RAMSEY COUNTY
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Henry Bosse, Mark Twain And The Mighty Mississippi
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Richard C. Lilly The Man Who Led Two Lives—*Page 4*

The Lilly family at their Mendota Heights farm. Left to right: David, Richard C. Lilly, Sr., Richard, Jr., and John.

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RAMSEY COUNTY
History

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A Message from the Editorial Board

Many long-time residents of Ramsey County have heard of or know about the banking activites and contributions of Richard C. Lilly, a former president of the First National Bank in St. Paul. Lilly had a distinguished banking career that began in 1900, when he was sixteen, and lasted until his retirement from First Bank as president in 1945. Business associates, community leaders, and friends of Lilly who had followed the many twists and turns in his banking career understood that he epitomized the American dream in his rise from very humble beginnings to great business success. Lilly was a self-made man, but as Virginia Brainard Kunz shows in the lead article in this issue, Lilly led two lives; he was also a very giving man whose philanthropy serves as a model of generosity even today. Until his death in 1959, Lilly repeatedly shared his wealth, time, and talents with many schools, churches, and charities that have continued to make Ramsey County a better place to live for its citizens.

The Ramsey County Historical Society has recently remounted an exhibit of Henry Peter Bosse's unusual cyanotype photos of the Mississippi River that Bosse took in the 1880s and 1890s. In honor of the reopening of this exhibit, our magazine includes an insightful and persuasive article by Michael Conner, who originally discovered many of the Bosse prints in 1991. Connor's article demonstrates the definite influence of Mark Twain's *Life on the Mississippi* (1883) on certain aspects of Bosse's photographic work. The similarities and parallels that Conner identifies between many of Bosse's photos and Twain's descriptions of the Mississippi are remarkable and shed new light on our understanding of Bosse's achievements as a visual artist.

John M. Lindley,
Chair, Editorial Board

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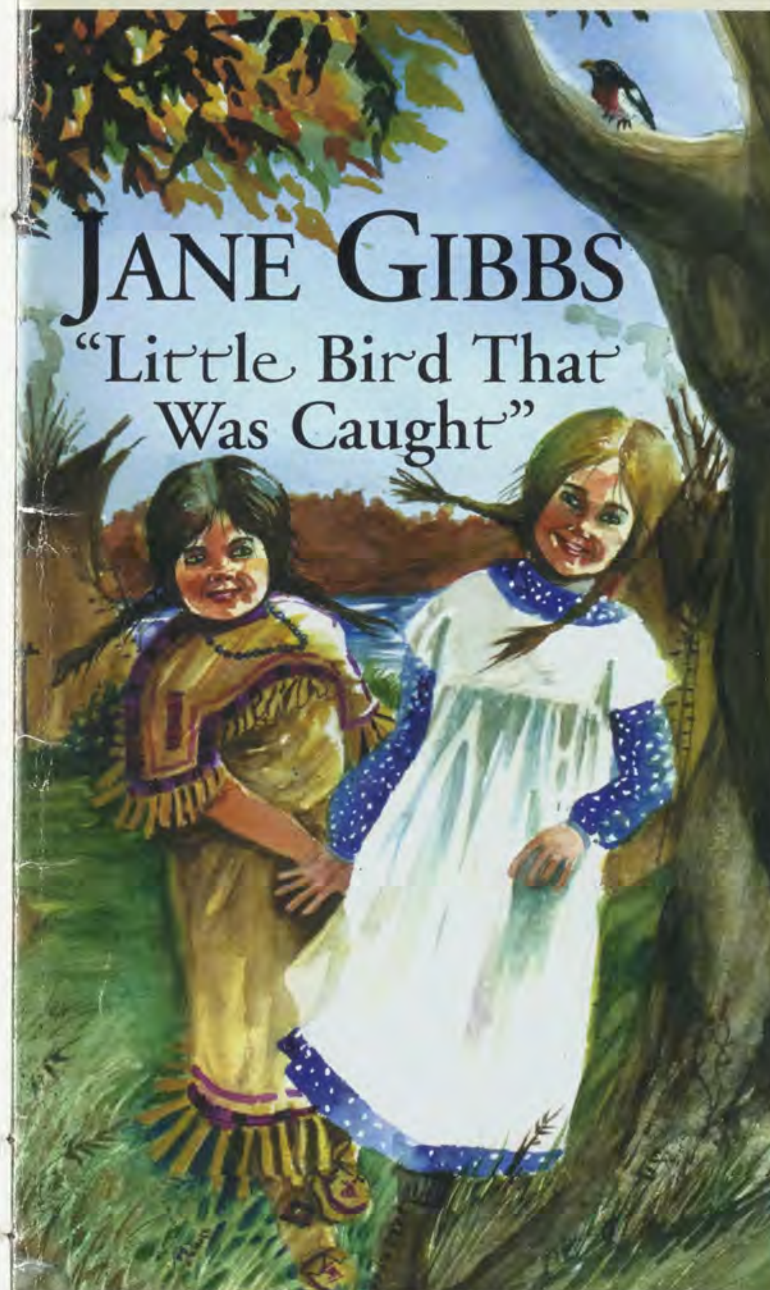

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PUBLISHED BY THE RAMSEY COUNTY HISTORICAL SOCIETY

Henry Bosse and Samuel Clemens as Mark Twain—Parallel Lives on the Mighty Mississippi

Michael Connor

The name of Mark Twin is forever linked to the Mississippi River. The thought of one almost inevitably invokes the other, and has done so since Samuel Clemens's series of articles, "Old Times on the Mississippi," appeared in the *Atlantic Monthly* in 1875. These sketches would become the basis for his *Life on the Mississippi*, published to wide acclaim eight years later.

Clemens's words formed verbal pictures of the river that would become indelibly etched upon the American consciousness. Almost simultaneously with publication of *Life on the Mississippi*, they inspired an immigrant artist to begin translating the author's vision of the river into tangible images as he documented the work of the United States Army Corps of Engineers. These incredible photographs, now acknowledged as American treasurers, once were viewed by thousands of people and then forgotten for nearly 100 years. The following is the story of this artist's work, the forces that engendered it, and the rediscovery of its hidden subtext, lost for most of the twentieth century.

The sale in 1990 by New York's Sotheby auction house of an album of cyanotype views of the Mississippi, taken in the 1880s and 1890s captivated the antique photography world, collectors and curators alike. The album pictures landmarks, cities, towns, and villages along the river as well as Corps of Engineers' projects and equipment: canal locks, dams, riverboats, structures, and the like.

This collection was impressive—168 oval contact prints 10 inches by 13 inches, printed on 15-inch by 18-inch paper watermarked "Johannot's Satina Aloe," a well-known nineteenth century cyanotype paper. Each was numbered and each bore a land-lettered description and date. Some had an ink wash applied outside the oval as a sort of border, although most had none.

Henry Bosse. Photo courtesy of William F. Quaintance, Moline, Illinois. Unless otherwise noted, all other photographs with this article are from the St. Paul District, United States Corps of Engineers.

> The Ramsey County Historical Society's exhibit of Henry Bosse's spectacular photographs of the Mississippi River is now open in the Society's exhibit space in the North Lobby on the first floor of Landmark Center in St. Paul. These rare old photographs are cyanotypes, a type of photograph which resembles a blueprint and represents an old technique that used the chemical, cyanine, to produce images. The photographs were taken by Bosse between 1883 and 1891, a period in his career when he lived for a time at the Cosmopolitan Hotel in St. Paul. The exhibit is free.

The album's elaborate frontispiece was a tour-de-force of nineteenth century draftsmanship, and featured a sketch of a high bluff overlooking the Mississippi with a riverboat steaming by below. Concealed in the rocky face of the cliff were a pair of serpents, a fanged hound, and what appeared to be an alligator wearing pince-nez glasses and bearing a cryptic inscription, "Meigs." The album was captioned: "*Views on the Mississippi River, between Minneapolis, Minn., and St. Louis, Mo., from negatives taken and printed under the direction of Maj. A. Mackenzie, Corps of Engineers, U.S.A. by H. Bosse, draughtsman 1883–1891.*

The set had belonged originally to Major General Alexander Mackenzie, President Theodore Roosevelt's chief of engineers from 1904 to 1908. As a young officer, Mackenzie had spent sixteen years in charge of snag boats and navigational improvements on the upper Mississippi. The album had been consigned to Sotheby's by an antiquarian who felt it was an important and hitherto-undiscovered piece of American photographic history deserving of wider recognition.

In point of fact, it changed that history. Nothing like this collection had been seen before; there was no known American use of the cyanotype remotely comparable to Bosse's in size, scope, or intention. As an artistic creation, it was unprecedented.

Although an early invention in the evolution of the medium, the cyanotype long had been considered a sort of orphan step-child of photography, the first cousin of a blueprint. It was sneered at by professionals as decidedly amateurish, and it was relegated to largely industrial use. The blueprint process had been introduced in the United States in 1878

Mark Twain, in Life on the Mississippi: *"The majestic bluffs that overlook the river, along this region, charm one with the grace and variety of their forms and the soft beauty of their adornment. The steep verdant slope, whose base is at the water's edge, is topped by a lofty rampart of broken, turreted rocks, which are exquisitely rich and mellow in color—mainly dark browns and dull greens, but splashed with other tints." Here is Bosse's photograph of the bluffs at Trempealeau, Wisconsin, looking upstream, 1885.*

through the scientific and engineering communities. With the advent of personal photography, the process was adopted quickly by amateur photographers as a simple and inexpensive means to produce a print, and just as quickly discarded with the introduction of newer developing techniques.

That a draftsman should have chosen cyanotypes as a photographic medium was hardly surprising, given that occupation's familiarity with the blueprint process. The cost was meager and the resulting prints had the added advantage of being easily enhanced with an ink wash, something Bosse had done with a number of his images, adding clouds and other effects.

A subsequent exhibit in a New York gallery of photographs from the Mackenzie album and the discovery by the Corps of Engineers of a second album that had lain since the 1930s in the captain's desk of a Mississippi River dredge, garnered a spate of attention in the American press. In publications as diverse as the *New Yorker Magazine* and the *Minnesota Volunteer*, the images were described as superb, breathtaking, incredible, and amazing. A discussion of Bosse's work was broadcast on public radio. After nearly a century of neglect and obscurity, Henry Peter Bosse was quickly elevated to the pantheon of important American photographers.

Immigrant Artist

Little is known about Bosse's early history. He was born Peter Heinrich Bosse in 1845 near Magdeberg, Germany, and was said to have been the maternal grandson of General Neithardt von Gneisenau, a distinguished Prussian military strategist of the Napoleonic era. Bosse's father appears to have been master of Germany's first forestry school founded by the fieldmarshal in the forest near his estate. Bosse emigrated to the United States in 1865 at the age of twenty-one and settled in Chicago. He was described as an intelligent and educated man, a cultured professional of aristocratic mien and military bearing. He spoke heavily-accented English.

He entered into business as a stationer with another young Prussian immigrant, Frederick Lang, with whom he shared a room at a local boarding house. Much of a stationer's business at that time consisted of producing simple line sketches, ink wash drawings and elaborate calligraphy for greeting cards, invitations, placecards, and menus. The fledging business ground to a halt, however, after the Great Chicago Fire of 1871 and Bosse was forced to find work as a bookkeeper for a Chicago rolling stock company.

His fortunes changed in 1874 when he was hired as a draftsman by the Chicago office of what is now the United States Army Corps of Engineers, a position that would bring into play all his artistic skills. He transferred to St. Paul in 1875, and then to the Rock Island, Illinois, office in 1878 where he would remain for the next twenty-five years. He was, however, responsible for more than simply drawing maps and plans. His job also involved accompanying survey parties to record data and sketch topography, and until at least the 1890s, much of his work was performed in the field.

One such effort during his initial spring season at Rock Island involved the first-ever comprehensive survey of the upper river. The work, which was not completed until the following year, resulted in the first surveyed map of the upper Mississippi. Throughout his career with the Corps, Bosse would produce countless pages of maps and engineering drawings for bridges and other structures, plans for riverboats, sketches of worksites, caricatures of himself and others, oil paintings, relief models of the river, and nearly 400 fascinating photographs.

Improving the Mississippi

The Corps of Engineers had received a mandate from Congress in June, 1878, to construct a 4½-foot deep channel from St. Paul to St. Louis, roughly 700 miles. The massive project eventually would be achieved through a combination of military leadership and contracted labor funded annually by project-by-project appropriations.

In its natural state, the upper Missis-

Life on the Mississippi: *"We had a glimpse of Davenport, which is another city on a hill—a phrase which applies to all these towns; for they are all comely, all well built, clean, orderly, pleasant to the eye, and cheering to the spirit; and they are all situated upon hills." This is Bosse's St. Paul in 1885.*

sippi's main navigation channel (essentially a river within a river) constantly shifted from one bank to the other, usually at a bend in the stream. In the process, it encountered rapids, sandbars and snags (sunken trees), the chief causes of steamboat mortality. In addition, innumerable backwaters and sloughs siphoned water away from the main channel. Each spring floods damaged the river's banks. Dry seasons brought periods of low water, when long stretches of the river were largely impassable to vessels of any size, causing the head of navigation to drop from Minneapolis to as far south as Winona, Minnesota, or La Crosse, Wisconsin.

The Corps sought to reshape the upper Mississippi, a wild and unpredictable natural river, into an orderly, controlled, and easily navigated transportation waterway. This was done by several methods, including the construction of wing dams, narrow, finger-like projections from the river's banks towards its center, composed of alternating layers of rock and brush. Areas between the dams silted in, thereby increasing water volume and narrowing and scouring the channel. They were built along both banks by the hundreds, and the use of mechanical and hydraulic dredging would further deepen shallow sections of the river.

Samuel Clemens as Mark Twain noted in *Life on the Mississippi* that "They are building wing dams here and there, to deflect the current; and dikes to confine it in narrower bounds; and other dikes to make it stay there."

The removal of trees from the edges of the riverbanks prevented them from toppling into the water and becoming snags. Laying down rip-rap and revetment (layers of rock and brush) helped protect the banks from caving in and adding to the sediment to be removed.

An Intellectual Island

As Clemens commented, "now and then on the stream of time small bogs of that thing we call genius drift down, and a few of these lodge at some particular point, and others collect about them and make a sort of intellectual island—a towhead as we say on the river. . . ."

It was just this sort of intellectual island that began to form in the late 1870s at the Corps of Engineers' office in Rock Island. This office, which largely planned and oversaw the upper Mississippi reconstruction effort, consisted of Bosse and more than a dozen other men who developed friendships that would endure for the rest of their lives. Mackenzie, who had been placed in charge of the 4½-foot channel project in 1879, commanded the group.

Born in 1845 and six months older than Bosse, Mackenzie had grown up near the Mississippi during the heyday of the steamboat. He was a brilliant West Pointer of the class of 1864, and he already had distinguished himself in a career that included improvements to the harbors of Lake Michigan, a stint in charge of the Engineers' School at Wilet's Point, New York, and assignment as assistant engineer of repairs to the Louisville and Portland Canal and improvement of the falls of the Ohio at Louisville.

He was a natural leader. He was described as tall, lanky, bookish, "simple, strong, kindly, considerate of everyone high or low, a man's man in every sense of the word." He possessed a first-rate engineering mind, a dry Scottish wit, and a sharp tongue. The staff also included Montgomery Meigs, assistant engineer, and C. W. Durham, principal assistant engineer.

Meigs, born in 1847, also possessed a brilliant engineering mind and held degrees from Harvard University and the Royal Polytechnic School of Stuttgart, Germany. Congress appointed him civil engineer for the Mississippi River projects in 1876. He also was a skilled inventor and boat designer, and had a keen interest in photography. His father had surveyed the Des Moines and Rock Island Rapids of the Mississippi in the 1830s with Robert E. Lee and later became quartermaster-general of the Union Army during the Civil War. The elder Meigs had been a dedicated amateur photographer as early as the 1850s, exposing plates depicting family picnics, scenic views, machinery, and architecture. He

even photographed Lincoln's first inauguration. As quartermaster-general, he had systematically commissioned vast amounts of documentary images of the war and was responsible for his son's (and in large part the army's) understanding of the many uses of photography.

Durham was born the same year as Meigs. He, too, had a Harvard education, as well as an advanced degree in engineering from the University of Heidelberg, Germany. Durham was captain initially of one of Rock Island's two snag boats and eventually was placed in charge of operations of the District's entire government riverfleet. He, Meigs, and Mackenzie all spoke German, and their familiarity with Henry Bosse's native language must have strengthened the bond among them and eased Bosse's inclusion in this fraternity of rivermen.

Mark Twain's tall alligator tale: "The pilot warmed to his opportunity, and proceeded to load me up in the old-fashioned way . . . . 'An alligator boat? What's it for?' 'To dredge out alligators with.' 'Are they so thick as to be troublesome?' 'Well, not now, because the government keeps them down. But they used to be. Not everywhere; but in favorite places, here and there, where the river is wide and shoal—like Plum Point, and Stack Island, and so on—places they call alligator beds.'" The U. S. dredge Phoenix *photographed by Bosse in 1885.*

Corps Life on the River

After the death of Mackenzie's wife in 1884, the district snag boat, *U.S. General Barnard*, became his home and office for much of his next decade on the river. The *Barnard* was said to be the grandest boat ever built for the Corps' use on the upper Mississippi. It was named for General Gross Barnard, chief engineer of the defenses of Washington, D. S., under General Ulysses S. Grant during the Civil War. Construction of the boat began in 1878, the year Barnard was appointed to the Board on Improvement of the Low-Water Navigation of the Mississippi and Missouri Rivers, and was completed in 1879.

In *Life on the Mississippi*, Clemens as Twain uses the term, "the house beautiful" to describe the best of the Mississippi steamboats. He argues that these vessels truly were "floating palaces" when compared with the best homes that were familiar to the people of the Midwest. Twain then provides several pages of descriptions of the interior of "the residence of the principal citizen" of a Mississippi river town. Bosse's series of interior images of Mackenzie's quarters on the *General Barnard* reveals furnishings and fittings typical of any upper middle class home of the period: comfortable, paneled, masculine rooms furnished largely in golden oak, with portierres, door curtains, and fringed curtains at the windows. On the elaborate sideboard in the dining room stand a bowl of fruit, wine and liquor, glass tumblers, and an ironstone water pitcher. Mackenzie's bedroom accomodated a small table, chair and dressing table, and his neatly-made iron and brass bed, with fitted drawers underneath for storage.

The connecting office/sitting room contained his roll-top desk; tucked discreetely beneath the pigeonholes is a bottle of liquor and a box of cigars. There is a library table with vase and freshly-cut greenery, carelessly arranged as a man might do, and copies of *Life Magazine*, a popular periodical of the day which featured jokes, cartoons, satire, and Gibson girls. In the background is a settee with large tasseled pillows on which Mackenzie's banjo reclines.

The *General Barnard's* pilot was David Tipton, a veteran riverman who later became captain after Durham was shifted to other duties. Tipton's knowledge of the Mississippi, born of practical hands-on experience, was altogether different from that of the engineers. "Capt. Davey," as he was called by his friends, was a Mississippi pilot before Samuel Clemens began his career as a "cub," or apprentice pilot, and claimed a personal friendship with the author. Tipton had started in his youth as a raftsman on the Ohio and Missouri Rivers, and over the years had served as a pilot for the Keokuk Northern Line of steamers and the United State government's riverfleet during the Civil War, and as a special pilot for the Rock Island and Des Moines Rapids.

Tipton was described as "a giant in physique, weighing more than 300 pounds and being more than six feet tall. He was genial, generous, and possessed of more than his share of loving kindness. He was frankness personified and was at ease . . . whether hobnobbing with senators or telling a wholesouled story of some episode in his picturesque life to his subordinates."

Mark Twain: "But this thing has knocked the romance out of piloting, to a large extent . . . . For instance, the peril from snags is not now what it once was. The government's snag boats go patrolling up and down, in these matter-of-fact days, pulling the river's teeth; they have rooted out all the old clusters which made many localities so formidible; and they allow no new ones to collect." Bosse photographed this snagging scene, 1885.

The snag boat's work was carried on during the day, while in the evenings it took on the air of a floating gentleman's social club. A newspaper account by a Louisville writer, an old friend of Mackenzie's, offers a tantalizing glimpse of everyday life aboard the *General Barnard*.

> Three weeks on a government snag boat does not seem wildly exciting, and in fact is more associated with placid and resigned ennui. However that may be, from the picturesque arched bridge at St. Louis to the Falls of St. Anthony the Mississippi is full of interest, and one whose privilege it is to loiter along in a snag boat is more apt to appreciate what he sees than the ordinary packet passenger.
>
> The main duty of the snag boat seemed to be keeping the channel of the river free of snags. The means adopted are simple enough and consist of raising sunken snags with the grapnels. As the banks cave, the water line approaches the trees, until trees with their roots exposed hang over the edge of the water. These are cut down—that is, all above six inches in diameter—and the trunks are separated from the roots and swung slowly downstream. The reason for this is that snags can only be formed by trees with the roots attached. The axmen are artists in their line and can lay a tree exactly where they wish, even though the tree be slightly inclined in another direction.
>
> All along the river points of interest succeed each other rapidly enough to keep the interest never flagging. Nauvoo . . . is pointed out as an object of interest . . . . Here Joseph Smith, prophet of Mormonism, founded his first colony and temple. . . . Nauvoo is now a French settlement, the whole business of which consists of grape growing and wine making. They make a delicious little wine, very cheap and very heady, and their hospitality is proverbial. They never suffer a visitor to leave town sober.
>
> Our pilot, Captain Davey Tipton, is one of the oldest pilots on the river possessed of a fund of anecdotes and a fascinating way of narrating them. I asked the Captain if he remembered Mark Twain.
>
> "Well, I should think so. That Mark, he came on the board one time after a long absence and didn't want nobody to know him. Well, he came into the pilot house one day and there was a little boy asking him all kinds of questions about the boat. Well, Mark, he kept answering blunderingly-like for a long time, till finally the man at the wheel says, 'D—it, Sam, you take the wheel awhile and I'll lie some to that boy.' You see, he was piling it on so thick that the pilot couldn't stand it no longer. Yes, he knowed all about the river."
>
> The snag boat does not run at night, and every evening at half past five "Old Davey" tied up near a sand bar. Then we had out bathing suits and fishing tackle and whiled away the time until supper. Mark Twain is authority for the statement that Mississippi river water is both food and drink, but he forgot to add that it is also highly exhilerating. Some very exciting effects are produced by a little of the same mixed with a small quantity of old Bourbon. After the swimming and fishing, a little supper, then a little game of draw or baccarat, and then—another little supper. Such is the life of the privileged aboard the snag boat.

That such gentlemanly pursuits as card games and the consumption of various alcoholic libations were more the rule than the exception among the group was hardly surprising, given the men involved. Bosse likely felt quite at home in this floating salon; Mackenzie was a close friend and an avid card player, and neither he nor Bosse was known as a teetotaler. Certainly, the photographer was a frequent traveler aboard the *General Barnard* and may have used her as a base of operations, given the boat's prominence in many of his images.

First Images

The genesis of Bosse's photography project lay in Alexander Mackenzie's need to illustrate the scope and breadth of the work under his command to his superiors in the Corps and Congress. The idea may have been suggested by Meigs, whose father had helped to pioneer the army's use of photographic surveys.

The artist's first images were taken in the spring or early summer of 1883, and included preliminary construction at one of Meigs's projects, a government drydock at the Des Moines Rapids Canal.

They also included a photograph of the *General Barnard* and her crew posed with a giant snag, images of other boats, as well, and a view of the bluffs at Lynxville, Wisconsin, reflected in the river. One photograph portrayed a figure on a log raft before an unidentified river town. Only about twenty images were made that year, none the following year.

The second year of the project was 1885, one in which river and harbor appropriations for snagging and dredging were stalled in congressional committees owing to political infighting. Bosse photographed much of the upper river, exposing more than 100 plates, from the Eads Bridge at St. Louis to the Falls of St. Anthony at Minneapolis, concentrating largely on scenic views. About a third of his images that year were of government and privately-owned boats plying the upper river.

His views of Mackenzie's quarters on the *General Barnard* date from this period. Images of boat interiors of the day are quite rare, and Bosse's studies represent portraits of these rooms, where everything within the camera's view was carefully and artfully arranged.

This same attention to detail can be seen in an exterior view of the snag boat taken the same year. Three boys with bicycles pause to admire the steamer, shown in three-quarter profile moored at the river's edge, the Engineers' and United States flags fluttering at just the right angle. The effect is of a casual occurance, but the scene reflects Bosse's quite careful composition.

No images were taken in 1886 or 1887. Funding for snagging and dredging was still stalled in committee, and Mackenzie noted in his Annual Report of 1887 that the river was nearly impassable at points for want of this work.

Another draftsman, A. J. Stibolt, was hired that year, and he and Bosse produced a new twenty-seven page *Map of the Mississippi River from the Falls of St. Anthony to the junction of the Illinois River*, a vastly improved product from earlier maps, particularly in the rendering of topographical detail. This was widely distributed along the river and became something of a public relations coup for the Corps, with its artful depictions of the various bridges, dams, and other improvements wrought by the engineers in the process of creating the new channel.

A Bosse caricature of himself, as a Huck Finn-type character. From the author's collection and reproduced here with his permission.

The spring thaw of 1888 brought severe flooding to the upper Mississippi, and Bosse made thirteen photos of the devastation in Rock Island and Davenport, Iowa, just across the river. One of the Rock Island images was taken from the front balcony of the engineers' office overlooking Spencer Park. In the same year, Congress passed legislation requiring Corps oversight of all bridges crossing navigable rivers. Money once again began to flow from Washington, including a continuing annual appropriation of $25,000 for dredging and snagging, approximately the yearly cost of the *General Barnard's* operation.

Bosse again produced more than 100 glass plate negatives in 1889, including views of some of the towns along the river that he missed in 1885. The majority, however, were of work that was underway or already completed, or of projects that would need to be undertaken in the future, such as the elimination of shoal conditions caused by the dumping of sawdust and garbage into the river.

In 1890 he photographed fewer than ten sites, all but one in the area around Riverside Park and the Franklin Avenue Bridge in Minneapolis during record low water. Mackenzie requested and received an additional appropriation of $100 for the work. Removal of boulders in this section of the river would occupy much of the Corps's attention over the next two seasons. The photographer also found time during the year to paint Mackenzie's portrait in oils.

In 1891 Bosse undertook another photographic survey of nearly the entire upper river, again exposing more than

A lighthearted sketch of Bosse in a barrel and his caption: "Down the Mississippi from St. Paul to Grafton."

100 plates. This time he focused on *results* of the Corps's efforts, including dams and levees and the drydock and locks at the Des Moines Rapids Canal. He also produced negatives of more of the small towns along the river, as well as views of raftboat construction and the building of wing dams.

Bosse's Photographic Work

None of the individual photographic collections represents the entire body of Bosse's work. It is necessary to combine the known inventories and view them both geographically and chronologically in order to glimpse the full scope of his project and understand the forces that influenced it. While Bosse's photography is most often compared to the surveys of Watkins, O'Sullivan, and the other Western photographers who preceeded him, his work actually differs significantly in that a number of separate and distinct photo essays done at different times over a ten-year period were combined into one essay on the occasion of the 1892 World's Columbian Exposition where it was viewed by thousands of people

His first essay was a visual travelogue of the landmarks and locales along the upper Mississippi and of the boats that plied her waters. Another was of the Corps's work in digging the 4½-foot channel. Others were of an 1888 flood and 1890 low water conditions, each probably completed in a day. The final essay comprised views of what the engineers had accomplished by 1891.

Life on the Mississippi: *"The military engineers of the Commission have taken upon their shoulders the job of making the Mississippi over again—a job transcended in size by only the original job of creating it. They are building wing dams here and there, to deflect the current; and dikes to confine it in narrower bounds; and other dikes to make it stay there; and for unnumbered miles along the Mississippi, they are felling the timber-front for fifty yards back, with the purpose of shaving the bank down to low-water mark . . . and ballasting it with stones . . . . One who knows the Mississippi will promptly aver . . . that ten thousand River Commissions, with the mines of the world at their back, cannot tame that lawless stream . . . ." This is Bosse's photograph of wing dams at Pine Bend.*

Bosse and Twain

Henry Bosse became an American citizen in 1885 and, with Alexander Mackenzie, purchased land in St. Paul in December of that year. As a Christmas greeting to Mackenzie, he sketched a caricature of himself as a raggedly-dressed, barefooted youth with a giant drafting pen.

Researchers at the Mark Twain Project at the University of California, Berkeley, have confirmed that Bosse's caricature appears to be adapted from two illustrations in the original edition of *Huckleberry Finn*, published the same year. The sketch combines clothing similar to that of the central figure in "Tom Sawyer's Band of Robbers" with the face of Huck from E. W. Kemble's final drawing. Not only must Bosse have been quite familiar with Kemble's illustrations to have produced this sketch, but Mackenzie must have been, as well, for without that shared familiarity the caricature would lose its meaning.

Another self-caricature shows Bosse similarly dressed, but with readily-recognizable facial features. He is seen floating downriver in a washtub with his large-format camera perched overhead. Once again his feet are bare, and his left hand trails in the water.

Life on the Mississippi was published in 1883, the first year of Bosse's photographic work, and contains a chapter from the then-unfinished manuscript of *Huckleberry Finn*, which would be published in the United States two years later. In it, Huck and Jim "have found a fragment of a lumber raft (it is high water and dead summertime), and are floating down the river." Bosse's 1883 images include one of a figure on just such a small raft, surely not a sufficiently commonplace occurance to appear by chance, as indeed *nothing* in his images was left to chance. There is no Corps-related reason for this particular image—it can only be a Bosse homage to Clemens.

The majority of Bosse's 1885 work portrays memorable sights mentioned by Clemens in *Life on the Mississippi* during his steamboat trip from St. Louis to St. Paul, including the Eads Bridge and nearly deserted St. Louis waterfront, and the lighted railroad bridge at Louisiana, Missouri. Bosse photographed Hannibal, Missouri, the author's hometown, as well as the Des Moines Rapids Canal and Keokuk. In addition, Bosse captured views of Muscatine, the Rock Island Arsenal, Dubuque, Queen's Bluff, Trempealeau, Winona, Fountain City, Min-

nieska, Maiden Rock, and Red Wing, as well as making images around St. Paul and Minneapolis.

He also photographed the bridges below the Falls of St. Anthony, which actually were several miles above the Rock Island District's northernmost boundary in 1885. The Eads Bridge was roughly 300 miles below Keokuk, the District's southernmost jurisdiction, although the *General Barnard* regularly visited St. Louis and sometimes wintered there. There was no reason for Bosse to photograph locales outside the Rock Island District, Hannibal, in particular, other than as a visual representation of Clemens's narrative. Roughly one-third of Bosse's images from 1885 were related to steamboats, the unifying theme of Clemens's book. It could be said that the author himself actually suggested Bosse's essay with his comment that "the eight hundred miles of river between St. Louis and St. Paul afford an unbroken succession of lovely pictures."

The later chapters of *Life on the Mississippi*, beginning with Chapter 22, are rarely read today, owing to the opinion of generations of literary scholars who have decried their style, but when published they would have held as much if not more interest for Bosse and the other engineers as the first section of the book, given their intimate connection with its subject matter. In the second part of *Life on the Mississippi*, Twain frequently comments on the changes that have taken place along the river due to the work of the engineers and the railroads. The fact that David Tipton claimed a personal friendship with Clemens and was himself known for "telling a wholesouled story of some episode in his picturesque life to his subordinates" also suggests a strong likelihood that Bosse, Mackenzie, and the other members of the engineers staff would have been quite familiar with the author's work, particularly when one considers that Tipton's story about Mark Twain was lifted directly from the book.

In the same chapter in which Twain is exposed as much more knowledgeable about the river than he let on to the little boy, Clemens discussed "The Alligator Business." This was a pilot's tall tale in which it was said that the government employed special pilots and "alligator boats" to dredge out the beasts owing to their hinderance of navigation. Although this was a story in the tradition of the Western tall tale, it was also the Mississippi River variety's first appearance in American literature—or anywhere else, for that matter—and must surely have inspired Bosse's frontispiece caricature of Montgomery Meigs as an alligator with pince-nez glasses.

Speculations and Conclusions

In the course of his work as a draftsman for the Corps of Engineers, Henry Peter Bosse became an integral part of an elite cadre of individuals engaged in one of the greatest engineering projects of their day—the taming of the mighty Mississippi River. Bosse was the group's artist-in-residence; their cartographer, draftsman, caricaturist, painter, sketch artist, and photographer, as well as their colleague and friend.

For years he spent much of the spring, summer, and fall on the river recording survey data, sketching topography, and making photographs. Bosse was part of a very masculine society composed of a unique breed—rivermen—whose lives and careers were devoted to the Mississippi, whether they were engineers, riverboat pilots, deck hands, or day laborers. If Bosse saw himself as living the life of Huck Finn, perhaps one key to a clearer understanding of his reasoning might lie in Clemens's description of his title character:

> Huckleberry came and went, as his own free will . . . he did not have to go to school or to church, or call any being master or obey anybody; he could go fishing or swimming when and where he chose, and stay as long as it suited him . . . he could sit up as late as he pleased; he was always the first boy that went barefoot in the spring and the last to resume leather in the fall . . . he could swear wonderfully. In a word, everything that goes to make life precious, that boy had.

The similarities between his own lifestyle and that of the author's fictional characters were not lost on Bosse, who was sufficiently versed in Clemens's writings to include references to them in his own work. His photographic essays, ostensibly a simple record of Corps of Engineers' projects, also represent a view of the Mississippi River as portrayed in Clemens's writings.

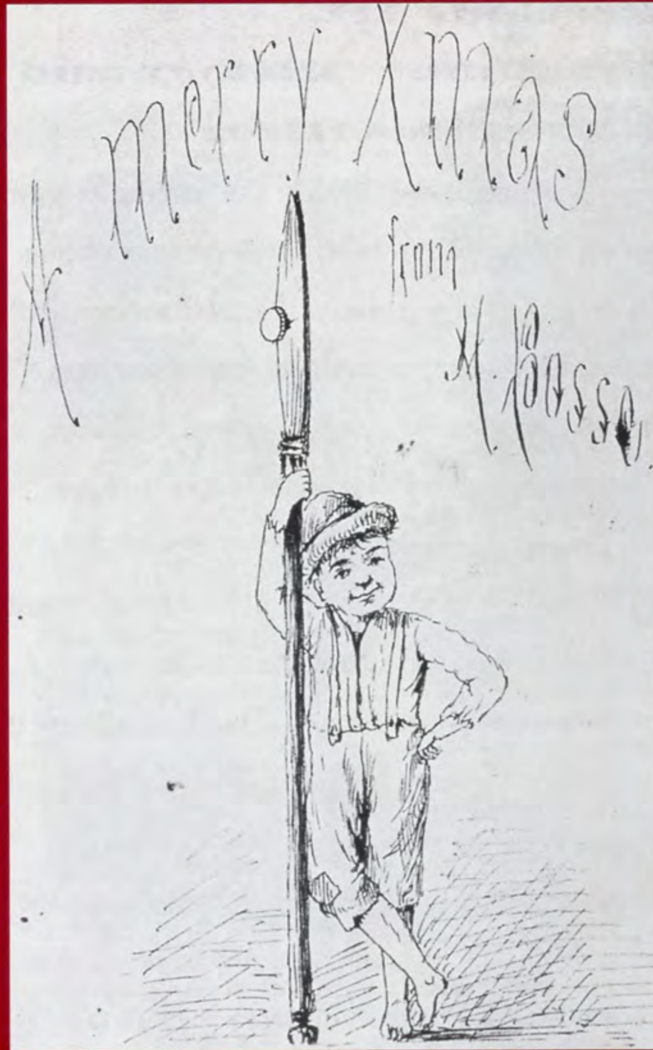
Many of Bosse's photographs capture riverboats and the communities along the banks of the upper river as they would have appeared from a steamer's decks. He shows us landmarks used by the pilots of those boats as navigational aids, as well as the increasing incursion of the railroads, which would soon bring the era of the steamboat to a close. Here, too, are the ragged small farms clinging to the river's banks, and the last vestiges of old growth forest before it fell to the lumberman's ax.

Henry Bosse's Mississippi River is the river of Tom Sawyer and Huck Finn portrayed in contemporary photographs, images through which, in Clemens's words, "great stretches of the river open up and reveal themselves." The photographer's best images impart the essence of the author's work, that which can be described only as a deeply-rooted love of the river.

Bosse's photography alone will insure his place in American history. Many of his landscapes rank with the best of other nineteenth-century photographs, while his sensitive handling of technology-based subject matter, culminating with the 1892 "Wagon Bridge at Winona," foreshadows the work of nearly every twentieth century photographer.

Seen in conjunction with his maps and other drawings, Henry Bosse's body of work represents a unique snapshot in time of a uniquely American place—Mark Twain's Mississippi River—"the body of the nation," as the first sentence in *Life on the Mississippi* describes it. Here is the river's portrait; in the minutest detail, as God and Samuel Clemens and Henry Bosse made it. For Bosse, like Clemens, it was a labor of love, producing a magnificent record of life on the Mississippi.

Michael Connor, of San Francisco, is an antique dealer who in 1991 discovered Views on the Mississippi: from negatives taken and printed under the direction of Major A. Mackenzie, Corps of Engineers, U.S.A. by H. Bosse, Draughtsman, 1883–1891.



Henry Bosse's whimsical Christmas card, another Huck Finn-like boy holding a drafting pen. This sketch is from Michael Connor's collection and reproduced here with his permission. See the article about Henry Bosse and Mark Twain beginning on page 18.

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