



SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

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SIA's 96ers Mine Sacramento's Industrial Past at 25th Annual Conference

In the spirit of the 49ers who headed west 147 yrs. ago to mine gold, SIA's 96ers headed west to find IA at the Society's 25th Annual Conf. in Sacramento, Calif. from May 30 to June 2. Over 170 SIA faithful and many new faces from the West Coast attended the meeting graciously hosted by the California State Railroad Museum and Foundation. The conference was the first that the Society has ever held west of the Rocky Mountains. Delighting the conferees were tours to historic railroads and rail facilities, gold mines, and bridges, wineries, light-rail car, and architectural terra cotta manufacturing, and, as with all SIA conferences, an extended weekend of good fellowship, exploration, and education.

The conference kicked off with an "early bird" tour on Wed., May 29. The tour headed east of Sacramento to **Railtown 1897**, the first of many railroad sites. At Jamestown in the Sierra Nevada foothills is the preserved headquarters and general shops of the Sierra RR, which operates a 41-mile line between Jamestown and Oakdale. Most of the structures, including roundhouse,

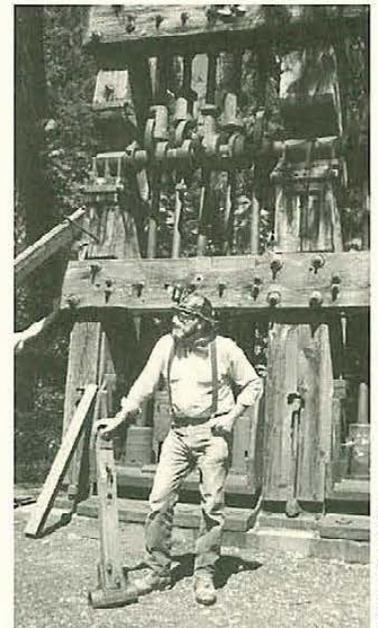
operating turntable, machine shop, carpenter shop, and repair sheds, were built between 1897 and 1922, during the Sierra RR's heyday serving the region's mines and towns. In 1971, the railroad began operating steam-powered tourist trains, and since 1982 has been owned and operated by the Calif. State RR Museum, as part of the Calif. State Parks Dept. With a significant investment of capital and staff, the Calif. State RR Museum Foundation helped state parks get Railtown operating again just two week before our visit. Following a ride in 1920s vintage passenger cars pulled by Shay geared locomotive Sierra No. 2, participants headed back toward Sacramento, but not before first visiting the historic mining town of Jackson for a look at the **Kennedy Tailing Wheels** and then to Sutter Creek, for the first of two opportunities during the conference to see the **Knight Foundry**.

Thurs. evening, the conference proper was inaugurated with the traditional opening reception, hosted by the
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Biercz Riley photo

The Sunday tour group poses at the North Star Mine, Grass Valley, Calif.



Biercz Riley photo

At the Empire Mine, a costumed tour guide poses in front of the stamp mill.



SIA's 96ers Mine Sacramento's Industrial Past

at 25th Annual Conference

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Calif. State Library in their building nestled amongst the state offices and beautiful tree-lined streets in downtown Sacramento. Many attendees took the opportunity to check out the library's on-line computer system for their favorite IA subjects.

Friday morning, the 96ers gathered outside the conference hotel to begin a full day of touring. The weather, sunny and dry, promised a great day, as the conferees divided off into buses and vans for the four optional tours.

The "Hops, Vines, and Foundry" tour headed east to the foothills around Sloughouse. Here the group did not disembark but viewed two ca. 1923 hop barns and heard about the history of hops growing. Conveyors carried the hops up into the barns and poured the hops leaves about 18 to 36" thick on wooden racks where they were dried by hot air circulated from steam boilers. After a drying period of up to 12 hrs., a second conveyor carried the hops out to a cooling barn. Major hops production stopped in the 1950s, although Sloughouse still cultivates about 1/4 acre for the Anchor Brewing Co. in San Francisco for use in their Christmas ale.

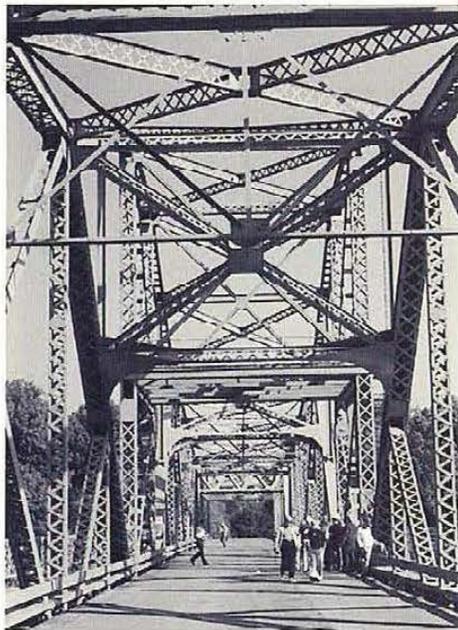
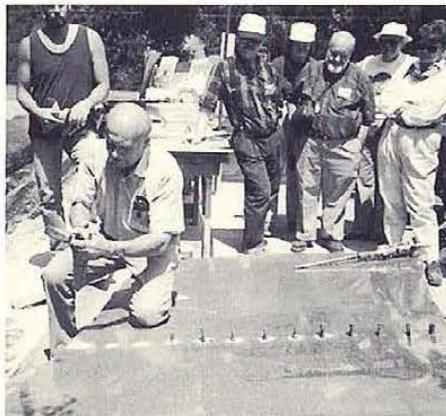
Leaving Sloughouse, the group continued to Plymouth and the Sobon Estate to learn about fine winemaking from Leon Sobon, a former Lockheed engineer, who started the vineyard from scratch in May 1976. A modern facility, the Estate hires

about 20 workers during the busy season from Sept. to Oct. The group tasted six different types of wine from Sauvignon Blanc to Syrah, and generously purchased supplies to take home. After winetasting, the group rode along lanes lined with walnut trees to the Shenandoah Valley Museum to see the early agricultural and winemaking equipment housed in the 1856 winery building recently purchased by the Sobons. Lunch was in the winery's picnic area, despite the wet ground and "Beware of Snake" sign. The afternoon's touring was concluded with a visit to the Knight Foundry, where owner Carl W. Borgh greeted the group and led them through the foundry and water-powered machine shop.

The "Buildings Materials Tour" also headed east of Sacramento to the town of Lincoln and Gladding McBean, manufacturers of terra cotta since the late 1880s. Tourgoers were treated to an intimate look at the making of fine architectural terra cotta, from the preparation of plaster molds through the firing of the green terra cotta in century-old kilns. Departing the terra cotta works, the buses traveled to Rocklin, a town noted for its granite quarries, many in operation since the 1860s.

Here a real treat awaited as Roy Ruhkala of the Ruhkala Monument Co. demonstrated his skill by hand-splitting a 6"-thick slab of granite and showing off the monument makers' craft from hand chiseling to the use of sandblasting equipment. Leaving Rocklin, the group returned to Sacramento for lunch on the State Capitol lawn followed by a tour of the Stanford Mansion, railroad magnate Leland Stanford's 1860s home recently

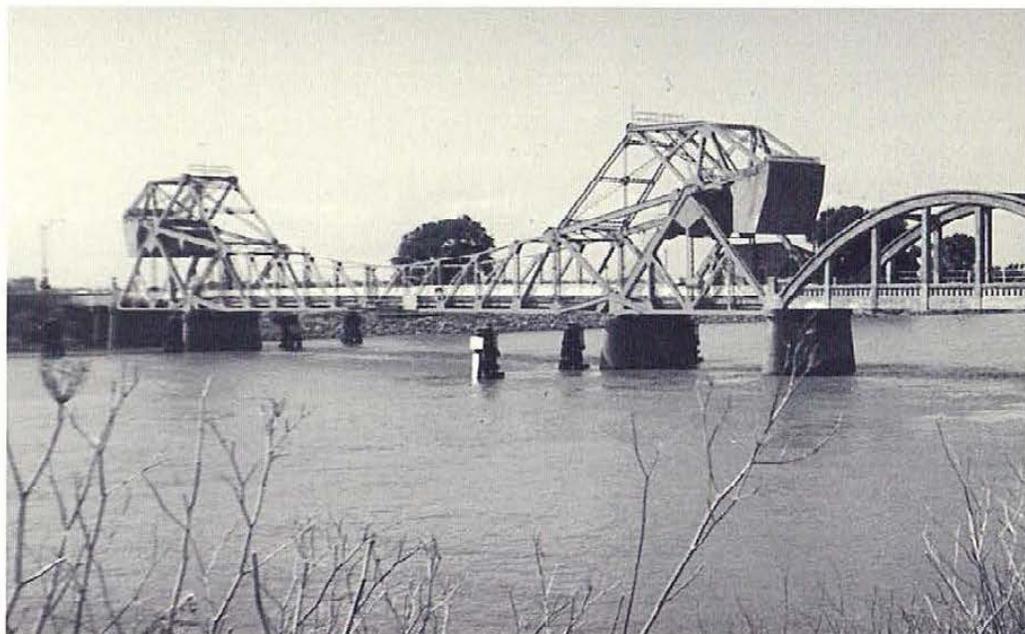
LEFT: Roy Ruhkala of Ruhkala Monument Co., Rocklin, splits a granite slab as IAers look on. Patrick Harshbarger photo



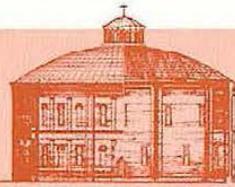
Gail D'Avino photo

ABOVE: Pontists inspect the Jibboom St. Bridge, a 351'-long steel Pratt thru-truss rim-bearing swing span bridge over the American River, constructed in 1931.

RIGHT: The Isleton Bridge over the Sacramento R., a steel double-leaf Strauss heel-trunnion bascule bridge with reinforced-concrete thru-arch approach spans, was a stop on the bridge tour.



Bob Newberry photo



JUNE 1, 1996, SACRAMENTO, CA

Minutes of the 25th Annual Business Meeting

Duncan Hay photo



ABOVE: Terra cotta pieces are removed from their molds, then trimmed and adjusted before being sent to the glaze shop and the kiln.

BELOW: Terra cotta pipe cools in the kiln after firing at Gladding McBean.

Patrick Harshbarger photo



At the Annual Meeting, Bob Frame receives the SIA's thanks for 12 yrs. service as the SIAN editor.

President Duncan Hay called the business meeting to order at 1:12 p.m. in the Dining Room of the Capital Plaza Holiday Inn.

President's Report.

President Hay opened the meeting by thanking all those who had helped make this annual meeting a success, particularly Walter Gray, Ed Arata, Cathy Taylor, John Snyder, Larry Felton, Dave Dawson, Sarah Loguc, Liz Edrich, David Weitzman, Karen Belser, Michael Brooks, Joel Harralson, Frank Hertzog, Carol Radovich, and Marilyn Sommerdorf. All were applauded for their efforts. He announced that 170 people had registered for this conference, which he pronounced very good for a meeting west of St. Paul, Minn. (the westernmost previous conference site).

President Hay recalled that he had asked the society's forbearance while major transitions occurred in the staffs of the IA and the SIA Newsletter. In retrospect, the transitions have gone very smoothly. Mich. Tech has become an excellent headquarters, and the recent issue of the SIAN continues the tradition. President Hay introduced IA editor Pat Martin and SIAN editor Patrick Harshbarger, asking them to stand for recognition.

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Secretary's Report. Secretary Richard Anderson announced that the minutes of last year's annual meeting in Baltimore had been published in the SIAN, and called for any additions or corrections. There being none he asked for a motion to accept the minutes of last year's meeting. The assembled members passed it unanimously.

Treasurer's Report. Treasurer Nanci Batchelor reported that the Society had a balance of \$65,655.00 on January 1, 1996. Of this, \$63,963 was income, about \$52,500 of which was from memberships, about \$4,900 in publication sales, \$3,900 in donations and \$11 in miscellaneous sources. Disbursements were primarily for printing and mailing costs of the SIAN and IA, along with insurance premiums. At the end of 1995, there was an excess of \$8,470 in income over expenses. The society has a current balance of \$75,150, of which \$68,000 is in unrestricted funds, the balance being in endowments and restricted funds.

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SIA's 96ers Mine Sacramento's Industrial Past at 25th Annual Conference

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acquired by the state and undergoing extensive restoration. The group then trooped over to the State Capitol for a film showing the innovative engineering that went into saving the building and returning it to its early 20th century appearance.

For the rail lovers, the "Moving Experience: Transportation Past and Present" was the tour of choice, with the first stop Siemens Dueweg for a morning-long inspection of light-rail car manufacturing. The group rode on a car destined for Portland's light-rail system, and saw the scale-model prototype of a car for Los Angeles in the process of design. The group then hopped on Sacramento's own light-rail system for the ride downtown for lunch at the Calif. State RR Museum. Here they shifted gears from modern mass transport to the golden age of railroading. Following an orientation on California's railroading history, they visited the Southern Pacific Shops

just west of downtown. In 1863 the Central Pacific began building east from Sacramento toward Promontory Point, Utah, and ever since, the shops in Sacramento have been producing and repairing everything from observation cars to lanterns.

The last of the four optional tours was "Bridges," led by John Snyder, architectural historian and bridge preservationist. Beginning with Sacramento's signature landmark Tower Bridge, a vertical-lift bridge constructed in 1934-36 (which, as if on order, opened at the approach of the pontists' van), the group toured southward down the Sacramento River viewing a delightful assortment of movable bridges and marveling at the many well-preserved early-20th century agricultural towns in the Great Central Valley.

Friday evening offered additional events with a reception hosted by the American Society of Civil Engineers (ASCE) and the Historic American Engineering Record (HAER). The traditional show-and-tell was conducted at the Calif. State RR Museum in Old Sacramento, two blocks from the conference hotel. Old Sacramento, a collection of late-19th and early-20th-century commercial buildings, offered many 96ers a chance to explore the local eateries and shops.

Paper sessions were conducted throughout the day on Saturday. The paper



Bob Newberry photo

At the California State RR Museum's restoration shop, workers fire up the steam crane.

Update on the Current Status of the Knight Foundry

At the Sacramento Conference, Ed Arata, director of the Friends of Knight Foundry, passed along the sad news that the not-for-profit group that has leased and operated the foundry at Sutter Creek, Calif., since 1991 has decided not to renew its lease. The decision, prompted by lack of funds, at least temporarily ends the group's five-year effort to preserve and operate the foundry as a living classroom. The Knight Foundry's hands-on workshops were a favorite of SIA members (SIAN 21, Wint. '92, p. 12). Conference attendees toured the foundry and machine shops as owner Carl W. Borgh directed the work on the last of a small order of castings before the foundry shuts down.

Arata noted that the problems began last summer when orders for the kinds of restoration work and custom castings that were the foundry's bread-and-butter dried up. Without foundry work, cashflow became a problem. The Friends lost money and did not have the funds to continue operating or to purchase the site.

Established in 1873 by Samuel Knight and George Horne, Knight Foundry was known for the production of water wheels and associated water-power equipment sold to mines, mills, and ranches throughout the West. Through four owners and over 120 yrs., the foundry and its shops were never converted to electric power. The foundry is powered with water delivered by the

Foundry products in foreground, face-plate lathe in background, a variety of Knight Foundry's cast-iron products are laid out just inside the door of the machine shop.



Duncan Fray photo

Amador Canal to the 42" diameter wheel installed by Knight in the 1870s.

Although the future of Knight Foundry is uncertain, efforts are already underway to ensure the site's preservation. The National Trust for Historic Preservation has placed the foundry on its Most Endangered Sites List and meetings between the Calif. State Parks and Carl Borgh will take place over the next few months to outline some options for preservation. ■



Minutes of the 25th Annual Business Meeting

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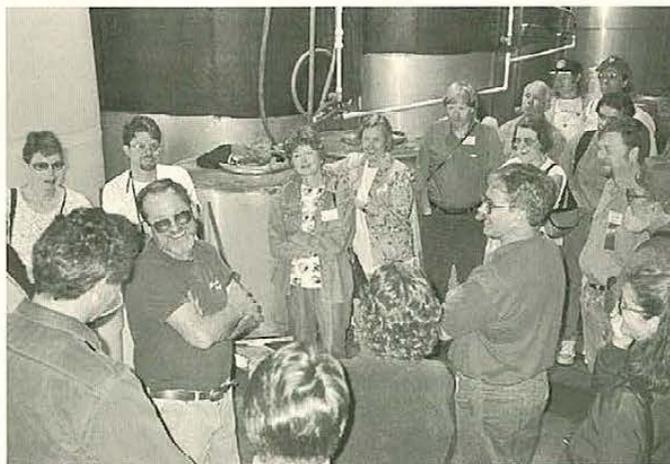
tracks focused on the rail transportation, mining, agriculture, and related industries that characterize Sacramento's and the Great Central Valley's industrial history. Track 1 was "Railroads" with a solid line-up of presentations on everything from locomotive construction to the evolution of 19th-century turntables. Track 2 was "Mining, Agriculture, and Industry," with a lively representation of California-related industries including olive-oil milling and gold mining, as well as topics from as far away as New England slate mining. Track 3 was the "Historic Bridge Symposium," once again hosted by Eric DeLony, chief of HAER. The featured presentation was on the seismic retrofitting of the Golden Gate Bridge. Updates were provided on historic bridge preservation.



David Dawson photo

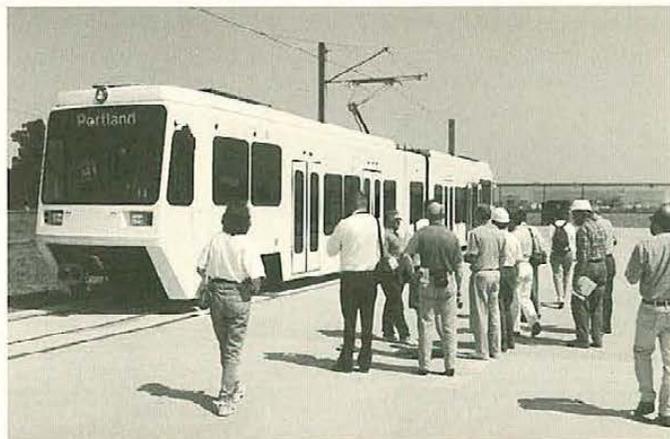
RIGHT: Christopher Marston (SIA Director, IIAER architect) climbs to inspect an oak wine barrel at Sobon Estate. Straw anyone?

BELOW: Leon Sobon (2nd from left), proprietor of Sobon Estate winery, explains the winemaking process to a happy SIA crowd.



David Dawson photo

BELOW: At Siemens Duewag in Sacramento, SIA tests out a newly constructed light-rail car for the Portland system.



Bob Newbery photo

Journal. Pat Martin, IA editor, reported that the last issue for the 1995 year will go to the printer at the beginning of June. The first 1996 issue is due to go to the copy editor very soon, and should be in members' hands by summer's end. The second 1996 issue covers the Historic American Engineering Record (HAER), under the guest editorship of Dean Herrin, HAER historian. Pat Martin invited comment on the quality of IA, but he especially appealed for manuscripts.

Newsletter. Following the publications reports, Fred Quivik made a formal presentation to Bob Frame, outgoing SIAN editor, on behalf of the board and the society in recognition of 12 years of deeply appreciated service. Bob Frame was acknowledged with thunderous applause by all. Fred presented Bob with a copy of Henry Petroski's *Engineers of Dreams: Great Bridge Builders and the Spanning of America* (1995) on behalf of the board.

Tours. President Hay rose to comment on the annual meeting and fall tour, adding that for many "SIA is tours and conferences." He announced that the fall tour will be in Columbus, Ohio, Sept. 26-29. Mich. Tech in Houghton was announced as the host for next year's annual conference. Pat Martin very briefly summarized Mich. Tech's capacity to handle the meeting, since they ran a successful fall tour a few years ago. The bulk of the tours will be aimed at the copper industry with piggy back tours to the Soo Locks or Duluth. There will be an "early bird" tour to the iron industry in the Marquette environs. President Hay continued the tour announcements by introducing William McNiece from Indianapolis, who is working on a 1998 annual conference in his city. We also have a proposal for a fall tour in Louisiana. President Hay encouraged the membership to consider hosting an annual conference in their home states, reminding all that SIA cannot hold a conference by fiat; it can only happen when local organizers put the conference together.

Norton Prize Award. On behalf of the Norton Prize Committee, David Simmons announced **Mary Rose Boswell** this year's winner of the Norton Prize for the best article in the IA during the past three years. The committee agreed that Boswell's "Documenting Laconia's Knitting Mills: A Comparison of Belknap Mills Corporation and Two Present-Day Knitting Mills" (v. 20, n. 1&2, 1994) met the committee's criteria for excellence. While a number of articles received praise, the committee felt that those which looked at actual products and processes, and used artifacts, written histories, current research, oral histories, and factory visits, offered an unusual conjunction of the kind of work the Norton Prize was intended to honor. Mary Rose Boswell offers insight into business practice, innovation and skill, technological advancement and limitations that continue to affect not only a company but a region.

General Tools Award. Fred Quivik, 1995-1996 Chair and outgoing member of the SIA General Tools Award Comm., made the General Tools Award for lifetime service to the SIA and industrial archeology in general. This year's recipient is **Patrick M. Malone**, who was greeted with great applause. He stated that for once he was about speechless, but he thanked SIA and General

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1997 Annual SIA Conference Announcement

Michigan's Lake Superior Mining District,
Houghton, Mich., May 29-June 1



Michigan Tech's IA Program, the University Archives, the Quincy Mine Hoist Assoc., and Keweenaw National Hist.

Park will host the SIA's 1997 Conference on the Keweenaw Peninsula. Visit the center of North America's mid-19th century copper mining region, where an impressive legacy of industrial heritage remains in view. Tours will include the world's largest steam-powered mine hoist, an underground tour of the Quincy Mine, visits to the Redrider Steel Dam, 19th-century company

housing and commercial neighborhoods, a double-deck lift bridge, and a wide variety of other industrial sites. Side trips can include the Marquette or Mesabi iron ranges, Sault Ste. Marie locks, and other Upper Great Lakes sites of interest.

Because travel costs may be high, every effort is being made to insure that registration and accommodations will be economical. For example, dormitory rooms will be available for those wishing to minimize expenses, and conference costs will be lowered through use of University facilities.

Those members who attended the 1981 Fall Tour will attest that this will be a memorable meeting! Make your plans to visit SIA Headquarters and Michigan's Copper Country in 1997! ■



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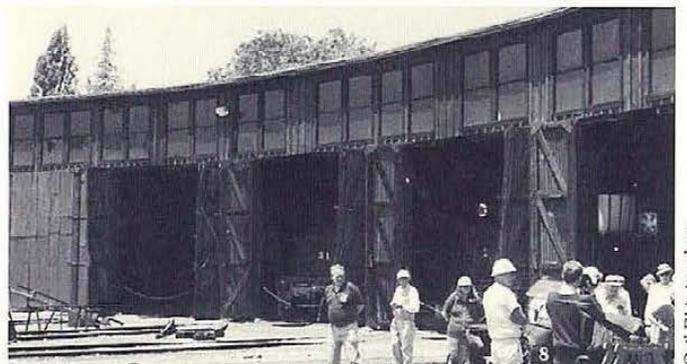
vation efforts from across the continent. Track 4 was the "catch-all" track with presentations on foundries, business management, agriculture, mining, and documentation reports. At lunch, the group gathered for the Annual Business Meeting in the hotel banquet hall.

The Saturday evening banquet in the roundhouse of the Calif. State RR Museum was preceded by a steam excursion train ride along the south bank of the Sacramento River. Following the ride in the hot evening air (temp's reached 105 dg. that day), the group convened to the coolness of the museum for the evening banquet, where, in the shadow of a Southern Pacific Daylight diesel-electric locomotive, they ate a sumptuous meal. Following dessert, the group heard a keynote address from David Weitzman, author and illustrator of *Superpower: The Making of a Steam Locomotive* and *Windmills, Bridges, and Old Machines: Discovering Our Industrial Past*. Weitzman reflected on what SIA has meant to him, how SIA events have inspired his work, and the numerous friendships he has built through SIA. The personal tone of the address seemed to touch a note with almost everyone, and was a fitting conclusion to the 25th anniversary banquet.

On Sunday, two optional full-day tours were offered, both focusing on the region's gold mining history. The "Hydraulic Power and Mining" tour began at the **Empire Mine**. Now a state historic park, the mine is the site of one of the oldest and richest hardrock gold mines in California. The mine operated continuously from 1850 to 1956 with an estimated 5.8 million ounces of gold extracted. The tour then continued to **Malikoff Diggins State Park** for a look at the tailings piles and system of canals and ditches used for hydraulic placer mining. The final stop was the **North Star Mine and Powerhouse** to view the 36' Pelton wheel

– largest (in diameter) ever built – and ore stamps.

The second optional tour, "Gold Rush," included a visit to **Sutter's Fort State Historic Park** to view the reconstructed cooper and blacksmith shops, prison, bakery, and livestock areas. It then continued to Coloma on the American River, where participants had the opportunity to pan for gold at **Marshall Gold Discovery State Historic Park**. The park with its replica saw mill and village marks the spot where on Jan. 24, 1848, James Wilson Marshall supposedly said, "Boys, I believe I have found a gold mine!" thus setting in motion the great '49 gold rush. In a similar vein (to make a bad pun), the '96ers ended the Sacramento conference, returning to their various places of origin, and claiming, "I believe I've found IA in Sacramento." Thanks to all the staff and volunteers of the Calif. State RR Museum and Foundation for a memorable conference. ■ J.P.H.



Sacramento conference participants explore the Sierra RR roundhouse (1910).

Carl D. Avino photo

1996 General Tools Award Presented to PATRICK M. MALONE

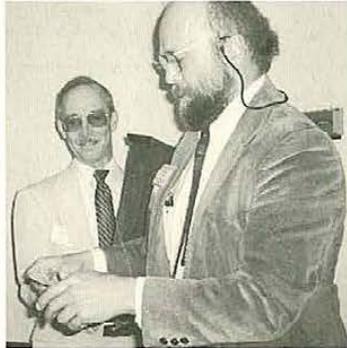
The following citation was read by SIA Vice President Fred Quivik at the SIA's Annual Business Meeting, Sacramento, Calif. The award consists of this citation, a commissioned sculpture (the famous plumb bob), and an honorarium of \$1,000.

Patrick M. Malone's resume exhaustively documents "sustained, distinguished service to the cause of Industrial Archeology," which is what the SIA's General Tools Award was instituted to recognize. He has devoted his life and career to the field, and has advanced it through his teaching, consulting, management, writing, and participation in professional associations.

Pat's impressive resume is too long to recite here, so I will highlight some of his more noteworthy contributions to our field. As an administrator for fifteen years at the Slater Mill Museum, he was that institution's director and principal fund raiser. He ably continued building one of the nation's earliest private institutions devoted to the preservation and interpretation of an industrial site, so that it is also one of the nation's most significant. Though historical reconstruction was a venerable activity before Pat directed the Wilkinson Water Wheel Project at Slater Mill, that undertaking set standards in its design process, based on exhaustive archeological and primary research, and in its ingenious application of modern engineering. At the time, the half-million dollars Pat raised for the water wheel was perhaps the largest allocation ever of private-sector money for a purely educational IA activity.

Pat has led efforts to establish IA in some very important forums, where acceptance has come grudgingly. One such forum was the U.S. Congress, where Pat's testimony provided substantive, authoritative grounding for the establishment of the Lowell National Historic Park. He has since made significant contributions to the development and interpretation of the park. Pat also fought to validate IA in perhaps a more hostile forum, at a meeting of the Society for the History of Technology. In 1979, he organized and chaired SHOT's first session ever devoted to material evidence. It was a controversial session, and Pat courageously faced strong skepticism from some of SHOT's mandarins. But through his efforts, the issue is now largely moot, as material evidence is widely held as a valuable source from which we can interpret and understand the history of technology and our history as an industrial people.

The criteria for making the General Tools Award stress that the recipient's contributions to the field of industrial archeology must be other than academic writing and publication. Pat is clearly deserving of this year's award according to those criteria. That having been said, he must also be recognized for the *Texture of Industry*, which he co-authored with our own Robert Gordon. The



Patrick Malone (L) receives the Society's General Tools Award from Fred Quivik (R)

Patrick Harshbarger photo



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Tools for making IA such a rewarding activity.

Prior to reading the citation for this year's General Tools Award, Fred thanked those who submitted nominations; thanked the General Tools Mfg. Corp., and the Abraham & Lillian Rosenberg Foundation, which sponsored the Award; and urged members to continue submitting high-quality nominations for the Award in coming years. The other members of the award committee are Carol Poh Miller (1994-1997), who now chairs the committee, and Emory Kemp (1995-1998), who also is the first recipient of the award.

President Hay said he had been asked to make another recognition for lifetime achievement by the Canadian History and Heritage Comm. This year's award recipient is Bob Passfield, who chose to be at the SIA rather than at a CHHC meeting. To applause, Bob stood for recognition and thanked President Hay for passing along the news.

Elections. President Hay thanked the board members rotating off the board this year: Iina LeCoff, Gerry Weinstein, Carroll Pursell, and Amy Federman. President Hay invited the Chair of the Nominations Comm., Susan Appel, to give the results of this year's elections. She said that this year's spirited contest was a mark of the excellence of the candidates, and she thanked both the membership at large for their nominations, and the candidates for running. Results:

Nominations Committee: Patrick Malone

Directors: Jack Bergstresser, David Simmons, and Ann Steele

Vice President: Sandy Norman

President: Fred Quivik

President Hay congratulated all the newly elected officers, and asked how he and Fred Quivik might make a peaceful transfer of power. Incoming president Quivik assumed the chair of the meeting formally to thank outgoing president Hay.

The meeting adjourned at 2:17 p.m.

Richard K. Anderson, Jr., Secretary

Texture of Industry, published in 1994 by Oxford University Press, is the first real textbook surveying and giving context to American industrial history using IA resources, methods, and theory.

Pat Malone is a pioneer of our field, and his contributions endure on several fronts. His numerous other writings have been influential. He is a distinguished teacher, and many of his former students at Brown [University] now make substantive contributions to IA. He is a founder and past president of both the Society and its Southern New England Chapter. He has helped organize conferences and tours for the Society. He has contributed immensely to the preservation of historic resources in his home state of Rhode Island through membership in the Technical Committee of the State Planning Council. His impact has been both local and national. It is our field's good fortune that Pat is one of our most visible and effective ambassadors. The General Tools Award is a token of the esteem and appreciation we owe Patrick Malone. ■

Effort to Save 10th St. Bridge Heads to Federal Court

Those who attended the Bridge Symposium at the SIA Annual Conference in Sacramento were impressed by the presentation by Arlyne and Cheryl Reichert [SIA], leaders of the "Save the Bridge Committee," a community-based group dedicated to saving the 10th St. Bridge in Great Falls [NR]. The eight-span, 1,130-ft.-long, reinforced concrete, open-spandrel ribbed arch bridge was constructed in 1920 over the Missouri River. It is the oldest and longest bridge of its type in Montana. The Mont. Dept. of Transp. has issued a contract for the bridge's demolition, but has temporarily delayed demolition pending the outcome of court proceedings. On June 12, the U.S. Dist. Court denied a request by the Save the Bridge Comm. and the National Trust for Historic Preservation to issue an injunction stopping demolition. On July 31, the 9th Circuit Court agreed to hear an appeal, and issued a stay of demolition until after hearings are held in October.

The 10th St. Bridge provided a critical connection between Great Falls and outlying communities to the north. It reflected the vision of Paris Gibson, founder of Great Falls. Gibson spearheaded the building of the bridge, which was intended to make a statement about the pride and optimism of the community. The bridge was designed by the collaboration of Ralph Adams, a Spokane structural engineer, and George Shanley, a prominent Great Falls architect. The open-spandrel design was typical of the post-WW I period, usually reserved for prominent river crossings where an aesthetic bridge was desired.

In 1986, the city and county governments escalated efforts to replace the bridge with a new bridge. The 10th St. Bridge had been determined eligible for the National Register several years prior, and its demolition became the subject of much debate through 1988. In spite of pressure from federal and state agencies and from local citizens, plans were developed to build the new bridge. The 10th St. Bridge was scheduled for demolition when the new bridge opened this summer.

According to the Reicherts, much has happened in Great Falls since the 1988 bridge hearings. There is a growing movement to identify, protect, and promote the community's historic resources. Three historic districts have been listed in the National Register and the city and county have established a preservation commis-

sion that is in full agreement that the 10th St. Bridge is worthy of preservation. The River's Edge Trail, a walk-hike trail, has been added along the south bank of the Missouri offering the potential for active pedestrian use of the bridge. Plans are underway to provide a north-bank trail, and the renovated 10th St. Bridge would provide a safe and scenic link.

Local preservation efforts have been intense. Not only has the Save the Bridge Comm. taken the state DOT to court, they have initiated a letter-writing campaign to elected officials and have taken their cause to the computer Internet web. This year the bridge was listed on the National Register. Abba Lichtenstein [SIA director], expert on the inspection and rehabilitation of historic bridges, has prepared a feasibility study stating that the bridge could be saved and economically restored as part of a linear park. The committee is working to raise the \$200,000, which represents the difference between the cost of demolition and the estimated cost of rehabilitation for pedestrian use. Info: Arlyne Reichert, Chair, Save the Bridge Comm., 1400 First Ave. N., Great Falls MT 59401. Website: www.echoweb.com/bridge.htm. ■

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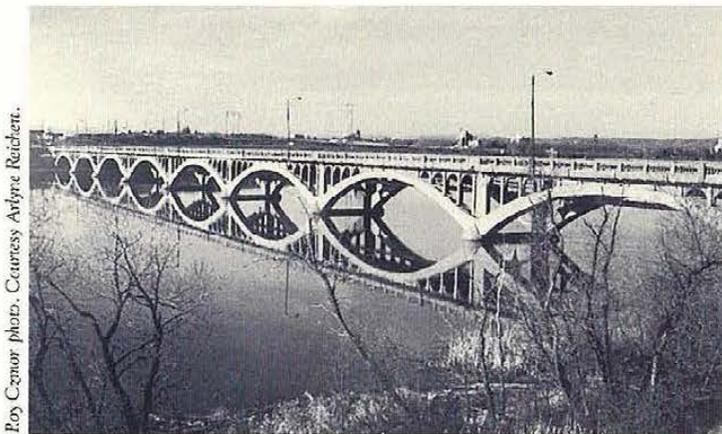
TICCIH Conference News

The 10th International Conference for the Conservation of the Industrial Heritage (TICCIH) is scheduled for June 22-29, 1997 in Athens and Thessaloniki, Greece. Pre-conference activities will begin in Athens and include guided tours to the Lavrion mining area, the Piraeus harbor area, and other industrial sites near Athens. On June 25, participants will travel to Thessaloniki for the main conference.

The main theme of the 1997 conference is Maritime Technologies, in keeping with the host, a maritime country par excellence. One set of papers will explore the history of maritime technology, including navigation of seas and rivers, ship building, submarine construction, and port equipment, and the use of new technologies in submarine research. Another set of papers will explore the legal and institutional framework for the protection of maritime heritage (ships, port-equipment, technical works, lighthouses) in each country, the criteria for protection schemes and related projects, and methods of recording and research. The focus will be on specific problems related to the development of abandoned port and dock areas, as well as the way maritime museums and other cultural institutions handle themes concerning the maritime heritage.

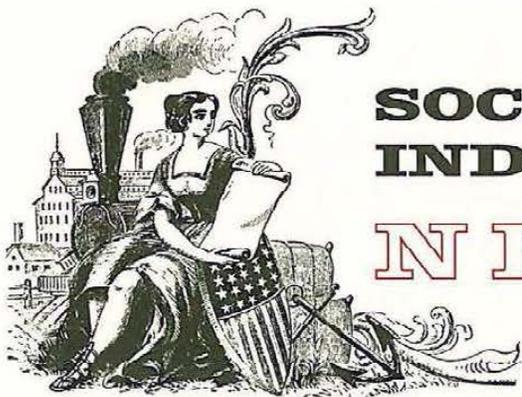
Founded in 1978, TICCIH includes members from more than 50 countries. Its main objectives are to promote the study, registration, protection, and reuse of all material remains and every kind of evidence for industrial history, as well as related research and educational or cultural activities. The SIA elects a representative to TICCIH. The current representative is Peter Stott, Tufts Univ.

The official languages of the conference are English, French, and Greek (simultaneous translation will be provided). Info: The Greek Section of TICCIH, Inst. of Neohellenic Research/National Hellenic Research Foundation, 48, Vassileos Constantinou avenue, 11635 Athens, Greece. Tel. (30 1) 721-0554; fax (30 1) 724-6212. ■



Roy Cozner photo. Courtesy Arlyne Reichert.

The 10th St. Bridge over the Missouri River, Great Falls, Mont. will not become just another pile of concrete rubble if preservation efforts are successful.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A Supplement to Vol. 25, No. 2

Summer 1996

COMPILED BY

Mary Habstritt, Univ. of Minnesota; Mark Hufsteler, Renewable Technologies, Inc., Bozeman, Mont.;
Henry Louwood, Stanford Univ., Calif.; and Patrick Harshbarger, SIAN editor.

GENERAL STUDIES

- James Burke. **The Axemaker's Gift: A Double-Edged History of Human Culture.** Purnam's, 1995. 348 p. ill. The well known historian and public television pundit puts forth some of his ideas on the relationship between technology and civilization from the beginnings of recorded history to the present day.
- **America Preserved: A Checklist of Historic Buildings, Structures, and Sites Recorded by HABS/HAER.** Library of Congress (Cataloging Dist. Serv., Box 75840, Washington DC 20013-5480; 1-800-255-3666) 1,184 p., ill., \$74. Cites over 29,000 structures and sites recorded by HABS/HAER since 1933 with order numbers for copies of measured drawings or photos.
- Lance Day & Ian McNeil. **Biographic Dictionary of the History of Technology.** Routledge Pub., 1996. 844 p. biblio. A reference tool that focuses on the biographies of notable inventors.
- Doris J. Dyen & Edward K. Muller. "Conserving the Heritage of Industrial Communities: The Compromising Issue of Integrity." In *Historic Preservation Forum* 8 (July/Aug. 1994), p. 37-43. Discussion of the usefulness of National Register guidelines in determining the integrity of "massive, multi-faceted industrial sites and their interrelated communities."
- Marie Ennis. "The Engineer as Preservationist." In *Civil Engineering* 64 (Sept. 1994), p. 48-51.
- Robert A. Gordon & Patrick M. Malone. **The Texture of Industry: An Archaeological View of the Industrialization of America.** Oxford Univ. Pr., 1994. 442 p., ill., biblio. Rev.: *IA* 21,2 (1995); *STS Newsletter* 101/102 (Fall/Winter 1994): 22-23; *Material Culture* 29 (Fall 1994).
- Michael Jacobson-Hardy. **The Changing Landscape of Labor: American Workers and Workplaces.** Univ. of Mass. Pr. (Box 429, Amherst MA 01004), 1996. 168 p. ill. \$40. Documents through photographs and words, the changing world of manual labor in late 20th-c. New England. Features more than 50 b&w photos contrasting the work environment of such traditional industries as paper and textile mills, foundries, and shipyards with such newer high-tech industries as computer manuf. and aircraft production.
- Marilyn Palmer. "Industrial Archaeology: Continuity and Change." In *IAR* 16 (Spring 1994), p. 135-56. The Rolt Memorial Lecture, 1993.
- Marilyn Palmer & Peter Neaverson. **Industry in the Landscape, 1700-1900.** Routledge, 1994. 214 p., ill. Rev.: *IAR* 17 (Spring 1995), p. 208-10.
- Carroll W. Purcell. **The Machine in America: A Social History of Technology.** Johns Hopkins Univ. Pr. (Baltimore), 1995. 358 p. ill. biblio.
- Philip Scranton. "Conceptualizing Pennsylvania's Industrialization." In *Pennsylvania History* (1994), v. 61,1, p. 6-17. Counters the familiar linear narrative of the state's industrial progress with a view of industrialization that focuses on diverse and distinctive production spaces.
- John W. Snyder. "Historic Preservation and Hazardous Waste: A Legacy of the Industrial Past." *A.P.T. Bulletin* 24, nos. 1-2 (1992), p. 67-73. Focuses on the example of the 19th-century railroad workshops and yards of the Southern Pacific Railroad in Oakland, California.
- "Special Report: Industrial Archeology." Special issue, *Federal Archeology* 7 (Summer 1994). SIA and its members are prominently featured in this special issue. An introduction by David Starbuck accompanies several site-specific articles: "Written in Rock and Rust," by David Andrews, tells of a unique partnership between HAER and "dirt archeologists" to document two hard rock mining sites in California's Joshua Tree National Monument; "Living on the Boot," by Stephen A. Mrozowski, Grace H. Ziesing, and Mary C. Beaudry, tells how archeological finds describe boardinghouse life for mill workers in Lowell, Mass.; "Engine of Injustice: Black Labor and Technological Change at the Sloss Furnaces," by Alex Lichtenstein, relates how the availability of cheap black labor in the Birmingham, Ala. area may have slowed the pace of mechanization at the pig-iron plant; and "High-Caliber Discovery," by Joel W. Grossman, is a fascinating account of excavating a Superfund site using high-technology tools to unearth a highly sophisticated Civil War weapons factory and test site where speedy development was fueled by international espionage.

RAILROADS

- Mark Aldrich. "Safe and Suitable Boilers: The Railroads, the Interstate Commerce Commission, and Locomotive Safety, 1900-1945." In *RRH* 171 (Autumn 1994), p. 23-44. An examination of locomotive boiler explosions, and resultant inspection and safety laws.

- John K. Brown. **The Baldwin Locomotive Works, 1831-1915.** Johns Hopkins Univ. Pr. (Baltimore). 328 p. ill. map. biblio. ind. Primarily a business history of Baldwin's management practices, the book is effectively illustrated. The preface describes a typical day in 1905 at the Baldwin works in Philadelphia, when seven new locomotives would have been completed, while work proceeded on 450 others. Rev.: *TIC-CIH Bulletin* (Mar. 1996).
- John K. Brown & Samuel M. Vauclain. "Comments on the System and Shop Practices of the Baldwin Locomotive Works." In *RRH* 173 (Autumn 1995), p. 102-141.
- John Cattell & Keith Falconer. **Swindon: The Legacy of a Railway Town.** National Monuments Record Center (Swindon, U.K.), 1995. 186 p. ill. The former Great Western Railway locomotive works and company town at Swindon are documented through archeological, pictorial, cartographic, and documentary evidence.
- "Cleveland Railway Company: Floor Plan and Elevation Equipment Drawings." *Underground Railway Pr.* (PO Box 11279, Burke, VA 22009-1279). Complete catalog \$2. Available are car plan drawings from the J. William Vigrass Collection, including trolley cars, tankcars, trailer cars, etc.
- Edward Pierce Coleman. **Steel Rails and Territorial Tales: Forty Months Building the Oregon Short Line through Idaho.** Limberlost Pr. (Boise, ID), 1994. 108 p. ill. The first publication of the memoirs of Coleman who surveyed the Union Pacific through southwestern Idaho from 1881-1884. Coleman had an unusual gift for recording daily life on a survey team.
- Paul Collins & Michael Stratton. **British Car Factories from 1896: A Complete Historical, Geographical, Architectural and Technological Survey.** Veloce (Godmanstone, Eng), 1993. 269 p. illus. Rev.: *IAR* (Spring 1994), p. 220-21.
- Jesse C. Conde. **Fowler Locomotives in the Kingdom of Hawaii.** Narrow Gauge Rwy. Soc. (Peterborough), 1993. 48 p. ill. plans. Rev.: *IAR* 17 (Autumn 1994), p. 94.
- Dianne K. Drummond. **Crewe: Railway Town, Company, and People, 1840-1914.** Scholar Pr. (Brookfield, VT), 1995. 259 p. ill. A history of the locomotive works at Crewe and Nantwich, England.
- Ron Fitch. **Railroading at Its Wildest.** Kangaroo Pr., 1993. 176p, illus. Available for \$29.95 plus \$3.00 postage from Seven Hills Book Distributors (49 Central Ave., Cincinnati, OH 45202). An autobiographical "insider's story" of railroading Down Under. Rev.: *RRH* 171 (Autumn 1994), p. 148.
- Ken Kobus & Jack Consoli. **The Pennsy in the Steel City — 150 Yrs. of the Pennsylvania RR in Pittsburgh.** PRR Technical and Historical Soc. (279 Zehner School Rd., Zelionople, PA 16063), c. 1995. 88 p., ill., paper. \$21. Takes the reader on a photographic historical tour of the PRR's various divisional trackage in and around Pittsburgh. Includes 1924 "Industrial Map of the Pittsburgh District" 25x38 insert.
- J. G. E. Meyer. **Modern Locomotive Construction, 1892.** Reprint: Lindsay Publications (Box 12, Bradley, IL 60915-0012), 1994. 658p., illus. \$50. A reprint of a classic nineteenth-century treatise on steam locomotive engineering, written by the chief draftsman of the Grant Locomotive Works. Rev.: *RRH* 173 (Autumn 1995), p. 172-173.
- William D. Middleton. "Wonders of the Railroad World." In *Trains* 56 (August 1996), p. 34-45. A prominent rail historian picks the top 10 railroad engineering achievements in North America.
- David H. Mould. **Dividing Lines: Canals, Railroads and Urban Rivalry in Ohio's Hocking Valley, 1825-1875.** Wright State University Pr., 1994. 306p., illus., maps. \$54 ppd. from the distributor (University Publishing Assoc., Inc., 4720 Boston Way, Lanham MD 20706). Railway and canal technology and expansion, and their role in the development of community and industry in the region. Rev.: *RRH* 172 (Spring 1995), p. 94-95.
- Mark Reutter. "The Life of Edward Budd." Part 1 ("Pulleys, McKeen Cars, and the Origins of the Zephyr") in *RRH* 172 (Spring 1995), p. 5-34; Part 2 ("Frustration and Acclaim") in *RRH* 173 (Autumn 1995), p. 58-101. A good brief biography of Budd, with an emphasis on his firm's innovative technology.
- Festus P. Summers. **The Baltimore & Ohio in the Civil War.** Stan Clark Military Books (Gettysburg PA), 1993. 366p., illus., maps. \$30. Avail. for \$28.95 ppd. from the C&O Historical Society (800-453-COHS). Reprint of 1939 ed.
- John H. White. "Thatcher Perkins, Master of Machinery." In *RRH* 169 (Autumn 1993), p. 55-68. A look at a 19th-cen. locomotive designer, for the B&O and others.
- John H. White, Jr. **The American Railroad Freight Car: From the Wood-Car Era to the Coming of Steel.** Johns Hopkins University Pr. (Baltimore), 1993. 644p, illus. \$125. A comprehensive and detailed exploration of the subject, in the style of White's classic *The American Railroad Passenger Car*. Rev.: *RRH* 171 (Autumn 1994), p. 126-127.
- John H. White, Jr. "From Top to Bottom: Cincinnati's Inclines and Hilltop Houses." In *Timeline* 12 (Jan./Feb. 1995), p. 26-39. The construction and dramatic operation of Cincinnati's five incline railways.
- Frank N. Wilner. **The Amtrak Story.** Simmons Boardman Books (1809 Capitol Ave., Omaha NB 68102), 1994. 158p., illus., index \$31.70 ppd., paper. A largely episodic history of the first 23 years of Amtrak.
- William L. Withuhn, ed. **Rails Across America: A History of Railroads in North America.** Smithmark, (New York), 1993. 192p., illus., index. According to the review, "the best introductory sourcebook" on North American Railroading. Rev.: *The Lexington Qlty.* (Jan. 1994), p. 10-11.
- Ed Wolfe. **The Interstate Railroad — History of an Appalachian Coal Road.** Old Line Graphics (Pittsburgh), 1994. 176p., illus., maps. Avail. for \$38.50 ppd. from HEW Enterprises, 116 Oakview Ave., Pittsburgh PA 15218. A history of the coal-hauling Virginia short line; includes information on the region's coal and coke operations.
- Jacob H. Yoder & George B. Wharen, eds. **Locomotive Valves and Valve Gears, 2nd Edition.** Caunden Miniature Steam Services (Bath, England), 1993. Available for \$24 from Lindsay Pubs. (Box 12, Bradley IL 60915). A reprint of a comprehensive 1917 work (by two PRR employees), with many photos, drawings, and instructions. Rev.: *RRH* 171 (Autumn 1994), p. 144-45.

WATER TRANSPORT AND RECLAMATION

- Vivian Bickford-Smith & Elizabeth Van Heyningen. **Sites of History: The Waterfront.** Oxford Univ. Pr. (NY), 1994.

- maps, ill., paper. A history of Cape Town, So Afr waterfront exploring ocean travel, fishing, and dock work. Discusses the conversion of the waterfront from "an unfriendly concrete industrial area into a popular tourist attraction." Rev.: *Public Historian* (Spring 1996) says the book will be of interest to historians grappling with waterfront sites and the problems of "sanitizing" the past for modern tourism's sake.
- Bill Bryson. "Main-Danube Canal: Linking Europe's Waterways." In *National Geographic* 182 (Aug. 1992), p. 3-31. Recounts the building of the canal begun in 1921 incl. how the project survived such political and social changes as the rise of the environmental movement in the 1970s, and how use of innovative landscape architecture has minimized its impact.
 - Nigel Crowe. *English Heritage Book of Canals*. Batsford/English Heritage (London), 1994. 127 p., ill., maps, plates, plans. Rev.: *IAR* 17 (Spring 1995), p. 208.
 - Joseph J. Macasek. "Guide to the Morris Canal in Morris County." Morris County Heritage Commission, 1996. 50p., illus., maps. A layman's walking guide to the elusive remains of one of New Jersey's fascinating historic canals. Avail. for \$10.00 plus \$2.50 postage from Canal Guide, 19 Budd St. Morristown, NJ 07960.
 - Genevieve Ray. "Heavy Metal." In *Northern Ohio Live* (Dec. 1995), p. 12-15, 22. Discusses the efforts in Cleveland to preserve the Hulett unloaders, the massive reciprocating machines for unloading iron ore ships. Features commentary by SIA members Carol Poh Miller and David Shayt.
 - Gray Fitzsimons, et. al. *An Inventory of Historic Engineering and Industrial Structures within the Illinois and Michigan Canal National Heritage Corridor*. National Park Service, HABS/HAER (Wash. DC), 1995. 409 p. plates, maps, ill.
 - Charles Hadfield. *Thomas Telford's Temptation: Telford and William Jessop's Reputation*. M & M Baldwin (Clebury Mortimer, Shropshire, UK), 1993. 205 p., ill., maps. Contends that Telford sought to boost his status as an engineer by undermining the reputation of William Jessop, the "first engineer in the kingdom," with respect to the Grand Junction Canal project. Rev.: *IAR* 16 (Spring 1994), p. 223-24.
 - David M. Introcaso. "The Politics of Technology: The Unpleasant Truth About Pleasant Dam." In *Western Hist. Qlty.* 36 (Autumn 1995), p. 333-54. Describes a safety controversy involving a central Arizona dam, with implications for both reclamation history and the study of political power.
 - Leland R. Johnson. *The Ohio River Division, U.S. Army Corps of Engineers: The History of a Central Command*. US Army Corp of Eng. (Cincinnati), 1992, released 1994. 484 p., maps, ill., biblio., paper. History of channelization and water control projects by the Ohio River Div. of the Corps from the 1820s to the present day. One in a series of commissioned histories by the various Corps divisions. Rev.: *Public Historian* (Spring 1996), p. 79-80.
 - William D. Rowley. *Reclaiming the Arid West: The Career of Francis G. Newlands*. Indiana Univ. Pr (1-800-842-6792). The biography of Senator Newlands, one of the leaders of the reclamation movement in the West in the early 20th century.
 - Sam Stueland. "Railroads and Excavation at the Panama Canal." In *RRH* 171 (Autumn 1994), p. 107-12. How new-technology steam shovels combined with railways to complete the canal.
 - Gordon J. Thompson. "Japan's Biwa Canal: All-Purpose Water Utilization." In *American Canals* 83 (Nov. 1992), p. 4-7. A history of the 13.32 mile Biwa canal system, designed by an engineering student and completed in 1890. It was built to provide transportation, electric power, industrial and household water supply, and irrigation to the Kyoto region and includes an inclined plane to move boats between its lake-level and city-level portions. It remains in use for all of its original purposes except carrying cargo and passengers.
 - John H. White & Robert J. White. *The Island Queen: Cincinnati's Excursion Steamer*. Univ. of Akron Pr. (374B Bierce Library, Akron OH 44325), 1995. 106 p. cloth. \$39.95. Story of the construction and operation of the *Island Queen*, built in 1925 for day trips on the Ohio River between Cincinnati and Coney Is. amusement park.

OTHER TRANSPORT

- Annie Curtis Chittenden. "View from A High-Wheel: Bicycling Across America." In *Timeline* 12 (July/Aug. 1995), p. 16-27. A travelogue describing the technology and popular culture of nineteenth-century bicycling.
- Louis Keefer. "Out of the Sky: An Airmail Experiment." In *Timeline* 12 (Nov./Dec. 1995), p. 40-53. Airmail being picked up "on the fly" by low-flying aircraft.
- Steve Lintner (producer). *Wheels of Change: How Trucking Shaped America*. 1992. (Avail.: American Filmworks, Box 3106, Cherry Hill NJ 08034; 1-800-783-3737.) 90 min. \$24 ppd. This videotape uses archival film and photos to show trucks of every shape and size being put to a variety of uses.
- Steven Morrison & Clifford Winston *The Evolution of the Airline Industry*. Brookings Institution (Wash. DC), 1995. 169 p. ill. biblio. An economic history of the commercial airline industry prepared by the well known Washington think-tank.
- Jacob A. Vander Meulen. *Building the B-29*. Smithsonian Institution (Wash. DC), 1995. 104 p. ill. bibliog. A history of the design, construction, and influence of the B-29 bomber.
- James Author Ward. *The Fall of the Packard Motor Car Company*. Stanford Univ. Pr., 1995. 309 p. ill. bibliog.

POWER GENERATION

- Robert Bell. "A Horizontal Steam Engine in the Centre of Bath." In *BIAS Journal* 26 (1993), p. 30-32. 18th-century steam engine that powered the printing press of Isaac Pitman.
- Barbara E. Boyle. "The Lessons of Tragedy: The East Ohio Gas Company Fire." In *Timeline* 12 (September/October 1995), p. 24-39. A devastating 1944 explosion at the world's first facility for the liquefaction, storage and regasification of natural gas.
- John Cooper. "Brede Pumping Station." In *International Stationary Steam Engine Society Bulletin* 15, no. 3 (Autumn 1993), p. 50-59. History of steam engines used for pumping water to Hastings, along with industrial archeology of the sites.
- Richard L. Hills. *Power from Wind: A History of Windmill Technology*. Cambridge Univ. Pr., 1994. 324 p., ill., biblio. Focus on windmills and industrial activity in the Netherlands, England, and in America. Rev.: *IAR* 17 (Autumn 1994), p. 92-93.
- William Irwin. *The New Niagara: Tourism, Technology, and the Landscape of Niagara Falls, 1776-1917*. Pa. State

Univ. Pr., 1996. 276 p. ill. maps. A history of the interaction of tourism and power development at the Niagara Falls. Described as a "look at America's remarkable romance with technology and its faith in human mastery of the environment."

- O. Peake. "The Charters Towers Steam Pumping Engines." In *Int'l Stationary Steam Engine Society Bulletin* 15, 2 (Summer 1993), p. 24-39. Steam pumps used for public water supply in Charters Towers, North Queensland, from 1890 to 1954.
- Michael Stratton. **Ironbridge and the Electric Revolution: The History of Electricity Generation at Ironbridge A and B Power Stations.** John Murray (London) in assoc. with National Power, 1994. 116 p., ill. Rev.: IAR 17 (Spring 1995), p. 211-12.
- Arlon Tussing & Bob Tippee, eds. **The Natural Gas Industry: Evolution Structure, and Economics.** 2nd. ed. PennWell Books (Tulsa, OK), 1995. 317 p. ill. maps.
- Mark H. Rose. **Cities of Light and Heat: Domesticating Gas and Electricity in Urban America.** Pa. State Univ. Pr., 1995. 229 p. ill. biblio. Traces the history of gas and electric utilities in Denver and Kansas City.
- Craig Wollner. **Electrifying Eden: Portland General Electric, 1889-1965.** Oregon Historical Soc. Pr. (1200 S.W. Park Av., Portland Or 97205-2483). 344 p., illus., maps, bibliog., index. \$25. PGE's difficulties operating a transit system, in addition to generating electricity, its near-bankruptcy during the Depression, and the effects of the Bonneville Dam.

STRUCTURES AND BUILDING TECHNOLOGY

- Carl M. Brauer. **The Man Who Built Washington: A Life of John McShain.** Hagley Mus. and Lib. (Box 3630, Wilm., DE 19807-0630; (302-658-2400 x237), 1996. \$51. Biography of John McShain, Philadelphian who headed one of the nation's largest general contracting firms. McShain constructed many of the monuments and public buildings in Washington, DC from the 1920s until his retirement in 1976. Covers his involvement in the Jefferson Memorial, the Pentagon, National Airport, Kennedy Center and many more. Based on his financial and personal records at Hagley.
- Angus Buchanan, Stephen K. Jones, and Ken Kiss. "Brunel and the Crystal Palace." In *IAR* 17 (Autumn 1994, p. 7-21. Construction history of the Crystal Palace.
- Allen Freeman. "But Does It Hold Water?" In *Historic Preservation* 46 (Sept./Oct. 1994), p. 52-3. An exuberant Victorian water tower built on a private estate and saved from demolition and restored in the 1970's has become a local landmark in Westtown Township, Penn.
- John Gruber. "Grain Elevators: On Green Bay [Wisc.] Skyline Since the Civil War." In *Voyageur* 8 (Summer/Fall 1991), p. 44-48.
- Thomas C. Jester. **Twentieth Century Building Materials: History and Conservation.** McGraw Hill, 1996. \$58. 352 p. Developed under the aegis of the US Park Service's Heritage

Preservation Service Program, the book provides historical and conservation information on 36 building materials used widely after 1900.

- Gerard Lynch. **Brickwork: History, Technology and Practice.** Donhead (London), 1994. 440 p. (2 vols.). Includes two chapters on the history of bricks and brickmaking. Rev.: *IAR* 17 (Spring 1995): 210-11.
- Elizabeth Pacey. **Landmarks, Historic Buildings of Nova Scotia.** Nimbus Publishing (Box 9301, Sta. A, Halifax NS B3K 5N5), 1994. Photos. \$35. Over 100 buildings in 32 communities are presented in four sections, incl. "For Labour and Leisure," describing such industrial and commercial structures as waterfront buildings, mills, factories, banks, barns, and railway stations. Rev.: *Heritage Canada* 11 (Sept./Oct. 1994), p. 21.
- Akira Satoh. **Building in Britain: The Origins of a Modern Industry.** Ashgate Pub. Co. (Brookfield, VT), 1995. 316 p. ill. A history of Great Britain's building trades and construction industry.
- Structural Engineers Assn. of Illinois. **Award Winning Structures.** SEAIO (203 N. Wabash, Room 1000, Chicago, IL 60601), 1995. 128p., illus. \$54 ppd. Compiles photos and technical info. on 85 projects which won SEAIO's Excellence in Structural Engineering awards from 1979 to 1984, inc. high-rise office bldgs., bridges, power plants, and stadia around the world.
- Samuel Stueland. "The Otis Steam Excavator." In *T&C* 35 (July 1994), p. 571-574.

BRIDGES AND TUNNELS

- Richard Sanders Allen. "Simeon S. Post's Patent Truss Bridges." In *The North Jersey Highlander*, 31, no. 85 (1995). North Jersey Highlands Hist. Soc. (Box 248, Ringwood NJ 07456). \$6.
- John Stark Bellamy II. "They Died Crawling." In *Timeline* (Ohio Historical Soc.) 12 (May/June 1995), p. 20-33. Tunneling disasters among the "sandhogs" working beneath Lake Erie on Cleveland's water system.
- David J. Brown. **Bridges: Three Thousand Years of Defying Nature.** Macmillan, 1993. 176 p. ill. bib. Rev.: *IAR* 17 (Autumn 1994), p. 91-92.
- Bernard Drew. **Spanning Berkshire Waterways: A Personal Excursion into the History of Metal Truss Highway Bridge Construction in Western New England, 1865-1905.** Attic Revivals Pr. (Grt. Barrington MA), 1990. 32 p. \$5.
- Walter C. Grantz. "The Immersed Tunnel Method." In *Invention & Technology* 12:1 (Summer 1996), p. 10-22. Grantz, chief engineer for the Chesapeake Bay Bridge and Tunnel Authority describes the development of the immersed tunnel method, in which prebuilt sections the length of a city block are floated into place and sunk to their proper position.
- David Quick. "Early 20th-Century Concrete Bridge Engineering and Aesthetics in the U.S. and the Y-Bridge at Galena, Montana." In *Material Culture* 22 (Summer 1990), p. 27-35.
- Henry Petroski. **Engineers of Dreams: Great Bridge Builders and the Spanning of America.** Knopf, 1995. 479 p., illus., ind. The history of American bridge building from the 1870s to the 1930s told through the biographies of Eads, Cooper, Lindenthal, Ammann, and Steinman. The engineers are viewed as a "special breed: part dreamer, inventor, and entrepreneur."

ABBREVIATIONS:

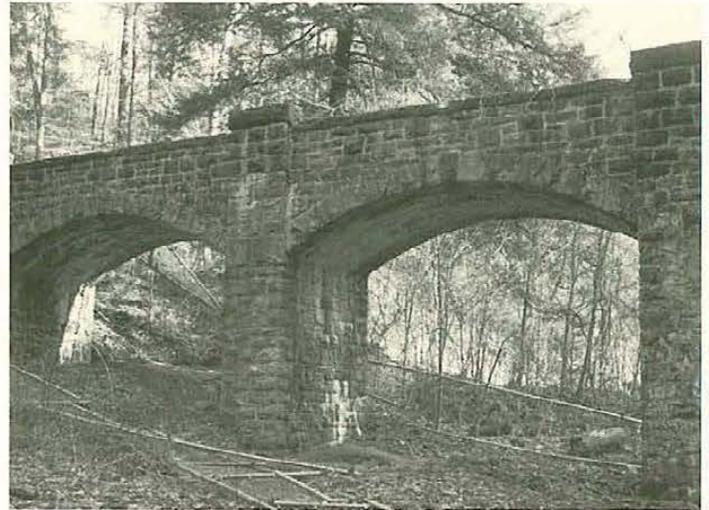
IAR = Industrial Archaeology Review
 RRH = Railroad History
 T&C = Technology and Culture

Hamilton Dam Eases Youngstown Water Problem for 90 Years

Between 1975 and 1977 John R. White, Dept. of Sociology and Anthropology, Youngstown State Univ., carried out extensive archeological excavations of the Eaton (Hopewell) Iron Furnace site (SIAN 5, Sept. '77). The site is near Hamilton Dam on Yellow Creek between the suburban Youngstown, Ohio communities of Struthers and Poland. Twenty years later, White writes that "Almost always, an accidental first-time confrontation with the great dam precipitates a purposeful return visit with friends. To the casual hiker strolling up Yellow Creek gorge there is a sudden halting of the breath as you round the bend adjacent to Devil's Spine and come face-to-face with the 70-ft. high megalithic wall. Experiences like this just seem to beg sharing." To this end, White shares the dam's history with SIAN readers.

Hamilton Dam [NR], a 262-ft.-long rubble-filled gravity structure designed and constructed 1904-07, is the tallest masonry dam of its type in Ohio and, at the time of its construction, was one of the largest in the Midwest. The cyclopean (rubble-filled) concrete dam with an ashlar sandstone masonry facing has a maximum height of 70 ft., measures 46 ft. thick at the base and ten ft. thick at the top, with a six-ft. walkway along its crest.

Prior to construction of the dam, the Mahoning River was the only available water source for the iron- and steel-making plants in Youngstown. During the driest summer months, low water levels forced the plants to shut down. In order to relieve the water shortage, the Hamilton Dam was designed and built by the Mahoning Valley Water Dept., which earlier had secured water rights to Yellow Creek, a modest tributary draining a watershed of 46 sq. miles. The impound lake created by the dam covered more than 136 acres and reached a maximum depth of 60 ft., a storage volume in excess of 800 million gallons. Hamilton Dam produced a steady supply of water for Carnegie Steel's Youngstown Sheet &



John R. White photos.

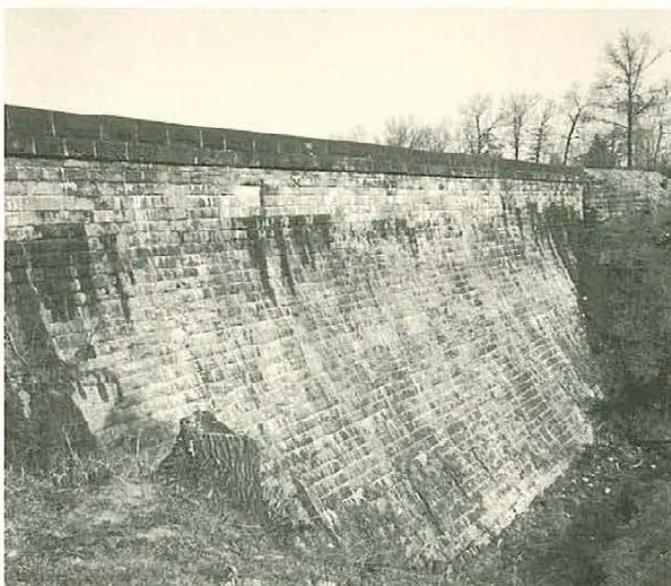
Hamilton Dam aqueduct.

Tube Co., which ultimately became the largest employer in the area.

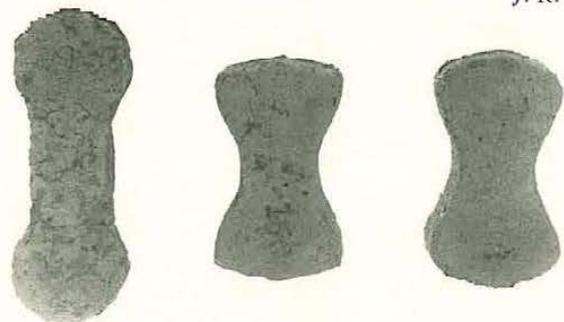
In addition to the dam, Lake Hamilton has the spillways, the gatehouse, and the tunnel-aqueduct. The original arched spillway is 140 ft. long and 15 ft. high, constructed of ashlar sandstone and portland cement capped with concrete. At the bottom of the gorge, extending from the base of the gatehouse is a tunnel, 210 ft. long and six ft. sq., drilled through solid bedrock. As the 30-in. pipe line exits the tunnel it crosses the ravine atop an ashlar sandstone aqueduct to connect with a series of pipes feeding the water to Youngstown's industrial plants.

In the mid-1970s extensive archeological excavations were carried out downstream from the base of the dam. Undertaken primarily to recover data on the Eaton Blast Furnace sited there in 1802-03, the research also revealed considerable information on the Hamilton Dam. Archeologists turned up odd-shaped concrete artifacts. Termed "dog biscuits" because of their shape, it turned out these objects were briquets used by the dam's engineers to test the tensile strength of the hydraulic mortar used to hold the massive sandstone blocks in place. Thrown aside in 1906, the dog biscuits found their way to various stratigraphic levels at the site and thereby gave the archeologists sound evidence of the erosional and depositional rate taking place at different sections of the site in the years since abandonment. ■

J. R. W.



Hamilton Dam showing the slope of its air face.



Various shapes of briquets used to test the tensile strength of the hydraulic mortar used in the dam's construction.

SIA at the Panama Canal

Panama study tour leader and SIA member David Shayt of the Smithsonian Inst., NMAH, turns in the following colorful report.

David Shayt photo.



Gaillard cut from Contractor's Hill, looking north. Dredging and widening operations will one day make this stretch suitable for two-way traffic.

Forty-four members of the SIA experienced the mechanical and civil engineering wonders of the Panama Canal in January. More than a canal, the group found on this study tour an enormous industrial complex, historical rail transport, U.S. military outposts, massive watercraft, bridges, dams, tunnels, and the tropical rain forest itself, all within the span of seven days.

Approaching the Panamanian Isthmus by air gave us the first of many unusual perspectives on the canal. Upon arrival Saturday night, Jan. 20th, we boarded a pair of mini-buses contracted for by Academic Travel Abroad, the D.C.-based organizer of our logistics. On the spot, we christened them "Teddy" and "Rosie" in honor of the Canal's greatest backer, Theodore Roosevelt.

The next morning, with notebooks, binoculars, still and video cameras, and magnets poised, the group set out from our Panama City base camp at Hotel Plaza Paitilla for our first encounter with the Mother of All Canals just a few minutes away. First, as a prelude and build-up, a stop at the main administration building to

inspect the robust construction mural of William Van Ingen, commissioned in 1914 to record in suitable grandeur the various feats of excavation, materials transport, and assembly.

Down through the palms, across weed-infested rail tracks, and – yes, what is that, a mast? A prow? A... a smokesack gliding through the foliage? **Miraflores Locks!** First and most accessible of the three lockages. Numb with anticipation, the 44 stumble from the buses to witness at arm's length the slow poetry of great ships easing in and out, up and down the chasms of locks 1000-ft. long. Little silver electric mules reciprocate along the lock walls, dangling wire ropes like spiders wrapping prey in silk. The mixture of vast scale in tropical silence and seemingly effortless motion acts as a narcotic to some of us. We seek shade and a seat for a moment of quiet reflection.

Exultation surpasses exultation, as we reboard T & R for a transit over the Canal on the **Bridge of the Americas**, a 1960s steel trussed-arch that dances across the Pacific entrance. This artery carries the **Transamerica Highway** from North to South America, but took us to Contractor's Hill, a high point in the Canal's excavation through the Continental Divide. From the still-raw hillsides, we look down into Gaillard Cut below, where ships transit in single file due to the narrowness of the cut. One night later on we will return to watch for ship traffic illuminated by equatorial stars and fluorescent tubes lining the shores far below.

As if the mules were not enough for the rail fans amongst us, the afternoon saw us wandering through the barely operable shops of the old **Panama Railroad** (est. 1855) near Miraflores. A weed-choked turntable came alive with the press of a rusty button and gave a few members another reason to feel giddy with IA delight as we returned to the hotel in varying states of rapture.

Day two found us busing through the jungle to the Atlantic side, pausing for photographs at **Madden Dam**, built in 1954 to impound the upper Chagres River, and thus serve the canal with water and hydropower. With special permission from the Canal

Second Expedition to the Panama Canal

Feb. 15-22, 1997

Due to the high level of interest and the waiting list from last January's trip, the Roebing Chapter and the Canal Society of N.J. are sponsoring a repeat tour of the Panama Canal. The trip will duplicate the earlier trip, but will substitute a tour of the Dredging Division for the bird sanctuary. A brochure will be sent to the full membership in mid-September. For more information call Bierce Riley at (201) 455-0491. ■

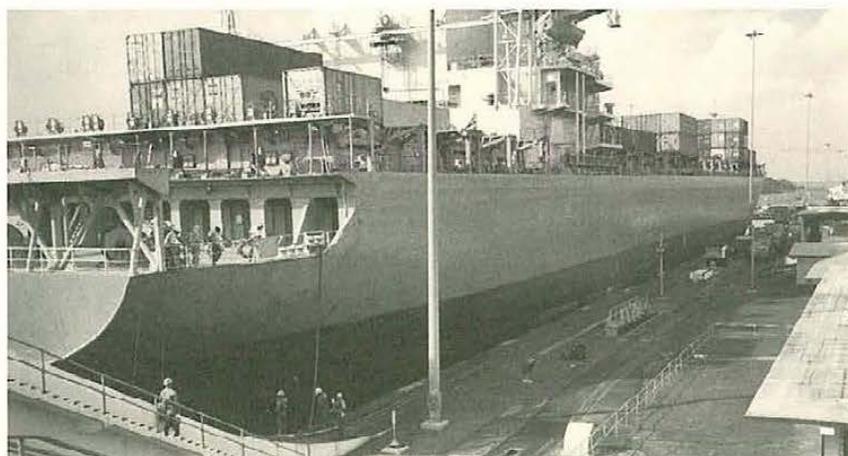


Panama Canal Commission photo

A late-model Mitsubishi lock mule pauses to join our group at Miraflores Locks. The reversible narrow-gauge mules are custom-made for the special needs of the Panama Canal.



Sunrise over Bridge of the Americas frames Bob Stewart [SIA] and fellow onboard members as the canal transit continues.



The Bunyanesque dimensions of the tour emerge as the group leaves a Gatum observation platform while a ship begins its descent to the Atlantic.

Commission, we toured the **Industrial Division**, home of shops and dry-dock facilities that maintain the Canal's fleet of tugs, barges, and the vast lock gates. At mid-day we stood before another, earlier dam, this at Gatun, where one of the spillway gates lifted as if by our command, releasing a great rooster tail of excess water from Gatun Lake in this wetter-than-normal January.

A drive-through of Colon, a port city full of Gold Rush glory, capped the day, including photo stops at other rail remains and drinks at the dowager Hotel Washington. Our high-speed escort out of town by a cadre of heavily armed local police quickly returned us to the realities of present-day Colon as the sun set.

A day away from the Canal engineering found us within the waterway itself, guests of the Smithsonian Institution's **Tropical Research Institute** on Barro Colorado Is., largest in Gatun Lake. The rain forest wonders of leaf-cutting ants, monkeys, and bats tempted many of us (unsuccessfully) to reconsider our loyalties to the industrialized world. But the site of "Hercules," the floating, steam-powered Canal crane (1926), restored trust as we returned by boat to the town of Gamboa and the embrace of T & R.

Briefings the next day by senior Canal officials were a special highlight of the week, featuring talks on current and future plans by the Commission's Richard Wainio and Tom Drohan. Their orderly transfer of the Canal to Panama is well underway in many aspects. Fully 85 percent of the work force already is Panamanian. Installations throughout the former Canal Zone periodically are handed over to Panama to ease the fateful transfer of the waterway itself at noon on Wed., Dec. 31, 1999.

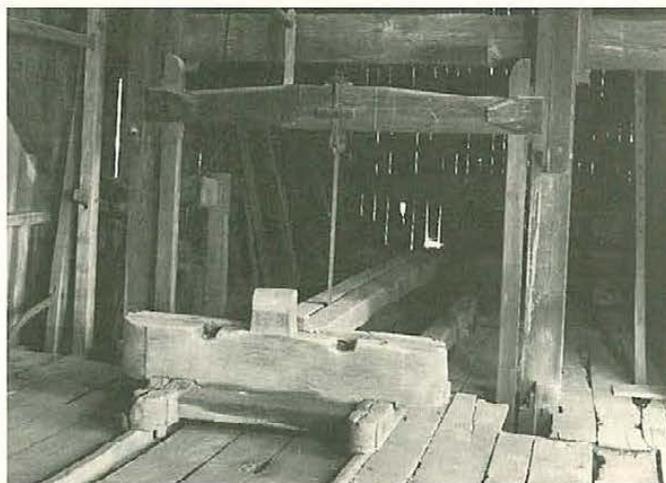
Unexpectedly, and by extraordinary arrangement, most of us spent the next day being happily jostled along at ten miles an hour inside a 1950s passenger car hitched to a diesel freight train on the Panama RR. From Panama City to Colon, and from tedium to delirium, we rocked along through tunnels and elephant grass, embroidered with Canal-side photo stops. Physical deprivations during the day were nothing compared to the glee all felt at this rare chance to experience one of the lost passenger rail lines of the Western Hemisphere, soon perhaps to be massively upgraded with high-speed containerized freight traffic.

Bus tours of industrial and other sites in Panama City followed, but these were no match for the week's capstone, an all-day ocean-to-ocean transit of the Canal and all locks in between. Again through local friendships, we secured exclusive service of a yacht that carried us up, down, and through the locks at Miraflores, Pedro Miguel, and Gatun. The experience of being locked in with a towering Norwegian cruise ship or fully loaded Japanese container ship scarcely can be described in words. Witnessing up-

close the mechanics of gate operations, mule behavior, and lock flooding was priceless. The full transit occupied eight hours. A hotel dinner that evening with Canal Administrator Gilberto Guardia completed this splendid week of wonder. ■

Hello Columbus!

Don't Forget SIA's Fall Tour, Sept. 26-29! Viewers of the 1969 movie *Goodbye Columbus* may have learned something about Ohio State and a little bit about high society life in Columbus. But those attending the 1996 SIA Fall Tour will go home with a lot of information on central Ohio's gritty industrial underside. Plans for Sept. 26-28 with optional Sunday tour on the 29th include fine chocolate making, brass stamping, steel forging and casting, synthetic diamond production, civil engineering sites, extractive-industries machinery, aircraft restoration, 20th-century aeronautical engineering test labs, and early grist and saw mill technology. All SIA members were mailed a tour registration and brochure over the summer. Info: David A. Simmons, Ohio Hist. Soc., 1982 Velma Ave. Columbus, OH 43211-2497; (614) 297-2360. ■



The SIA Fall Tour's banquet will be an outdoor pig roast prepared by Old Order German Baptists at Staley Farm, an early 19th-century agricultural-industrial complex with grist mill, distillery, and stone arch bridges. The last log sawed on the Staley Farm's 1831 reciprocating sawmill still lies in place.

The Sweetness Is in the Making

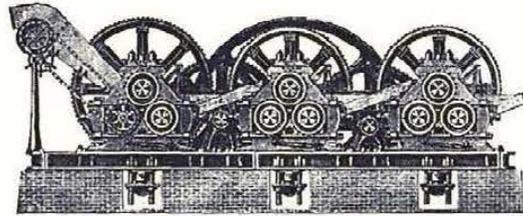
Fulton Iron Works Marks over 100 Years as Manufacturer of Sugar Mills

Editor's Note: Robert P. Stupp [SIA] writes that Stupp Bros., Inc. (St. Louis, Mo.), the holding company of Stupp Bros. Bridge & Iron Co. (see SIAN 20, Fall 90, p. 6), has recently acquired the assets and business of Fulton Iron Works Int'l. Thinking that the history of the Fulton Iron Works, a 19th-century pioneer in the design and manufacture of sugar-milling equipment, would be of interest to SIA members, he has submitted information for the following write-up.

The Fulton Iron Works continues to operate from St. Louis shops where it first began operations over a century ago. Integrating historic buildings and manufacturing processes with years of expertise, upgraded equipment, and research and development, Fulton produces milling tandems serving the cane sugar industry throughout the world from South and Central America to Southeast Asia. It is estimated that over 40% of the world's cane sugar is processed by Fulton mills.

Oddly enough, Fulton Iron Works began under a different name and in a different field than that of the cane sugar industry. In 1852, when tall-stacked Mississippi River packets crowded the levee, Gerald B. Allen established a machine shop in a small stone building near the bustling St. Louis waterfront. Here Allen began the manufacture of steam engines for river boats. He branched out into the production of stationary steam engines, cotton compresses, and mining machinery for the lead mines of southern Missouri. In 1879, the name was changed to the Fulton Iron Works, it was said to honor Robert Fulton and the company's original link to the steamboat industry.

In 1891, Fulton Iron Works was commissioned to design and build a sugar mill for the New Iberville Planting Company's of White Castle, La. The Cora mill (named after the plantation on which it was located) was the first multi-roll mill driven by a sin-



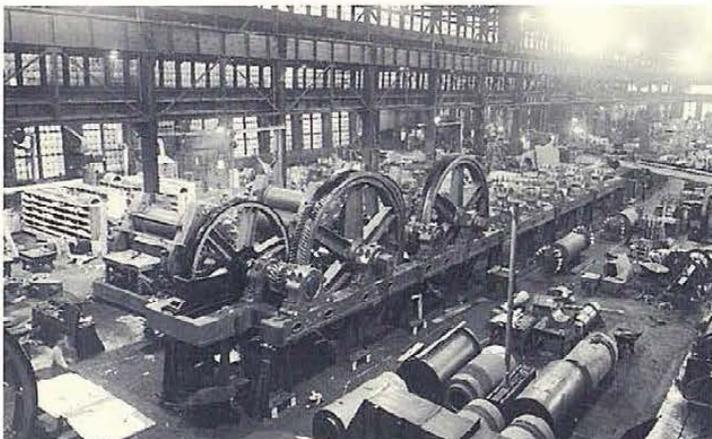
Fulton's "Cora" 9-roll tandem established a production record of 511 tons per day with 28% extraction in 1892, revolutionizing design of sugar mills.

gle gear train and a single engine. Pleased with the then-unheard-of output of more than 500 tons of liquid extract daily, New Iberville called the nine-roll mill "a masterpiece without rival." Soon, Cora-type mills were in demand throughout the world. The original Cora mill, shipped to Central America from La., continued operation until the late 1970s.

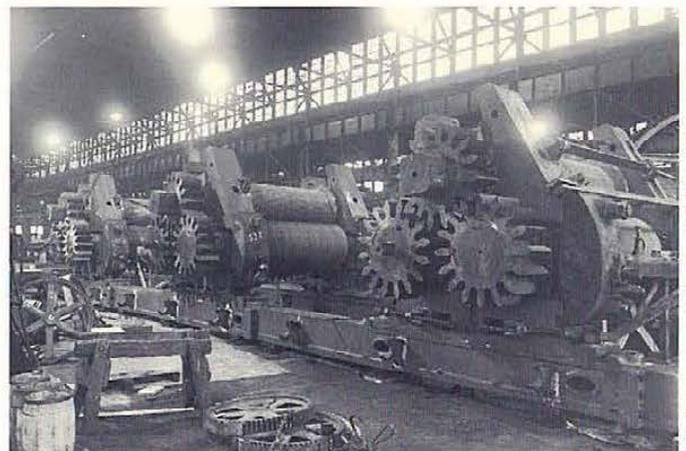
Mechanized extraction from sugar cane is a multi-step operation. First, the cane is chopped then conveyed to the milling stations, a series of roll presses that extract the juice. In larger mills, each station generally consists of six milling units, each unit either a three- or four-roll mill. Smaller mills use two to four milling units. Those who attended the 1992 SIA Florida Fall Tour (SIAN 21, Wint. '92) saw the process at the Glades Sugar House where the large mills squeeze out the juice leaving *bagasse*, a fibrous residue. After passing through the mills, the cane juice is sent to evaporators where it is heated and clarified, leaving a syrup. The syrup is seeded with small sugar crystals in a vacuum pan and the resulting raw sugar is separated from the molasses.

Fulton was among the first to pioneer such improvements as roll grooving; long-involute-toothed machine-cut crown wheels; turbine drives; inclined mill-housings; welded-steel housings and bedplates; and other developments. By the 1920s Fulton was the world's largest designer and builder of cane milling equipment.

During the 1940s and 50s cane sugar manufacturers, looking for increased capacity, began operating mills at higher speeds. Innovations by Fulton and others included the transition from drive by Corliss steam engines to steam turbines and later electric motors. Today, four-roll, turbine-driven milling tandems extract over 98% of the sucrose from the cane. Info: Fulton Iron Works Int'l, 3844 Walsh St., St. Louis, MO 63116-3354; (314-752-2400). ■



Another view of the erection floor (ca. 1925) with heavy-duty gearing in the foreground. In the late 19th century, Fulton engineers originated the practice of driving a multiple milling tandem by a single engine through one train of double-reduction compound gearing. The bedplate is continuous under the entire train of gearing. Today, the milling process is much the same although electric motors and enclosed reduction gears have replaced steam engines and open gear sets.



An inclined three-roll mill tandem is assembled on Fulton's erection floor prior to shipment, ca. 1925.

All photos courtesy Fulton Iron Works Inc./Stupp Bros., Inc.

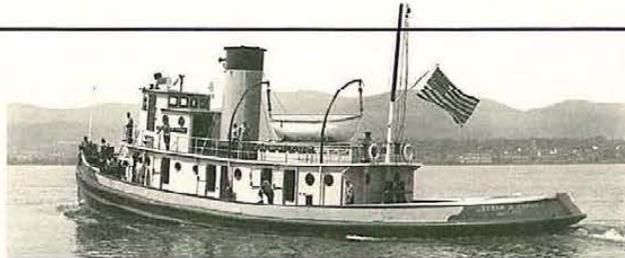
In Memorium

Walter L. Meseck, 1908-1996

During show-and-tell at the SIA Annual Conf. in Buffalo ('92), a speaker from northern New England was showing slides of Portsmouth Harbor. A 1950s view sparked a question from the audience about a wooden tugboat in the foreground. The speaker said she had been built somewhere else and run under another name before being acquired by Moran, but had no other information. From somewhere in the room came the voice of the old timer, "That tug was originally the *Joseph F. Meseck*, from New York, named after my father."

That was Walter Meseck, retired tugboat captain. Among the academics and enthusiasts of the SIA, he was the real McCoy, always willing to share his vast knowledge of New York Harbor, its nooks and crannies; its ships, boats, and barges; and its changing face over his lifetime. And he knew his tugboats. Once, when asked how he could tell one of his boats from the other, he responded, "The same way you know it's your mother walking across the street."

Sadly, we report that Walter Meseck passed away on June 20. Walter was an active participant in both national and local SIA



events. As the special guest speaker at the Roebling Chapter Annual Meeting last January, Walter entertained his audience for over two hours with slides and narrative of his career in the tugboat business. Fortunately, the event was videotaped.

After his graduation from the Princeton Preparatory School, Walter worked as a deck hand for a year before moving into the office of Meseck Towing & Transportation, the family business. A licensed captain, he was with the company for 29 years, managing an extensive fleet of tugs before he retired in 1954.

Walter Meseck lived in interesting times, remembered events in great detail, had an appreciation for the changes he had seen, and openly shared his memories with those who knew him. While his legacy continues in the uniforms, tugboat hardware, and other memorabilia he donated to the Maritime College Museum at Fort Schuyler, N.Y., and in the pilot house of the tug *Walter L. Meseck*, which is preserved at the Mariners' Museum in Newport News, Va., we will certainly miss the elderly gentleman in khakis and work boots, the crackly voice, and the never-ending tales from the man who lived and worked in the age of steam. ■ B.R.

CHAPTER NEWS

Northern NE Chapter Hosts IA Conference and Records Graphite Mine: In February the chapter hosted the New England IA conference at Plymouth (NH) State College. Papers were presented on topics ranging from mining to bridges. The chapter held its Spring recording event and meeting at the site of the former Saratoga Graphite Products mine and mill complex in Wilton, N.Y. The goals of the recording project were to map the roads, dams, mine, quarry and foundations within the complex; create measured drawings of the three foundations and dams; and to excavate the boarding house cellar. The mine opened in the 1840s and operated until 1922. — *NE Chapters Newsletter*.

Oliver Evans Chapter Tours Delaware River Forts: The OE Chapter (Greater Philadelphia) passed the spring with its monthly lecture series and tours to Lukens Steel and Fort Delaware. In mid-June, continuing the theme of military fortifications, the OE Chapter had its annual picnic and meeting at Fort Mifflin on the Delaware River. Between the sights and sounds of planes landing at nearby Phila. Int. Airport and tugs pushing barges on the river, members had BBQ ribs and fried chicken. Elected new chapter officers were Ed Grusheski, president; Stuart Dixon, vice-president; Robin Bodo, secretary; Ed Hoy, treasurer; and Sally Elk and Muriel Kirkpatrick, program committee co-chairs. The chapter thanked past chapter president John Bowie for his six years of service. Following the meeting, Dori McCunn, Dir. of Fort Mifflin, conducted the members through the Revolutionary War fort's restored arsenal, artillery shed, and quarters. — *J.P.H.*

Roebling Chapter Activities Include Steel, Glass, and Railroads: The Roebling Chapter (Greater NYC) has been

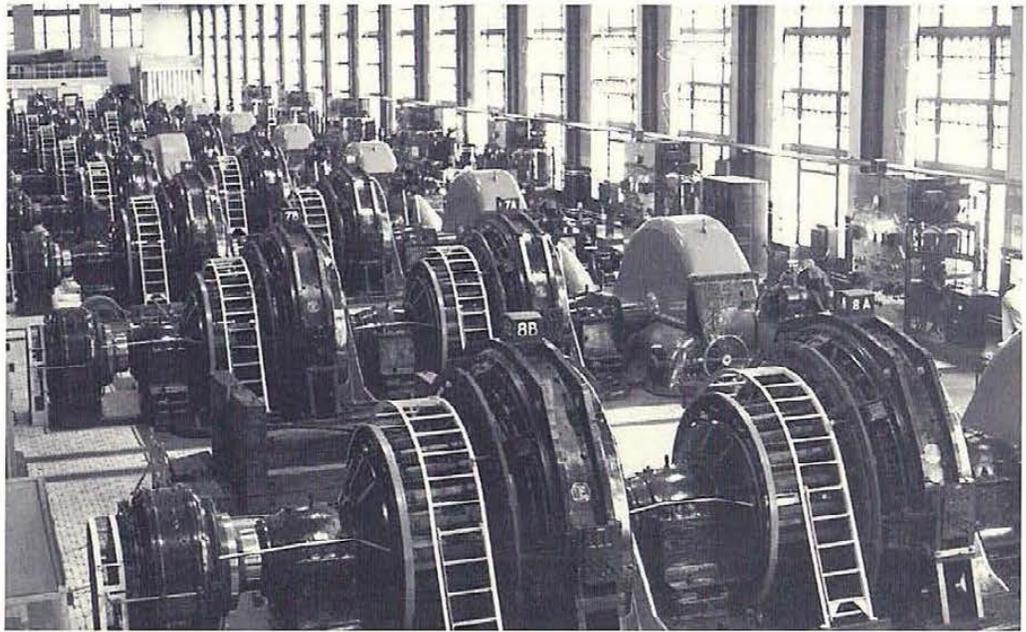
busy this spring and summer with a full schedule of tours in Pa., N.J., and N.Y. Among the many sites visited were the Lukens Steel Co., Coatesville, Pa.; the Harmon Shops of the Metro-North Commuter RR, N.Y.; AFG Industries Inc.'s Cinnaminson Glass Plant, N.J.; Hudson County bridges; and a barge picnic and tour of the Red Hook waterfront. A corn roast and tour of local iron industry sites near Croton-on-Hudson, N.Y. was held for Sept. 7. The Roebling Chapter will hold its annual symposium at Drew Univ., Madison, N.J. on Oct. 26 from 9 a.m. to 5 p.m. — *R.C. Newsletter*.

Southern NE Chapter Checks Out Fireproof Architecture: In April the chapter held its Spring program in Boston with a presentation and tour led by Sara Wermiel on 19th-century fireproof building construction. Stops on the tour included the Boston Custom House (1837-49), Olde City Hall (1861-65) and the Boston Custom House Tower (1912-15). The chapter also toured Larrahee & Harrington, Peabody, Mass., builders and installers of wooden tannery vessels used in various stages of soaking and washing hides. — *NE Chapters Newsletter*.

Three Rivers Chapter Hosts IA Symposium: On Mar. 23 the *Third Annual Three Rivers Chapter Winter Symposium* was held on the campus of W. Va. Univ. Co-sponsored by the Inst. for the History of Tech. and IA, this event featured seven excellent presentations that ranged from the development of the Von Braun rocket propulsion system to the Good Roads Movement in Fayette Co., W.Va., to ideas from the model railroading world. Lee Maddex, TRC President writes, "this year's symposium was the best to date, and those who missed these fine presentations should try to attend next year's event, which is shaping up to be even better." — *L.M.*

New Date for Scotland Study Tour

The date for the SIA Study Tour of Scotland has been changed to Sept. 9-23, 1997 from June 1997 as reported in the last SIAN (Spr. '96). The tour looks to be splendid, with stopovers in Leith, Aberdeen, and Glasgow. The Scottish industrial heritage will be explored with a wealth of sites including coal and iron ore mining; iron, steel, and aluminum production; transportation networks of docks, canals, and railways; harbor and river bridges; distilleries and breweries; and textile industries. A tour announcement will be mailed to members in the fall. Info: Christopher Marston, HABS/HAER, Box 37127, Washington DC 20013-7127; (202) 343-1018; e-mail: christopher_marston@nps.gov. ■



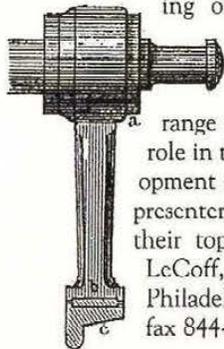
Mark Watson photo

The 12 Pelton Wheel Hydroelectric Sets in the powerhouse of the Lochaber Aluminum Works, Fort William, constructed in 1929, are one of the scheduled stops on the SIA Study Tour of Scotland.

CALL FOR PAPERS

Modernism and Technology, 1900-1945. Hagley Fellows Conf., Hagley Museum & Library, Wilmington, Del., Fri., Mar. 7, 1997. Papers should examine topics related to modernism and technology, including but not restricted to design, architecture, industry, production, consumption, ideology, politics, literature, economics, and art. Welcome are comparative and international papers. The scheduled keynote speaker is T. J. Jackson Lears, Rutgers Univ., author *No Place, No Grace*. Abstract due Dec. 1, 1996. Shepherd W. McKinley, Dept. of Hist., 401 Ewing Hall, Univ. of Del., Newark, DE 19716-2547; (302) 831-2371; fax 831-1538; e-mail: shepmck@brahms.udel.edu.

Wood Turning Conference: Turning Toward the 21st Century. The Wood Turning Center, Phila., Pa. is seeking proposals for presentations for the conference to be held in the fall of 1997. Like the first *World Turning Conference* (SIAN, 22,2, Sum. '93), the event is expected to draw a diverse, international audience including artists, curators, educators, historians, and collectors. The conference will be held in conjunction with the opening of the Center's next traveling exhibit, *Curators Focus: Turning in Context*.



Presentations may include demonstrations, slide talks, or panels. Topics may range from the history of lathe turning and its role in the arts and industry to the aesthetic development of the field and its practitioners. Selected presenters will be expected to submit a paper on their topic for possible publication. Info: Albert LeCoff, Wood Turning Center, Box 25706, Philadelphia, PA 19144; (215) 844-2188; fax 844-6116. ■

IA EXHIBITS

Editor's Note: Museums, historic sites, and other institutions are encouraged to notify the SIAN of industrial history exhibits and events.

"Trains and Trolleys." In its new exhibit the Atwater Kent Museum, Philadelphia, focuses on how the developing mass transit industries impacted on employment, residence, and recreation. The exhibition integrates archival materials, and objects from collectors and rail museums, as well as researched murals designed by high school students. Musical programs, a souvenir newspaper, tours, and a lecture series accompany the exhibit which runs through mid-Oct. Info: AKM, 15 S. 7th St., Phila. PA 19106; (215) 922-3031.

"Harvesting the Inland Seas: Great Lakes Commercial Fishing." The Wisconsin Maritime Museum recreates the atmosphere of a commercial fishing village on the Great Lakes in its current presentation. Centerpiece of the exhibit is an 18'-long Mackinaw commercial fishing boat in full sail, constructed from native Wisconsin wood. Various displays treat the relationship between the fur trade and commercial fishing, the profession as an inherited business, and the use of 20th century technology. Info: WMM, 75 Maritime Dr., Manitowoc WI 54220; (414) 684-0218.

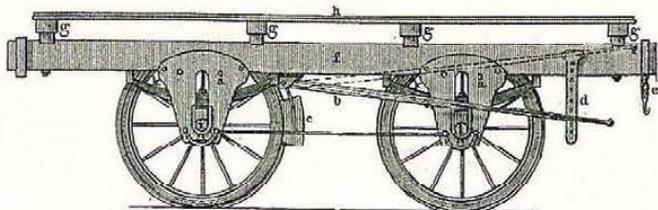
"Treasures Revealed." Handcraft tools from the permanent collection of the Chester Co. Hist. Soc. are the basis of five separate exhibits for 1996-97 in the newly renovated History Center. The current exhibition contains groups of tools used in cottage industries, notably flax production and processing. Lecture and demonstration projects change weekly. Info: CHHS, 225 N. High St., West Chester PA 19380; (610) 692-4066.

NOTES & QUERIES

Albert Dock Celebrates 150th Anniversary. Liverpool, England is celebrating the 150th birthday of the Albert Dock (1841-46). Designed by Jesse Hartley, the dock is considered a masterpiece of engineering and commercial architecture. It was a stop on the 1993 SIA England-Wales Study Tour [SIAN, 22,3]. Over the summer, the Merseyside Maritime Museum held a conference exploring the dock's history from its conception to the present day, including a comparative discussion of attitudes towards the conservation of port structures. Info: Adrian Jarvis, Merseyside Maritime Museum, Albert Dock, Liverpool L3 4AQ, U.K.

Early Forge Site Query. The Wortley Top Forge Industrial Museum, Sheffield, England, is interested in hearing from anyone who has worked on long-standing forge sites and the problems of interpretation. The Wortley Top Forge site began as a finery forge in the 1640s and later became engaged in the production of wrought-iron railway axles. Archeologist Jeff Morris writes that "the site formed a single working unit with another forge, and I am therefore, seeking comparable sites that can be used to support the hypothesis that references to the enlargement of the works would concern both forges, as improvements would be meaningless without corresponding changes at the other, both sites forming part of the same process rather than operating independently." Contact: Jeff Morris, Archeological Survey, Wortley Top Forge Ind. Mus., Wortley Village, Wortley, Sheffield, S30 7DN, U.K.; e-mail: jeffmo@globalnet.co.uk

National Trust's Most Endangered Historic Places List Includes IA Sites. The National Trust for Historic Preservation recently released its annual "Most Endangered Historic Places" including both the East Broad Top RR and Knight Foundry, two sites that have been of interest to SIA members for many years.



"100 Years of Rail and Road: The Anniversaries of the Norfolk & Western Railway and the American Automobile." A varied program of exhibits and events, changing monthly, highlights the Va. Museum of Transportation's year long tribute. Housed in Roanoke's historic freight station, the current exhibit is "Headlights, Hubcaps and Hood Ornaments: Highlighting the American Automobile." Info: VMT, 303 Norfolk Ave., Roanoke VA 24016; (540) 342-5670.

"By the Sweat of Their Brows: Forging in the Steel Valley." The steel industry in Youngstown, Ohio is portrayed in an exhibit using tools, equipment, clothing and photographs. Galleries feature rooms of a company house, a mill locker room, and a two story pulpit from a blooming mill. Info: Youngstown Historical Center of Industry and Labor, 151 Wood St., Youngstown OH 44501; (330) 743-5934. ■

The future of the EBT looks considerably brighter with a new preservation plan sponsored by the Southwestern Pa. Heritage Comm. (see SIAN v.25,1), but as reported in this issue the future of the Knight Foundry is uncertain. The National Trust list also includes Glacier National Park and more than 300 historic structures including hotels and pavilions built by the railroad companies around 1900 to promote the tourist destination. The National Trust's list makes national print media, radio, and television, and it is good news to see so many industrial sites included.

Fortune Magazine Features IA. In its May 27 issue, *Fortune* ran a six-page feature "Grand Relics of the Industrial Past" highlighting the efforts to save the Hulett iron-ore unloaders in Cleveland, the Watts Campbell Co. machine shop in Newark, coal breakers in Pennsylvania, and Lowell's Boott Cotton Mills. Journalists Gene Bylinsky and Alicia Hills Moore interviewed several SIA members. The photographs by Ken Light are stunning and make it worth the time to look up a back copy of the magazine at your local library. The journalists bring attention to the high costs, safety problems, and obsolescence that is dooming many historic industrial sites to the wrecking ball. They conclude that "an ideal way to save an industrial landmark is to make it a national park" such as Lowell, but do not face the issue that Lowell was an exceptional preservation effort that is not likely to be repeated elsewhere.

HAER Receives "Design for National Transportation Award." In February the Dept. of Transp. and the National Endowment for the Arts awarded the National Park Service's Historic American Engineering Record (HAER) for its efforts to inventory, record, and foster the preservation of prefabricated metal truss and other bridges. The award jury commended HAER for educating, communicating with, and sponsoring "a new generation of engineers who can work with both old and new. They have forged links with planners, engineers, and preservationists who work in partnerships to find solutions for saving and reusing older structures." Hats off to HAER!

A Cincinnati No. 3 Vertical Milling Machine in service since 1936 at the James Machine Shop, Claymont, Del., is being offered to a museum or other good home. The mill has been converted to motor drive but still is set up for an overhead belt system. Info: Frank James, 3102 W. Brandywine Ave., Claymont DE 19703; (302) 798-5679.

The Society is pleased to announce receipt of the 18th royalty check, for \$25.82, from sales of *Historical Archaeology: A Guide to Substantive and Theoretical Contributions*, edited by Robert L. Schuyler (\$31.95 ppd.), Baywood Publishing Co., Inc., Amityville NY 11701. ■

CONTRIBUTORS TO THIS ISSUE

Richard K. Anderson, Jr., Sumter SC; Gail D'Avino, Atlanta GA; David Dawson, Carmichael CA; Bob Frame, Minneapolis MN; Walter Gray, Sacramento CA; Mary Habstritt, St. Paul MN; Nancy Hachtel, Waite Hill OH; Duncan Hay, Charlestown MA; Mark Hufstetler, Bozeman MT; Gerry Kuncio, Pittsburgh PA; Henry Lowood, Stanford CA; Joe Macasek, Morristown NJ; Mary McCahon, Burlington NJ; Carol Poh Miller, Cleveland OH; Bob Newberry, Madison WI; Fred Quivik, Froid MT; Arlyne Reichert, Great Falls MT; Bierce Riley, Morristown NJ; David Shayt, Washington DC; David Simmons, Columbus OH; Edgar C. Sparks, St. Louis MO; Robert P. Stupp, St. Louis MO; Cathy Taylor, Sacramento CA; Robert Vogel, Washington DC; Arleen Weinstein, Philadelphia PA.

With thanks.

CALENDAR

1996

September 26-28: SIA Fall Tour, Columbus, Ohio. Info: David Simmons, Ohio Historical Society, 1982 Velma Ave., Columbus OH 43211-2497; (614) 297-2360.

September 26-28: Railroads and the West, Univ. of Texas at Arlington. Cosponsored by the Lexington Group in Trans. Hist. Info: Center for Greater Southwestern Studies, Univ. of Tx. at Arlington, Box 194987, Arlington TX 76019; (817) 272-3997; e-mail: center@library.uta.edu

October 11-13: Symposium on the History & Significance of the Pennsylvania RR, RR Museum of PA, Strasburg. Info: RR Mus. of PA, Box 125, Strasburg PA 17579; (717) 687-8628; fax 687-0876.

October 26: Roebling Chapter SIA Symposium, Drew Univ., Madison, N.J. Info: Thomas Flagg, SUNY College of Optometry, 100 E. 24th St., New York NY 10010; (212) 780-5155.

1997

March 5-9: Biennial Meeting of the American Society for Environmental History, Baltimore. Info: Jeffrey Stine, NMAH, MRC 629, Smithsonian Institution, Washington, D.C. 20560; fax (202) 357-4256.

March 7: Modernism & Technology, 1900-1945. Biennial Hagley Fellows Conf., Hagley Museum & Library, Wilmington, Del. Info: Shepherd W. McKinley, Dept. of History, Univ. of Del., Newark, DE 19716-2547; (302) 831-2371; fax 831-1538; e-mail: shepmck@brahms.udel.edu.

April 4-5: The Future of Business History: A Conference to Consider Ideas & Approaches. Hagley Museum & Library, Wilmington, Del. Info: Roger Horowitz, HML, Box 3630, Wilm., DE 19807; (302) 655-2400; fax 655-3188; e-mail: rh@udel.edu.

April 17-19: Ironmasters Meeting, Birmingham, AL. Including a symposium (papers requested), site visits to historic and operating iron and steel works. To add your name to the mailing list or for info: Jack Bergstressor, Dept. of Anthop., 338 Ullman, 1212 Univ. Blvd., Birmingham AL 35294; (205) 934-4690, or Edward Rutsch, 115 Route 519, Newton NJ; (201) 383-6355; fax 383-9377.

May 29-June 1: SIA Annual Conference, Michigan's Lake Superior Mining District, Houghton, Mich. Info: Pat Martin, SIA HQ, Dept. of Social Sciences, Mich. Tech. Univ., 1400 Townsend Dr., Houghton MI 49931; (906) 487-2070; fax 487-2468; e-mail: PEM-194@mtu.edu.

June 22-29: The Int'l Committee for the Conservation of the Industrial Heritage (TICCIH), Full Conference, Greece. Info: The Greek Section of TICCIH, Inst. of Neohellenic Research /National Hellenic Research Foundation, 48, Vassileos Constantinou avenue, 11635 Athens, Greece. Tel. 30-1-721-0554; fax 30-1-724-6212.

July 25-30: Science, Technology, and Industry Conference. The Int'l Union of History & Philosophy of Science, Liege, Belgium. Info: 20th Int'l Congress of History of Science, University of Liege, Centre d'Histoire des Sciences et des Techniques – Betimont D1, Avenue des Tilleuls 15, B-4000 Liege, Belgium; Tel. 32-041-66-94-79; fax 32-041-66-95-47; e-mail: chstudg@vml.ulg.ac.be.

September 9-23: SIA Study Tour of Scotland. Info.: Christopher Marston, HABS/HAER, Box 37127, Washington, D.C. 20013-7127; (202)-343-1018; e-mail: christopher_marston@nps.gov.

October 2-5: SIA Fall Tour, Alexandria, Louisiana. Info: Lauren Sickles Taves, Box 597, Natchitoches LA 71458; (318) 352-5747; e-mail: taves@cp-tel.net.

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 annually. SIA promotes the identification, interpretation, preservation, and re-use of historic industrial and engineering sites, structures, and equipment. Annual membership: individual \$35; couple \$40; full-time student \$20; institutional \$40; contributing \$60; sustaining \$125; corporate \$250. Send check or money order payable in U. S. funds to the Society for Industrial Archeology to Treasurer, SIA c/o Withum, Smith, & Brown, 100 Overlook Center, Princeton, NJ 08540-7814. All other business correspondence should be sent to SIA-HQ, Dept. of Social Sciences, Mich. Tech. Univ., 1400 Townsend Dr., Houghton MI 49931-1295.

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