A tall, cylindrical brick tower, possibly a lighthouse or a monument, is the central focus. It is constructed from reddish-brown bricks and features a decorative band near the top with a geometric pattern. The tower is set against a soft, teal-colored background. The text is overlaid on the tower.

End of an Era

Past Identity / Future Vision

Harrison Judd Photographs

End of an Era

Past Identity / Future Vision

Harrison Judd

Photographs

Artspace Gallery | November 2012



Bottom, including top of base structure, American Thread Mills Bldg. No. 2 smokestack, Willimantic, Conn.

Exhibition presented by

 *The Mill Museum*
Windham Textile & History Museum
& Harrison Judd
June Bisantz, curator

Essays by

Dr. Jamie Eves, Executive Director, Windham Textile & History Museum
Maurice Sendak, Children's Book Author & Illustrator
Harrison Judd, Photographer

All photographs
23 x 34" archival pigment ink prints on watercolor paper,
limited editions of 10

sponsored in part by
the Windham Textile & History Museum and an AAUP-CSU Research Grant

Front cover - Sunset view, American Thread Mills Bldg. No. 2 smokestack, Willimantic, Conn.

End of an Era

Water, Steam & Electricity: Powering Willimantic's Mills

William S. Porter's "Willimantic from Blake Mountain," an 1882 panoramic of Willimantic, Connecticut, depicts a typical late nineteenth-century New England mill town. Half village, half city, it nestles into a narrow river valley. In the center, nine tall smokestacks rise from five busy textile factories, pouring thick clouds of coal smoke into an otherwise clear New England sky.¹ Smokestacks were among nineteenth-century New England's most iconic landmarks. They symbolized the rising economic, political, and cultural power that had made New England the cockpit of the American Industrial Revolution.

Yet the stacks also symbolize decline. One of the reasons the Industrial Revolution began in New England in 1793 rather than in the South or West was that New England had more natural energy, in the form of falling water. But nine decades later, steam had overtaken falling water as industrial America's chief source of energy. And because steam-powered mills could be built anywhere where there was a railroad to haul in the coal, the switch to steam broke New England's industrial monopoly. A century after Porter's iconic lithograph, most of New England's once-busy textile mills lay silent. The industry had moved, first to the South and then out of the United States altogether. As the factories closed, the smokestacks came down. Eventually, none would be left. This essay summarizes briefly the rise and decline of textile mills and steam power in Willimantic.

Swift Water

The story of industrial power begins with running water. New England abounded with potential millstreams. Furious and swift, they tumbled out of granite hills, plunged through narrow gorges, and

quickly reached tidewater. At the Willimantic Gorge, only 15 miles from the port of Norwich, the Willimantic River dropped more than 90 feet in less than a mile.² Between 1822 and 1854, entrepreneurs erected five large, water-powered cotton mills at the Gorge. Stone dams channeled the water into canal-like raceways, which carried it to the mills' wheelhouses. Complex power trains snaked out from the wheelhouses to the factory floors, driving the mills' thumping machinery.³

When steam power arrived later in the century, the smokestacks reinforced a vertical architecture already in place. The verticality reflected the mills' early reliance on waterpower. Mills sat directly on the riverbanks, to keep the raceways short. They were long and narrow, with large windows, to accommodate natural light. The narrow footprints meant building up, not out, and most mills were two, three, or four stories. Their signature bell towers were actually stanchions for hoisting heavy loads onto upper floors.

Hot Steam

By the middle of the nineteenth century, steam had emerged as a more inexpensive, powerful, and universal source of energy. Although steam engines date from ancient times, they were not perfected until the late 1700s, and did not become practical until after 1851, when the invention of the Bessemer process made steel affordable. Industrial steam power first arrived in Willimantic in 1849, with the railroad. Then, in the 1850s or 1860s, the mills installed steam boilers for heat (previously, they were unheated, even in winter). In the 1870s, the mills began to use steam to drive their machinery, at first in conjunction with waterpower, and then, after 1900, as the major source of industrial energy. In 1900 Willimantic's American Thread Company (ATC) burned 10,604 tons of coal in its five steam boilers. About a quarter was for heat, while three quarters drove machinery. The Company continued to use waterpower, and even some electricity.⁴

Steam power meant smokestacks, to carry off the thick black smoke created by burning coal to heat the boilers. According to an old map, the Willimantic Linen Company (WLC), the ATC's predecessor, had four smokestacks in 1866. Two were attached to now-demolished buildings that the Company had acquired from its predecessor, the Jillson Mills, in 1854. A third was at the west end of the WLC's large, stone Mill Number One, built in 1857. An engraving in the corner of the map shows this smokestack, square and brick. It was tall enough to discharge its smoke above an American flag flying from the top of the mill's bell tower. The fourth smokestack was between the river and the dye house, a wing of the Company's massive Mill Number Two, built in 1864-65. An adjacent area was labeled "coal bin." In all likelihood, these 1866 boilers were for heat and did not power machinery.⁵

During the early 1900s, all five Willimantic textile mills – three cotton mills and two silk mills – used steam power to drive machines, as well as heat buildings. Four of them had but one stack (and hence one boiler) each, but in 1926 ATC had two.⁶ ATC demolished several of the older, smaller, mill buildings that it had acquired from the WLC, along with their smokestacks; these boilers had been used only for heat. But it also had erected three new, larger buildings adjacent to Mill Number Two. The machinery in these new buildings was driven by steam, not water. To generate the needed power, ATC erected a newer, larger boiler house for Number Two. Underground pipes fed steam from the new boiler to the new buildings, as well as to Numbers Two, Number One, and many of ATC's worker tenements for heat, and above-ground drive shafts carried power to machinery.⁷ As part of these improvements, in 1908 ATC erected a new, elegant smokestack. It was round rather than square, constructed of yellow-tan bricks, and sported a decorative pattern of brown bricks at the top.⁸ ATC's Mill Number Four (see below) had its own boilers and smokestack.⁹

Electric Motors

The Age of Steam, like the Age of Waterpower, was short-lived. In 1879 the WLC installed electric lights in Mill Number Two, generating its own electricity from its dams. The next year the Company began construction of its massive, ultra-modern Mill Number Four, lit by electricity. The machines were powered entirely by steam. So that the drive system would not interfere with the lights, the power train was placed under the floor. The building was located on high ground away from the riverbanks. A big brick smokestack carried off the coal smoke. As time went by, electricity gained ground. When the ATC acquired the WLC's mills in 1898, it began gradually to install electric motors on the machines. By 1940 electricity was the predominant power source.¹⁰

All of which meant that New England's industrial primacy was coming to an end. Even more than steam, electricity was portable. New, electric mills opened in the South and overseas, where labor was cheaper. The New England textile industry began to decline after World War I, enjoyed a brief resurgence during World War II and the early years of the Cold War, and then collapsed. ATC closed in 1985. Willimantic's last textile mill, a small ribbon factory, closed a decade later. By then, steam power and smokestacks were already outmoded. One by one, Willimantic's smokestacks came down. The last, ATC's iconic, elegant, yellow, brown, and tan stack began to crumble in 2011, and was demolished. The dams and raceways still exist, but the landscape today shows little evidence that there was once an Age of Steam.

(End notes on final page)



*Executive Director,
Windham Textile & History Museum*

Past Identity

With this series of photographs, Harrison has given us an important archive that documents and preserves the lost America of our industrial age. Suffused with the beauty of turn of the century architecture and the pathos of the imminent destruction of Willimantic's iconic smokestack, he has created a poetic metaphor for the economic collapse of New England's mill towns.

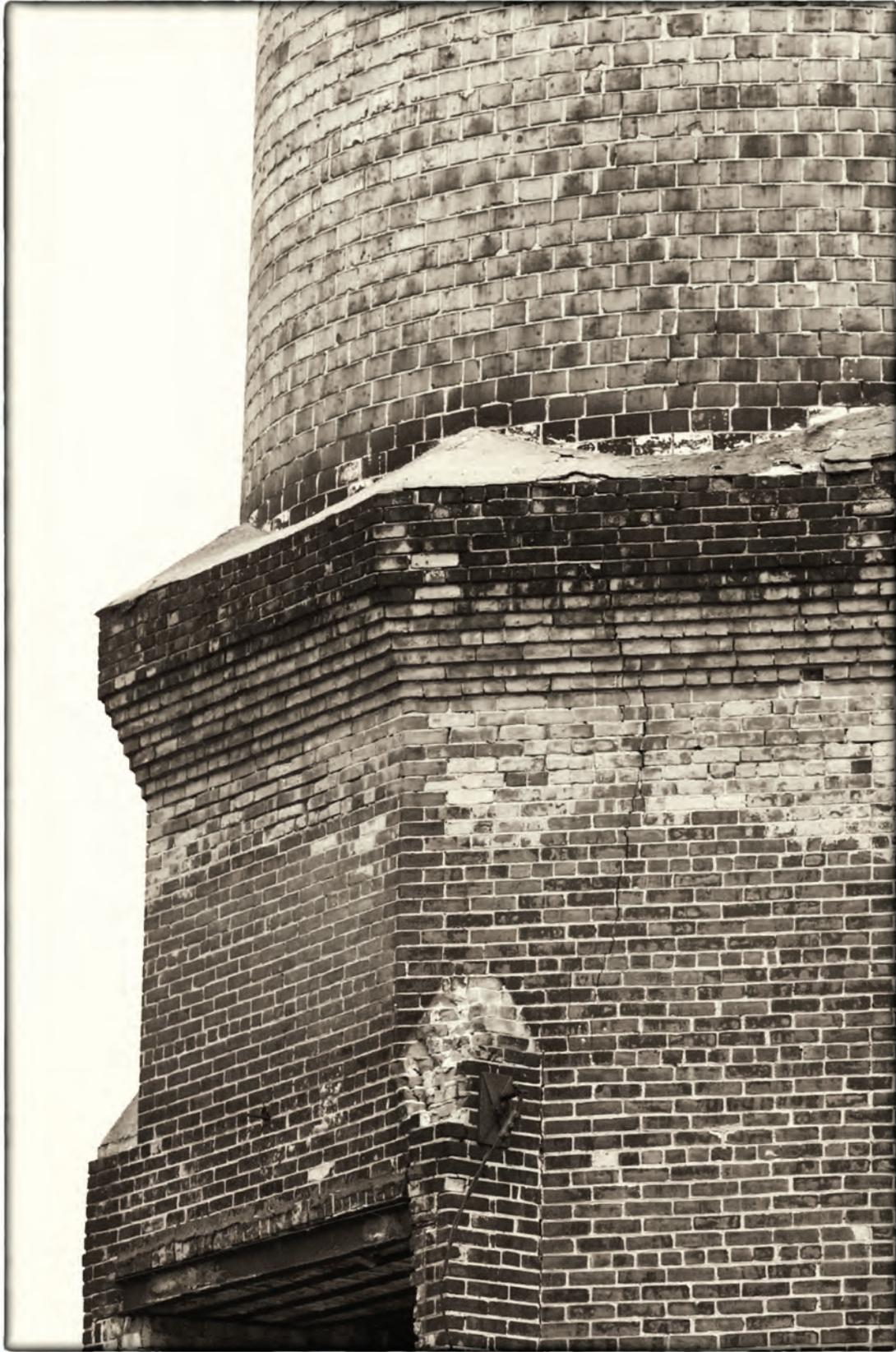
Each image is a lyrical and sensitive portrait, as a majestic and warmly glowing spire, as a looming monolith or as a reassuring landmark. Harrison has mastered the art of perceiving the extraordinary in the everyday. These pictures evoke the beauty and poetry of America's bygone industrial past with an elegance and grace that honors what we have lost.

Maurice Sendak

*Maurice Sendak (1928-2012)
November, 2011*



*Sunset view, looking east at the smokestack from the footbridge,
American Thread Mills,
Willimantic, Conn.*



*Detail, bottom, including top of base structure,
American Thread Mills Bldg. No. 2 smokestack,
Willimantic, Conn.*



*American Thread Mills smokestack,
looking southwest from Union St.
Willimantic, Conn.*



*Overview or under view,
American Thread Mills Bldg. No. 2 smokestack,
Willimantic, Conn.*



Detail, central portion, showing steel retaining bands, American Thread Mills Bldg. No. 2 smokestack, Willimantic, Conn.



View from the interior, with a glimpse of the smokestack, American Thread Mills Bldg. No. 2, Willimantic, Conn.



American Thread Mills Bldg. No. 2 and its smokestack, Willimantic, Conn.



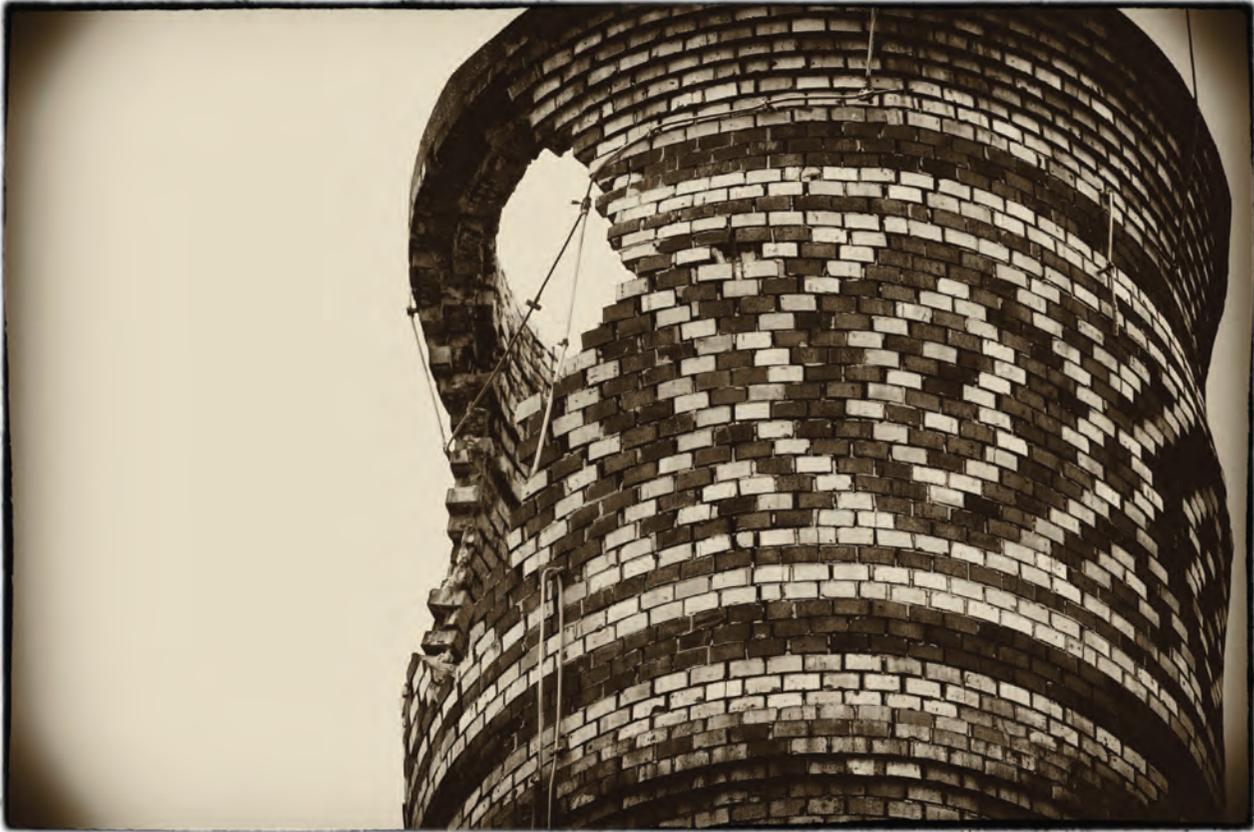
The smokestack and its environs, American Thread Mills Bldg. No. 2, Willimantic, Conn.



*Looking northeast across the river from Pleasant St.,
American Thread Mills smokestack,
Willimantic, Conn.*



*Detail, top portion, showing brick patterning and bulge from winter damage,
American Thread Mills Bldg No. 2 smokestack,
Willimantic, Conn.*



Close view of winter storm damage, American Thread Mills smokestack, Willimantic, Conn.

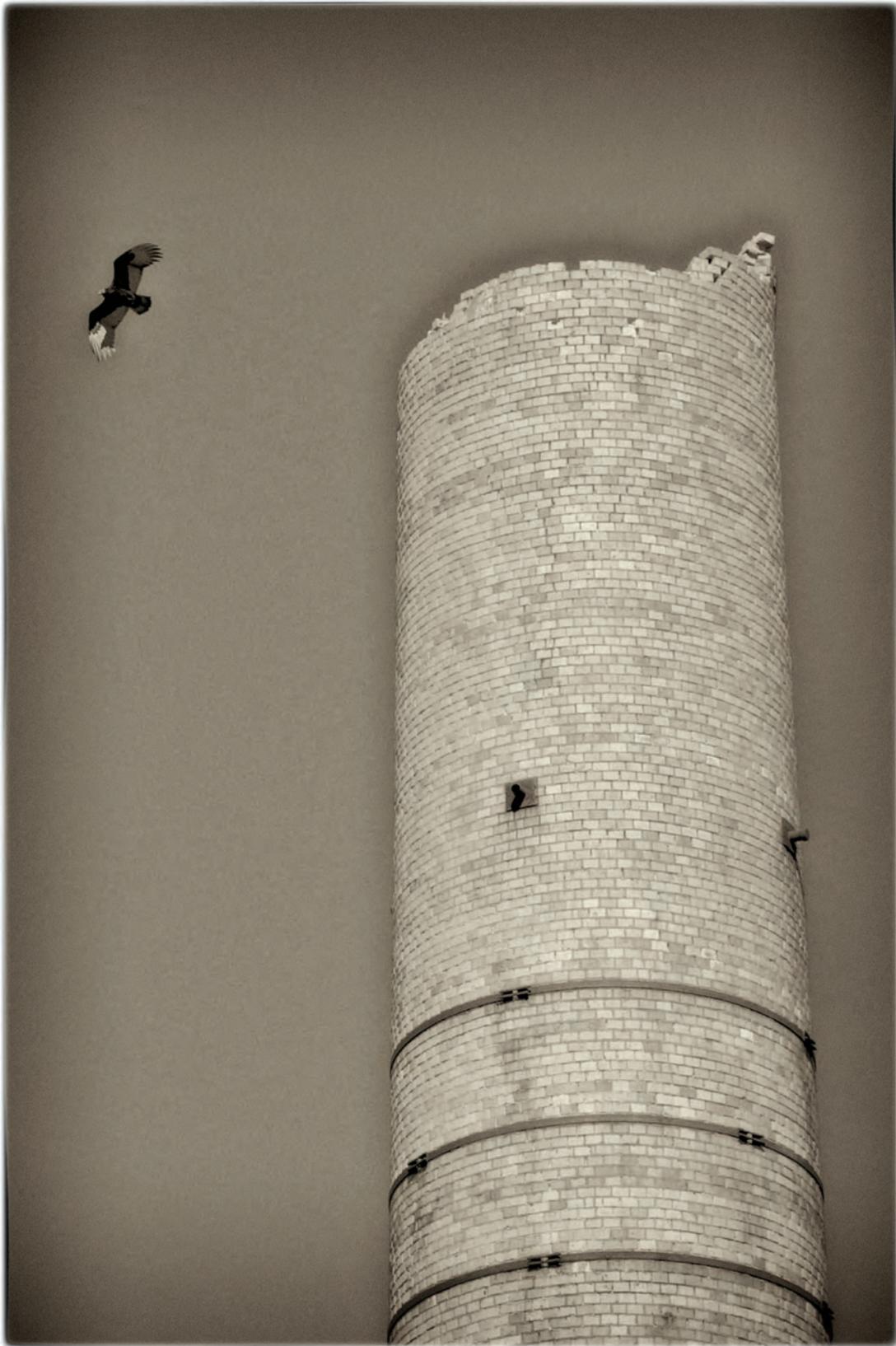


Looking southeast from American Thread Mills Bldg. No. 2, with a view of the river and the smokestack, Willimantic, Conn.



*Beginning to fall on its own,
American Thread Mills smokestack,
Willimantic, Conn.*

Thursday, August 18, 2011



*American Thread Mills Bldg. No. 2
smokestack & black vulture,
Willimantic, Conn.*

Monday, August 29, 2011



*The demolition begins,
American Thread Mills Bldg. No. 2 smokestack,
Willimantic, Conn.*

Tuesday, August 30, 2011



*The demolition continues,
American Thread Mills Bldg. No. 2 smokestack,
Willimantic, Conn.*

Wednesday August 31, 2011



*The demolition completed,
American Thread Mills Bldg. No. 2 smokestack,
Willimantic, Conn.*

Thursday, September 01, 2011

Future Vision

Only birth can conquer death - the birth, not of the old thing again, but of something new.

Joseph Campbell

When the last great smokestack was slated to be demolished last year, I only half noticed at first. Then I heard several people I admire were struggling to save it and took a deeper look. What was it that fascinated them, and now me? How could a smokestack, idle for many decades, be of any importance? Partly it was because it was unexpectedly beautiful, constantly changing with the light and the weather, and partly it was because it was one of the last icons left from a past in which Willimantic was significantly and proudly on the world stage. Its demolition was truly the end of an era.

Though a recent transplant to Willimantic, only here for a decade and a half, I am a Connecticut Yankee from a line that goes back to the early 17th century. To be called a Yankee was first intended as an insult, but was embraced and transformed. What it means to be a Yankee is defined by ingenuity, practicality and the dogged determination to invent and reinvent things and ourselves whenever necessary. I believe we must do that once again. Our spectacular river, once the source of extraordinary wealth, is seen only in bits and pieces and can easily be missed by passers-by. The railroad, once the arrival point of Presidents, no longer takes passengers. Our beautiful historic structures are in need of care and restoration.

The well known book, [A Connecticut Yankee in King Arthur's Court](#) was a parody of the Early Middle Ages, but its protagonist was smart, able and perceptive, quickly able to adjust to a new reality. The author Samuel Clemens may have come to Connecticut from the South, but he was a Yankee through and through. Late in life he rose from the ashes of personal and financial ruin by calling on the same characteristics that define any of us as Yankees. We are not truly born Yankees, we earn the title through self-reliance, hard work, resourcefulness, imagination, flexibility, perseverance and a deep abiding sense of humor.

The era of smokestacks and textile mills built our last formidable incarnation. They are now the ashes from which we must rise. Rebirth has many aspects, but I believe our greatest resources still lie right here in front of us. The future vision for Willimantic, like many New England mill towns - will be found by reconnecting ourselves to our rail transportation hub, celebrating and preserving our historic architecture, and re-embracing our river. Finally, and perhaps most importantly, it will be born by demonstrating the stubborn, independent spirit that arrived with the Pilgrims, demanded liberty in the American Revolution and lives within us all today whenever we proudly call ourselves Yankees.



*Harrison Judd
September, 2012*



Afternoon sunlight on the railroad tracks from the footbridge, Willimantic, Conn.



Rail cars waiting for an engine, with a view of Bridge Street, Willimantic, Conn.



Town Hall looking south from High St., Willimantic, Conn.



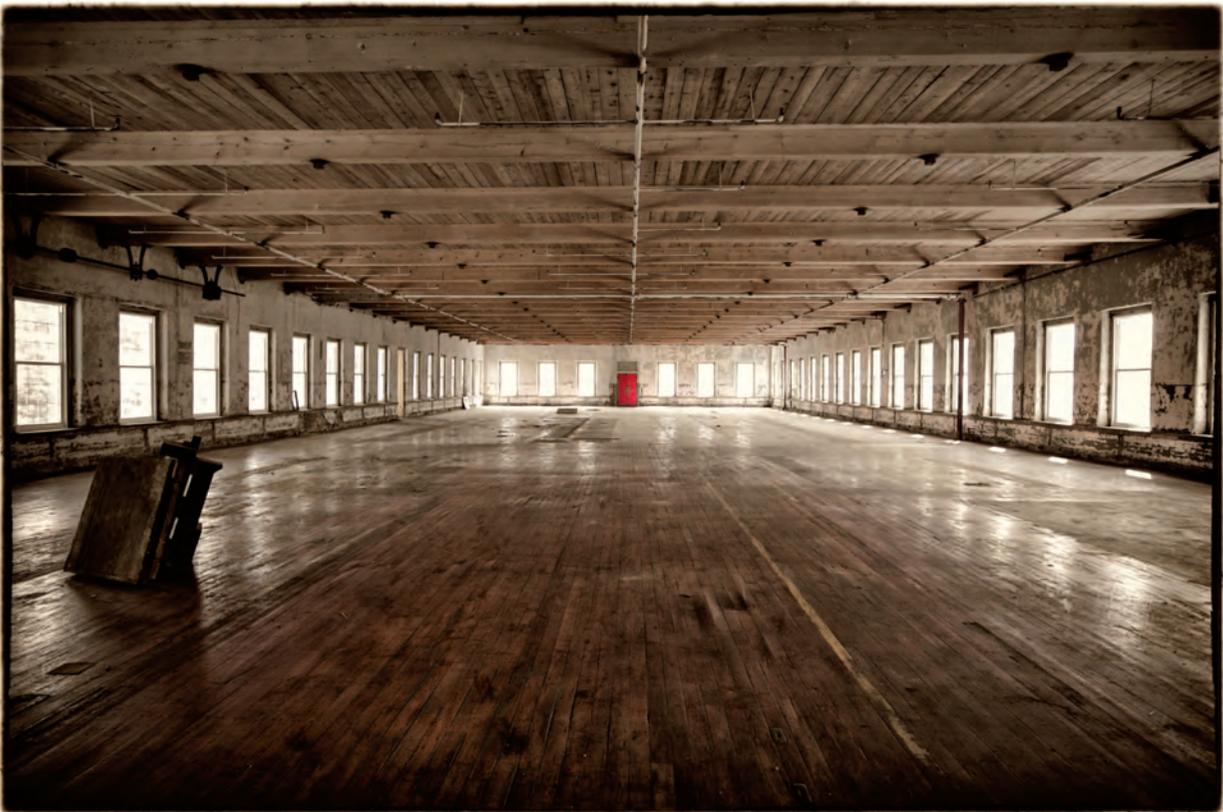
St. Joseph Church spire and cloud formation, Willimantic, Conn.



Willimantic river from the mills with a view of the falls and the surrounding countryside, Willimantic, Conn.



Victorian home detail seen through branches in springtime, Willimantic, Conn.



Top floor, American Thread Mills Bldg. No. 2, Willimantic, Conn.



Close up view of the falls, Willimantic river, Willimantic, Conn.



Central ceiling lights, top floor, Franklin Hall Theater, Main St., Willimantic, Conn.



Footbridge with a view of the railroad tracks and autumn foliage, Willimantic, Conn.

End notes

Water, Steam & Electricity: Powering Willimantic's Mills

Dr. Jamie Eves, Executive Director Windham Textile & History Museum

¹ William S. Porter, artist, and Charles Hart, lithographer, "Willimantic, Conn., 1882, From Blake Mountain" (New York: W. O. Laughlin, 1882). Originals at Windham Textile and History Museum, Willimantic, CT, and Library of Congress.

² B[enjamin] F[ranklin] Koons, "Geology and Mineralogy of the Willimantic Region," in Henry L. Hall and Arthur I. Bill, eds., *Willimantic Journal Souvenir Edition* (Willimantic, CT: 1894), 7; Dwight A. Jordan, "Willimantic as a Factory Village," in Allen B. Lincoln, ed., *A Modern History of Windham County, Connecticut* (Chicago: S. J. Clarke, 1920), 1: 107-108.

³ The Windham Textile and History Museum has engineering diagrams and blueprints that illustrate the Willimantic mills' complex power trains in detail.

⁴ "Coal Consumption – Willimantic Mills, with Statement of Floor Space Heated," ms., table, American Thread Company engineering department, 1901, Windham Textile and History Museum, Willimantic, CT, Plan-A-W-1048.

⁵ N. B. Schubarth, "Map of Willimantic Linen Co.'s Mill Property, Willimantic, Conn., Surveyed and Drawn July 1866," 1866, Windham Textile and History Museum, Willimantic, CT, 723-B2.

⁶ Based on either the presence of very large smokestacks, or on the location of the mill at some distance from the river, where it would not have access to waterpower. Postcard, photograph of Windham Mfg. Co., Willimantic, above dam, c. 1910, Windham Textile and History Museum, Pho-Z-0121; postcard, photograph of Windham Mfg. Co., Willimantic, 1913, Windham Textile and History Museum, Pho-Z-0283

⁷ Beverly York and Emil Pocock, *The Historic Mills of the American Thread Company, Willimantic, Connecticut* (Lebanon, CT: Exeter Press, 2001).

⁸ Photograph taken looking east from the top of the ATC's "new chimney," 1908, Windham Textile and History Museum, Pho-A-0617.

⁹ Photograph of smokestack at Number Four Mill, c. 1940, Windham Textile and History Museum, Pho-A-0636.

¹⁰ The story of electricity in the Willimantic mills is told in Thomas R. Beardsley, *Willimantic Industry and Community: The Rise and Decline of a Connecticut Textile City* (Willimantic: Windham Textile and History Museum, 1993), 52-61.



*Sunset with a view of the radio tower,
American Thread Mills Bldg, No. 2 smokestack,
Willimantic, Conn.*

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futureHistory.com

 *The Mill Museum*
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MillMuseum.org

*Catalog design, June Bisantz
Type design, Lindsay Ancel*