



# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

Volume 33

Winter 2004

Number 1

## **Bridges, Beets, Dams, Oil, and More— IA in Northeast Montana**

### Review of the 2003 Fall Tour

**D**escribed in the tour brochure as “one of the most out-of-the-way parts of the lower 48,” Northeast Montana was the site of the 2003 SIA Fall Tour. Sixty SIA members traveled many miles to explore the widely dispersed industrial, agricultural, and natural resources of the area. The weather generally cooperated by providing windy, partly cloudy days and chilly nights. Fred Quivik (former SIA President) and Brian Shovers, President of the sponsoring SIA Klepetko Chapter, did an excellent job organizing the tour and interpreting the sites.

*Thursday, Sept. 25.* While a few participants chose to arrive by car or train, the majority of the attendees flew into Minot, ND. Two buses were waiting to make the two-hour drive west to Williston where we would spend our first night on the North Dakota side of Montana’s eastern border. During the bus ride, Fred gave us an orientation to the area as we passed farms, fields, ponds, and streams, not to mention the occasional missile silo.

The Great Northern RR established Minot and Williston as division points in 1887, opening northwestern North Dakota to farmers and ranchers, who often struggled over sources

of fresh water. Fred told us about the various irrigation rigs used by farmers today, with many examples visible along the highway. The bus arrived in Williston just in time to allow the group to check in, have a quick buffet dinner, and prepare for the evening program.

Bruce Selyem from the County Grain Elevator Historical Society delivered the opening program on elevators of the Northern Plains. Bruce had been working toward a degree in photography when he found that he was increasingly drawn to the wooden elevators that dot the landscape. His presentation included many exterior and interior photographs, as well as historical diagrams, descriptions of the threats to the structures, and information about how some elevators are put to new uses today.

*Friday, Sept. 26.* In the morning the group left the hotel aboard two buses, each visiting the same sites but with a separate itinerary to keep the tours to a manageable size for the smaller sites on the schedule. As we crossed into Montana, we learned that although wheat was the major crop in the area, farms also produce other small grains (rye, barley), as well as safflower, flax, canola, sunflower, and crambe. Additionally, thanks to a

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Fall tour participants pose near the Snowden Bridge.

Bob Stewart

## MONTANA *(continued from page 1)*

federal irrigation project on the Yellowstone River completed in 1907, the area has also become one of the largest producers of sugar beets in the country.

Our first stop of the day was at the **Snowden Bridge**. When built in 1913 for the Great Northern's crossing of the Missouri, it was the longest vertical-lift bridge in the world with a 296-ft. movable span. The bridge was designed by Waddell & Harrington, one of America's most important movable-bridge engineering consultants, and built by the American Bridge Co. It was built during the twilight years of steamboat navigation on the upper Missouri, and the railroad—rightly guessing that it would rarely need to lift the bridge—did not want to build a movable bridge. It lost the fight with the steamboat interests, and, true to predictions, the lift span was operated only six times. The bridge still is



Mark Finlay samples a freshly cut sugar beet as part of the tour at Sidney Sugars.

The *SIA Newsletter* is published quarterly by the Society for Industrial Archeology. It is sent to SIA members, who also receive the Society's journal, *IA*, published biannually. The SIA through its publications, conferences, tours, and projects encourages the study, interpretation, and preservation of historically significant industrial sites, structures, artifacts, and technology. By providing a forum for the discussion and exchange of information, the Society advances an awareness and appreciation of the value of preserving our industrial heritage. Annual membership: individual \$35; couple \$40; full-time student \$20; institutional \$50; contributing \$75; sustaining \$125; corporate \$500. For members outside of North America, add \$10 surface-mailing fee. Send check or money order payable in U.S. funds to the Society for Industrial Archeology to SIA-HQ, Dept. of Social Sciences, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295; (906) 487-1889; e-mail: [SIA@mtu.edu](mailto:SIA@mtu.edu); Web site: [www.sia-web.org](http://www.sia-web.org).

Mailing date for Vol. 33, 1 (Winter 2004), Feb. 2004. If you have not received an issue, apply to SIA-HQ (address above) for a replacement copy.

The *SIA Newsletter* welcomes material and correspondence from members, especially in the form of copy already digested and written! The usefulness and timeliness of the newsletter depends on you, the reader, as an important source of information and opinion.

**TO CONTACT THE EDITOR:** Patrick Harshbarger, Editor, *SIA Newsletter*, 305 Rodman Road, Wilmington, DE 19809; (302) 764-7464; e-mail: [phsianews@aol.com](mailto:phsianews@aol.com).



Several of the presses used to manufacture medical chests and other products at A&S Tribal Industries in Poplar.

used by the railroad but the lift span has been welded into place. While most of the group viewed the bridge from the riverbanks or the approaches, several members walked across it and a couple of adventurous souls climbed to the top for a better look.

Next was **Sidney Sugars**, a beet processing plant built in 1925 by the Imperial Holly Sugar Co. and now owned by American Crystal Sugar. Located in the town of Sidney, the plant processes about one-million tons of beets annually, which in turn produces 2.7-million, 100-lb. bags of sugar. The plant employs 110 workers year-round but this increases to almost 300 during peak harvest and production time (late Sept.-Feb.).

The tour started at the massive stacks of beets located outside the plant. Plant manager Steve Sing explained that once the harvest begins the beets are piled near the plant until they can be brought in for processing. The beets are transported by truck to a hopper, where they drop into water that washes them and floats them to the knives that cut them into what look like large criss-cut fries. These then are boiled and put through a diffuser that ruptures the plant cells and releases the sugar. The resulting liquid is filtered and purified to produce what is called standard liquor. Through an evaporation process, this is converted into sugar granules that are brown due to residual molasses. The raw



The Sidney Chamber of Commerce sign greeted the SIA. Unaccustomed to busloads of tourists, especially those interested in industrial heritage, the Sidney area welcomed us warmly, with the *Sidney Herald* even publishing a feature story on our visit ([www.sidneyherald.com/display/inn\\_news/Agriculture/ag01.txt](http://www.sidneyherald.com/display/inn_news/Agriculture/ag01.txt)).



# 2004 SIA CONFERENCE & TOUR DATES

## June 10-13, Providence, RI Annual Conference

The Southern New England Chapter is sponsoring the 33rd Annual Conference with tours of industries and historic sites in Providence and the Blackstone Valley. A brochure and registration materials will be sent to all members in the spring.

- ◆ The conference hotel is the Marriott Courtyard in downtown Providence.
- ◆ Pre-conference GIS workshop.
- ◆ Opening reception at the Slater Mill and Blackstone Valley Visitors Center.
- ◆ Show-and-tell and newcomers' reception at the restored New Haven RR Station.
- ◆ Pre- and post-tours to the New England Museum of Wireless & Steam.
- ◆ Dinner and cruise on the Upper Narragansett Bay
- ◆ Process tours tentatively scheduled are fabric printing, nail making, seafood processing, rope making, and tool and instrument making, plus more!

## October 13-17, Wilmington, DE Fall Tour

The SIA has not visited Wilmington since the 1977 Annual Conference. The city is known for its DuPont connections, but Wilmington and its surroundings have a long history of other industrial endeavors from shipbuilding to petroleum refining. Among the sites being looked into for process tours are an anchor forge, furniture factory, refinery, steel mill, and railroad car and locomotive repair shops. Of course, opportunity will be provided to visit the Hagley Museum, site of the original DuPont gunpowder works. The tour headquarters will be the Wyndham Hotel in downtown Wilmington.

*Check the SIA Web site ([sia-web.org](http://sia-web.org)) for updates on the Annual Conference and Fall Tour.*

## SIA Student Scholarships

The SIA awards scholarships to help full-time students and professionals with less than three years of full-time experience to attend annual conferences. Those interested in applying for a scholarship to attend the annual conference in Providence, RI, June 10-13, 2004, should submit a concise letter outlining their demonstrated interest in and commitment to industrial

archeology or a related field, and one letter of reference. **Deadline for submissions is April 15, 2004.** Info: Mary E. McCahon, SIA Scholarships, c/o Lichtenstein Consulting Engineers, One Oxford Valley, Suite 818, Langhorne, PA 19047; (215) 752-2206; fax 752-1539. Notice of awards will be made by May 15th.

sugar then is run through a centrifugal washing process that removes the brown coloring. Most of the sugar is shipped out by rail. The remaining beet pulp, and any molasses extracted from the sugar, is further processed into pellets and sold as livestock feed. SIA members could be seen throughout the tour tasting the raw beets, the white sugar, and even the livestock pellets—some folks will do anything in the name of industrial archeology!

The next stop was the **USDA Northern Plains Agricultural Research Lab**, also in Sidney. The facility is split into two research units—the Agricultural Systems Unit, which focuses on cropping systems and soil management, and the Pest Management Unit, which focuses on insects and rangeland weeds. The lab employs 40 scientists and technicians who conduct studies that provide valuable research and development input to companies that manufacture various agricultural and pest mitigation products. Our visit included presentations by entomologists, irrigation experts, and beet pathologists. We also were treated to a tour of the impressive laboratory facilities and environmental control areas, where insects and microorganisms are grown for study.

Leaving the USDA lab, we stopped briefly at the **Culbertson Historical Museum** and reviewed their collection of artifacts and displays interpreting local history. Although most of the museum's collection of farm machinery was away at the local threshing bee, the remaining outdoor collection included a retired Great

Northern caboose.

We then drove a short distance to **Montola Growers**, an oilseed pressing plant that extracts a variety of oils—primarily safflower, but also crambe, wheat germ, and avocado. There was quite a bit of discussion about the avocado oil as it is reportedly considered an aphrodisiac in Japan. Manager Neil Turnbull explained that the plant was built in the 1950s, cooking-oil refining equipment added in the 1970s. The current owner, Sheridan Electric (the local rural electric co-op), purchased the plant in 1997.

As it was early in the harvest season the plant was not yet operating, but our guides were able to give us a thorough description of the processes and machines. The refinery portion of the plant subjects the oil to various processes to remove fat, wax, odor, and other impurities. The remaining seed pulp is sold as livestock feed. This caused one SIA member to quip that it was obvious that cattle had become the "garbage disposals" of the Northern Plains. Although Montola Growers bottles and sells some of the product locally, the bulk of the oil is transferred to tank cars and shipped to other sites for packaging and sale.

We left Culbertson and headed west to Poplar, tribal headquarters for the Fort Peck Indian Reservation, to visit two tribal enterprises—**A&S Tribal Industries** and **West Electronics**. The businesses employ tribal members, and, while there are several non-Indian employees, it is generally understood that these positions

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are temporary until qualified tribal members can be found or trained. A&S (Assiniboine and Sioux tribes) has been in business since 1974 and currently produces medical chests for the military. They have about 100 workers on the payroll today but they've had as many as 565 during peak periods. As our tour progressed through the facility, it was apparent that the company was largely reliant on dated, government surplus equipment. In fact, one of the machines, affectionately called "Big Red," was a 400-ton Toledo press built in 1921. We visited the washing, painting, assembly, and shipping areas before crossing the street to West Electronics.

West Electronics has been in business since 1970 and is in the process of reinventing itself. Although they currently produce wiring harnesses for the automotive industry, they are slowly being priced out of the business by overseas competition. Recently they received an 8-year contract from the U.S. Army Tank & Armament Command to prepare mobile Fuel System Supply Points. The supply points are essentially mobile gas stations capable of storing and dispensing up to 1.2-million gallons of fuel. They are packaged in shipping containers so that they can be quickly deployed for use near the battlefield, then either reused or disposed

of quickly. Our guide, engineer Dana Strandlund, indicated that West Electronics would be responsible for the fuel hose construction and the final packaging of the completed fuel systems.

After an interesting day of tours, we continued to the town of Fort Peck where we spent the night. Along the way, Fred Quivik entertained us by reading excerpts from Lewis and Clark's journals—a fitting activity as we headed up the Missouri River. After a buffet dinner at the Fort Peck Hotel—an atmospheric lodge dating from the construction of the Fort Peck Dam—Fred presented an evening program on history of the town, established in 1933 to house the workers that built the dam.

*Saturday, Sept. 27.* Our first stop was the **Fort Peck Dam**, an immense earthen structure that dominates the surrounding landscape. Built between 1933 and 1938, it is four-miles long and three-quarters of a mile wide at its base. The dam was one of the first large projects undertaken by the Public Works Administration during the New Deal. Our tour included visits to the dam's two powerhouses and their respective turbines. The dam produces 185 Mw of electricity when running at full capacity—roughly enough power for a city of 800,000. We were allowed to touch the spinning turbine shafts—an opportunity that gave a



*In addition to power generation equipment, the Fort Peck Dam Powerhouses also contain the 15-story surge tanks that assist with controlling the water flowing through the facility.*

*A Fall Tour participant marvels at the base of a 4.5-million-gallon surge tank at the Fort Peck Dam.*



*SIA members inspect a rotating turbine shaft at the Fort Peck Dam.*



*A view of the interior of the Fort Peck Dam Powerhouse #2.*



*The Fort Peck Dam spillway was featured on the cover of the first issue of Life.*

weird sense of the power behind the water running through the plant. We also viewed the immense surge tanks that absorb the energy of the flowing water when the turbine control gates are closed. Each of the 5 tanks, one for each turbine, is 148-ft. tall and has a capacity of 4.5-million gallons.

Our final stop at Fort Peck was the massive concrete spillway about a mile east of the dam. A Margaret Bourke-White photograph of the spillway under construction was used for the first cover of *Life* magazine in 1936 (reproduced in *SIA* Spring 2003 for the IA in Art column). Most of the SIA group took the opportunity to attempt to reproduce Bourke-White's famous image.

Leaving the dam and the town of Fort Peck behind, we made a 2-hour drive to an oil well north of Froid in the **Medicine Lake Oil District**. Bruce Crane, who has worked in oil fields for more than 25 years, gave an explanation of oil exploration and drilling techniques. He brought various pieces of well casing and drilling equipment to show how wells are drilled. This particular well produces about 35 barrels a day, pumping from a depth of 10,000 ft. Bruce explained that the output of the well is actually an emulsion that contains crude petroleum, salt water, and natural gas. Near the well, a device commonly called a "heater-treater," separates the emulsion into its three constituents. The oil is taken by truck to a nearby shipping point for refining. The brine coming from the wells is so salty that it isn't environmentally sound to discharge it into surface streams or fresh-water aquifers.



*Bruce Crane kept the group entertained with detailed descriptions and demonstrations of oil-drilling techniques at the Medicine Lake Oil District.*

Consequently, it is trucked to a central disposal facility and injected back into existing saltwater aquifers.

The **Annual Northeast Montana Threshing Bee** was under way in a field just east of Culbertson. With over 100 tractors and numerous farm implements on display, there was something for everyone. We saw equipment powered by gas, diesel, propane, kerosene, and steam. The specialty display this year was a group of restored Minneapolis tractors including a beautiful, propane-powered, 1954 Minneapolis Moline. SIA members congregated around a 1912 Case steam tractor that was sawing wood for its own boiler, viewed an operating Sterling threshing machine dating from the 1890s, or walked among the rows upon rows of tractors. All too quickly it was time to get back on the buses and head to dinner.

Saturday's dinner was held at the **Fort Union National Historic Site**. John Jacob Astor's American Fur Co. built Fort Union in 1828. It quickly became the center of buffalo-hide and beaver-fur trading with the surrounding Indian tribes. The fort benefited from the leadership of its strong-willed pioneer operators and its prime location near the confluence of the Missouri and Yellowstone rivers. The historic site is a reconstruction, based on archeological evidence, and built on the original foundations by

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*A major attraction at the 40th Annual Northeast Montana Threshing Bee was the impressive display of vintage tractors. Big Sky Country indeed.*



# Motiva Refinery at Port Arthur Celebrates Centennial

**T**he Motiva Enterprises LLC Petroleum Refinery at Port Arthur, TX, celebrated its 100th anniversary on Nov. 13. The refinery was the first built by the fledgling Texas Co. shortly after the Spindletop field was discovered in 1901 near Beaumont. The Texas Co. chose the recently founded city of Port Arthur, some 20 miles from the oil field as the site for its refinery because of the water access provided by the port.



*An early view of Texaco's Port Arthur refinery, ca. 1903.  
The refinery celebrated its centennial in 2003.*

The Spindletop discovery changed the oil industry in America. The original well, discovered by Anthony F. Lucas, produced more oil in a month than all of the other oil production in America combined. Spindletop gave rise to many of the companies that grew to be some of the most recognized names in America—Texaco, Gulf, and Sun.

The Texas Co. very nearly failed to survive the first years as the production from the Spindletop field declined rapidly. Oil discoveries at Sour Lake Texas, some 15 miles North of Beaumont, saved the company from bankruptcy and gave the Port Arthur Refinery a firm supply of crude on which to grow.

Over the years, the facility grew to become Texaco's main refinery and the home of most of the lubricant manufacturing, packaging, and shipping for the company. Many notable refinery inventions were developed at the plant, among them the famed Holmes-Manley vertical stills, thermal cracking units that significantly expanded the production of gasoline from crude oil.

The refinery grew through the WWII years to a capacity of 420,000 barrels of crude per day and about 5,000 employees—one of the largest refineries in the U.S. When refined petroleum products became a global commodity in the early 1980s, the U.S. refin-

ing business changed forever. The refinery at Port Arthur, like many others, was hard hit and had to downsize to survive. Crude capacity was reduced to 270,000 barrels a day, and many units were shut down and scrapped. Plant employment fell to about 1700. These changes paved the way for another round of innovation, investment, and streamlining, and the plant

returned to profitability, with several new processing units replacing older obsolete ones.

Following the Getty-Pennzoil lawsuit in the 1980s, Texaco sold one-half interest in its eastern U.S. refining and marketing assets, including the Port Arthur Refinery, to Saudi Aramco, creating the Star Enterprise joint venture in 1989. In 1998, Shell and Star Enterprise merged to form Motiva Enterprises. When Chevron wanted to merge with Texaco in 2001, the Federal Trade Commission required them to sell off Texaco's refining and marketing assets. Shell and Saudi Aramco bought Texaco's interests to make Motiva a 50/50 joint venture.

Today the plant is the largest producer of high quality Group 2 and 2+ lubricant base oils in the western hemisphere, in addition to being a very large fuels refinery. The history of the plant is a great mix of technical and human changes that define how old-line industries can stay competitive over decades of change. Plant Economist Elton N. Gish has written a history of the plant, *Texaco's Port Arthur Works—A Legacy of Spindletop and Sour Lake* (Infinity Press, Box 1317, Buna, TX 77612; [www.texacohistory.com](http://www.texacohistory.com)). The author can be contacted at [egish@texacohistory.com](mailto:egish@texacohistory.com).

Tom Purves

## 2004 GENERAL TOOLS AWARD Call for Nominations

**T**he General Tools Award Committee invites SIA members to submit nominations for the **2004 Society for Industrial Archeology General Tools Award for Distinguished Service to Industrial Archeology**. The award, presented at the SIA annual business meeting, recognizes individuals who have given sustained, distinguished service to the cause of industrial archeology.

Criteria for selection are as follows: (1) The recipient must have given noteworthy, beyond-the-call-of-duty service, over an extended period of time, to the cause of industrial archeology. (2) The type of service for which the recipient is recognized is unspecified, but *must be for other than academic publication*. (3) It is desirable but not required that the recipient be, or previously have been, a member of the SIA. (4) The award may be made only to living individuals. Teams, groups, agencies, firms, or any other collective entities are not eligible.

The nomination, which should not exceed three double-spaced typed pages, should address the specific accomplishments that qualify the nominee for the award. Supplementary material (the

candidate's resume, for example) may be appended to the nomination. Nominations must also include the name, address, and telephone number(s) of the nominator. Nominations may be made by any SIA member in good standing.

The General Tools Award was established in 1992 through the generosity of Gerald Weinstein [SIA], chairman of the board of General Tools Manufacturing, Inc. of New York City, and the Abraham and Lillian Rosenberg Foundation. The Rosenbergs founded General Hardware, the predecessor to General Tools. The award consists of a citation, a commissioned sculpture, and a \$1,000 cash award. Previous recipients are Emory Kemp (1993), Robert Vogel (1994), Edward Rutsch (1995), Patrick Malone (1996), Margot Gayle (1997), Helena Wright (1998), Vance Packard (1999), Eric DeLony (2000), Robert Merriam (2001), Charles Parrott (2002), and Alex Barbour (2003).

Nominations, *which must be received on or before April 15, 2004*, should be submitted to: Betsy Fahlman, Professor of Art History, School of Art, Box 871505, Arizona State Univ., Tempe, AZ 85287-1505; (480)965-8338; [Fahlman@asu.edu](mailto:Fahlman@asu.edu). ■



Scott See

*Although the Fairview Bridge (1913) no longer serves rail traffic, it has been preserved as the centerpiece of a county park.*

the National Park Service between 1985 and 1991.

*Sunday, Sept. 28.* There was frost on the car windows as those who stayed for the optional Sunday tour left the hotel and headed for our first stop at the **Confluence Heritage Center**, which is located at the confluence of the Missouri and Yellowstone. The Center has an impressive display interpreting Lewis and Clark's journals as they passed through this portion of North Dakota, as well as exhibits describing the daily rituals of Native American and early frontier life.

The next stop was the **Fairview Bridge** spanning the Yellowstone. Built for the Montana Eastern RR, it is a sister to the Snowden Bridge except that its lift span is slightly shorter at 275 ft. It, too, was designed by Waddell & Harrington and built by American Bridge in 1913, but unlike its sister, it was not once lifted for river traffic. The last train crossed the bridge in 1986; the tracks have been removed and pedestrian guardrails installed to allow the bridge to become the central feature of a county park.

Back in Sidney, Montana, the tour stopped at the **Lewis and Clark Station of Montana Dakota Utilities**. This 49-Mw plant, built in 1958, was designed to burn lignite coal or gas. Although some frustrated operators described lignite fuel as like "trying to burn dirt," it is the plant's primary fuel due to the abundant local sources. Our tour started at the lignite coal piles where we learned that the plant keeps about a 10-day reserve, as well as an additional 2-week supply held at a nearby mine. Once the coal has



Scott See

*The Lewis and Clark Power Station in Sidney burns locally mined lignite.*

been delivered by truck, it is moved into the plant by a series of elevators and conveyer belts and then pulverized before being burned. To improve combustion efficiency, the coal is actually a mixture of 90% lignite and 10% sub-bituminous. The prime mover is an 18-stage GE turbine. Approximately 75 percent of the output goes to local customers. The remainder is sold to utilities outside the area, with Ohio the biggest customer at the time of our visit, which concluded in the control room where we viewed the new computer-controlled equipment installed in 1999.

**Kane's Grove** is one of two surviving hardwood forests in eastern Montana. Members of the Northeastern Montana Chapter of the Montana Native Plant Society were our guides, shuttling us to the grove in four-wheel-drive vehicles. Over box lunches, we learned that the grove has been a picnic area since the 1920s and that the land still is privately held. After lunch, the group hiked

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## SIA Grants Program

The SIA now offers Industrial Heritage Preservation Grants from \$1000 to \$3000 for the study, documentation, recordation, or preservation of significant historic industrial sites, structures, and objects. Contributions of in-kind services, as well as cash resources from the sponsoring and cosponsoring agencies may qualify for matching purposes. Funds may be used for a range of projects including, but not limited to: increasing public awareness of preservation efforts, photography, videography, preparing inventories and developing measured drawings of extant significant industrial sites, structures, maritime facilities, and industrial artifacts. Grant recipients must agree to prepare a written summary of their project suitable for publication in either the *SIA Newsletter* or *IA: The Journal of the Society for Industrial Archeology*.

Grants are open to qualified individuals, independent scholars, nonprofit organizations, and academic institutions. Substantial participation from state, county, or local history organizations is encouraged, although such groups do not necessarily need to be a sponsoring agency. Awards are limited. Applications are accepted year-round and, unless circumstances warrant, awards will be announced following a regularly scheduled meeting of the SIA Board of Directors.

For further information or to request a grant manual contact: Bode Morin (313) 297-8380; [bodemorin@msn.com](mailto:bodemorin@msn.com); Lynn Rakos (212)264-0229; [lrakos@hotmail.com](mailto:lrakos@hotmail.com), or visit the SIA Web site at [www.sia-web.org](http://www.sia-web.org). ■



Scott See

*After a long walk and a steep climb, the hearty pose at the Garden of the Gods.*

# O. WINSTON LINK MUSEUM OPENS IN ROANOKE

A museum devoted to the work of the late O. Winston Link, who became one of the 20th-century's most acclaimed photographers for his dramatically lit, black-and-white photographs of trains and railroad towns, has opened in the renovated Norfolk & Western passenger station in Roanoke, VA.

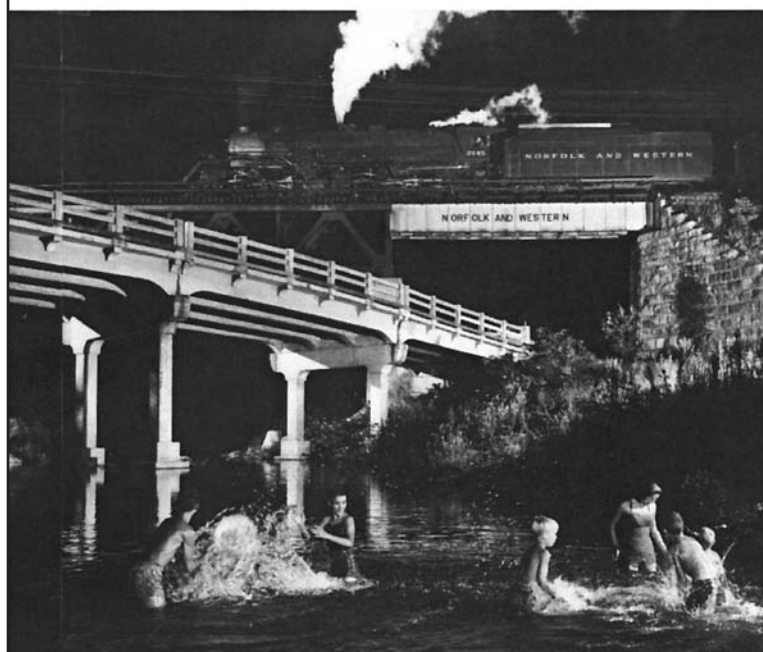
The 15,000 sq.-ft. museum houses the largest collection of the photographer's work, including 190 signed prints, 85 estate prints, and all 2,400 of Link's negatives. Link photographed the N&W's steam locomotives as they passed through towns of Virginia, West Virginia, North Carolina, and Maryland from 1955 until 1960, when steam operations were terminated. Besides creating technically perfect images through the use of a complex synchronized flash system, Link's work captured the end of the steam era. In addition to the photographs, the museum exhibits Link's photographic equipment and N&W artifacts. A virtual rail experience allows visitors to 'take a trip' to the towns he photographed.

A successful independent photographer from New York, Link became fascinated with locomotives during his childhood, and he loved the simple beauty of the towns along the lines of the N&W. His work did not become widely recognized until the publication of *Steam, Steel & Stars* (1987), a compilation of his photographs.

Link declined numerous offers of exclusive exhibits by notable museums because he wanted a permanent collection of his photographs to be displayed in a place that provided a context for his work. Before his death in 2001, he requested that a museum bearing his name be located in the old N&W passenger station in Roanoke, where he took some of his photos. He was actively involved in planning the museum when he died at age 86.



O. WINSTON LINK MUSEUM



Courtesy O. Winston Link Museum.

O. Winston Link, NW1126, Hawksbill Creek Swimming Hole, Luray, Virginia, 1956.

The N&W station is a more than fitting location for the museum. It was built in 1905 and redesigned in the Art Moderne-style in 1947 by world-renowned industrial designer Raymond Loewy. Info: (540) 342-5770; [www.linkmuseum.org](http://www.linkmuseum.org). ■

## NOMINATIONS COMMITTEE ANNOUNCES 2004 SLATE

The SIA Nominations Committee is pleased to present the following slate of candidates for the 2004 election:

|                                                          |                                                          |
|----------------------------------------------------------|----------------------------------------------------------|
| <b>President</b><br>(2-year term):                       | Christopher Andreae                                      |
| <b>Vice President</b><br>(2-year term): Elect One        | Christopher H. Marston<br>Robert C. Stewart              |
| <b>Director</b><br>(3-year term): Elect Two              | Richard Greenwood<br>Kenneth N. McIver<br>XXXXX<br>XXXXX |
| <b>Nominations Committee</b><br>(3-year term): Elect One | Andrea Burk<br>Jet Lowe                                  |
| <b>TICCIH Representative</b><br>(3-year term)            | Patrick E. Martin                                        |

Additional nominations may be made in writing over the signatures of no fewer than twelve members in good standing and delivered to the chair of the SIA Nominations Committee at the address below no later than April 30, 2004. Candidates must have given their consent to be nominated and must also be dues-paying members in good standing. Ballots, together with a biographical sketch of each candidate, will be mailed to all members in early May. Only dues-paying members in good standing will receive a ballot. (Dues notices for 2004 were mailed in December.)

**For the committee,**  
Michael Raber, Chair  
Justin Spivey  
Martha Mayer  
Carol Poh Miller, ex officio.

Reply to: SIA Nominations Committee, c/o Michael Raber, Box 46, S. Glastonbury, CT 06073; (860) 633-9026; [ms\\_raber@aol.com](mailto:ms_raber@aol.com). ■





# SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A Supplement to Vol. 33, No. 1

Winter 2004

COMPILED BY

Mary Habstritt, New York, NY; and Patrick Harshbarger, SIAN editor.

## GENERAL INTEREST

- Ford R. Bryan. **Rouge: Pictured in Its Prime, 1917-1940.** Wayne State Univ. Pr., 2003. 285 pp. \$28.95. Selection of 390 photos from a collection of 70,000 tell the story of Ford's Rouge plant in Dearborn. Photos are well reproduced and captioned. Covers iron & steel, maritime, auto, glass, cement, tire, and ship manufacturing that took place at Rouge. Epilogue brings plant history up to date from 1940 to present. IA treasure.
- Barbara Freese. **Coal: A Human History.** Perseus, 2003. 308 pp., bibliog., index. \$25. Written by a state assistant attorney general, traces the effect of coal and its use on humans throughout history, from bringing urban England out of the Dark Ages, to black lung disease, to the building of North America's railways, to global warming. Rev.: *Natural History* (Mar. 2003), pp. 79-80.
- Matt Hunt Gardner. **Coping With the Loss of Industry.** *Halifax Herald* (June 23, 2003). Researchers at Univ. College of Cape Breton and Memorial Univ. in St. John's, Newfoundland, are undertaking an unusual study to measure the psychosocial health impact of the loss of industry. They are testing stress levels, satisfaction, and general health in Atlantic Canada communities hard hit by the closure of coal mines and cod fisheries.
- Cait Murphy and Rosanne Haggerty. **Reinventing a River.** *American Heritage* (May 2003), pp. 60-67. Travelogue to the Merrimack River includes history of Amoskeag Mills in Manchester, the Boott Mills in Lowell, and the shipbuilding industry of Newburyport.
- David Parker. **By These Hands: Portraits from the Factory Floor.** Minnesota Historical Society Press, 2002. 144 pp., photos, appendix. \$24.95. Photographic documentation of workers in 20 Minnesota plants, including Ford's St. Paul plant, Potlatch's paper mill in Cloquet (tour site—2000 Annual Conference, Duluth), and Toro's engine factory in Windom. Accompanying interviews offer workers' views on such topics as health care, union activity, immigrant labor and the effects of globalization. The appendix provides brief histories of the plants.
- Thomas P. Rich. **Building Pennsylvania ... Part 1.** CD-ROM, 2003. Avail: [www.richreading.com](http://www.richreading.com). 700+ pp. \$30. First of a series of electronic books to document the human and technical history of engineering and technology in Pennsylvania. Part 1 covers canals, iron & steel, lime & cement, and waterworks—all necessary building components for a developing state. Presented with text, chart, tables,

equations, illustrations, and hundreds of photographic images that tell the story. Intended for reading on a PC with Windows. The reader software is included on the CD-ROM, as well as instructions for installation on a PC. Orders taken from the Web site.

- **The Society for Industrial Archeology New England Chapters Newsletter** v. 23, 1 (2003), in addition to the usual round-up of chapters' activities, includes: James Garvin, *Discoveries at the Haverhill-Bath Covered Bridge* (research confirms the New Hampshire bridge is the oldest Town lattice truss in the U.S., built in 1829); Allison Rachleff, *History of the New York, New Haven and Hartford Railroad's Central Avenue Interlocking Tower: Switching Station [SS] 62, Bridgeport, Connecticut*; Bruce Clouette, *Railroad Roundhouse Archaeology in New Haven, Connecticut* (New York & New Haven complex, 1868-70); Bruce Clouette, *Washington Bridge: Milford-Stratford, Connecticut* (1915-21 US 1 over Housatonic River bascule bridge); Bruce Clouette, *Carriage-Parts Factory Sites in Hamden, Connecticut*. Vol. 23,2 (2003) includes: Michael Raber, *The Main Street Bridge in Stamford, Connecticut* (Lenticular pony truss built by Berlin Iron Bridge Co. over the Rippowam River in 1888); Thomas Blalock, *The Waterside Generating Station of the New York Edison Company* (located on the East Side of mid-town Manhattan and providing power since 1901); Paul Wood, *The Woodbury Granite Company* (quarrying and cutting stone in Hardwick and Woodbury, VT, in business from 1887 to 1935); Dennis Howe, *Penstocks in Belmont, NH* (wood-stave penstock at the Gilmanton Hosiery Mill. The *New England Chapters Newsletter* is available as a benefit of chapter membership. Southern New England Chapter, \$15, Charles Schneider, 412 Pleasant St., Raynham, MA 02767. Northern New England Chapter, \$10, Carolyn Weatherwax, 305 Heritage Way, Gansevoort, NY 12831.

## RAILROADS

- Walter A. Appel [SIA]. **Jersey Central Lines in Color, Vol. 3.** Morning Sun Books ([www.morningsunbooks.com](http://www.morningsunbooks.com)), 2003. 128 pp. \$59.95. Chronological look at the CRR of NJ from the early 1940s to its inclusion in Conrail. Color photos of the Ashley Planes and steam locomotives in action.
- Anthony J. Bianculli [SIA]. **Trains and Technology: The American Railroad in the Nineteenth Century: Vol. 4, Bridges and Tunnels, Signals.** Univ. of Del Pr., 2003. 215 pp., illus. \$65. Describes different types of bridges used for railroad applications, with a discussion of materials and extensive coverage of foundations (i.e., substructure). Tunnels chapter focuses on those built through the Allegheny in the east, the transcontinental railroad, the Hoosac Tunnel, and early

attempts to tunnel under the Hudson. Also a chapter on railroad navies, i.e. ferries and car floats. Signaling technology treats ball-type and other early signal forms; block signals using banners and banjo forms; clockwork mechanisms and interlocking; semaphore signals; and switching signals. See previous *Publications of Interest* for info on prior volumes. Vol 1: Locomotives. Vol. 2: Cars. Vol. 3: Track & Structures.

- Ed Bommer. **The Railroad Shops at Clifton: Serving Staten Island for 150 Years. Part 1: 1853-1924.** *The Sentinel* 25,2 (2nd Qtr., 2003), pp. 9-18. **Clifton Shops Face a New Era—Electrification of SIRT Passenger Service Means New Duties, Second of Two Parts.** *The Sentinel* 25,3 (3rd Qtr., 2003), pp. 3-12. Although focusing on the Clifton Shops, these articles weave the history of the Staten Island Rapid Transit into a narrative and include nice bibliography. 23 photos, three maps, and track chart of Clifton Shops in 1950. *The Sentinel* is the publication of the Baltimore & Ohio Railroad Historical Society. Info: [www.borhs.org](http://www.borhs.org).
- Bruce MacGregor. **The Birth of the California Narrow Gauge: A Regional Study of the Technology of Thomas and Martin Carter.** Stanford Univ. Pr., 2003. 672 pp., illus. \$79.95. Describes the conception, construction, and early operation of the first narrow-gauge railroads in northern California, ca. 1870-1900. The history of the relatively small but extraordinarily inventive contracting and engineering firm of the Carter brothers who were able to reduce cost and complexity of light railroad construction. Many farmers and towns turned to the narrow-gauge short lines as an independent means of delivering their crops to seaports, in defiance of the monopolies held by the Central Pacific and Southern Pacific. The Carters pioneered a mobile manufacturing shop that could supply local short lines with rolling stock. More than 600 photos, many previously unpublished.
- Sara Mascia, et al. **New London Engine House and Turntable Archaeological Preserve, New London, Connecticut.** Connecticut Historical Commission/New London Development Corp., 2003. 21 pp., illus. Report on site investigations of early 1850s engine house of the New Haven & New London RR, including remains of the turntable and inspection pits. Charts evolution of small engine house, originally essential to the operations but eventually relegated to minor repairs and converted to a car shop, before abandonment in the late-19th c. The site has been named a state archeological preserve. Avail: CT Historical Commission, 59 S. Prospect St., Hartford, CT 06106; (860) 566-3005.
- Bernard L. Rudberg. **Twenty-Five Years on the ND&C: A History of the Newburgh, Dutchess & Connecticut Railroad.** Purple Mountain Press (Box 309, Fleischmanns, NY 12430-0309), 2002. \$35 hard; \$22.50 pap. 207 pp., illus., maps, index.
- Richard T. Steinbrenner. **The American Locomotive Company: A Centennial Remembrance.** On Track Publishers ([www.ontrackpublishers.com](http://www.ontrackpublishers.com)), 2003. 500+ pp., illus. \$69.95. History of the Schenectady (NY)-based locomotive builder. Extensive coverage of plant layouts and buildings, as well as the design and construction of steam and diesel locomotives.
- John Taibi. **The Ontario & Western Railway Northern Division.** Arcadia Publishing (autographed and inscribed copies avail. from author, Box 38, Munnsville, NY 13409, for \$23.84), 2003. 128 pp., photos. \$19.99. O&W from Sidney to Oswego using nearly 200 historic images. This is Taibi's 4th book on the O&W; the 5th is **Rails along the Oriskany: A History of the**

**New York, Ontario & Western Railway's Utica Division and Rome Branch.** Purple Mountain Press (Box 309, Fleischmanns, NY 12430-0309), 2003. 296 pp., illus. \$39 hard; \$25 pap. (Also avail. from author, Box 38, Munnsville, NY 13409 with add'l \$5 p&h). Operations to Utica and Rome through the valley of the Oriskany Creek. The communities served by the railroad are significant parts of the story.

- **Timber Transfer** is the illustrated magazine of the Friends of the East Broad Top RR, the well-known and remarkably complete early-20th-c., narrow-gauge, coal-hauling line with shops in Orbisonia, PA. In addition to news about preservation and operation of the shops, depot, and excursion line, v. 18,4 (Spring 2002) includes Bill Adams and Bob Farquharson, *Prodigal Sons* (two original wood passenger cars are purchased and returned to Orbisonia), Ronald Pearson, *Moving the Waste: Rockhill Coal Company's Mt. Union Boney Transfer* (process by which railroad moved boney—rock waste—from the mine); v. 19,1 (Summer 2002) includes Ron Pearson, *Deep Coal Mines on the East Broad Top* and the first of a two-part article by Shawn Stauffer, *Broad Top 101* (industries served by the line, coal mines, tanneries, iron mining, saw mills, firebrick refractory), continued in v. 19,2 (Fall 2002). All back issues of *Timber Transfer* (1983-2003) are available from the Friends of the EBT Company Store, 211 Hampton Rd., Hatboro, PA 19040; [FEBTstore@aol.com](mailto:FEBTstore@aol.com). \$4.25 each.
- Susan H. Vecchia. **Uncovering Our History: Teaching with Primary Sources.** Chicago: American Library Assn. (866-746-7252, [www.alastore.ala.org](http://www.alastore.ala.org)), 2003. 160 pp. \$35. An aid to primary and secondary teachers and school librarians who are incorporating new standards on using primary source material in their curricula. Uses the Library of Congress's American Memory Web site (includes HABS/HAER collections) to illustrate how on-line primary documents can be used to teach history, information literacy, and critical thinking.

## WATER TRANSPORT

- Timothy Cochrane and Hawk Tolson. **A Good Boat Speaks for Itself: Isle Royale Fishermen and Their Boats.** (Minneapolis: Univ. of Minn. Pr., 2002) 243pp. \$19.95 pap. Culture, ethnicity, and community of fishing families on Isle Royale, with attention to the boats used between the 1890s and 1950s as the fishermen moved from serving the salt-fish to fresh- and frozen-fish markets. Canvasses the main categories of boats—gas boats, herring skiffs, launches, resort stock boats, and fish tugs—showing how each was conditioned for local use, with emphasis on the classic 24-ft. gas boat described as the ultimate evolution of the Isle Royale fishing craft.
- Edward A. Mueller. **The Ocean Steamship Company of Savannah: The Savannah Line.** Purple Mountain Press (Box 309, Fleischmanns, NY 12430-0309), 2001. 237 pp., illus., index. \$29.50 pap. The Savannah Line was chartered in 1872 to operate passenger and cargo steamships between Savannah and New York. A subsidiary of the Central of Georgia Rwy., it provided a major transportation link over the next 70 yrs., moving agricultural products, principally cotton, from Georgia and Alabama to New York and Boston.
- Andy Olenick and Richard O. Reisem. **Erie Canal Legacy: Architectural Treasures of the Empire State.** The Landmark Society of Western New York, 2000 (133 S. Fitzhugh, Rochester NY 14608; 1-888-546-3849). 208 pp., photos. \$39.95. The 176-year-old Erie Canal (completed 1825) comes to life in this visual and historic tour along its 363 miles. 101



cities, towns, villages, and hamlets are given individual attention with stunning color photographs and anecdotal text.

- Gavin Weightman. **The Frozen-Water Trade: A True Story.** Hyperion, 2003. \$23.95. Chronicle of the natural ice export business in the Northeast during the 19th c. Ice was harvested from lakes and rivers and sent from Boston and N.Y. on ballast-hungry ships to such tropical ice-free locales as Calcutta and Havana. Includes discussion of such problems as insulation.

## AIR TRANSPORTATION

- David Andrews. **Wings of Fate: The Wright Brothers' Drive For Invention.** *Common Ground: Preserving Our Nation's Heritage* (Fall 2003), pp. 14-27. Avail. on-line: [www.cr.nps.gov/CommonGround](http://www.cr.nps.gov/CommonGround). One of many recent articles celebrating the centennial of flight, this one in the National Park Service's heritage magazine is well-illustrated and a good summary of current scholarship on the inventive journey that led the Wright Bros. to their successful first flight at Kitty Hawk in 1903.
- Richard P. Hallion, **How They Flew.** *I&T* (Fall 2003), pp. 18-41. Another summary of the events leading up to Kitty Hawk, discussing the vision, persistence, mechanical genius, scientific insight, and confidence that helped the Wright Bros. to succeed where others had failed. Also, Phaedra Hise, **How They Failed**, pp. 42-49. Like many inventors, the Wrights were not terribly successful transferring their inventive talents to the business world.
- Robert G. Pushkar. **Comet's Tale.** *Smithsonian* 33, 3 (June 2002), pp. 59-62. The first jet-propelled passenger aircraft was doomed by a fatal structural flaw.
- Lester A. Reingold. **Look Homeward, Orville.** *Preservation* (Jan./Feb. 2004), pp. 34-38. Orville Wright's Hawthorn Hill, a Dayton (OH) mansion where he took refuge 10 yrs. after Kitty Hawk. An unusual look at a great American inventor, but one who refused many modern conveniences in his own home. He retreated to Hawthorn Hill to invent gadgets that sliced bread thin the way he liked it, collected and filtered rainwater, and sprayed his bathwater from both sides of the tub. The eccentric plumbing, heating, and electrical systems required his constant attention.

## AUTOMOBILES & HIGHWAYS

- I. B. Holley, Jr. **Blacktop: How Asphalt Came to the Urban United States.** *T&C* (Oct. 2003), pp. 703-33. Asphalt was first used in U.S. cities in the 1860s, but it took decades for engineers and contractors to gain the experience to use it efficiently.
- Leo Landis. **Building Better Roads: Iowa's Contribution to Highway Engineering, 1904-1974.** Center for Transportation Research at Iowa State Univ. (Ames). 96 pp. \$10.60. Avail: [www.dot.state.ia.us/booksale.htm](http://www.dot.state.ia.us/booksale.htm). Beginning with the founding of the Iowa State Highway Commission, traces the response of Iowa engineers to the demands for quality roads. In doing so, it documents their significant contributions to state and national highway engineering.

## WATER CONTROL & RECLAMATION

- Wayne Curtis. **Going with the Flow.** *Preservation* (July/Aug. 2003), pp. 28-33. Using the small Heishman's Mill on Conodoguinet Creek in Carlisle, PA—owned and resided in by Wm. Foshag [SIA]—as a jumping off point, discusses the con-

flict between the environmental movement's push to remove or alter dams and preservationists' attempts to save them.

- Diane Galusha. **Liquid Assets: A History of New York City's Water System.** Purple Mountain Press (P.O. Box 309, Fleischmanns, NY 12430-0309), 2002. \$20 pap. 303 pp., illus., index. Paperback ed. of 1999 hardcover. Story of the building of the Catskill System, a complex network of reservoirs connected by a web of underground aqueducts.
- Mark Neuzil. **Views on the Mississippi: The Photographs of Henry Peter Bosse.** Univ. of Minn. Pr., 2002. 253 pp., photos, maps. \$39.95; \$29.95 pap. Bosse was hired by the U.S. Army Corps of Engineers to document its projects to improve the Mississippi from the 1870s to 1890s. His cyanotypes are reproduced in large format with detailed identifications of the features in each picture and a well-written supporting history.

## POWER GENERATION

- T. Lindsay Baker [SIA], ed. **Windmillers' Gazette.** Quarterly. Avail: Box 507, Rio Vista, TX 76093. [www.windmillersgazette.com](http://www.windmillersgazette.com). \$20/yr. Dedicated to the preservation of America's windpower history and heritage. Vol. 22,2 (Spring 2003)—*The Open-Geared Woodmanse Steel Windmills: "Strong Where Strength Is Needed."* (Windmills of the Woodmanse Mfg. Co., Freeport, IL, from the 1890s to 1930s); J. B. Buchanan (1906-2003), *Windmill Showed the Way for Others* (memorial to early advocate for windmill preservation). Vol. 22,3 (Summer 2003)—*A Product History of Windmills from the Butler Company, Butler, IN* (mfr. active from late 1880s to 1940s). Vol. 22,4 (Autumn 2003)—*"Every Farmer His Own Miller: The Use of Power Windmills* (Over 99 percent of windmills manufactured in U.S. from 1850s to 1930s were used to pump water; this covers the minority used to power grist mills, butter churns, saws, and a host of other devices around the farm).
- Harry Hutchinson. **Powering Down.** *ME Magazine: The Magazine of the American Soc. of Mechanical Engineers* (Apr. 2003). Avail: [memagazine.org](http://memagazine.org). The closing of the Heat Transfer Research Facility of Columbia Univ., which for over 50 yrs. has been important facility in nuclear reactor efficiency testing. Gerry Weinstein [SIA] recently evaluated the electric generating equipment, which was surplus from the 1920s-30s when purchased by the lab when it opened in 1950.
- Stuart Leuthner. **The Windmills that Won the West.** *I&T* (Fall 2003), pp. 56-59. The new American Wind Power Center in Lubbock, TX. Celebrates the windmills and pumps that helped bring water to ranches and farms. More than 75 historic mills on exhibit, plus many operating examples on the grounds.

## TOOLS

- **American Machinist Memories** is a series of books reprinting selected articles from early issues of *American Machinist Magazine* (ca. 1900-1920). Recent additions include **Babbitt 1910-1916: Practical Hints, Tips, and "How To" for Manipulating White Bearing Metal** (2003) 72 pp., illus. \$8.95 pap; and **Echoes From Oil Country 5** (2003), 64 pp., illus. \$7.95. Fifth in a series of semi-fictional stories recounting experiences repairing machinery in Western Pennsylvania in the late-19th-c. Also in reprint is **The Professor in the Machine Shop** (2003), 122 pp. paper. A humorous series of letters and stories from the *Mechanical Engineer Magazine* (ca. 1886) concerning conversations between a "professor" and the practical machinists in a fictional shop. Avail: Lindsay Pub., Box 538, Bradley, IL 60915; (815) 935-5353; [www.lindsaybks.com](http://www.lindsaybks.com).

- Tom Hull [SIA]. **Horse-Powered Stump Pullers.** *Tall Timber Short Lines* (Summer/Fall 2003), pp. 22-33. Douglas County (OR) Museum's Hercules horse-powered stump puller prompts investigation of its operation and uses, from pulling stumps to moving houses, including firsthand accounts from Ray Evans, who remembers pulling giant redwood stumps in the 1930s. Diagrams of setting up the block and tackle, and the clues (such as sounds that the puller made) for which experienced users listened to gauge its operation. The puller was capable of exceptional power; with 12 blocks on the line, it worked so slowly that the operator could barely see the stump move.

## AGRICULTURE & FOOD PROCESSING

- **Mill City Museum.** *Minnesota History*, 58, 5-6 (2003). Special double issue celebrates the opening of the Minnesota Historical Society's Mill City Museum in the ruins of Minneapolis' Washburn A mill. (See article elsewhere in this issue.) Articles include John O. Anfinson, *Spiritual Power to Industrial Might: 12,000 Years at St. Anthony Falls*; David B. Danbom, *Flour Power: The Significance of Flour Milling at the Falls*; Annette Atkins, *At Home in the Heart of the City* (daily life for workers); and, Scott F. Anfinson, *Unearthing the Invisible: Archaeology at the Riverfront*. Published by MHS, 345 Kellogg Blvd, St. Paul MN 55102-1906, [www.mnhs.org](http://www.mnhs.org). Of related interest, Shannon M. Pennefeather, ed. **Mill City: A Visual History of the Minneapolis Mill District.** Minnesota Historical Society Press (c/o Chicago Distribution Center, 11030 S. Langley Dr., Chicago IL 60628; 1-800-621-8476), 2003. 160 pp., illus. \$29.95; \$15.95 pap. Historic photos and artwork are combined with accounts of early explorers to St. Anthony Falls, children who played in 1880s lumberyards, and laborers in the flour mills of the 20th c.
- Jim Norris. **Bargaining for Beets: Migrants and Growers in the Red River Valley.** *Minnesota History* 58, 4 (Winter 2002-3), pp. 196-209. Relationship between Midwestern beet sugar companies and migrant, mostly Mexican, workers. Recruitment, living conditions, and impact of mechanization.
- James F. O'Gorman. **Connecticut Valley Vernacular: The Vanishing Landscape and Architecture of the New England Tobacco Fields.** Univ. of Penn. Pr., 2002. 146 pp. photos. \$34.95. Covers technological and social aspects of tobacco cultivation in the Conn. River Valley from 1840s to present, devoting considerable space on the origin and development of the tobacco shed. Rev: VAN 96 (Summer 2003).
- Stephen Puleo. **Dark Tide: The Great Boston Molasses Flood of 1919.** 2003. \$23. Molasses tank built in the waterfront area of the North End with much haste and cost-cutting in 1914 collapsed, sending 2.2-million gallons of molasses into the streets of Boston with loss of life and property. Tale is woven around the lives of immigrants and the U.S. participation in WWI.
- Tony Rawe. **Architecture of the Kentucky Tobacco Sales Warehouse: Its Evolution and Development as a Unique Building Type.** *Kentucky Places & Spaces* v. 1,1 (2003). Published by Univ. of KY, College of Design, Center for Historic Architecture & Preservation, 117 Pence Hall, Lexington, KY 40506-0041. Survey of looseleaf sales warehouses from 1900 to 1960.

## LOGGING & WOOD PRODUCTS

- Tom Hull [SIA]. **"More Deadly Than War" High-Lead Steam Logging Unit.** *T&C* 44 (Apr. 2003), pp. 355-58.

Early-20th-c. development of 200- to 300-ton steam units, mounted on rails of temporary logging roads, combining the process of raising and loading logs onto cars. Took teams of 18 to 21 men to operate; dangerous but quick and cheap way to log out large stands of old-growth forest.

- David Whitford. **Hard Times in the Heartland.** *FSB: Forbes Small Business*, 11 (Nov. 2001), pp. 54-64. Examines the ripple effect of the closing of Beloit Corp, maker of paper-mill machinery, on suppliers and other small businesses, as well as on former employees, in the company town of Beloit, WI.

## CHEMICALS INDUSTRY

- Ellis N. Brandt. **Mystery Man from Massillon: Herbert Dow.** *Timeline* (July/Aug. 2003), pp. 20-33. Describes Dow's early work on the process for making household bleach in Navarre, OH, in 1895. Working secretly in a small plant behind a high board fence to perfect a chlorine cell (chlorine is liberated from a salt solution by passing an electric current through it), Dow's behavior raised suspicion in the small town. In 1896, he moved the business to Midland, MI, to be near sources of brine with a high percentage of bromine. Avail: Ohio Historical Society, 1982 Velma Ave., Columbus, OH 43211, \$8 ppd.
- **Great Kanawha Valley Chemical Heritage Symposium Proceedings.** Avail: WVU Inst. for the History of Technology & IA, Box 6305, Morgantown, WV 26506; (304) 293-3829 or e-mail: [pearce@wvu.edu](mailto:pearce@wvu.edu). \$25. Papers presented at 2003 conference include: John Stealey, *An Overview of the Great Kanawha Salt Industry*; William Updike, *The Red Sand Site: Archaeological and Historical Investigations of a 19th-Century Kanawha Valley Saltworks*; Carol Litchfield [SIA], *The Ruffner Family: Entrepreneurs and Innovators in the Kanawha Valley in the Early 19th Century*; Max Hubacher, *Reminiscences of Nitro, 1925-1934* (town that began as high-explosives works in WWI); Warren Woomer, *Institute Goes to War: The Buna-S Synthetic Rubber Story*; Karen Nance, *Oscar Cartwright, Sr.: A West Virginia CIO Organizer*; Richard Mullin, *Environmentalism and the Chemical Industry: Can We All Get Along?*; Richard Kuntz, *U.S. EPA Water Quality Data in Support of Enforcement Actions Against Kanawha Valley Chemical Industry Discharges, 1974-84*; Cassandra Whyte, *Emergency Response Planning at West Virginia State College*; Mark Scott, *Living with Chemicals in the Kanawha Valley: A Study of Industry-Public Interaction*; Robert Baptista, *Kanawha Valley Chemical Industry—A Blueprint for Change*.

## ABBREVIATIONS:

|     |                                                                                                                                                                             |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I&T | = American Heritage of Invention & Technology                                                                                                                               |
| T&C | = Technology & Culture, Quarterly of the Society for the History of Technology                                                                                              |
| VAN | = Vernacular Architecture News, Published by Vernacular Architecture Forum ( <a href="http://www.vernaculararchitectureforum.org">www.vernaculararchitectureforum.org</a> ) |

**Publications of Interest** is compiled from books and articles brought to our attention by you, the reader. SIA members are encouraged to send citations of new and recent books and articles, especially those in their own areas of interest and those obscure titles that may not be known to other SIA members. *Publications of Interest*, c/o **SIA Newsletter**, 305 Rodman Road, Wilmington, DE 19809; [phsianews@aol.com](mailto:phsianews@aol.com).



# Minneapolis's New Mill City Museum

**T**he grand-opening (Sept. 2003) of the Mill City Museum marked a milestone in the preservation and interpretation of Minneapolis's industrial heritage. Located on the banks of the Mississippi River, the museum is built within the ruins of the Washburn A Mill (tour site—1983 Annual Conference). The magnificent limestone-facade mill, built in 1879, was nearly given up for lost after a fire gutted it in early 1991 (SIAN, Spring 1991), but like a phoenix it has literally risen again from the ashes to its full eight-story height. The museum is the newest addition to the Minnesota Historical Society's statewide network of museums, historic sites, and trails.

The museum's primary interpretive theme is the story of how nature, people, and machines came together to make the fledgling Minneapolis the "Flour Mill Capital of the World" between 1880 and 1930. The Washburn A Mill once was the largest flour mill in the world, and one of 24 Minneapolis mills that lined the banks of the Mississippi. As milling reached its peak in the late-19th century, it inspired a burst of productivity, fed by technical and marketing innovation that propelled Minneapolis's growth into a major urban center.

The exhibits are designed to involve visitors of all ages. Highlights include the "Flour Tower," an eight-story elevator ride through the milling process that tells the stories of the people who worked in the mill in a dramatic display of lighting, sound, and special effects. In the "Water Lab," visitors don rain gear as they learn about the river's vital role in the lumber industry that first fueled the Minneapolis economy, and then provided power for the milling industry.

An 1879 wooden boxcar is the focal point in the museum's "Rail Corridor" section interpreting how railroad networks delivered grain from farms to mill to market. In the "Baking Lab," visitors grind wheat, bake bread, conduct experiments, package food, and watch professional baking demonstrations. In "Meet the Machines," 19th-century milling machinery is on display along with hands-on models and diagrams to explain how roller mills, cleaners, sifters, dust collectors, and flour packers worked.

The building is capped by a rooftop observation deck where visitors can enjoy a panoramic view of the Mississippi, St.

Anthony Falls, the historic James J. Hill stone-arch railway bridge, and Mill Ruins Park.—*Minnesota Historic Society Member News*, v. 12,5 (Sept./Oct. 2003)



Courtesy MHS Member News.

*The glass-fronted Mill City Museum rises within the ruins of the Washburn A Mill. The limestone section was built in 1879 by Washburn, Crosby & Co. In 1991, a fire set by a transient gutted the abandoned mill, but the city council rose to the occasion and allocated funds to stabilize the structure (SIAN, Spring 1991). So began the search for a re-use, which culminated last year in the grand-opening of the museum.*

## MONTANA (continued from page 7)

to the top of the ridge where we were treated to windswept sandstone formations, unbelievable views of the surrounding landscape, and a surprise encounter with some wild turkeys.

Our last stop was a rock formation along the breaks of the Missouri River called the **Garden of the Gods**. Access to the formation required a vigorous hike along the river and then a climb almost to the top of the bluffs. A mix of hard sandstone nodules surrounded by softer sandstone provided the seeds for the formation. As the elements have worked on them, the harder sandstone has protected pedestals of the softer material, creating what today look like large rock "mushrooms." Several photos were taken of the hardy few who completed the hike, but it was soon time to return to the bus so that we could reach Williston in time to catch the evening Amtrak train heading east. Although a dead bus battery caused a few frayed nerves, we arrived at the train station with 30 minutes to spare.

Monday, Sept. 29. Monday was reserved for traveling home.

For about 20 of us, this meant boarding the bus once again for the two-hour drive back to the airport in Minot. We thanked our hosts Fred Quivik and Brian Shovers for a fantastic tour. As the miles clicked by it gave us time to reflect on what we had seen and learned during our brief visit to this remote but beautiful region. In particular, our exploration of the historical and modern industries of the region provided a glimpse into the strength, determination, and pioneering spirit required to make a living on the Northern Plains. The many industrial accomplishments became even more significant when one considered the bitter cold winters and the remoteness that are all just part of living in "one of the most out-of-the-way parts of the lower 48."

—Scott See, with thanks to note takers  
Joe Seely, Bill McNiece, and tour coordinator Fred Quivik.

# Norway's IA Outpost

## Svalbard Conference

**A**n international conference on polar archeology and history, held on the Norwegian archipelago of Svalbard last Aug., featured presenters from the U.S., Russia, Sweden, the Netherlands, and Germany. Svalbard is an archipelago formerly known as Spitsbergen, lying between about 78 and 81 degrees north latitude, about 600 km northwest of the Norwegian mainland.

This, the second conference on the "Archaeology and History of the Spitsbergen Archipelago," was sponsored by Trust Arcticugol-Coal and the Institute of Archaeology of the Russian Academy of Sciences at the Russian settlement of Barentsburg. About two dozen presenters gave papers on various topics, including early Spitsbergen archeology, English and Dutch whaling stations, and the potential for tourism and historic preservation at former coal mines. Also on the agenda was the plan to move forward with the establishment of a permanent lab of historical archeology located on Svalbard. In conjunction with the possible lab, Marie Nisser from Sweden's KTH University continued the discussion to plan an international multi-disciplinary research scheme, bringing together archeology graduate students from various worldwide institutions to study and research sites on the archipelago.

Patrick Martin [SIA] presented a paper outlining Michigan's role in arctic coal mining through the holdings of the Michigan Technological University Archives and Copper Country Historical Collections. The paper chronicled the establishment of Spitsbergen coal mines by John M. Longyear of Marquette, MI. Co-authors are archivist Erik Nordberg and Frederick Tibbetts, a Longyear descendant.

Longyear founded the Arctic Coal Co. (ACC) on Advent Bay in 1906 along with partner Frederick Ayer of Boston, MA. Future managers of the ACC included Longyear's relatives and graduates of the Michigan School of Mines (MSM), now Michigan Tech. The archive collection includes manuscript documents and photographs from Longyear, company records, and excellent documentary photographs by Frederick Burrall and Scott Turner, both ACC managers and graduates of MSM.

Longyear, appearing in many of his photographs holding an early folding camera, documented the company's properties and resources, including local wildlife and the ACC's ship, the *William D. Munro*. For example, one interesting set of photographs shows



A tramway tower used by the Arctic Coal Co. standing above Longyearbyen.



Shaft for waste rock from the Hiorthamna Mine.

the assembly of an Industrial Brownhoist shovel used to transfer coal between a mine stockpile and tramway connecting to a dockside facility for loading ships. Constructed in Cleveland about 1912, the substructure of the shovel, including the arch-bar trucks and builder's plates, still survives where it was used at Longyearbyen.

Martin, along with Michigan Tech graduate student Larry Mishkar [SIA], spent five days before the conference touring the various industrial sites on the shores of Advent Bay by Zodiac accompanied by Swedish archeologists Ulf Gustavsson, Dag Avango, and Tryone Martinsson, a Swedish professor of visual media. Avango, from the Swedish Royal Institute of Technology, is currently writing his dissertation, a comparative analysis of various coal mining operations on Svalbard. The group hiked along old miners' trails and up scree piles to heights of 550m above sea level to visit timber-framed mine entrances, ruined aerial tramways, and worker housing scattered along the bluffs where the mountainous stratigraphy revealed coal seams.

(continued on page 15)



Arctic Coal Co. coal bunker at mine shaft above Longyear Valley.



Substructure of Brownhoist crane with arch-bar trucks used by the Arctic Coal Co. to transfer coal between aerial tramway storage piles and rail tramway to the docks.



Remains of the ACC operation are scattered around the island, but especially concentrated in Svalbard's principal town and seat of government, Longyearbyen, population 1,100. A treacherous hike rewarded the group with a visit to ACC's first mine and loading facility overlooking the town. The hillsides and the valley where Longyearbyen lies are dotted with tramway towers, some with cables and buckets in situ. Below the mine, blackened pile stumps and concrete foundations are reminders of Longyear City buildings, bombed by ships anchored in Advent Bay, and then burned by German troops during WWII. Some of the old concrete foundations are now used as the foundations for newer construction.

Svalbard has become a popular tourist destination both summer and winter. The arctic setting attracts people interested in wildlife and adventure, while the industrial heritage has only recently received attention. A small museum in Longyearbyen interprets the island's history. One housing option for those visiting Longyearbyen is in remodeled miners' barracks located within walking distance from central Longyearbyen, below valley walls dotted with old coal mines. Those interested in visiting Svalbard can find numerous Web sites featuring travel information and photographs of the high arctic landscape. Photographs of the industrial landscape on Svalbard are posted at [www.larrymishkar.com](http://www.larrymishkar.com).

Larry Mishkar



Dag Avango, Pat Martin, and Ulf Gustafsson at the Hiorthamma (Hiorth Harbor) Mine entrance. Avango and Gustafsson are industrial archeologists from Sweden.

## IA EXHIBITS

**Southern Museum of Civil War & Locomotive History** (Kennesaw, GA) recently opened an extensive exhibit on the **Glover Machine Works** of Marietta, an industrial locomotive manufacturer that began operations in the late-19th century. The exhibit features a simulated erecting hall, machine shop, and pattern shop. The erecting hall has most of a locomotive assembled with a set of 0-4-0 running gear, a boiler, and a saddle tank. Two restored Glover locomotives are also on display, as the exhibit follows the fabrication from casting to assembly. The Glover Machine Works story is used to interpret how railroads and industrialization helped rebuild the South after the Civil War. It is the companion to an exhibit on the Civil War that focuses on the Great Locomotive Chase and the Atlanta Campaign. The museum's centerpiece is the Western & Atlantic No. 3, *The General*, of movie fame. Among museum bookstore offerings is Richard Hillman's *Glover Steam Locomotives: The South's Last Steam Builder*, as well as several reproduction company catalogues. Info: 2829 Cherokee St., Kennesaw, GA 30144; (770) 427-2117; [www.southernmuseum.org](http://www.southernmuseum.org). – Neill Herring



In other Georgia railroad happenings, the **Central of Georgia Roundhouse Museum** (tour site and banquet – 1999 Annual Conference, Savannah) recently received a new acquisition: the 1925 luxury railroad car, *Atlanta*, originally used as an office and to transport the C of G's executives to meetings. The car had been carefully stored at a wood products plant in Port Wentworth, but perhaps its most remarkable feature is its original accouterments, including linens, crew uniforms, and even toiletry items, as they were the day the last crew left in 1971. With the arrival of the *Atlanta* in June, the museum also received a new name: the Georgia State Railroad Museum.

**National Capital Trolley Museum** (Silver Spring, MD) lost eight historic cars and a building in a fire on Sept. 28. The fire, which was of unknown origin, destroyed four former Washington, D.C. streetcars, including a 1956 streamlined car, an 1899 open-air car, and two snow sweepers. Also lost were three Austrian trams and a car originally used by the Johnstown (PA) Traction Co. The value of the cars has been estimated at \$8-10 million. Info: [www.dctrolley.org](http://www.dctrolley.org).

**New Switch Tower Museum in Connecticut.** In May 2003, the Western Connecticut Chapter of the National Railway Historical Society dedicated the SoNo Switch Tower Museum at South Norwalk. The New York, New Haven & Hartford RR built the tower in 1896, and it remained in continuous service until 1984. The three-story tower features a manual, 68-lever "Armstrong" interlocking machine installed in 1919. The museum, located at 77 Washington St., is open on weekends from noon to 5 pm, May through Oct. The upper floor also offers a marvelous view of passing Metro-North and Amtrak trains. Info: [www.westct-nrhs.org](http://www.westct-nrhs.org). ■

*Illustration from the cover of a Glover Machine Works catalogue, ca. 1920. Glover is the subject of a new exhibit at the Southern Museum of Civil War & Locomotive History, Kennesaw, GA.*

# NEWS FROM THE SALT CITY

A variety of recent projects in Syracuse (2001 Fall Tour; SIAN, Spring 2002) feature re-use of historic transportation and industrial structures. Local historians are also working with city officials and private developers to include interpretive components for the public.

In Nov. 2003, Time Warner completed a privately funded, two-year renovation of Syracuse's Art Deco-style **New York Central passenger station**. Trains last used it in 1962. Then Greyhound relocated its bus operations there. But the 1936 building had been empty since Greyhound moved out in 1998. It had originally been constructed as the signature piece of a \$23.5 million railroad elevation project that removed trains from grade-level routes throughout downtown. Time Warner saw it as a highly visible and architecturally distinctive home to start-up a 24-hour local news TV channel. Both the interior and exterior had suffered during the bus era. The technical and studio needs of broadcast television forced a major overhaul of the interior, although 70 percent of the main waiting room's volume (including its 24-ft. high ceiling) was maintained as a newsroom. The exterior underwent extensive restoration that returned it closely to its opening day appearance.

Time Warner underwrote an Onondaga Historical Association (OHA) on-site exhibit about the building and the 1930s track relocation project that created it. OHA installed seven exhibit panels, a six-minute interpretive video, and a gallery of 18 historic NYCRR and other local transportation images. OHA's collections include hundreds of images that comprise the official photographic record of the Syracuse Grade Crossing Commission. The NYCRR elevation was replaced with an expressway in the 1960s, but the DL&WRR's elevated route and associated structures (1938-41) are extant. These include the West Onondaga St. bridge, reportedly the largest two-track girder span in the world when erected, at 350 tons and 130- ft. span.

The positive response to the railroad exhibit led OHA to begin work with another developer, Franklin Properties, to propose similar interpretation inside two factory renovations underway in the city's Franklin Square district. The five-story **O.M. Edwards complex** was built in two stages, 1906 and 1927. A \$13.5 million investment is converting it into 87 loft apartments and 22,000 sq. ft. of office and retail space. Oliver Murray Edwards founded the firm in 1892 to produce railway car fittings. It later added metal office furniture including custom installations for naval ships and, eventually, phone booths. The masonry building has been vacant

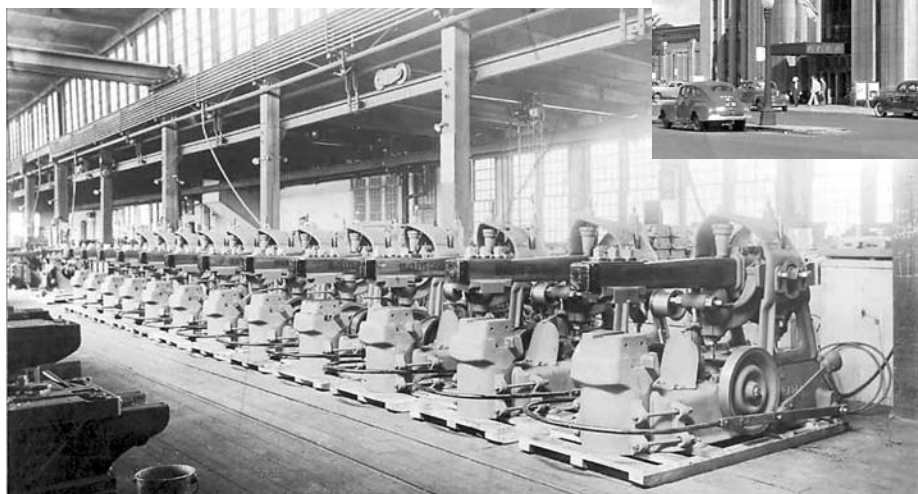
since the company folded in the 1980s. Only a few power-transmission pullies and boiler components survived, but OHA is assembling catalogs, photos, and other archival materials.

Two blocks from the Edwards project is the 1903 brick factory built for **C. C. Bradley & Son**, manufacturers of a famed series of power forging hammers. The building is one story, with a full-length wooden clerestory. Bradley hammers ranged from modest models used in small blacksmith shops up to monsters that could exert 72,000 lbs. of force in a single blow. Some units weighed in at six tons. Bradley began production in the early 1870s along with agricultural machinery and wagons. The 1903 factory shipped its hammers around the world, including four to Panama in 1905 for work on a rather significant canal. Bradley sales ledgers and other records are now in the OHA collections. Bradley merged with Edlund Machine Tool after WWII and production of the hammers was shifted 35 miles south to an Edlund facility. That company continues today in Cortland, NY, as Monarch Machine Tool, but hammer production has long ceased.

OHA has also secured a Bradley cushioned helve hammer for its collection. Curator of history Dennis Connors [SIA] hopes to install the hammer with interpretive panels at the former Bradley factory, which is being converted into offices. Two traveling cranes used to move the hammers across the production floor remain and will be retained during the rehabilitation.

Another opportunity for public interpretation being pursued by OHA centers on municipal efforts to complete a walkway along Onondaga Creek. The narrow waterway bisects the city of Syracuse and runs along the edge of downtown, but it is generally below grade and cut off from public access. Redevelopment efforts in the Franklin Square district north of downtown during the late 1980s and early 1990s included "Creekwalk" construction. One interpretive station focusing on the local salt industry was installed then. The city now has federal transportation funding to build downtown sections.

(continued on page 17)



OHA Collection



The New York Central passenger station at Syracuse in the 1940s.

Interior of the C.C. Bradley & Son factory showing a line of the forging hammers they produced, probably in the 1920s.



## IA ON THE WEB

**Art and IA by Shuli Sadé** ([www.amherst.edu/~mead/exhibitions/exhibits/OTBT/sade.html](http://www.amherst.edu/~mead/exhibitions/exhibits/OTBT/sade.html)). Amherst University's Mead Art Museum is featuring an exhibit of the work of Sadé [SIA]. Her studio was visited at the 2002 Annual Conference, Brooklyn. Most images have IA content. She also has her own Web site, [www.sadestudio.com](http://www.sadestudio.com).

**Centuries of Civil Engineering** ([www.lhl.lib.mo.us/pubserv/hos/civil/centuries2x.pdf](http://www.lhl.lib.mo.us/pubserv/hos/civil/centuries2x.pdf)) is an on-line exhibit of rare books in the collection of the Linda Hall Library in Kansas City. The library has been the home of the ASCE Library, formerly of New York City, since 1995. Images of canals, bridges, lighthouses, water supply, etc.

**Colorado Fuel & Iron Archives** ([www.cfsteel.org](http://www.cfsteel.org)). The Bessemer Historical Society in Pueblo, CO, houses the CF&I archives, a vast 21,500-linear-ft. collection, one of the largest of any coal or steel company in the U.S. open to the public. CF&I operated mines and steelworks in Colorado and other western states. The archives are in the old company headquarters.

**English Mill Archives** ([www.millarchive.com](http://www.millarchive.com)) has been designed to share records and history relating to traditional mills and milling in the U.K. It contains thousands of digital images and documents, as well as databases.

**Farrel Birmingham** ([www.buffalohistoryworks.com/plant5/](http://www.buffalohistoryworks.com/plant5/)) was a manufacturer of a marine reversal gear that allowed boats to rapidly change direction without slowing down. The Web site documents the company and its facility in Buffalo, NY, prior to demolition.

**From Sand Dunes to Sonic Booms** ([www.cr.nps.gov/nrr/](http://www.cr.nps.gov/nrr/)) is a travel itinerary of over 100 historic places in 36 states that interpret the history of aviation and space flight.

**Great Lakes Shipwrecks** ([www.wisconsinshipwrecks.org](http://www.wisconsinshipwrecks.org)) provides a listing of shipwrecks with maps and underwater photos. Limited to shipwrecks on Lake Superior and Lake Michigan, bordering Wisconsin. Developed in cooperation with the Wisconsin Historical Society.

**Highways in MD, VA, and DC** ([www.roadstothe future.com](http://www.roadstothe future.com)). History of, and observations on, interstate highways, beltways, tunnels, bridges, etc. in Washington, D.C. and Baltimore metros. 1950s to present.

**IA Recordings** ([www.iarecordings.org](http://www.iarecordings.org)). Catalogue of U.K. company specializing in recording industrial processes and activities of the past and present on film and video.

**Images of Industry** ([www.furnaceroadstudio.com/enyeding.html](http://www.furnaceroadstudio.com/enyeding.html)) features the industrial-themed artwork of Janos Enyedi. The building elements he employs in his work (I-beams, corrugated metal, bolts, torch-cut welded steel, etc.) are actually made of paper.

**Nuclear IA** ([www.bhi-erc.com/projects/s\\_m/b\\_reactor.htm](http://www.bhi-erc.com/projects/s_m/b_reactor.htm)). Efforts to preserve the B Reactor, one of nine decommissioned nuclear reactors located on the Hanford Site along the Columbia River in Washington State. B Reactor is the world's first full-scale nuclear reactor. It produced the plutonium used in the first nuclear explosion in the New Mexico desert and in the bomb dropped on Nagasaki.

**Otis Elevator** is sponsoring an exhibit through mid-April at the National Building Museum in Washington, D.C., on the history of elevators, escalators, and moving sidewalks. An on-line version of the exhibit is at [www.nbm.org](http://www.nbm.org). More info on the history of elevators is at [www.theelevatormuseum.org](http://www.theelevatormuseum.org).

**Pinhole Camera Photos of NYC's Bridges** ([www.fotolog.net/mbayard](http://www.fotolog.net/mbayard)). Evocative photos of bridges and other NYC landmarks made with a pinhole camera.

**Scottish Ironwork** ([www.scottishironwork.org](http://www.scottishironwork.org)). Info on more than 450 cast- and wrought-iron structures (bandstands, gates, buildings, fountains, etc.).

**SIAN 30 Years Ago** ([www.sia-web.org](http://www.sia-web.org)). The SIA Web site continues to grow. A new feature is a scan of a 30-yr.-old issue of the newsletter (v. 2, no. 5 Sept. 1973). See what the organization was up to in its formative years. Other back issues are being scanned and made available in pdf format with help from Don Durfee at SIA HQ in Houghton. Readers are also reminded that membership applications, gift memberships, and renewals are now available through the SIA's secure Web server.

**Synthetic Fibers to Reinforce Historic Buildings** ([www.isa.org/intechnews.cfm?id=3448](http://www.isa.org/intechnews.cfm?id=3448)). Mostly European-developed techniques of using carbon fibers to reinforce historic masonry and wood.

**Tungsten Mining** ([www.cr.nps.gov/nr/www/lps/lessons/110johnson/110johnson.htm](http://www.cr.nps.gov/nr/www/lps/lessons/110johnson/110johnson.htm)). NPS "Teaching With Historic Places" program offers an on-line lesson plan exploring how tungsten was mined and used at the turn of the 20th century, and how archeologists piece the past together with artifacts. Based on the Johnson Lake Mine in Nevada's Snake Range.

"IA on the Web" is compiled from sites brought to the editor's attention by members, who are encouraged to submit their IA Web finds by e-mail: [phsianews@aol.com](mailto:phsianews@aol.com). ■

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## Salt City (continued from page 16)

The creek's waterpower, although minimal, was a factor in drawing initial settlers to downtown in the early 19th century. Its banks housed a number of industrial concerns for decades although scant evidence remains today. More visible are three, double-arched limestone structures, which allowed early transportation routes to bridge the waterway. The first, functioning like an aqueduct but technically called a culvert, carried the waters of the **Erie Canal over Onondaga Creek**. Records indicate an original construction date of 1838. Its partial collapse in 1907 resulted in a rather infamous draining of the canal for six miles as its waters poured into the creek. Extensively repaired, it now carries Erie Boulevard over the creek. Although hidden from motorists, the creekwalk would make it accessible and visible to pedestrians.

One block north is the second arch bridge, the **West Genesee St. Bridge**. It can be seen in a ca. 1865 stereo view, but its construction date is yet to be determined. Genesee first crossed the creek at this point as an 1805 turnpike, first built over a log mill-dam.

Three blocks south is the third arch bridge, a railroad bridge of 66-ft. span, now carrying Washington St. over the creek. It was long used by the New York Central RR. Trains first operated along this right of way in 1839. Each stone structure could be the focus of a creekwalk, featuring interpretive signs. Funding for such amenities needs to be identified since it is not allowed under the walk's current federal grant. Meanwhile, OHA is completing research and seeking National Register listing for the bridges.

Dennis Connors

## NOTES & QUERIES

**National Preservation Institute** (Alexandria, VA) provides training for the management, development, and preservation of historic, cultural, and environmental resources. The Institute offers seminars and workshops, many of which have IA-related applications, at venues around the U.S. Topics range from collections management to preservation law. A complete list of offerings is available on-line, [www.npi.org](http://www.npi.org). Info: NPI, Box 1702, Alexandria, VA 22313; (703) 765-0100; [info@npi.org](mailto:info@npi.org).

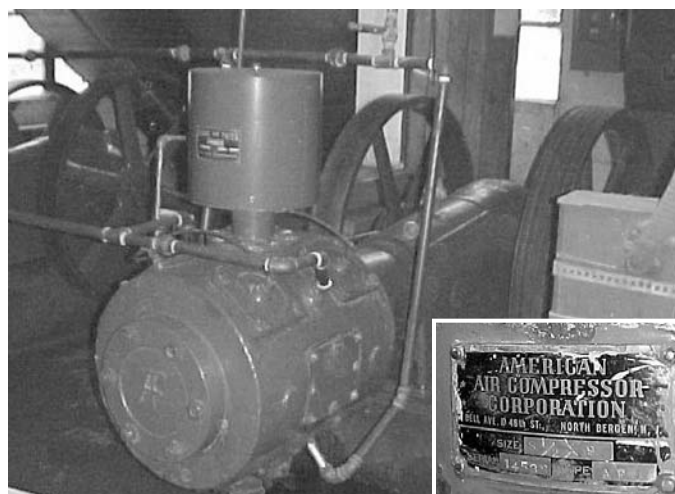
**Preservation Education Institute** (Windsor, VT) offers a wide range of hands-on workshops. Slated this year are workshops on restoring old barns, architectural photography, current practices of restoring paint, preservation philosophy, and masonry repointing. A catalogue of workshops is available, [www.preservationworks.org](http://www.preservationworks.org). At the same Web site can be viewed the electronic proceedings of the **First National Covered Bridge Conference**, held at Historic Windsor in 2003, featuring presentations by several SIA "pontists."

**TICCIH Conference, Lima, Peru.** The 4th Congress on preserving the industrial heritage of Latin America will be held July 12-14, 2004, at the Pontificia Universidad Catolica del Peru in Lima. Paper sessions will present research on the industrial history of Latin America and explore the cultural, social, and economic differences and similarities between Latin American industrialization and other parts of the world. Sessions will also discuss the preservation challenges facing Latin America. For information, see the TICCIH Web site ([www.mmactec.com](http://www.mmactec.com)) or contact the office of Eusebi Casanalles, TICCIH President at the Museum of Science and Industry in Catalonia, Spain ([esacanelles@gemcat.net](mailto:esacanelles@gemcat.net); phone: (93) 736 89 66) or head of the local conference organizing committee, Luis Repetto ([lrepetto@puap.edu.pe](mailto:lrepetto@puap.edu.pe)) at the Museo de la Electricidad in Lima.

**Maps of Old Coal Mines to Be Digitized, Indexed.** The federal Mine Safety and Health Administration (MSHA) has announced that it will dispense more than \$3.9 million in grants in 13 states to establish an electronic system of digitized maps of abandoned coal mines. Two near-disasters last year—one at Quecreek Mine in Pennsylvania and another at the Dugout Canyon Mine in Utah—made it clear that a better system of keeping track of precisely where underground mining has occurred is critical to mine safety. In both incidents, breaking into old mine shafts or drifts

contributed to near deadly outcomes for miners. This project may also be a boon to historians and industrial archeologists interested in studying the old maps, the originals of which are deposited with the MSHA or local archives. Info: [www.directionsmag.com](http://www.directionsmag.com) (Jan. 5, 2004). *Directions Magazine* is a weekly newsletter covering GIS and digital mapping.

**Bethlehem Steel History on CD-ROM.** With the help of Lناع Metz [SIA] and others, the Allentown *Morning Call* has produced a CD-ROM called *Forging America: The Story of Bethlehem Steel*. The CD includes a history of the company, more than 100 archival photos, film clips, oral history, and scans from period newspapers. \$9.95 plus s&h. Info on how to order: [www.mcall.com/steelcd](http://www.mcall.com/steelcd); (610) 820-6724. ■



**Home Wanted: The Stemwood Corp., a lumber and veneer mill in New Albany, IN, is offering a pair of air compressors to a collector or museum. They were manufactured by the American Air Compressor Corp. and purchased by Chester B. Stem in July 1951, but it is unknown whether they were new or used when brought to their present location. They are 25 hp, reciprocating, 240 V, 3 phase with Serial Nos. 14538 and 18072. They measure approximately 9-ft. long. Info: Kelly Foster, 2710 Grant Line Rd., New Albany, IN 47150; (812) 945-6646, ext. 226; [stemwood@earthlink.net](mailto:stemwood@earthlink.net).**

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*With Thanks.*

### LETTER TO THE EDITOR

Oct. 3, 2003

**Dear Editor:**

[The] article (SIAN, Summer 2003) on the succession of railroad bridges at Stonerstown, near Saxton, PA, was of high interest. However, the odd all-timber Pratt-like bridge was not the invention of a local carpenter. Instead, it was an example of the rare Hall truss, which is little known to historians because there was no patent. DeVolson Wood considered it a variant on the Haupt truss in his *Treatise on the Theory of the Construction of Bridges* (1873). A Hall truss was found as far afield as Hallowell, ME, but so far nothing is known of the inventor except his last name. There is an article on the subject in the Summer 1997 *Covered Bridge Topics* [published by National Society for the Preservation of Covered Bridges].

*Joseph D. Conwill*



## CHAPTER NEWS

The **New England Chapters** held their joint annual conference and symposium on New England IA on Feb. 14 at Plymouth State Univ. (NH). Southern New England members are also busy planning events and tours for the national SIA conference to be held in Providence and the Blackstone Valley June 10-13 (see notice elsewhere in this issue). The Northern New England chapter held its annual meeting at the Bennington (VT) Museum on Oct. 11, and elected Dennis Howe as the new chapter president and Carolyn Weatherwax as the new chapter treasurer. Betty Hall and David Coughlin are continuing as vice presidents. Following a paper by Vic Rolando about the Parian Pottery Dig, members toured Bennington Potters (a modern commercial plant) and the Bennington Battle Monument.

**Northern Ohio** held its annual meeting in Dec. at the Special Collections Library at Cleveland State Univ. Archivist Martin Hauserman gave a presentation on ongoing efforts to preserve, and make available to researchers, the City of Cleveland's massive collection of historic building blueprints. Thomas Leary continues as president.

**Oliver Evans** (Greater Philadelphia) toured the Fairmount Water Works Interpretive Center in Dec. The new center opened in Oct. and features interactive exhibits on the environmental aspects of water—supply, usage, and pollution—as well as history of the site. In Jan., the chapter held its annual meeting and celebrated its 20th anniversary. David Orr [SIA], first president of the chapter, was the featured speaker, sharing his past interest in Philadelphia archeology, as well as his recent work on the ceramic industries.

**Roebling** (Greater NY-NJ) members took a 4-hr. walking tour of Thomas Edison's iron-ore concentrator and open-pit mines in Sussex Co., NJ, in Nov. Bill Wilkie and Joe Macasek led the tour. The chapter held its annual meeting at Drew Univ. in Jan. ■



Roebling Chapter members pause to admire the machine shop at the Roebling Wire Rope Plant, Roebling, NJ, on a tour of Trenton-area industrial sites in Nov.

## SITES & STRUCTURES

The 16-mile-long **Savannah & Ogeechee Canal** (tour site—1999 Annual Conference) completed near Savannah, GA, in 1830 and abandoned in the late 1870s, is gaining renewed appreciation thanks to the efforts of the Ogeechee Canal Society. The volunteer organization has established hiking trails, picnic facilities, an interpretive center, and has worked with the state to unveil a new state historical marker. An article in the *Savannah Morning News* (May 4, 2003, pp. 3A-B) extensively quotes Mark Finlay [SIA], who has researched the history of the canal, built mostly by slaves. The canal struggled financially for most of its history. Carrying cotton, rice, bricks, and timber, it was Savannah's attempt to draw trade away from the ports of Darien and Brunswick with a water-connection between the Savannah and Altamaha rivers.

**Empire Stores** (tour site—2002 Annual Conference, Brooklyn), the brick and stone warehouses on the East River between the Brooklyn and Manhattan bridges (DUMBO), and dating mostly to the late-19th c., are the centerpiece of a new redevelopment plan unveiled by the Empire State Development Corp. in Dec. The proposal is to adaptively re-use the Empire Stores for a mix of shops, restaurants, galleries, and performance spaces. More info: "Brooklyn Waterfront Landmark Awaits New Life," *NY Times* (Dec. 3, 2003).

**Vulcan Set to Re-open** (tour site—1999 Fall Tour, Birmingham, AL). The 56-ft. tall statue of the Roman god of the forge—the world's largest of cast iron—will re-open in March overlooking the steel city of the South. Since 1999 the statue has been under restoration. It was reset atop its pedestal last year (*SIAN*, Summer 2003), and now the new visitor center with permanent exhibits has been completed. Along with the traditional museum displays, there is a video showing how Vulcan was cast. An extra hammer and spear are on display to give those on the ground a sense of the scale of what Vulcan holds in his hands. A 40-ft.-sq., topographic map of the Jones Valley, made in different colors of granite, shows the location of minerals and major industries. ■

## NEWS OF MEMBERS

**Margot Gayle**, winner of the General Tools Award for Distinguished Service to IA in 1997 (*SIAN*, Fall 1997), has been honored on her 95th birthday by the establishment of the Margot Gayle Fund for the Preservation of Victorian Heritage by the NYC Metropolitan Chapter of the Victorian Society of America. The fund honors the eminent preservationist around whose table the Victorian Society was founded in 1966. She is also the founder of the Friends of Cast Iron Architecture and is credited with raising public awareness nationwide of the significance of iron-fronted buildings. Her preservation efforts extend from the 1960s, when she successfully campaigned to save the Jefferson Market Courthouse in Greenwich Village, to a drive in the 1990s to restore the Yorkville sidewalk clock on Third Ave. near 85th St. Info: [www.preserve.org/usametro/margotgayle.htm](http://www.preserve.org/usametro/margotgayle.htm). ■

# CALENDAR

## 2004

**Mar. 12-14: Middle Atlantic Archaeological Conference, Rehoboth Beach, DE.** Paper session on bloomery ironmaking. Info: [www.maacmidatlanticarchaeology.org](http://www.maacmidatlanticarchaeology.org).

**Mar. 20: 23rd Annual Canal History & Technology Symposium, Lafayette College, Easton, PA.** Sponsored by the National Canal Museum. Papers on canals, railroads, and steel. Info: (610) 559-6616; [membership@canals.org](mailto:membership@canals.org).

**Apr. 14-18: Society of Architectural Historians, Annual Meeting, Providence, RI.** Theme: The Barn and Beyond: The 19th- and 20th-century Agricultural Landscape in North America. Info: [www.sah.org](http://www.sah.org).

**Apr. 22-25: Preserving the Historic Road in America Conference, Portland, OR.** Sponsored by the National Trust for Historic Preservation. Info: Historic Roads Conference, 1785 Massachusetts Ave., NW, Washington, D.C. 20036; (202) 588-6204; [www.historicroads.org](http://www.historicroads.org).

**Apr. 23: New England's Industrial Architecture Symposium, Lowell, MA.** Sponsored by Univ. of Mass., Lowell, and Lowell NHP. Info: Marie Frank, Dept. of Cultural Studies, 850 Broadway, U. Mass., Lowell, MA 01854; [Marie\\_Frank@uml.edu](mailto:Marie_Frank@uml.edu).

**May 12-16: Vernacular Architecture Forum, Annual Meeting, Harrisburg, PA.** Theme: Architecture and Landscape of the Pennsylvania Germans. Farm and grist mill tours. Info: [www.vernaculararchitectureforum.org](http://www.vernaculararchitectureforum.org).

**May 15: Union Station Tour, Washington, D.C.** Sponsored by the Latrobe Chapter of the Society of Architectural Historians. Reservations required. Info: (301) 654-3924; [lectureinfo@aol.com](mailto:lectureinfo@aol.com); <http://architecture.cua.edu/latrobe>.

**May 17-21: National Park Service Archeological Prospection Workshop, Spiro, OK.** Info: Steven L. DeVore, Archeologist, NPS Midwest Archeological Center, Federal Bldg., Rm. 474, 100 Centennial Mall North, Lincoln, NE 68508-3873; (402) 437-5392 x 141; [steve\\_de\\_vore@nps.gov](mailto:steve_de_vore@nps.gov).

**June 3-6: Railway & Locomotive Historical Society, Annual Conference, Ogden, UT.** Tours of rapid transit facilities in Salt Lake City, Ogden Union Station, museums, and the Golden Spike NHS. Info: [www.rhhistorical-2.com/rlhs/](http://www.rhhistorical-2.com/rlhs/).

**June 10-13: SIA 33rd Annual Conference, Providence, RI.** See notice in this issue. Watch the SIA Web site ([www.sia-web.org](http://www.sia-web.org)) for updates. Info: Robert Stewart, [robert.stewart13@worldnet.att.net](mailto:robert.stewart13@worldnet.att.net).

**July 12-14: TICCIIH Conference: 4th Congress on the Preservation of Latin America's Industrial Heritage, Lima, Peru.** See article in this issue. Info: Conference Organizer, Luis Repette, Director of the Electrical Museum, Lima, Peru. [Lrepetto@pucp.edu.pe](mailto:Lrepetto@pucp.edu.pe).

**Aug. 13-19: Assn. for Industrial Archaeology Annual Conference, Hatfield, U.K.** Tours of industry and IA in Hertfordshire and Lea Valley. Info: AIA Office, School of Archaeological Studies, Univ. of Leicester, Leicester LE1 7RH, U.K.; phone: 0116-252-5337; [AIA@le.ac.uk](mailto:AIA@le.ac.uk); [www.industrial-archaeology.org.uk](http://www.industrial-archaeology.org.uk).

**Sept. 16-19: Third International Early Railways Conference, National Rwy. Museum, York, U.K.** Info: National Rwy. Museum, Leeman Road, York YO26 4XJ, U.K. Phone: 01904 621261.

**Oct. 7-10: Society for the History of Technology Annual Meeting, Amsterdam, Netherlands.** Info: [www.shot.press.jhu.edu](http://www.shot.press.jhu.edu).

**Oct. 13-17: SIA Fall Tour, Wilmington, DE.** See notice in this issue. Watch the SIA Web site ([www.sia-web.org](http://www.sia-web.org)) for updates. Info: Mary Habstritt, [mhabstritt@aol.com](mailto:mhabstritt@aol.com).

## 2005

**May 4-7: Heritage of Technology—Gdansk Outlook 4, Gdansk, Poland.** Info: Robert Kapsch, (202) 619-6370; [robert\\_kapsch@nps.gov](mailto:robert_kapsch@nps.gov); also <http://hotgo4.mech.pg.gda.pl/hot-go4.html> or Conference Coordinator, Bozena Klawon, Gdansk Univ. of Technology, ul. Narutowicza 11/12, 80-952, Gdansk, Poland; tel. + 48 58 347 2929; [hotgo4@mech.pg.gda.pl](mailto:hotgo4@mech.pg.gda.pl). ■

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