, *Rainbow over the Grand Canyon of the Yellowstone*, 1900 (Smithsonian American Art Museum, Washington, DC); James Everett Stuart's *Looking Down Yellowstone Canyon from Point Defiance* is held at the Whitney Western Art Museum of the Buffalo Bill Center of the West, Cody, Wyoming.

24. In 1845, John L. O'Sullivan, editor of the *Democratic Review*, coined the term "Manifest Destiny" when he wrote that it was America's "manifest destiny to overspread the continent allotted by Providence for the free development of our yearly multiplying millions." John O'Sullivan, "Annexation," *United States Magazine and Democratic Review* 17 (New York: 1845), 5-6, 9-10. A California visitor wrote in 1897, "Surely no resort can equal, and certainly no place . . . can surpass the wonders of Yellowstone Park." Carrie L. Phelps, "Through the Yellowstone," *Red Bluffs News*, Oct. 15, 1897, 1. An example is "September," *Evening Journal* (Wilmington, DE), Sep. 3, 1895, 4; *Wonderland* (Saint Paul, MN: Northern Pacific Railroad, 1897).

25. "Act creating Yellowstone National Park, March 1, 1872." Enrolled Acts and Resolutions of Congress, 1789-1996, General Records of the United States Government, Record Group 11, National Archives.

26. Twachtman painted a third view of the Lower Falls, which is held in a private collection and can be viewed as OP.1303 in *Twachtman Catalogue Raisonné*. Twachtman to Wadsworth.



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27. "Society of American Artists," *New York Evening Post*, Apr. 9, 1896, 7; "The Art Club Exhibition," *Philadelphia Press*, Nov. 22, 1896, 11.

28. *Waterfall (Undine Falls)* is OP.1300 in the *Twachtman Catalogue Raisonné*. Its current location is unknown.

29. Hiram Martin Chittenden, *The Yellowstone National Park: Historical and Descriptive* (Cincinnati: Robert Clarke, 1895), 212. Eagle Nest Rock is a pinnacle of McMinn Bench, situated a mile south of the park's North Entrance.

30. "Annual Report of Maj. Charles J. Allen, Corps of Engineers, Officer in Charge, for the Fiscal Year Ending June 30, 1889" (Washington, DC: Government Printing Office, 1889), 2863. The report listed several bridges, without specific locations, spanning the Gardner River. George Smith Anderson, "News from Yellowstone Park," *Forest and Stream* (Oct. 19, 1895): 339. Anderson states, "Snow came very early this year. About Sept. 20 we had 2, then 4 in. of snow in Hayden Valley, with over 1ft on the higher mountains. It is snowing in the Park now."

31. "Society of American Artists—The Landscapes," *New York Times*, Apr. 4, 1896, 4.

32. The banning of Native Americans from Yellowstone in the late 1870s by park superintendent Philetus W. Norris (1821–1885) is widely discussed. See Mark Daniel Barringer, *Selling Yellowstone: Capitalism and the Construction of Nature* (Lawrence: Univ. of Kansas Press, 2002), 18–20. An example of a period publication is Edwards Roberts, *Shoshone and Other Western Wonders* (New York: Harper & Brothers, 1888), 212–13: "At present the Indians are under complete control, and the Park is without dangers of any kind." A political cartoon by William Allen Rogers published in 1883 depicted concessions lining a street, crowds, and carriages in Yellowstone under the caption, "Desecration of Our National Parks." The image was described as "a scene that may be witnessed if Yellowstone Park is leased to speculators." *Harper's Weekly* (Jan. 20, 1883), 22.

Fallout Politics (Jessee)

1. "High Level Found in N.D. Milk," *Grand Forks (ND) Herald*, May 13, 1958. See also E. W. Pfeiffer, "Mandan Milk Mystery," *Scientist and Citizen* 7:10 (1965): 1–5.

2. E. W. Pfeiffer, "Some Aspects of Radioactive Fallout in North Dakota," *North Dakota Quarterly* 24:4 (1958): 93; E. W. Pfeiffer, "Letter to the Editor: North Dakota and the Non-Informative AEC," *The Nation*, May 23, 1959, 464.

3. "Minutes of meeting of Western Montana Scientists' Committee for Radiation Information," Oct. 20, 1960, fldr: Western Montana Scientists' Committee for Public

Information, bx 22, Meyer Chessin Papers (hereafter Chessin Papers), Archives and Special Collections, Maureen and Mike Mansfield Library, University of Montana, Missoula (hereafter UMSC). For more on the science information movement, see Michael Egan, *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism* (Cambridge, MA: MIT Press, 2007); and Kelly Moore, *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945–1975* (Princeton, NJ: Princeton Univ. Press, 2013), ch. 4.

4. For discussion of the phases of controversy around nuclear weapons testing in the United States and the American West, see John M. Findlay and Bruce Hevly, *Atomic Frontier Days: Hanford and the American West* (Seattle: Univ. of Washington Press, 2011), 4–6; and Barton C. Hacker, "Radiation Safety, the AEC, and Nuclear Weapons Testing," *Public Historian* 14:4 (1992): 31–53. Standout post-declassification works include Michelle Steneljem Gerber, *On the Home Front: The Cold War Legacy of the Hanford Nuclear Site*, 2nd ed. (Lincoln: Univ. of Nebraska Press, 2002); Eileen Welsome, *The Plutonium Files: America's Secret Medical Experiments in the Cold War* (New York: Dial Press, 1999); Dan O'Neill, *Firecracker Boys: H-Bombs, Inupiat Eskimos, and the Roots of the Environmental Movement* (New York: Basic Books, 1994); Barton C. Hacker, *The Dragon's Tail: Radiation Safety in the Manhattan Project, 1942–1946* (Berkeley: Univ. of California Press, 1987); Barton C. Hacker, *Elements of Controversy: The Atomic Energy Commission and Radiation Safety in Nuclear Weapons Testing, 1947–1974* (Berkeley: Univ. of California Press, 1994); A. Constandina Titus, *Bombs in the Backyard: Atomic Testing and American Politics*, vol. 2 (Reno: Univ. of Nevada Press, 2001); Phillip L. Fradkin, *Fallout: An American Nuclear Tragedy* (Tucson: Univ. of Arizona Press, 1989); Howard Ball, *Justice Downwind: America's Atomic Testing Program in the 1950's* (New York: Oxford Univ. Press, 1986); and Ferenc Morton Szasz, *The Day the Sun Rose Twice: The Story of the Trinity Site Nuclear Explosion July 16, 1945* (Albuquerque: Univ. of New Mexico Press, 1984). The phrase "national sacrifice zone" appears to have been coined in 1988. See "Dying Nuclear Plants Give Birth to New Problems," *New York Times*, Oct. 31, 1988; and Seth Shulman, *The Threat at Home: Confronting the Toxic Legacy of the U.S. Military* (Boston: Beacon Press, 1992). In the context of the history of the American West, see Valerie Kuletz, *The Tainted Desert: Environmental and Social Ruin in the American West* (New York: Routledge, 1998); and Michon Mackedon, *Bombast: Spinning Atoms in the Desert* (Reno, NV: Black Rock Institute Press, 2010). The phrase has since become an important

analytic for exploring the uneven distribution of toxicity and risk in the literature on environmental justice. See, for example, Steve Lerner, *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States* (Cambridge, MA: MIT Press, 2010). For more on how the advent of the Atomic Age reshaped notions of citizenship in America, see Sarah E. Robey, *Atomic Americans: Citizens in a Nuclear State* (Ithaca, NY: Cornell Univ. Press, 2022). There is an important and substantial literature in environmental history on the importance of health and bodies in the construction of environmental ideas and activism, especially in the American West. See Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: Univ. of California Press, 2006); Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002); Gregg Mitman, "In Search of Health: Landscape and Disease in American Environmental History," *Environmental History* 10:2 (2005): 184–210; and Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven, CT: Yale Univ. Press, 2007).

5. Egan, *Barry Commoner*, 18. For other examples of place-based anti-nuclear scientific activism (Alaska and Minnesota, respectively), see O'Neill, *Firecracker Boys*; and Toshihiro Higuchi, *Political Fallout: Nuclear Weapons Testing and the Making of a Global Environmental Crisis* (Stanford: Stanford Univ. Press, 2020), 136–44. See also the essays in Jacob Darwin Hamblin and Linda Marie Richards, eds., *Making the Unseen Visible: Science and the Contested Histories of Radiation Exposure* (Corvallis: Oregon State Univ. Press, 2023).

6. Pfeiffer's early biography drawn from Betsy Cohen, "Retired UM Professor Bert Pfeiffer Dies," *Missoulian*, Apr. 28, 2004. Pfeiffer's "scientific socialism" comes from Meyer Chessin, interviewed by E. Jerry Jessee, Apr. 20, 2011, recording in author's possession.

7. The historical literature and debates about the transformative impact of the Cold War on science are voluminous. Good introductions to this topic can be found in Audra J. Wolfe, *Competing with the Soviets: Science, Technology, and the State in Cold War America* (Baltimore: Johns Hopkins Univ. Press, 2013); Jessica Wang, *American Science in an Age of Anxiety: Scientists, Anticommunism, and the Cold War* (Chapel Hill: Univ. of North Carolina Press, 1999); Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford* (New York: Columbia Univ. Press, 1993); and Daniel Kevles, "Cold War and Hot Physics: Science, Security, and the American State, 1945–56,"

Historical Studies in the Physical and Biological Sciences 20:2 (1990): 239–64.

8. E. W. Pfeiffer, "The United States and Biological Warfare," *Frontier: The Voice of the New West*, Apr. 1957, 7–9. For the FBI investigation, see Minor K. Wilson to Director, FBI, Oct. 11, 1957, "Magazine Article Discredits Army Research Activities," bx 2, E. W. Pfeiffer Papers, UMSC.

9. Mea Andrews, "'Swan Song': Professor Finally Vindicated After Years of Nuke Warnings," *Missoulian*, Jan. 29, 1995. Pfeiffer's wife, Jean Sutherland Pfeiffer, an activist in her own right, also recalled switching to powdered milk. See David Zierler, *The Invention of Ecocide: Agent Orange, Vietnam, and the Scientists Who Changed the Way We Think About the Environment* (Athens: Univ. of Georgia Press, 2011), 99.

10. Quoted in Norman Bauer, "An Evaluation of Some Available Data on Radioactive Fallout in Utah," Paper Presented to the Utah Academy of Sciences, Arts, and Letters, Nov. 9, 1957, 6, NV0122685, Nuclear Testing Archive, Las Vegas, Nevada (hereafter NTA). See also the AEC's response in "Report on Questions Raised by Norman Bauer in Letters to Chairman Lewis L. Strauss, October 10 and 18, 1957," Oct. 31, 1957, NV0108454, NTA. Norman Bauer, "An Evaluation of Some Available Data on Radioactive Fallout in Southern Utah in Relation to Radiostromtium and Radioiodine Burdens," *Utah Academy Proceedings* 36 (1959): 127–36. This is the revised version of the paper cited above. See also Norman Bauer, "Fallout Near Nevada Test Site," *Science* 128:3314 (1958): 40. On strontium contamination of milk, especially concern over the burdens on children, see Jefferey Sanders, "From Bomb to Bone: Children and the Politics of the Nuclear Test Ban Treaty," in *The Nature of Hope: Grassroots Organizing, Environmental Justice, and Political Change*, ed. Charles E. Miller and Jeff Crane (Boulder: Univ. Press of Colorado, 2018), 15–18, 80–96; Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History since 1900* (Oxford: Oxford Univ. Press, 2014), 128–37; Amy Swerdlow, *Women Strike for Peace: Traditional Motherhood and Radical Politics in the 1960s* (Chicago: Univ. of Chicago Press, 1993); and Finis Dunaway, "Dr. Spock Is Worried: Visual Media and the Emotional History of American Environmentalism," in *Rendering Nature: Animals, Bodies, Places, Politics*, ed. Marguerite S. Shaffer and Phoebe S. K. Young (Philadelphia: Univ. of Pennsylvania Press, 2015), 138–61.

11. Bauer, "An Evaluation," 127. For more on the Utah milk contamination, see Sarah Alisabeth Fox, *Downwind: A People's History of the Nuclear West* (Lin-

coln: Univ. of Nebraska Press, 2014), 104–15; and Hacker, *Elements of Controversy*, 219–30. Commoner's Committee for Nuclear Information helped launch the Baby Tooth Survey, an effort to directly measure strontium-90 uptake in children that marked a watershed moment in postwar citizen science. See Smith-Howard, *Pure and Modern Milk*, 130–32; and Egan, *Barry Commoner*, 66–76.

12. Pfeiffer, "Some Aspects," 93. See also Pfeiffer, "Mandan Milk Mystery."

13. Barry Commoner, "The Fallout Problem," *Science* 127 (May 1958): 1023–26. Commoner later credited Bauer and Pfeiffer for playing key roles in raising his and others' awareness of the hot spot problem. See Alan Hall, "Interview with Barry Commoner," Jun. 23, 1997, www.scientificamerican.com/article/interview-with-barry-comm/. For more on the fallout controversy, see J. Samuel Walker, "The Controversy Over Radiation Safety: A Historical Overview," *Journal of the American Medical Association* 262:5 (1989): 664–68; Robert A. Divine, *Blowing on the Wind: The Nuclear Test Ban Debate, 1954–1960* (New York: Oxford Univ. Press, 1978); Elizabeth S. Watkins, "Radioactive Fallout and Emerging Environmentalism: Cold War Fears and Public Health Concerns, 1954–1963," in *Science, History, and Social Activism: A Tribute to Everett Mendelsohn*, ed. Garland E. Allen and Roy M. MacLeod (Dordrecht: Kluwer Academic Publishers, 2001); Carolyn Kopp, "The Origins of the American Scientific Debate over Fallout Hazards," *Social Studies of Science* 9:4 (1979): 403–22; and Soraya Boudia, "From Threshold to Risk: Exposure to Low Doses of Radiation and Its Effects on Toxicants Regulation," in *Toxicants, Health and Regulation since 1945*, ed. Nathalie Jas and Soraya Boudia (London: Routledge, 2013).

14. Egan, *Barry Commoner*, 63–76. See also Sarah Robey's excellent discussion of the rise of the US nuclear state and its transformative effect on notions of citizenship: Robey, *Atomic Americans*.

15. J. Christopher Jolly, "Linus Pauling and the Scientific Debate over Fallout Hazards," *Endeavour* 26:4 (2002): 149–53; Amy Swerdlow, "Ladies' Day at the Capitol: Women Strike for Peace versus HUAC," *Feminist Studies* 8:3 (Autumn 1982): 493–520; Milton S. Katz, *Ban the Bomb: A History of SANE, the Committee for a Sane Nuclear Policy, 1957–1985* (New York: Greenwood Press, 1986); Boudia, "From Threshold to Risk."

16. Sanders, "From Bomb to Bone," 163; Paul Jacobs, "Clouds from Nevada," *The Reporter*, May 2, 1957, 10–29.

17. Minutes of Meeting of Western Montana Scientists' Committee for Radiation In-

formation, Oct. 20, 1960, fldr: Western Montana Scientists' Committee for Public Information, bx 22, Chessin Papers, UMSC.

18. Lou Linley, "The Atom and Its Living Shade," *Daily Missoulian*, Dec. 4, 1960. On Montana's testing program, see "Health Board Sampling for Radioactivity," *Helena People's Voice*, Nov. 25, 1960.

19. Pfeiffer also toured eastern Montana discussing Sr-90 and wheat to farmers. Meyer Chessin interview.

20. Quote in J. E. Roberts to President Newburn, Nov. 27, 1961, fldr: Radiation Biology Correspondence, bx 20, Chessin Papers, UMSC; Meyer Chessin interview.

21. Chessin quote from Meyer Chessin interview; Lou Linley, "Has Reason Gone Underground? Campus Agitators Play into Soviet Strategy," *Daily Missoulian*, May 14, 1961.

22. E. W. Pfeiffer, "Radioactive Fallout, the Effects of Nuclear War, and Civil Defense," *Helena People's Voice*, Apr. 28, 1961. For more on the promotion of and debates about fallout shelters and civil defense, see Kenneth D. Rose, *One Nation Underground: The Fallout Shelter in American Culture* (New York: New York Univ. Press, 2001); Andrew Kirk, "Rereading the Nature of Atomic Doom Towns," *Environmental History* 17:3 (2012): 634–37; Robey, *Atomic Americans*; and John Wills, "Doom Town, Nevada Test Site, and the Popular Imagination of Atomic Disaster," *Journal of American Studies* 57:3 (2023): 393–415.

23. "State Director of Civil Defense Disputes Professors on Shelters," *Great Falls Tribune*, Nov. 22, 1961.

24. Johnson quoted in "Fallout on Fallout," *Missoulian*, Jan. 3, 1962; "Slurs and Insinuations Ill-Become Holter and Keyes," *Helena People's Voice*, Dec. 1, 1961; Clyde M. Senger to Robert Keyes, Nov. 29, 1961, fldr: Letters about Radiation Biology, bx 20, Chessin Papers, UMSC.

25. Quoted in "Question on Fallout Shelters: What Happens on Emergence?," *St. Louis Post-Dispatch*, Oct. 5, 1961.

26. E. W. Pfeiffer to Dr. Moog, Sep. 17, 1961, fldr: Committee for Nuclear Information Correspondence 1961, bx 431, Barry Commoner Papers, Library of Congress, Washington, DC.

27. A copy of the editorial can be found in fldr: Western Montana Scientists' Committee for Public Information, bx 22, Meyer Chessin Papers, UMSC.

28. On the controversy over radioiodine doses to communities downwind of the NTS, see Scott Kirsch, "Harold Knapp and the Geography of Normal Controversy: Radioiodine in the Historical Environment," *Osiris* 19 (2004): 167–81.

29. Hacker, *Elements of Controversy*, 221; "Radioactive Content of Milk Found

Sharply Higher in Utah,” *New York Times*, Aug. 2, 1962.

30. Meyer Chessin to Director of Spokane City Health Department, Aug. 24, 1962, fldr: Correspondence 1962, bx 1, Chessin Papers, UMSC; Hampton H. Trayner to Meyer Chessin, Aug. 30, 1962, fldr: Radiation Correspondence, 1962–1972, bx 20, Chessin Papers, UMSC. This document can also be found in Committee for Environmental Information Records, 1956–1977 (hereafter CEIR), fldr 389, bx 26, Western Historical Manuscript Collection, University of Missouri–St. Louis (hereafter WHMC). That authorities in Washington had not developed a plan for instituting countermeasures was confirmed by Pfeiffer in a letter to CNI after speaking to Trayner directly on a phone call. See E. W. Pfeiffer to Virginia Brodine, Sep. 6, 1962, fldr 389, bx 26, CEIR, WHMC.

31. E. W. Pfeiffer to Virginia Brodine, Dec. 7, 1962, fldr 389, bx 26, CEIR, WHMC.

32. Minutes of Meeting of State Board of Health, Nov. 3, 1962, Helena, bx 2, Montana State Board of Health Records, Record Collection 238, MTHS2.

33. *Background Material for the Development of Radiation Protection Standards*, Federal Radiation Council, Washington, DC (Sep. 1961).

34. Robert H. Wurtz, “The Iodine Story,” *Nuclear Information* 4:9 (Sep. 1962). Emphasis in original. WMSCRI also weighed in on the response from the FRC, lamenting, “Without guides it would seem impossible to assess whether any given level of iodine in milk is a hazard.” See “Lack of Radiation Guidelines Deplored by Scientific Group,” *Helena People’s Voice*, Nov. 30, 1962.

35. Federal Radiation Council, *Estimates and Evaluation of Fallout in the United States from Nuclear Weapons Testing Conducted through 1962* (May 1963), 2; E. W. Pfeiffer and Meyer Chessin to Anthony Celebrezze, Jul. 24, 1963, fldr: Radiation Correspondence, 1962–1972, bx 20, Chessin Papers, UMSC. A copy of the letter was also published in *Nuclear Information* 5:9 (1963): 13. See also E. W. Pfeiffer to Virginia Brodine, Oct. 3, 1963, fldr 389, bx 26, CEIR, WHMC.

36. Joint Committee on Atomic Energy, *Fallout, Radiation Standards, and Countermeasures*, 88th Congress, 1st sess., U.S. Congress (1963), 603. A copy of the testimony is included in Committee for Nuclear Information Technical Division, “Local Fallout: Hazard from Nevada Tests,” *Nuclear Information* 5:9 (1963): 1–12.

37. Harold A. Knapp, “Iodine-131 in Fresh Milk and Human Thyroids Following a Single Deposition of Nuclear Test Fallout,” Fallout Studies Branch, Division of Biology and Medicine, AEC, Jun. 1, 1963, 35, NV0001758, NTA; Knapp to Dr. Dunham, Jun. 27, 1963, 7, NV0004884, NTA.

38. Quoted in Egan, *Barry Commoner*, 75.

39. Meyer Chessin interview. See also Cohen, “Retired UM Professor Bert Pfeiffer Dies.”

40. Robey quoted in *Atomic Americans*, 4.

41. Moore, *Disrupting Science*, 124–29; Zierler, *Invention of Ecocide*.

42. Andrews, “Swan Song.” See also Patrick Springer, “Forgotten Fallout: What Is the Legacy of the Radioactive Rains?,” *Fargo Forum*, May 1, 1988.

A Mule, a Train, and the Fight for Wilderness (Elser)

1. For more on Dodge City, see Howard Copenhaver, *Mule Tracks: The Last of the Story* (Stevensville, MT: Stoneysdale Press, 2001), 165; and on the Centennial Train ride, 101–21 and beyond.

2. The Gleason Ranch, also known as the Circle 8 Ranch, was bought in 1979 by The Nature Conservancy, which ran the guest ranch with extended acreage as the Pine Butte Ranch until 2015. It serves today as a key grizzly bear habitat and hosts occasional educational events. See also “Historic Pine Butte Ranch Closed,” *Choteau Acantha*, Sep. 16, 2015, www.choteauacantha.com/news/article/9e782390-5be3-11e5-b616-df5dbe1b56a4.html. For more on Bob Kiesling, see “Ramping Up the Front: A Conservation Success Story,” in *Landscape and Legacy: The Splendor of Nature, History, and Montana’s Rocky Mountain Front*, ed. John A. Vollertsen (Helena, MT: Sweetgrass, 2013), 229.

3. Tom Edwards, letter to regional forester Percy D. Hanson, January 30, 1955, cited in Lawrence C. Merriam, “The Irony of the Bob Marshall Wilderness,” *Journal of Forest History* 33:2 (1989): 84.

4. The opposition to logging the Bunker Creek area and public support for adding it to the Bob Marshall were already issues in 1954. Merriam, “Irony of the Bob Marshall Wilderness,” 81–87.

5. Merriam, “Irony of the Bob Marshall Wilderness,” 85.

6. US Department of Agriculture to George Weisel, Lincoln Back Country Protective Association Records, 1963–1972, Mss. 195, Archives and Special Collections, Mansfield Library, University of Montana, Missoula.

7. Montana Territorial Centennial Commission, *Montana Centennial Train and World’s Fair Exhibit*, Helena, 1964.

8. The Wilderness Act passed the House of Representatives on July 30, 1964, and was signed by President Lyndon B. Johnson into law on September 3, 1964 (P.L. 88-577, 78 Stat. 890 as amended; 16 U.S.C. 1131–36).

9. Frederick H. Swanson, *Where Roads Will Never Reach: Wilderness and Its Visionaries in the Northern Rockies* (Salt Lake City: Univ. of Utah Press, 2015), 106.

10. Dennis M. Roth, *The Wilderness Movement and the National Forests* (College Station, TX: Intaglio Press, 1990).

“Overrun by Fire” (Bell)

1. Meriwether Lewis, William Clark et al., July 14, 1806, entry in *The Journals of Lewis and Clark Expeditions*, ed. Gary Moulton (Lincoln: Univ. of Nebraska Press, 2005); Peter Skene Ogden, *Peter Skene Ogden’s Snake Country Journals, 1824–25 and 1825–26*, ed. Edwin Ernest Rich (London: Hudson’s Bay Record Society, 1950), 9; William S. Lewis, ed., *The Journal of John Work: A Chief-Trader of the Hudson’s Bay Co. During His Expedition From Vancouver to the Flatheads and Blackfeet of the Pacific Northwest; Edited and With Account of the Fur Trade in the Northwest, and Life of Work* (1923; repr. London: Forgotten Books, 2017), 80. For Work’s complaints of the lack of beavers in streams that were formerly “rich,” see Lewis, ed., *Journal of John Work*, 95, 98, 99, 100, 143, 147, 149, 155, 160, 162, 170, 171, 174.

2. Alice Outwater, *Water: A Natural History* (New York: Basic Books, 1996), 20–21. The pre-fur-trade population estimate cited in Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: Univ. of Washington Press, 1995), 57; Ellen Wohl, *Saving the Dammed: Why We Need Beaver-Modified Ecosystems* (New York: Oxford Univ. Press, 2019), 2; Glynnis Hood, *The Beaver Manifesto* (Toronto: Rocky Mountain Books, 2011), 19; Natalia Rybczynski, “Castorid Phylogenetics: Implications for the Evolution of Swimming and Tree-Explorations in Beavers,” *Journal of Mammal Evolution* 14 (2007): 1–35; and Eric Jay Dolin, *Fur, Fortune, and Empire: The Epic History of the Fur Trade in America* (New York: W. W. Norton & Company, 2010), xi.

3. David Thompson, *The Writings of David Thompson*, vol. 2: *The Travels, 1848 Version, and Associated Texts*, ed. William E. Moreau (Montreal, QC: McGill-Queen’s Univ. Press, 2015), 57; Dolin, *Fur, Fortune, and Empire*, xi.

4. Rybczynski, “Castorid Phylogenetics,” 2; Ben Goldfarb, *Eager: The Surprising Secret Life of Beavers and Why They Matter* (White River Junction, VT: Chelsea Green Publishing, 2018), 23, 60.

5. Rybczynski, “Castorid Phylogenetics,” 1–35; Hood, *Beaver Manifesto*, 115.

6. Wohl, *Saving the Dammed*, 26; Dietland Müller-Schwarze, *The Beaver: Its Life and Impact*, 2nd ed. (Ithaca, NY: Comstock Publishing Associates, 2011), 93–94; Müller-Schwarze, *Beaver*, 100–101.

7. Wohl, *Saving the Dammed*, 1–9; Glynnis A. Hood and Suzanne E. Bayley, “Beaver (*Castor canadensis*) Mitigate the Effects of Climate on the Area of Open

Water in Boreal Wetlands in Western Canada,” *Biological Conservation* 141:2 (Feb. 2008): 556–67; Hood, *Beaver Manifesto*, 48–52.

8. William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (1982; repr. New York: Hill and Wang, 2003), 20.

9. Dolin, *Fur, Fortune, and Empire*, 13.

10. Dolin, *Fur, Fortune, and Empire*, 62, 93, 110, 116; John Phillip Reid, *Contested Empire: Peter Skene Ogden and the Snake River Expeditions* (Norman: Univ. of Oklahoma Press, 2002), 3.

11. Dolin, *Fur, Fortune, and Empire*, 220–21, 285; John Phillip Reid, *Forging a Fur Empire: Expeditions in the Snake River Country, 1809–1824* (Norman: Univ. of Oklahoma Press, 2011), 42–44; Jennifer Ott, “‘Ruining’ the Rivers in the Snake Country: The Hudson’s Bay Company’s Fur Desert Policy,” *Oregon Historical Quarterly* 104:2 (Summer 2003): 166–95.

12. Lewis, Clark et al., July 14, 1806, entry in *Journals of Lewis and Clark Expeditions*. For examples of beaver abundance, see Alexander Ross, *Adventures of the First Settlers on the Oregon or Columbia River*, ed. Milo Milton Quaife (Chicago: Lakeside Press, 1923), 130, 153, 252, 254, 255, 299; and Alexander Ross, *The Fur Hunters of the Far West*, ed. Kenneth A. Spaulding (Norman: Univ. of Oklahoma Press, 2001), 178, 216, 237, 256, 257, 267, 274.

13. Ross, *Fur Hunters of the Far West*, 100–101, 252.

14. “Snake Country” refers to Shoshone territory. Alexander Ross explains that this area roughly encompassed a crescent-moon-shaped, 150,000-square-mile swath of land. On the east it outlined the west side of the Rocky Mountains all the way up to about 200 miles north of the Grand Tetons; to the west it included the Blue Mountains and east of the Umpqua River. It was bounded by the Colorado River basin in the south. Ross, *Fur Hunters of the Far West*, 167.

15. Ott, “‘Ruining’ the Rivers in the Snake Country,” 173, 167. For examples of Americans trapping out streams, see Ogden, *Peter Skene Ogden’s Snake Country Journals*, 44, 45, 46, 60, 141, 155, 232, 233; and Lewis, ed., *Journal of John Work*, 95, 98, 99, 160.

16. Ogden, *Peter Skene Ogden’s Snake Country Journals*, 87; John Work, *The Snake Country Expedition of 1830–1831*, ed. Francis D. Haines Jr. (Norman: Univ. of Oklahoma Press, 1971), 34; Lewis, ed., *Journal of John Work*, 179; and Samuel Parker, *Journal of an Exploring Tour Beyond the Rocky Mountains* (Auburn, NY: J. C. Derby & Co., 1846), 187. See also Ott, “‘Ruining’ the Rivers in the Snake Country,” 167; and Wohl, *Saving the Dammed*, 42.

17. Goldfarb, *Eager*, 121; Nancy Lang-

ston, *Where Land and Water Meet: A Western Landscape Transformed* (Seattle: Univ. of Washington Press, 2003), 19.

18. Emily Fairfax and Eric E. Small, “Using Remote Sensing to Assess the Impact of Beaver Damming on Riparian Evapotranspiration in an Arid Landscape,” *Ecohydrology* 11:7 (2018): 7–11; and Emily Fairfax, email to author, Nov. 12, 2018.

19. Emily Fairfax and Andrew Whittle, “Smokey the Beaver: Beaver-Dammed Riparian Corridors Stay Green During Wildfire Throughout the Western United States,” *Ecological Applications* 30:8 (Sep. 8, 2020): 5; David Thompson, *Columbia Journals*, ed. Barbara Belyea (Seattle: Univ. of Washington Press, 2007), 23; Enos A. Mills, *In Beaver World* (1913; repr. Whitefish, MT: Kessinger Publishing, 2005), 160; Scott Shahverdian, Stephen Bennett, and Joseph Wheaton, *Baugh Creek Post-Fire Emergency Restoration—Prioritizing and Planning Post-Fire Restoration in the Baugh Creek Watershed* (Newton, UT: Anabranch Solutions, 2018), 7; and Isobel Whitcomb, “Beaver Dams Help Wildfire-Ravaged Ecosystems Recover Long after Flames Subside,” *Scientific American*, Feb. 7, 2022.

20. James K. Agee, *Fire Ecology of Pacific Northwest Forests* (Washington, DC: Island Press, 1993), 25–30; William G. Robbins, *Landscapes of Promise: The Oregon Story, 1800–1940* (Seattle: Univ. of Washington Press, 1997), 24. If it was dry enough, the Kalapuyans spot-burned the Willamette Valley in July and August after harvesting desired plants such as sunflower seeds, hazelnuts, and berries. As the weather further dried, burning became more widespread to clean up woody debris, prevent forest encroachment, and maintain open corridors for travel. In late summer, they burned more to collect insects. Lastly, they set fire to the valley edges to drive deer and improve hunting success in October. Robert Boyd, ed., *Indians, Fire and the Land in the Pacific Northwest* (Corvallis: Oregon State Univ. Press, 1999), 94–95.

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Above: An unnamed sketch of a rider with a packstring,
Joe De Yong, ca. 1930.

Front cover: *Lower Falls, Waterfall in Yellowstone,*
John Henry Twachtman, 1895.



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