SOCIETY FOR INDUSTRIAL ARCHEOLOGY
NEWSLETTER
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Britannia Mines declared Canadian National Historic Site

Britannia Mines Concentrator No. 3, photographed in 1974 when the complex was closed by its last owner, Anaconda Mining. The Britannia stands on the shore of Howe Sound, between Vancouver and Garibaldi Provincial Park, British Columbia. *Photo courtesy B.C. Museum of Mining.*

In conjunction with this year's centennial celebration of the discovery of copper ore at Britannia, British Columbia, the Historic Sites & Monuments Board of Canada declared the Britannia Mines ore-concentrating complex a National Historic Site. This is the first time a Canadian mining site has been designated, according to former SIA president Diane Newell, historical adviser to the B.C. Museum of Mining which occupies the mill. Britannia Beach Historical Society, the museum's governing body, can now focus on developing a mining museum of national status and has an incentive to negotiate with the federal and provincial governments and the private sector on cost-sharing agreements for museum and historic site development.

Britannia's significance as a major world copper producer is well documented. During its 70-year history, Britannia employed over 60,000 people and produced over 50 million tons of copper ore. From 1925 to 1930, it was the largest copper producer in the British Empire.

The last remaining gravity-fed concentrator in North America that is accessible to the general public, Britannia is only 52 kilometers from Vancouver on the well-travelled "Sea to Sky" designated tourist route.

Mineralization in the Britannia Beach area on the east shore of Howe Sound was first discovered in 1888 by Alexander Forbes, who could not raise the capital for development despite a decade of trying. The Britannia Copper Syndicate (later the Britannia Mining & Smelting Co. Ltd.) developed mines and smelting operations after 1904. Concentrators were built to process the low grade ore into an economically transportable product for smelters.

The third concentrator at the site (the one surviving today) was Mill No. 3, built 1922-23 of concrete and steel and intended to be nearly fireproof. It was designed by Bradley, Bruff & Labarthe, metallurgical engineers of San Francisco. Built on a steep, 45-deg. rock slope, gravity carryied the ore through the mill and pumping was almost entirely eliminated. Originally designed to treat 2,500 tons per day, capacity gradually increased to over 5,000 tons daily. Peak production was reached in 1929 and began a gradual decline after World War II. In 1959 Britannia Mining & Smelting went into receivership and was purchased by Anaconda Mining in 1963. After sporadic operations, the complex finally was closed in Nov. 1974. It was the oldest operating mine in British Columbia.

Six months later, in spring 1975, the B.C. Museum of Mining opened in the Britannia mill. The site includes Mill No. 3, flanked by the foundations and remains of No. 1 (built 1904, demolished 1917) and No. 2 (built 1913, burned 1921). Mill No. 3 is built over a network of service tunnels, raises, drifts, and ore chutes driven to service the first mills. The museum uses the tunnel network to interpret underground mining operations through live demonstration of the ore extraction and materials-handling processes. Every year the B.C. Institute of Technology and the Univ. of B.C. conduct field study sessions in the Museum tunnel to teach about geology, mine tunnel surveying, and mining engineering.

Future development of Britannia may involve industrial archeological work at the No. 1 and No. 2 sites, research and interpretation of mine and mill workers, and the study of ore transportation, mine safety procedures, and materials handling processes.

Published by the Society for Industrial Archeology Editor: Robert M. Frame III
Room 5020 National Museum of American History Smithsonian Institution Washington, D.C. 20560

West Virginia — 'Almost Heaven' for 1988 SIA conferees

For many Americans, Wheeling, West Virginia, is perhaps best known for the country music broadcast by powerful radio station WWVA. For the SIA, it is "Wheeling—Port of Entry," headquarters for the 17th Annual Conference, May 19-22.

As conference organizer and incoming SIA President Emory Kemp describes it, 19th-C Wheeling was "a transportation center for road, rail, and river traffic, a bustling commercial center selling and shipping an amazing variety of goods and services, and the leading industrial center in western Virginia." Until recently, however, Wheeling's rich industrial heritage has been largely neglected by the public. With well over 200 registrants from the U.S. and Canada, the SIA worked to generate new interest in Wheeling IA.

The conference opened Thursday evening at the elegant 1832 mansion of industrialist Earl W. Oglebay, who willed his property to the City of Wheeling in the 1920s. Here the director and staff of what is now the Oglebay Institute Mansion Museum and the Friends of Wheeling sponsored a reception for the SIA, including a series of introductory slide talks on the Wheeling area and local history exhibits.

Friday morning the conference turned to hardcore IA with a daylong combined bus and walking tour of operating sites and the great Wheeling Suspension Bridge. Each of the day's process-tour sites was accompanied by a handout describing the plant's operation through a numbered series of work stations. Tourers could follow the sequence through a large numbered placard at each station in the building.

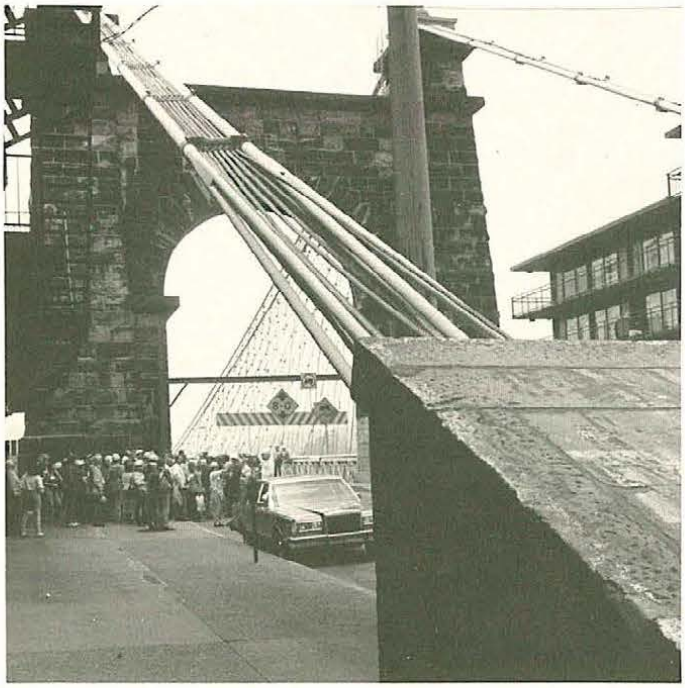
The experience at **Warwood Tool Co.** was nothing if not loud, with large forging hammers capable of turning out some 600 different hand tools. The tools are little different from those the firm made in the 1890s, including picks, mattocks, grub and hazen hoes, a complete range of coal miners' and railway workers' tools, tools for the lumber industry, and special tools made to order. The company was founded in 1854 at Martins Ferry, Oh., and moved to Wheeling in 1892. In 1907 it moved again, to its present location four miles north of the city where the firm built workers' housing for a company town that later was named Warwood.

There is no automated equipment in the entire Warwood operation, with all the tools made by hand. Of particular interest was the forging equipment, including tilt hammers, drop hammers, and hydraulic presses. Also viewed were a hydraulic eye-press and a bar roller. After the tool is finished with grinding, heat treating, and shot blasting, it is painted in either the traditional Warwood blue or, in the case of alloyed steel or garden tools, red. The painted tools are crated for shipment to North America, Puerto Rico, and South Africa.

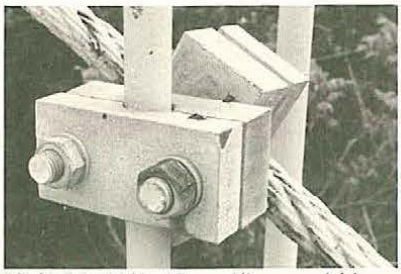
Not far away was another process-tour site, **Centre Foundry and Machine Co.**, manufacturer of molds and castings, primarily for the steel industry. Centre also made the castings for the Wheeling Suspension Bridge and, more recently, the replacement front doors and frames and interior shutters for the Custom House restoration. Centre Foundry was established in Wheeling in 1840 and moved to Warwood in 1923. During the 19th C it produced stoves, steam engines, heavy machinery, cast-iron building fronts, window sills, and fencing. After a series of owners it was purchased in 1979 by Dyson-Kissner-Moran Corp.

The operation viewed in the tour was a conventional foundry and casting process, beginning with metal melting in two vertical-channel electric induction furnaces. The molten metal, poured into ladles, is transported via overhead crane to the pouring pits, where the iron is poured into sand molds. Tourers noted that the clamps on the mold flasks were forged at Warwood Tool Co. Adjacent to the main plant

Above: SIA tour buses at Warwood Tool Co. *Right & below right:* Centre Foundry & Machine Co. At right, SIA hardhats examine molds used to reproduce historic hardware for the restoration of the Wheeling Custom House. In the view below are ingot molds manufactured by Centre. *Below left:* The La Belle Nail Plant. *R. Frame photographs.*



Left & below: SIA President Emory Kemp leads the admiring masses across the great Wheeling Suspension Bridge. *Right:* The "Kemp Block," designed by Emory to prevent chafing between the vertical suspender rods and the Roebling-installed stay cables. *R. Frame photographs.*



building is the pattern shop, although today most of the patterns are supplied by subcontractors. Centre produces ingot molds ranging from two tons up to forty-ton a giant. Foundry workers refer to small projects like the Custom House restoration hardware as "making jewelry."

Few plant tours can top the **La Belle Nail Plant**, the largest of two remaining cut-nail works in the U.S. and a subsidiary of Wheeling-Pittsburgh Steel Corp. La Belle began making cut nails in 1852, when it was Bailey, Woodward & Co., and by 1885 Wheeling was known as the "Nail City," boasting 1,400 nail machines with an annual capacity of almost 3 million kegs of nails. The 19th-C "nailer" was a highly skilled craftsman, actually a subcontractor in the plant, who oversaw a group of nail machines each operated by a feeder. The nailer made from $12 to $20 per day, and in turn paid his feeders on percentage. In today's nail plant, the nailer is responsible for maintaining 12 machines (three sets), with each feeder operating a set of four.

The tour began at the ingenious Mesta Carousel Pickler where 24″ x 135″ metal sheets are moved through a sequence of dilute sulfuric acid and clear water (to remove scale), and lime slurry (to lubricate the nail shears). Between each pair of tanks the carousel is lifted by compressed air, but *manually rotated* by three workers. Following the pickler, the sheets are sheared into strips whose width depends on nail length. A "nail plate wheeler" manually trucks the strips to the nail machines. A load can reach 600 lbs., and two wheelers have moved as much as 40 tons in a 7½ hr. shift, a record-setting haul.

Standing in long banks, the chattering nail machines evoke a Victorian factory interior better than anything Hollywood could create. Pacing among his nail machines, the feeder pulls a feed rod from a machine and replaces the spent strip's butt end with a new strip. With great skill and timing (since the machine barrel is constantly turning) he inserts the loaded rod. After the nail blank is sheared from the strip it is headed and drops into a bin. Four machines keep a feeder moving constantly. The nailer, actually a die maker and setter, maintains the machines. Since nail machines have long been out of production, La Belle employs a full-time blacksmith to make parts.

The freshly cut and headed nails are hand-shoveled, at 60 lbs. per shovelful, into a heat treating furnace. Fifty-lb. loads are dumped onto a conveyor where electromagnets align the nails as they move into the empty cartons that have replaced the traditional keg.

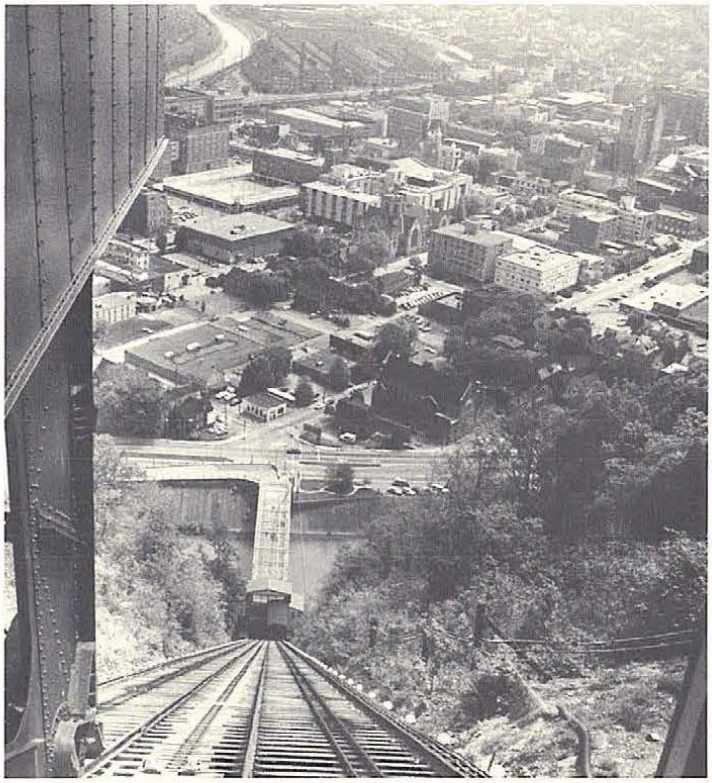
Following lunch SIA conferees hiked en masse across the great **Wheeling Suspension Bridge**. When completed in 1849 it was the longest bridge in the world. It crosses the Ohio River to Wheeling Island. The bridge was built on the French "garland" system, employing 12 separate wire cables supported on stone piers 1,010 ft. apart. Destroyed by a "tornado" in 1854, it was rebuilt the same year using the original cables. It was strengthened in 1871 by Washington Roebling and has subsequently been repaired and renovated, the latest being a $2.4 million renovation in 1983. The bridge is a National Historic Landmark, an ASCE Civil Engineering Landmark, and is listed with the International Council of Monuments and Sites (ICOMOS). Today it is among the most important antebellum engineering structures in North America.

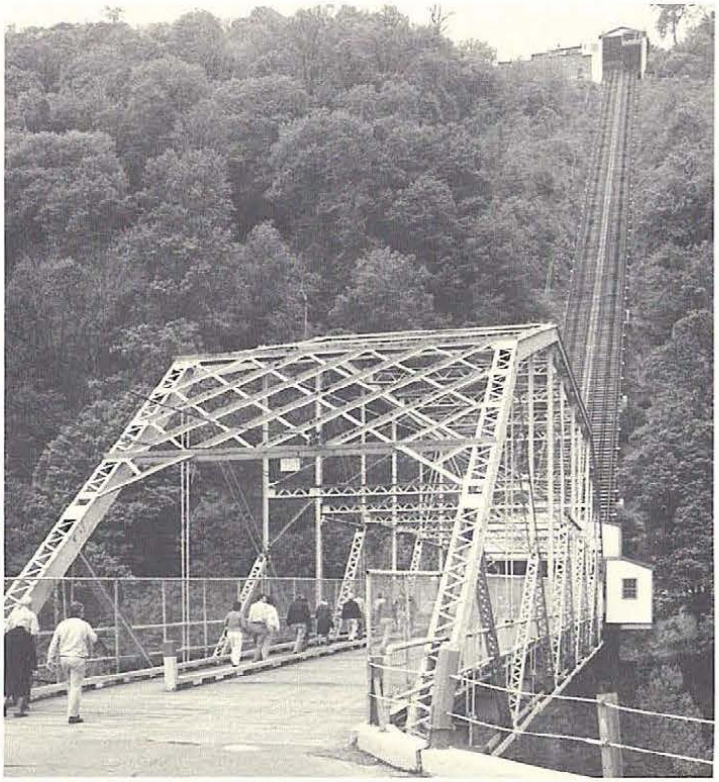
To wind down from the suspension bridge experience and conclude the afternoon, the tour moved to the 1893 **Bridgeport (Back Channel) Bridge** [HAER], which crosses the west channel of the Ohio River between Wheeling Island and Bridgeport, Ohio. The prefabricated Parker truss span was purchased from a catalog. By 1987 the span was extremely deteriorated, and a new self-supporting, load-bearing deck structure, manufactured in England, was installed inside the existing bridge, whose trusses now support only themselves.

Installed in 1987, a new self-supporting, load-bearing structure made in England carries traffic through the original 1893 trusses of the Bridgeport (Back Channel) Bridge. *R. Frame photograph.*

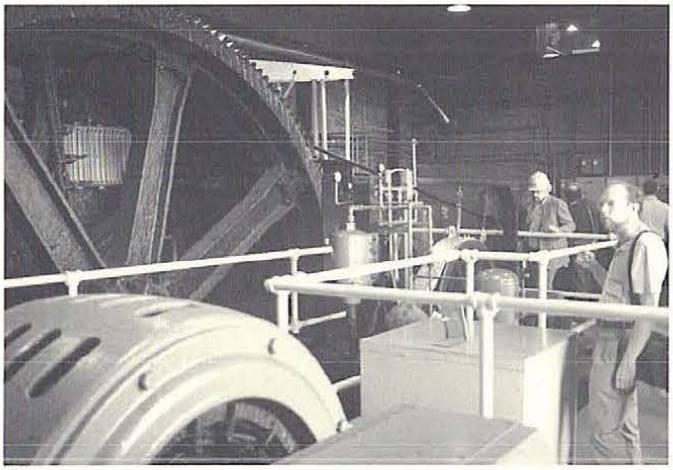
On Friday evening, a memorable reception featuring candlelight, champagne, and chamber music was hosted by the Friends of Wheeling at the **Wheeling Custom House**. Built in 1857-59, the Custom House is known today as West Virginia Independence Hall because it was here that the State of West Virginia was formed in 1863. The Custom House is significant in its use of iron for both architectural and structural purposes, and is one of the first buildings in the U.S. to use wrought-iron beams.

The traditional Saturday paper sessions were held at the W.Va. Northern Community College building, which began life in 1909 as a passenger station for the Baltimore & Ohio Railroad and was acquired





Above: Looking down and looking up at the 1891 Inclined Plane Railway in Johnstown, Pa. The city is visible in the distance at left. *Below:* In the railway's cable house. *R. Frame photographs.*



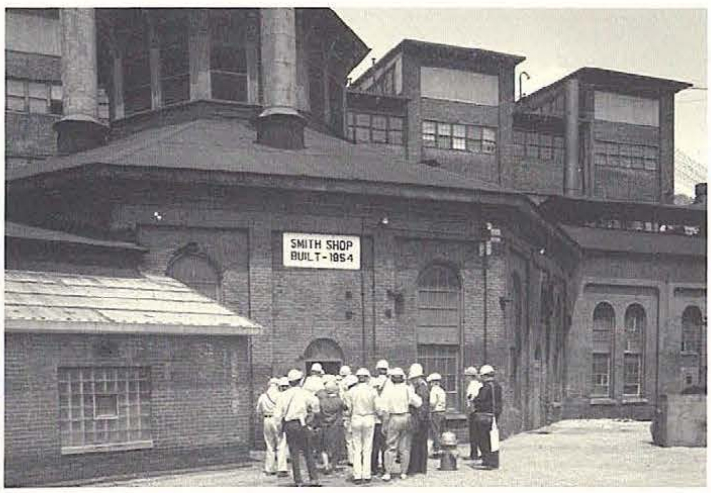
Below: The Cambria Iron Works Forge (Smith) Shop, inside and out, Johnstown, Pa. *R. Frame photographs.*

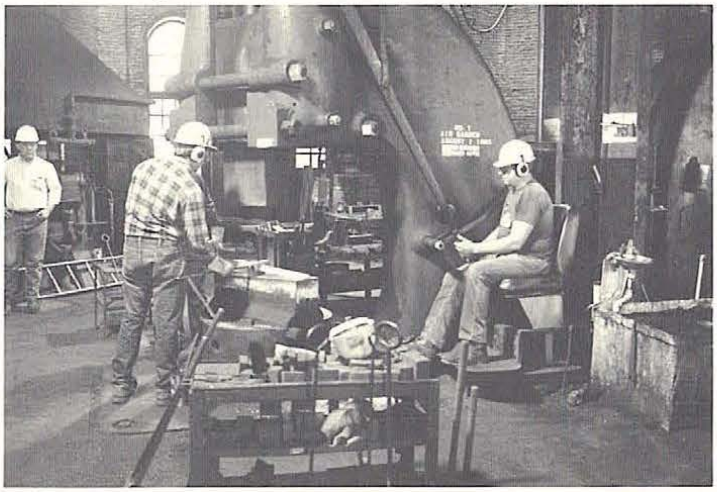
by the college in 1976. During lunch the SIA held its annual business meeting (see official meeting minutes in this issue). In the evening an unusual reception was held in the **Gee Electric building**, where conferees mingled with electrical apparatus and workers demonstrating the art of rewinding electric motors. Then it was on to an informal banquet in the typical wood post-and-beam warehouse environment of the 1906 **Wheeling Wholesale Grocery Co.** Downhome Wheeling entertainment was provided by country music star Doc and Chicky Williams of the Wheeling Jamboree, the Wheeling version of Nashville's Grand Ole Opry.

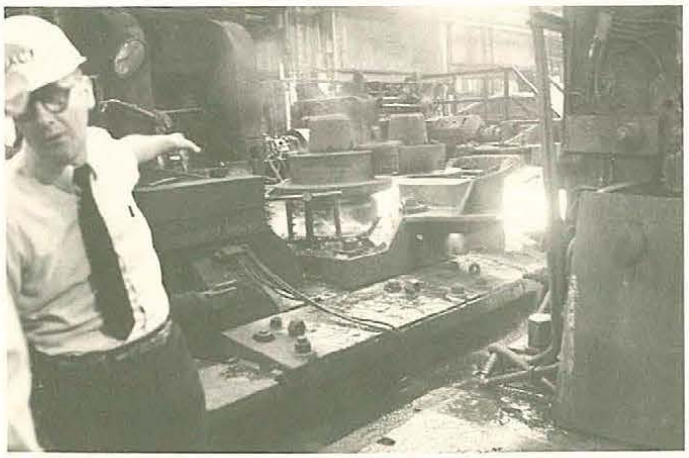
On Sunday all boarded buses for a caravan east to Johnstown, Pa., for a day-long tour organized by National Park Service staff and America's Industrial Heritage Project (AIHP), a federal-state effort to promote tourism through the preservation and interpretation of regional industrial sites. During the bus ride NPS rangers told the story of the great Johnstown flood of May 31, 1889.

First tour stop in Johnstown was the **Inclined Plane Railway**, built in 1891 to provide access to prime development property on Yoder Hill overlooking the city. It was designed by Pittsburgh engineer Samuel Diescher and its 71.9% grade is the world's steepest. The original two-level cars carried horses above and people below, a questionable arrangement. The incline helped save lives when a second great flood filled the valley in 1936.

Following lunch at the **Johnstown Flood Museum**, the afternoon







Top, above, & left: Touring the rolling mill at Bethlehem Steel Corp.'s "lower works" in Johnstown, where ingots are worked into blooms and billets. *Above right:* One of the cavernous abandoned buildings at the Cambria Iron Works. *R. Frame photographs.*

was spent at the works of Bethlehem Steel, including the historic buildings of the former **Cambria Iron Co.** [HAER]. Founded in 1852, Cambria was regarded as one of the greatest and most innovative of the early modern iron and steelworks. It was located in Johnstown because of the area's abundant coal and iron-ore deposits, and the available water. In 1867 the Cambria mill produced the first Bessemer rails in the U.S. It was acquired by Bethlehem Steel in 1923. Especially for the SIA tour, Bethlehem Steel brought in blacksmith shop employees, who demonstrated one of the large steam hammers.

Then it was on to Bethlehem's modern operations in the primary mills, where ingots are rolled into blooms or billets (according to tour guides, anything over 6 ins. is a bloom; smaller is a billet). Here, in operation, is a range of mills from 46-in. and 34-in. reversing mills down to smaller continuous roll stands. The final products at Cambria are from 3 1/4- to 6 3/4-in.-sq. billets and blooms, 70% of which eventually will be transformed into automobile parts, principally drive shafts.

The Johnstown steel mill tour was a fitting conclusion to an event-filled 17th Annual Conference. All piled into buses to head for the Pittsburgh airport or back to Wheeling, and home, there to await the Fall Tour in September where they could pick up steel and iron history where they had left off in May.

A LIST OF CONFERENCE REGISTRANTS is now available from Emory L. Kemp, Hist. of Sci. & Tech., Woodburn Hall Rm. G-14, W. Va. Univ., Morgantown WV 26506 (304-293-3867).

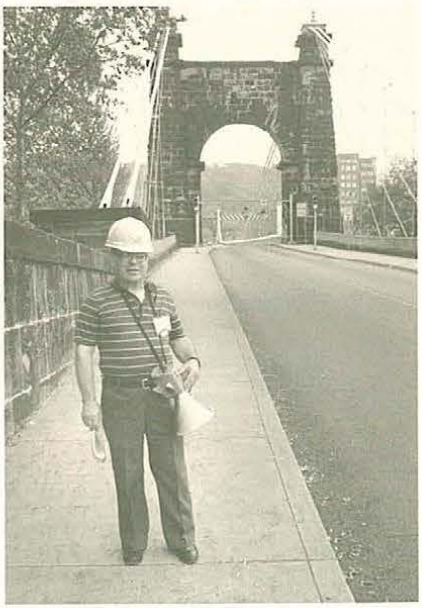
MEANWHILE IN PITTSBURGH . . . The Sunday tour to Johnstown and the Cambria Iron Mill was most timely since the threatened demolition of several Pittsburgh steel mills leaves in doubt the future of the once mighty Pittsburgh steel industry. What will remain for inclusion in the Industrial Heritage project? The Cambria Mill is just one gem in a necklace of historically significant steel sites in Western Pennsylvania.

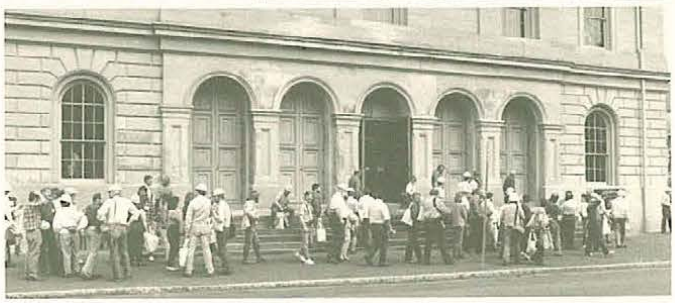
At stake are the Jones & Laughlin Pittsburgh works of some 100 acres along the Monongahela River, the USX Corp.'s Duquesne works, and the National works in McKeesport, which total more than 480 acres. Although these mills have been closed for some time, they represent a valuable amount of real estate. It is not surprising that the city, the private sector, and preservation interests are all involved in determining the future development of these sites. Meanwhile, the dismantling continues, calling into question whether any structures will remain to be preserved as representative of the role Pittsburgh has played in the history of the steel industry. *D.L.W. & E.L.K.*

Last looks at Wheeling . . .

Right: Two heroes of the Wheeling conference: Emory and his bridge.

Below: The SIA at the 1857-59 Wheeling Custom House, now elegantly restored and known as West Virginia Independence Hall. Significant for its early use of wrought-iron beams as well as being the cradle of West Virginia statehood, it was the conference's symbolic headquarters. *R. Frame photographs.*





SIA AFFAIRS

17th ANNUAL BUSINESS MEETING

May 21, 1988
Wheeling, West Virginia

The meeting was called to order at 1:08 p.m. by President Thorwald Torgersen in the Wheeling Civic Center.

SECRETARY'S REPORT. Secretary Westbrook reported that the 16th Annual Meeting had been held at Rensselaer Polytechnic Institute in Troy, N.Y., on May 30, 1987. The Board of Directors held four meetings during the year, an organizational meeting in Troy, followed by meetings in Sept., Dec., and Mar. (Copies of the Minutes of the Board meetings are available from the Secretary on request.) Board attention focused on planning annual conferences and tours, SIA publications, and long-range planning. Details on each of these topics have been reported in *SIAN*. The Secretary requested a show of hands indicating those who were attending their first SIA conference. Roughly a third responded.

TREASURER'S REPORT. Treasurer Nanci Batchelor reported that the SIA began Fiscal Year 1987 with a balance of $18,471.93. In 1988 the SIA anticipates receipts of $36,500 and expenditures of $28,000, allowing a balance of $8,500 to be earmarked for a second issue of the journal in 1988. The Treasurer also reported that the hard-hat fund-raising project promoted by David Shayt has recovered the investment. Shayt reported that, at that moment, 26 of 200 hats remained, and urged that no one return home without one.

Past President Helena Wright explained that a late-dues dunning notice had been sent to approximately 25 members by mistake, and apologized for same.

EDITORS' REPORTS. Journal editor David Starbuck reported that finances had permitted only one issue of the journal in 1987. The next issue of the journal will be a thematic issue on the Springfield Armory, to be mailed in July. Newsletter editor Bob Frame was introduced; he allowed the newsletter to speak for him.

THE FUTURE OF HEADQUARTERS. Anticipating the questions of many, President Torgersen asked outgoing Past President Wright to report on the status of SIA-HQ-pV (SIA Headquarters post-Vogel). Wright reported that HQ would remain at the National Museum of American History (Rm. 5020) and that she would be the principal HQ liaison and contact.

THE CURRICULUM PROJECT. Committee Chair Jane Mork Gibson reported that the Board is weighing several alternatives, including (a) doing nothing further with the curriculum, (b) reissuing it as is, (c) pursuing a grant to publish a more expansive version, and (d) turning the material over to another organization a co-publishing arrangement.

New Business

SNEC AWARD FOR OUTSTANDING SERVICE. In an emotional moment, Laurence Gross rose to present the Southern New England Chapter Award for Outstanding Service, presently only once in the preceding ten years. On behalf of the Chapter, Gross presented the award to Herbert C. Darbee, long a faithful participant in SIA activities. With the assembled members standing in acclamation, Jeffrey Darbee accepted the award on behalf of his father.

ANNUAL CONFERENCES & FALL TOURS. President Torgersen reminded members that one of the pledges of his presidency had been to provide a long-range plan for annual conferences and fall tours. He announced that the 1988 Fall Tour would be to iron, steel, coal, and canal sites in the vicinity of Easton, Pa. The 1989 Annual Conference will be in Quebec. The 1989 Fall Tour will be in Butte, Mont., hosted by the Frank M. Klepetko Chapter. The 1990 Annual Conference will be in Philadelphia, hosted by the Oliver Evans Chapter. The 1990 Fall Tour will be in Dawson, Yukon Territory, through Seattle, Juneau, Skagway, Whitehorse, and Dawson, courtesy of the U.S. National Park Service and Parks Canada. Details will be reported in upcoming *SIAN*s and special mailings.

THE NORTON PRIZE. Each year the SIA presents the Norton Prize, awarded for the best article appearing in *IA* during the preceding three years. The prize is a cash award endowed by the Norton Co., Worcester, Mass. The 1988 Norton Prize recipient is David Starbuck for "The Shaker Mills in Canterbury, N.H." (*IA* 12 (1986): 11-38).

APPRECIATION. President Torgersen offered thanks to outgoing Director Dennis Zembala and retiring Past President Wright for their dedicated service. He applauded Vice President Emory Kemp for his leadership of the long-range planning effort and a superb job of organizing the 17th Annual Conference. Kemp reported that 208 participated in the Wheeling conference and introduced his planning associates. Further applause demonstrated the members' considerable appreciation.

NOMINATING COMMITTEE REPORT. Chair Carol Poh Miller introduced committee members Charles Hyde and David Shayt. Miller reported that one-third of the membership cast ballots, and she announced the results:

President: **Emory L. Kemp**
Vice President: **David Salay**
Director: **Laurence F. Gross**
Nominating Committee: **Richard K. Anderson**

Charles Hyde becomes the Chair of the Nominating Committee.

PRESIDENT KEMP'S REMARKS. President Kemp reported that the Board as a Committee-of-the-Whole had met for a full day to deliberate the SIA's long-range plan. The Society's four cornerstones (journal, newsletter, fall tour, and annual conference) remained intact. He hopes to increase the SIA's stake in education. Other projects will require time, talent, and money. President Kemp takes as his personal agenda the strengthening of chapter ties. He summarized various modifications in the meeting agenda and provided reminders of must-attend events. He concluded by thanking Past President Torgersen for two fine years of presidential leadership.

The meeting was adjourned at 1:50 p.m. by President Kemp.

NICHOLAS WESTBROOK, Secretary

LETTER TO EDITOR

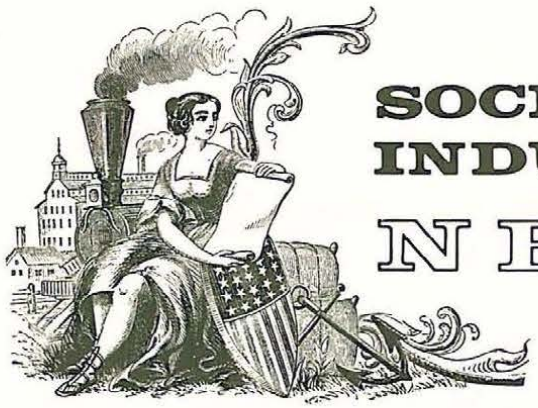
Dear Editor:

Please accept our appreciation for and enjoyment of your recent SIA conference in Wheeling, and particularly at West Virginia Independence Hall. Wheeling was very pleased to be the host city for your conference and we at WVIH were quite honored that your board requested use of the Custom House for its session on Thursday.

We also enjoyed having your entire membership on tours of the building and for the reception held here on Friday evening. Your proceedings were of great interest to me. My only regret was that carrying out details of the conference precluded me from attending everything. Thank you for making your visit so easy for us to have you here.

We look forward to the possibility of your return to Wheeling and specifically to West Virginia Independence Hall. If there is any way we may be of service to you, please do not hesitate to contact me. Thank you again for coming.

REBECCA J. PAYNE
Director
West Virginia Independence Hall
Wheeling, W.Va.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 17 NO. 2 SUMMER 1988

Compiled by John M. Wickre, Minnesota Historical Society

GENERAL SUBJECTS

J. E. Arnold, **"Independent Industrial Museums."** In *Museums J.* 86, June 1986, p45-49.

Elizabeth Bloomfield & Gerald Bloomfield, **"Mills, Factories and Craftshops of Ontario, 1870: A Machine-Readable Source for Material Historians."** In *Material History Bull.* 25, Spring 1987, p35-47.

John C. Brown, **"Coping with Crisis? The Diffusion of Waterworks in Late 19th-C German Towns."** In *J. of Economic History*, June 1988, p307-318. Suggests that demand for water in 100 Rhenish Prussian towns was due to "rising income of the median voter and demand of industrial users, rather than crises in public health."

Carolyn C. Cooper [SIA], **"The Evolution of American Patent Management: The Blanchard Lathe as a Case Study."** In *Prologue* [journal of the U.S. National Archives & Records Admin.] 19, Winter 1987, p245-259.

Richard Dennis, **English Industrial Cities of the 19th-C: a Social Geography**. Cambridge Univ. Pr. (NY), 1986. 383p, tables, notes, bibliog., index. **Now in paperback: $15**. Orig. ed. rev. in *Technology & Culture*, Oct. 1986, p883.

Franco Ferrarotti, **The Myth of Inevitable Progress**. Greenwood Pr. (Westport CT), 1985. 216p, notes, bibliog., index. $35. Rev. in *Technology & Culture*, July 1988, p709-710, describes it as "a theoretical overview of the sociology of industrialization."

David W. Galenson, **"Economic Determinants of the Age of Leaving Home: Evidence from the Lives of 19th-C New England Manufacturers."** In *Social Science History* 11, Winter 1987, p355-378. Incl. quantitative evidence from J. D. Van Slyck, *New England Manufacturers & Manufactories*, 2 vol., 1879.

Paolo Galluzi, ed., **Leonardo da Vinci: Engineer and Architect**. Montreal Museum of Fine Arts (Montreal), 1987. 367p, illus., notes, bibliog. $C50. Also avail. in French. Rev.: *Technology & Culture*, July 1988, p663-666. See also *T&C* general entry for exhibit review.

Jane Mork Gibson [SIA], **The Fairmount Waterworks**. Phila. Museum of Art, *Bull.*, Vol. 84, Nos. 360-61 (Summer 1988). 48p, lavishly illus. (some color). **Only $6 ppd. while they last** from SIA HQ, Rm. 5020 NMAH, Smithsonian, Wash. DC 20560. A superb effort encompassing all the iconographic treasures of Fairmount, catalog of an exhibition at the Phila. Museum. Engaging text recounts history of Phila's water supply and its technical triumphs. A bargain and a delight; get yours now. *H.W.*

Thomas Göbel, **"Becoming American: Ethnic Workers and the Rise of the CIO."** In *Labor History* 29, Spring 1988, p173-198. Incl. auto and steel industry unions.

Historical Maps on File. Facts on File, Inc. (460 Park Ave. S., NY NY 10016). 300 copyright-free maps designed for photocopying; in 3-ring binder with index. $145. Incl. maps of U.S. roads, trails, canals, railroads, rivers, highways, mostly 1780-1900; little of IA interest outside of U.S. except for 2 Canadian RR maps.

John Langton & R. J. Morris, eds., **Atlas of Industrializing Britain 1780-1914**. Methuen (NY & London), 1986. 276p, 400 maps, bibliog. $27/15 pap. Maps with analytical text, in 31 categories incl. textiles, transport, wind and waterpower, coal and steam power, engineering, and unionization.

Forence Bartoshesky Lathrop, **"Toward a National Collecting Policy for Business History: The View from Baker Library."** In *Business History Rev.* 62, Spring 1988, p134-143. Argues for a national collecting policy. Harvard Business School's Baker Library holds important business archives, esp. from 19th-C New England firms, many of which had activities world-wide. The 2500 vols. of R. G. Dun & Co. credit reports for 19th-C firms and individuals across the U.S. have many IA applications. For further information see Robert W. Lovett and Eleanor C. Bishop, **Manuscripts in Baker Library: A Guide to Sources for Business, Economic and Social History** (4th ed., 1978; avail. from the library, Boston MA 02163, $15 in 1978). This work lists 1400 collections grouped by industry in a scheme similar to the Standard Industrial Classification (SIC).

David Montgomery, **The Fall of the House of Labor: The Workplace, the State, and American Labor Activism, 1865-1925**. Cambridge Univ. Pr. (NY), 1987. 506p. $28. Rev.: *J. of Economic History*, June 1988, p501-503.

Nation Builders: Sesquicentennial History of the Corps of Topographical Engineers, 1838-1863. U.S. Corps of Engineers (Wash. DC), 1988. 92p., illus. $2.75. Roads, harbors, railroad and river routes. (Avail.: U.S. Govt. Printing Office, Wash. DC 20402-9325.)

W. Edward Orser, **"Toward a New Local History: The Possibilities and Pitfalls of Personal Narrative."** Review essay in *Oral History Rev.* 16, Spring 1988, p111-118. Incl. discussion of LuAnne Gaykowski Kozma, ed., **Living at a Lighthouse: Oral Histories from the Great Lakes** (Great Lakes Lighthouse Keepers Assn., Allen Park MI, 1987, 104p, $10. pap.) and Carl Carlsen, **Brickyard Stories: A** [Lynn MA working class] **Neighborhood and its Traditions** (North Shore Community College, Lynn MA, 1985, 52p, $?). Conclusion: "the challenge is to subject [first-person histories] to the same scrutiny as other documentary sources and to find ways to put them in a more systematic context."

Alessandro Portelli, **"The Best Trash-Can Wiper in Town: The Life and Times of Valtéro Peppoloni, Worker."** In *Oral History Rev.* 16, Spring 1988, p69-89. Like and work of Peppoloni (1916-) in Terni, Italy, steel mills and as a sanitation worker and janitor; with interpretive remarks by Portelli (whose fieldwork includes the U.S., esp. Appalachia).

Tina H. Sheller, **"Artisans, Manufacturing, and the Rise of a Manufacturing Interest in a Revolutionary Baltimore Town."** In *Maryland Historical Mag.* 83, Spring 1988, p3-17.

Roger L. Robertson [SIA] edits **The Stationary Engine Society Newsletter**. The April 1988 issue includes (among many interesting sections) a photo, diagram, and notes on the Borsig High Pressure Steam Engines at Lockport, Ohio, and a report of a just-before-demolition HAER recording of engines in a Republic Steel mill in Youngstown, Ohio.

Joel A. Tarr et al, **"The City and the Telegraph: Urban Telecommunications in the Pre-telephone Era."** In *J. of Urban History* 14, Nov. 1987, p38-80.

Dennis Showalter, **Railroads & Rifles: Soldiers, Technology and the Unification of Germany**. Archon Books (avail. from Shoe String Pr., 925 Sherman Ave., Hamden CT 06514), 1975?, 1986. 267p, notes, bibliog., index. $15 pap.

David R. Starbuck [SIA], **"A Bibliography of Northeast Historical Archeology."** In *Northeast Historical Archaeology* 15, 1986 (c1988), p19-99. Contains 1,884 entries, mostly from 1960s-1987 publications, covering N.E. U.S. and eastern Canada. Geographical index, but no subject index. Many entries of potential IA interest, incl. glassworks, ironworks, potteries, canals, shipwrecks. [Address: Mary Beaudry, editor, Dept. of Archaeology, Boston Univ., Boston MA 02215.]

Published by the Society for Industrial Archeology Editor: Robert M. Frame III
Room 5020 National Museum of American History Smithsonian Institution Washington, D.C. 20560

Technology & Culture; the International J. of the Society for the History of Technology. Avail.: Univ. of Chicago Pr., Journals Div., PO Box 37005, Chicago, IL 60637, $37.50/yr. individuals, $50 for institutions. Subscriptions include membership in SHOT. Editors (all SIA): Robert C. Post, editor-in-chief; Jeffrey K. Stine, book reviews; Helena Wright, exhibit reviews.

Vol. 29, No. 2, Apr. 1988, includes):

Christopher Hamlin, **"William Dibdin and the Idea of Biological Sewage Treatment,"** p189-218 (London, England; Thames estuary, c1870s-1890s).

Peter Meiksins, **The 'Revolt of the Engineers' Reconsidered,"** p219-246 (role of engineers in society; professionalism, unionism).

Exhibit reviews: **"The Larder Invaded"** (300 years of Phila. food and drink), Library Company of Phildelphia and Historical Society of Pa., p266-270; **"Managing Urban Wastes,"** Chicago Museum of Science and Industry, p271-275; **"Rails to the Metropolis"** (NY City RRs, Grand Central terminal, restored subway car), New York State Museum, Albany, p276-280.

Stephen H. Cutliffe et al, **Current Bibliography in the History of Technology (1986)**, p338-492.

Vol. 29, No. 3, July 1988, includes:

W. Bernard Carlson, **"Academic Entrepreneurship and Engineering Education: Dugald C. Jackson and the MIT-GE Cooperative Engineering Course, 1907-1932,"** p536-567.

Exhibit reviews: **"Leonardo da Vinci: Engineer and Architect"** (Montreal Museum of Fine Arts), p606-612 [see Misc.: Galluzi for related book]; **"After the Revolution"** (everyday life in late 18th-C America) and **"New and Different"** (the effect of the consumer revolution on the lives of middle and upper-class Americans; both at the National Museum of American History / Smithsonian, Wash. DC), p613-618; **"The Decorated Machine"** (19th-C American-mfd. machines; Chicago Museum of Science and Industry), p619-621; and **"Art Nouveau Bing: Paris Style 1900"** and **"Berlin 1900-1933: Architecture and Design"** (Cooper-Hewitt Museum, NY), p622-632.

Other *T&C* articles and reviews are cited within their appropriate categories in this bibliography.

TRANSPORT

Weldon G. Cannon, **Bernard Moore Temple: Binding Texas with Steel Rails.** Ph.D. thesis, Texas Christian Univ., 1987.

Geoffrey Channon, **"Railway Pooling in Britain before 1900: The Anglo-Scottish Traffic."** In *Business History Rev.* 62, Spring 1988, p74-92.

Frederick Cooper, **On the African Waterfront: Urban Disorder and the Transformation of Work in Colonial Mombasa**. Yale Univ. Pr. (New Haven, CT), 1987. 306p. $28. Strikes in Kenya's main port city, 1930s-1940s. Thorough footnotes, no bibliog. Rev.: *J. of Economic History*, June 1988, p481-482.

James P. Delgado, **Nominating Historic Vessels and Shipwrecks to the National Register**. National Register Publication No. 20. NR, National Park Service (PO Box 37127, Wash. DC 20013), 1987. 32p., free.

Jim Faber, **Steamer's Wake**. Enetal Pr. (Globe Building, 105 S. Main St., Seattle WA 98104), 1986. 264p., illus. $35. Coffee-table book of U.S. West Coast steamboats, 1840s-1980s. Rev.: *Steamboat Bill*, No. 180, Summer 1988, p125,126.

Anton Otto Fischer, **Focs'le Days**. Hudson River Maritime Center (1 Rondout Landing, Kingston, N.Y. 12401), 198? reprint. 112p. $23. Ad in *Steamboat Bill*: "An enduring tale, with 19 color illus., of 2 years aboard a British limejuicer by the noted marine artist; back in print after 30 years." [The Center also is restoring the 1897 steam tug *Mathilda*; contributions and restoration expertise welcome.]

Jack Gieck, **A Photo Album of Ohio's Canal Era, 1825-1913**. Kent State Univ. Pr. (Kent, Ohio), 1988. 329p, 500+ illus. $35. Miami & Erie Canal, Ohio & Erie Canal from; planners, builders, canalers. "Oversize format."

Mark H. Goldberg, **Ships of the Libera Line**. A. J. Hilgerson / Navigare (Scheepvaartmuseum, Kattenburgerplein 1, 1018 KK, Amsterdam, Netherlands), 1987. 92p., illus., F139.50 pap. Rev. in *Steamboat Bill*, No. 180, Summer 1988, p129, states that it is "an excellent introduction to Austro-Hungarian and Italian merchant shipping," 1906-1936.

H. Roger Grant, **"'The Diagonal': The Story of an Iowa Shortline Railroad of the 1880s."** In *Annals of Iowa* 48, Winter/Spring 1987, p378-387.

H. Roger Grant and Charles W. Bohi, **The Country Railroad Station in America**. Center for Western Studies (Box 727, Augustana College, Sioux Falls SD 57197), 1988. **Rev. and expanded ed.** includes a chapter on interurban stations. Illus., reading list, index. $20 pap.

Inland Seas 44 (Spring 1988) includes articles on lighthouses, potato ships on Lake Michigan, first steamboat on the Great Lakes. [Avail.: Great Lakes Historical Society, 480 Main St., Vermilion OH 44089. Quarterly; $20/yr. with membership.)

William Kaplan, **Everything that Floats: Pat Sullivan, Hal Banks, and the Seamen's Unions of Canada**. Univ. of Toronto Pr. (Toronto), 1987. 273p, $30/15 pap. The Canadian Seamen's Union, c1930s-1940s, and its anti-communist opponent and successor, the Seafarers' International Union, 1940s-1960s?; Great Lakes and oceanic shipping; war with Canadian Brotherhood of Railway and Transport Workers. Rev.: *J. of Economic History*, June 1988, p514-515.

Michael J. Kreiger, **Tramp; Sagas of High Adventure in the Vanishing World of the Old Tramp Steamer**. Chronicle Books (1 Hallidie Plaza, Suite 806, San Francisco CA 94102), 1986. 144p., illus., $35. Short chapters describing the operation and history of a variety of "floating museum pieces." Rev.: *Steamboat Bill*, No. 180, Summer 1988, p128.

John Lamb, **A Corridor in Time**. Lewis Univ. (Romeoville IL), 1987. 30p, illus., map. Gratis from the univ. Canal Archives. Illinois & Michigan Canal: incl. RRs and industrial development, sanitary and ship canal, Ill. Waterway; I&M Canal National Heritage Corridor.

The Marine Iron Works of Chicago U.S.A. Clinton M. Miller and Associates (PO Box 20415, Seattle WA 98102), 1986. 45p., illus., $10. Mostly reprinted Marine Iron Works (1895-1927) promotional material, incl. a 20-p. "River Transportation" pamphlet from 1902; illus. of marine steam engines and boilers; information on vessel draft and fuel consumption. Rev.: *Steamboat Bill*, No. 180, Summer 1988, p130.

Measuring a Vision: The Mapping of Chicago's Waterways; an Exhibition Hosted by the Ill. State Museum Lockport Gallery. Newberry Library / Smith Center for the History of Cartography (60 W. Walton St., Chicago IL 60610), 1988. 36p, illus., maps. $6. Exhibit catalog; maps and other illus., incl. European canals, 1697-1819, Michigan & Illinois Canal (Chicago on Lake Michigan to Illinois River), 1823-1930.

D. C. Mitchell, **Steamboats on the Fox River; A Pictorial History of Navigation in Northeastern Wisconsin**. Pub. by the author (P.O. Box 2247, Oshkosh WI 54903), 1986. 208p., illus. (some color), maps, $32. Some text, but predominantly photos of steamships and yachts, 1843-1980s; includes map of lock system and drawing of a river steamer. Rev.: *Steamboat Bill*, No. 180, Summer 1988, p128.

Pacific Rail News (Monthly, $27/yr. from Interurban Pr., 1212 S. Brand Blvd., Box 6128, Glendale CA 91205) contains current rail news and historical articles from the midwest and western U.S. and Canada. No. 298 (Sept. 1988), for example, has articles (with some color illus.) on current rail activities in British Columbia and Oregon, 1940s interurbans in Ill. farm country, and excursion trains on the Wyoming Colorado Railroad.

Robert C. Post [SIA], **America's Electric Railway Beginnings: Trollers and Daft Dummies in Los Angeles.** In *Southern California Quarterly* 69, Fall 1987, p203-221. Los Angeles Electric [street] Ry., 1886-90, originally using Leo Daft's system of 4-wheel "trollers" towed on parallel overhead wires and transmitting power to dummy (mechanism-concealed) locomotives that pulled separate passenger cars. The Sprague-style car with integral motors and a power wheel running under the overhead wires supplanted Daft's design, but his "troller" lives on in the word "trolley."

——, **The Tancook Whalers: Origins, Rediscovery, and Revival**. Maine Maritime Museum (Bath, ME), 1985. 124p, illus., bibliog., index. $15 pap. Story of double-end fishing boat type, NE U.S./Canada coast. Enthusiastic rev. in *Technology & Culture* (Apr. 1988), p307-308.

Propliner, "International review of piston-engined and turboprop transport aircraft." No. 32, Autumn 1987, includes news on older aircraft still flying, articles on Bristol Britannias, de Havilland Caribous, Lufthansa's 1930s Atlantic airmail service, and North Central Airlines Convairs. Illus., some color. Quarterly; subscriptions sent to U.S., £1, avail. from New Roots, Sutton Green Road, Sutton Green, Guildford, Surrey, England, GU4 7QD. Editorial offices: 6 Millside, Bourne End, Buckinghamshire, England.

Wolfgang Schivelbusch, **The Railway Journey: The Industrialisation of Time and Space in the 19th-C**. Univ. of Cal. Pr. (Berkeley and Los Angeles CA). **Revised English ed., 1986.** 219p, illus., notes, bibliog., index. $30/13 pap. Orig. 1980 ed. reviewed in *Technology & Culture*, July 1983, p515. "Widely acclaimed; compelling account of RR travel."

Bruce E. Seely, **Building the American Highway System: Engineers as Policy Makers**. Temple Univ. Pr. (Phila. PA), 1987. Examines the way in which officials of the the Bureau of Public Roads shaped federal highway policies through "cunning advocacy and rapid development and application of engineering skills," 1890-1956. Rev. in *Public Works History* 48:1-3 (Aug. 1988) notes that this book was the winner of the 1988 Abel Wolman Award. Also rev. in *J. of American History*, Sept. 1988, p647.

William H. Shank [SIA], **Indian Trails to Superhighways. Rev. 3d ed.** American Canal and Transportation Center (809 Rathton Rd., York PA 17403), 1988. 72p, illus., maps. $7 ppd. Inter-city roads in Pa.

Jack Simmons, **The Railway in Town and Country 1830-1914**. David & Charles (N. Pomfret VT), 1986. 400p, tables, notes, app., index. $35. "Services rendered by rys. in England and Wales during the Victorian age, and some of the effects they produced . . ." on cities and towns, villages and farms. Rev.: *Technology & Culture* (Apr. 1988), p308-310.

Duncan S. Somerville, **The Aspinwall Empire**. Mystic Seaport Museum (Mystic CT 06355). 129p, $10 pap. William Henry Aspinwall, the Pacific Mail Steamship Co. (1848-?), Panama RR, clipper ships. Rev.: *Steamboat Bill*, No. 180, Summer 1988, p125.

Steamboat Bill No. 186 (Summer 1988) includes "History of the Kingston-Rhinecliff Ferry," Hudson River, N.Y., 1700s-1957, p88-103; "Gleneagles - Last of the Glen Line," Canadian cargo ship on Great Lakes, 1925-1984, p108-13; Royal Caribbean Cruise Lines "Sovereign of the Seas," launched 1987, "world's largest cruise ship," p114-17; "History of British Columbia SS Co.," Victoria-Seattle cruise ships, 1975-1980s, p118-124; as well as current steamship news from around the world. SIA members may be able to contribute to a new historical page, "The Changing Waterfront," featuring "then and now" photos (this issue shows a Providence River scene). (Avail.: with $20 membership, from Steamship Historical Society of America, H.C. Hall Building, 345 Blackstone Blvd., Providence RI 02906).

John R. Stevens [SIA], **The Derby Horse Railway & the World's First Electric Freight Locomotive**. Interurban Pr. (PO Box 6444, Glendale CA 91205), 1987. 65p, illus., map. $8 pap. Locomotive, c1888, rescued by the author in 1982; now in operation at the Shore Line [formerly Branford] Trolley Museum, East Haven, Conn.

Charles Tillman, **Engine Room Sea Stories**. Pub. by the author (6029 Romany Rd., Oakland CA 94618), n.d. 108p, illus., $10. A personal account of the Tillman's life in the engine rooms of 19 steam and motor vessels from 1931 to 1945; incl. freighters, a steam schooner, ferries, and Liberty ships; detailed accounts of maintenance and repair work; pen and ink sketches of tools and machinery. Rev.: *Steamboat Bill*, No. 180, Summer 1988, p128-129. [Rev. in the *Stationary Engine Soc. Newsletter* descibes it as worthy and interesting, if not earthshaking. *R.M.V.*]

Raymond R. Townsend, **"Standard Railroad Track Tools."** In *Fine Tool J.* (combination newsletter and illus. sales catalog of Iron Horse Antiques, RD 2, Box 245B, Pittsford, VT 05763) 36, July-Aug. 1988, p42-44.

William F. Trimble and W. David Lewis, **"Lytle S. Adams, the Apostle of Nonstop Airmail Pickup."** In *Technology & Culture* 29, Apr. 1988, p247-265. On-the-fly pickup of airmail from device on ground, c1923-1940.

Waterways J. (666 Security Bldg., 319 N. 4th St., St. Louis, MO 63102), includes weekly columns on news of steamboats on western rivers from 40 and 20 years ago.

Clinton H. Whitehurst, **The U.S. Shipbuilding Industry, Past, Present, and Future**. Naval Institute Pr., (Annapolis MD 21402), 1986. 300p. $28. Current status of the American shipbuilding / repair industries; options for federal support of shipyards.

MISC. INDUSTRIES

All About Beer, July 1988, incl. articles on the Sapporo Beer Museum, $22-million Japanese facility housed in the first Sapporo brewery (constructed 1890), with humanoid robot recreation of early Japanese beer-making, laser show with beer nymph and Bacchus, bronze sculpture of beer and hops, connected via the "Tunnel of Suds" to the adjacent high-tech brewery (Sappporo Beer Museum, Inquiry Office, Sapporo Beer Factory, North 7, East 9, Sapporo, Japan, phone 011-731-4368); as well as info on micro- and macro-brewing in China ("Peking"), Jamaica ("Red Stripe"), Canada ("Molson" — "any country that had a brewery 81 years before it had a government can't be all bad"), New Guinea ("South Pacific"), Germany ("Cluss"), California ("Santa Cruz"), Oregon ("Eugene" ale), and Ireland ("Guiness" and "Killian's Irish Red"). Also incl. an article by Ned Heite [SIA] on the history of beer in Iceland from Viking days to the present (bring your own jug for a refill direct from the fermenting bottles of Reykjavik's Brewery Egill Skallagrimsson) and a short article by Alan D. Eames, "Ale and the Vikings," with this conclusion: "Fearless, crazed killers who ushered in the 'Dark Ages,' the Norse warriors travelled in a state of ale-induced *berserk*. In this frenzied condition, the Norsemen burned most of Europe to cinders. In return they gave the world the gift of ale. Looking back, maybe it wasn't such a bad deal." (Quarterly, $13/6 issues; McMullen Publishing, 2145 W. La Palma Ave., Anaheim CA 92801-1785).

James R. Barrett, **Work and Community in the Jungle: Chicago's Packinghouse Workers, 1894-1922**. Univ. of Ill. Pr. (Chicago IL), 1987. 306p. $25. Rev.: *J. of Economic History*, June 1988, p503-504.

Hugh Barty-King, **New Flame: How Gas Changed the Commercial, Domestic and Industrial Life of Britain between 1813 and 1984**. Graphmitre (Tavistock, Devon, England), 1984. 262p, illus., app., bibliog. £11.50. Town gas industry; apparently from viewpoint of "ordinary people and their problems;" no documentation (footnotes?) or index. Rev.: *Technology & Culture*, Apr. 1988, p295-296.

Jeff Buechler, ed., **Proceedings of the Workshop on Historic Mining Resources; Defining the Research Questions for Evaluation and Preservation, April 6-8, 1987**. State Historical Preservation Center, South Dakota State Historical Society (3 E. Main, P.O. Box 417, Vermillion SD 57069-0417), 1988. 159p, typewritten, app., suggested readings. Free while they last from the Center. Incl. discussion of S.D. resources for mining history (Lead, S.D., Mining Museum and the Mining Archives Project for the S.D. School of Mines and Technology); Black Hills mining.

R. M. Burch, **Colour Printing and Colour Printers. With a Chapter on Modern Processes by W. Gamble**. Paul Harris Publishing (Edinburgh, Scotland). **1983 reprint of 1910? original ed.** 302p, illus. $30. Review in *The Papers of the Bibliographical Society of America* 28, Mar. 1988, p109-110, mentions a 1981 reprint of the same book as being part of the "Garland Series of 19th-C Book Arts and Printing History."

Karen Carter-Edwards, **Cornwall Electric: 100 Years of Service**. Cornwall Electric (1001 Sidney St., Cornwall, Ont. K6H 5V3 Canada), 1987. 345 p, illus., notes, bibliog., index. $C30. St. Lawrence River mfg. town. Rev.: *Technology & Culture*, July 1988, p694-695.

Daniel A. Cornford, **Workers and Dissent in the Redwood Empire**. Temple Univ. Pr. (Phila. PA), 1987. 286p., map, notes, bibliog., index. $30. Lumber industry, Humboldt County, Calif., 1870s-1920s. Rev.: *Oregon Historical Quarterly*, Summer 1988, p206-207.

John Daniels & Christian Daniels, **"The Origin of the Sugarcane Roller Mill."** In *Technology & Culture* 29, July 1988, p493-535. Presents evidence for the invention of the horizontal 2-roller mill in India, c1500; the vertical 2-roller mill in China by the end of the 16th-C; and the 3-roller vertical mill in Peru or Mexico, c1600, by Jesuits familiar with Asian technology.

Reese V. Jenkins, **Images and Enterprise: Technology and the American Photographic Industry 1839-1925**. Johns Hopkins Univ. Pr. (Balt. MD), 1975, 1987. 399p, illus., tables, notes, app., bibliog., index. **Now in paperback: $17.** Orig. ed. reviewed in *Technology & Culture*, Jan. 1977, p107.

Arne Kaijser, **City Lights: The Establishment of the First Swedish Gasworks**. Linköping Univ. Dept. of Technology and Social Change (Linkoping, Sweden), 1986. 267p, illus., tables, notes, bibliog. Skr142 pap. Incl. gasworks in Stockholm, Gothenburg and Norrköping, 1845-1850. Rev.: *Technology & Culture*, Apr. 1988, p296-297.

Louise Lamphere, **From Working Daughters to Working Mothers: Immigrant Women in a New England Industrial Community**. Cornell Univ. Pr. (Ithaca, NY), 1987. 408p. $45/15 pap. Central Falls, R.I.; incl. textile industry, 1790-1940. Rev.: *J. of Economic History*, June 1988, p500-501.

James S. Measell, **"The Pittsburgh and Wheeling Goblet Co."** In *The Western Pa. Historical Mag.* 71 (Apr. 1988), p191-195. Glass mfrs. cartel, Pa./W.Va./Ohio, 1877.

E. G. Perrault, **Wood and Water: The Story of Seaboard Lumber and Shipping**. Univ. of Wash. Pr. (Seattle), 1986. 329p. $25. British Columbia export lumber and timber trade, c1920s-1980s. Rev.: *J. of Economic History*, June 1988, p513-514.

William M. Reddy, **The Rise of Market Culture: The Textile Trade and French Society, 1750-1900**. Cambridge Univ. Pr. (NY), 1984, 1987. 414p, illus., tables, notes, bibliog., index. **Now in paperback: $15.** Orig. ed. reviewed in *Technology & Culture*, Apr. 1986, p298.

Bruce Saxon, **"Fall River and the Decline of the New England Textile Industry, 1949-1954."** In *Historical J. of Mass.* 16, Jan. 1988, p54-74.

Philip Scranton, **Proprietary Capitalism: The Textile Manufacture at Phila. 1800-1885**. Temple Univ. Pr. (Phila. PA), 1983, 1987. 444p, illus., tables, notes, index. **Now in paperback: $13.** Orig. ed. reviewed in *Technology & Culture*, Jan. 1986, p153.

Anne Huber Tripp, **The I.W.W. and the Paterson Silk Strike of 1913**. Univ. of Ill. Pr. (Urbana), 1987. 331p. $30. Paterson, N.J., textile industry; incl. comparison with successful IWW strike in Lawrence, Mass., in 1912. Rev.: *J. of American History*, Sept. 1988, p645-646, and *J. of Economic History*, June 1988, p504-505.

Utah Historical Quarterly 56, Winter 1988, includes:

The Beginning of Modern Electric Power Service in Utah, 1912-22, p4-22.

The Demise of the Deseret Iron Co.: Failure of the Brick Furnace Lining Technology, p23-35. Cedar City, Utah, 1852-58.

The Failure of Utah's First Sugar Factory, p36-53. Deseret Mfg. Co., beet sugar, 1850-1856.

Frederick Kesler, Utah Craftsman, p54-74. Designer and/or builder of over 20 flour and saw mills, oil mills, factories, and other facilities, as well as bridges, canals, and shops, mostly 1850s.

The Box Elder Flouring Mill, p75-87. One of Kesler's mills; operated as a flour mill, 1857-c1880s, and for stonecutting, c1890-present.

Gerald W. R. Ward, ed., **The American Illustrated Book in the 19th-C.** Univ. Pr. of Va. (Box 3608 University Station, Charlottesville VA 22903), 1987? Illus. $30. Incl. architectural pattern books and an overview of the technology of photomechanical book illus.

STRUCTURE

Building Canada: A History of Public Works. Univ. of Toronto Pr. (Toronto, Ont.), scheduled for publication Sept. 1988. Illus. Incl. chapters (many by SIA members) on waterways by Robert Passfield, water supply by Letty Anderson, irrigation and flood control by Andrew Den Otter, Douglas A. Baldwin on sewers and wastewater treatment, Chris Andreae on railways, Phyllis Rose on bridges and solid waste (separate chapters, apparently), etc. Project sponsored by the Canadian Public Works Assn. and managed by the Public Works Historical Society. No further info at this time.

Ann L. Buttenwieser, **Manhattan Water-Bound: Planning and Developing Manhattan's Waterfront from the 17th-C to the Present**. N.Y. Univ. Pr., 1987. 265p, illus., maps, tables, notes, bibliog., index. $35. Consists principally of 5 business-history-style case studies, incl. 1871 plan of Dept. of Docks, construction of the Chelsea-Gansevoort piers, and the West Side Elevated highway. Rev. by Carl Condit in *Technology & Culture*, July 1988, p700-702, discusses limitations of this approach.

Martin Cherniak, **The Hawk's Nest Incident: America's Worst Industrial Disaster**. Yale Univ. Pr. (New Haven CT), 1986. 204p. $24. Silicosis deaths and disease attributed to malfeasance of Union Carbide and its contractor during construction of 3-mi.-long tunnel for hydroelectric project in W.V., 1930-1931. Rev.: *Labor History* 29, Spring 1988, p266-267, *J. of Economic History*, June 1988, p499-500, *Business History Rev.*, Spring 1988, p165-167.

Gary A. Donaldson, **"Bringing Water to the Crescent City: Benjamin Latrobe and the New Orleans Waterworks System."** In *Louisiana History* 28, Fall 1987, p381-396.

Lynn Francis, **"The Empire State Building: The Construction and Aging of a Metaphor."** In *J. of American Culture* 10, Summer 1987, p83-90.

Anne E. Grimmer, **Keeping It Clean—Removing Dirt, Paint, Stains, and Graffiti from Historic Exterior Masonry**. Natl. Park Service Preservation Assistance Div., Technical Preservation Services Branch, 1988. Illus. $2.50 (Avail.: U.S. Govt. Printing Office, Wash. DC 20402-9325).

Donald A. Hutslar, **The Architecture of Migration: Log Construction in the Ohio Country, 1750-1850**. Ohio Univ. Pr./Swallow Pr. (Athens, Ohio), 1986. 565p, illus., notes, app., bibliog., indexes. $50. Rev.: *Technology & Culture*, Apr. 1988, p302-304.

Donald C. Jackson [SIA], **Great American Bridges and Dams**. National Trust for Historic Preservation (1600 H St., NW, Wash. DC 20006), 1988. 360p, 555 illus., bibliog., app., index. $20 ppd.

J. G. James, **Overseas Railways and the Spread of Iron Bridges, c1850-1870**. Part 2 of **The Origins and World-wide Spread of Warren-Truss Bridges in the Mid-19th-C**. Elton Engineering Books (27 Mayfield Ave., London W4 1PN), 1987. 100p, illus. $15 ppd. J's usual thorough, incisive examination of bridge technology; continuing his prior work on the Warren-type truss and its many derivatives—all world, arranged by nation/region. A tour de force if ever there was one. *R.M.V.*

Roger G. Kennedy, **Architecture, Men, Women and Money in America 1600-1860**. Random House (NY), 1985. 542p, illus., notes, bibliog., index. $35. Rev.: *Technology & Culture*, July 1988, p695-697. Social history; "important and valuable," but "not enough about building technology."

Max R. McCarthy, **The Last Chance Canal Co**. Brigham Young Univ. (Provo, Utah), 1987. 131p, notes, bibliog. $7. Irrigation and electric power in Bear River Basin, Idaho/Wyoming/Utah, 1899-1980s. Rev.: *Oregon Historical Quarterly*, Spring 1988, p96-97, and *Agricultural History*, Spring 1988, p340-341.

William MacDonald, **The Architecture of the Roman Empire. Vol. 2: An Urban Appraisal**. Yale Univ. Pr. (New Haven, CT), 1986. 326p, illus., notes, app., bibliog., index. $40/25 pap. Rev.: *Technology & Culture*, July 1988, p675-677.

MATERIALS

Louise B. Heite & Edward F. Heite [SIA], **Archaeological and Historical Survey of Lebanon and Forest Landing, Road 356a North Murderkill Hundred, Kent County, Del.** Del. Dept. of Transportation Archaeology Series, No. 70.1988. Site includes 18th-C bloomery ironworks and can-making shop dating from 1870s. (Forthcoming: for further info write Heite Consulting, PO Box 53, Camden DE 19934-0053).

Ronald L. Lewis, **Black Coal Miners in America: Race, Class and Community Conflict, 1780-1890**. Univ. Pr. of Ken. (Lexington, KY), 1987. 254p., index, $25. Rev.: *The Western Pa. Historical Magazine*, Apr. 1988, p178-181, and *J. of Economic History*, June 1988, p.496-498.

Eric Margolis, **"Mining Photographs: Unearthing the Meanings of Historic Photographs."** In *Radical History Rev.*, Jan. 1988, p32-48.

Thomas J. Misa, **"Science, Technology, and Industrial Structure: Steelmaking in America, 1870-1925."** Ph.D. thesis, Univ. of Pa., 1987.

Irmgard Steinisch, **Arbeitszeitverkürzung und sozialer Wandel: Der Kampf um die Achtstundenschict in der deutschen und amerikanischen Eisen- und Stahlindustrie, 1880-1929**. Historischen Kommission (Berlin), 1986. 655p. DM138. Efforts to change from 12- to 8-hour work days in the German and U.S. iron and steel industries. A rather heavy academic German-language book, orig. a dissertation. Rev.: *J. of American History*, Sept. 1988, p628-629.

Sharon Trusilo, **"The Ironworkers' Case for Amalgamation, 1867-1876."** In *Western Pa. Historical Mag.* 71, Jan. 1988, p47-68. Ironworkers' unions from the United Sons of Vulcan and the Associated Brotherhood of Iron and Steel Heaters, Rollers, and Roughers to the formation of the National Amalgamated Association of Iron and Steel Workers of the United States.

Anthony F. C. Wallace, **St. Clair: A 19th-C Coal Town's Experience with a Disaster-Prone Industry**. Knopf (NY), 1987. 536p. $30. Pa. anthracite coal town, c1830-1870, by the author of *Rockdale*. Rev.: *J. of American History*, Sept. 1988, p608-609, and *J. of Economic History*, June 1988, p498-499.

Graham West, **Innovation and the Rise of the Tunnelling Industry**. Cambridge Univ. Pr. (NY), 1988? 355p, illus. $80. A detailed examination of the technology of both hard rock and soft ground tunnelling from Brunel's Thames Tunnel of 1825 to the English Channel tunnel ("Chunnel?") proposals of today; incl. emergence of innovative tunnelling industry in Japan.

Tim Wright, **Coal Mining in China's Economy and Society, 1895-1937**. Cambridge Univ. Pr. (NY), 1984. 262p, tables, notes, app., bibliog., index. $60. Rev.: *Technology & Culture*, July 1988, p684-685.

W. Ross Yates, **Joseph Wharton: Quaker Industrial Pioneer**. Lehigh Univ. Pr. (Bethlehem, Pa.), 1987. 413p. $50. Old-style autocratic businessman; lead, zinc, nickel, iron and steel in Bethlehem, Pa., vicinity, ca.1840s-1908. Rev.: *J. of Economic History*, June 1988, p491-492.

IA OF THE FUTURE

[Computers:] "Intel: the Next Revolution." In *Business Week*, Sept. 26, 1988, p74-80. Implications of Intel's new 80486 microprocessor chip; advances in power ("Last year's mainframe is this year's PC"); problems with vibration and air cleanliness during mfg. of chips with 1-micron-wide integrated circuit lines in Class 1 clean rooms (less than one 0.2-micron particle per cubic foot allowed, requiring total enclosure suits for workers).

[Spaced-out IA; prospects for manufacturing in vibration-free, microgravity, near-total-vacuum conditions in earth orbit:]

Sylvia D. Fries, **"2001 to 1994: Political Environment and the Design of NASA's Space Station System."** In *Technology & Culture* 29, July 1988, p568-593.

Francesca Lunzer, **"Space Business on the Rise."** In *High Technology Business*, July 1988, p43-46. Push for space factories producing semiconductor and protein crystals, metal alloys, thin films for coatings, and pharmaceuticals; incl. list of 10 "space service providers."

"Righting the Stuff," special report in *Discover* 9, July 1988, p46-66; incl. design, mfg. and quality control for the Space Shuttle; private enterprise boosters; Space Industries unmanned laboratory; conclusion: there are firms interested in mfg. in space, but "no one is ready to put anything like a factory in orbit." Color illus.

[Structure:] Doug Stewart, **"Sky Scraping."** In *Discover* 9, Sept. 1988, p45-56. Problems and possibilities of contructing super-tall buildings such as proposed 1/2-mi.-high 207-story Erewhon Building, incl. mass damping (tuning out sway), 18-story-high exterior X-braces, utility systems. Color illus.

NOTES & QUERIES

DAM MISTAKE. If you're conducting a survey of U.S. dams, don't start with the *Encyclopedia Britannica*, which reports a 194-ft.-high, 8,850-ft.-long dam on the Rappahannock River, just upstream from Fredericksburg. The current edition, in its entry on the Rappahannock, describes how the dam impounds the river to control floods and provide hydroelectric power. The Salem Church Dam has existed since 1944—but only on paper as a U.S. Army Corps of Engineers proposal, a not-so-subtle distinction that escaped the editors, who anticipate a correction no earlier than 1990. The fantasy dam was "discovered" by the Friends of the Rappahannock. You'll be much better off consulting Donald C. Jackson's [SIA] authoritative *Great American Bridges & Dams* (Nat'l Trust, 1988), and so would the *Britannica's* editors.

N.W.

CALLS FOR PAPERS. Ferris State Univ. welcomes proposals for papers and/or sessions for its **2nd annual conference on Humanities, Science & Technology** to be held April 7-8, 1989. This cross-disciplinary conference includes the history of science and technology, technology and modern warfare, and the humanities in a scientific and technological world. Send proposals and inquiries to Craig Newburger & George Nagel, Coordinating Program Committee, Dept. of Humanities, Ferris State Univ., Big Rapids MI 49307 (616-592-2771 or 2758).

Paper proposals are being solicited for **"Water & the City,"** an international conference June 7-10 in Chicago on the past, present, and future of urban water management. Participants will include planners, water resource professionals, engineers, environmentalists, public policy analysts, urban affairs specialists, economists, developers, historians, and community representatives. Topics include financing, maintenance and growth of water and sewerage systems, inter-governmental relations, history, planning, future water needs, professional development, and public education. The conference is sponsored by the Metropolitan Sanitary District of Greater Chicago in honor of its centennial year. For paper proposal info. and other inquiries contact the conference manager, Public Works Historical Society, 1313 E. 60th St., Chicago IL 60637 (312-667-2200).

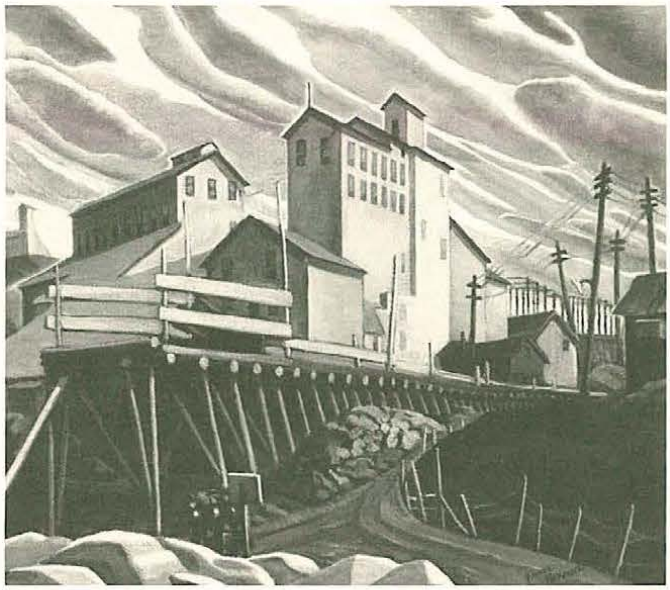
PRESERVATION INSTITUTE'S 1989 WORKSHOPS are scheduled for Jan. through April at locations in Vermont and New Hampshire, and will include topics of interest to SIA members:

—Jan. 14 & 15: "Painted Finishes for the Interior: Marbling & Graining."
—Jan. 21 & 28: "American Building Design & Technology, 1600-1925."
—Feb. 3: "The Construction & Repair of Historic Chimneys."
—Feb. 4: "Retrofitting Chimneys for Wood Stove Use."
—Feb. 11: "Repairing Exterior Wooden Elements."
—Feb. 27: "Structural Evaluation & Repair."
—Mar. 4: "Slate Roof Repair."
—Mar. 11 & 12: "Old House Rehabilitation."
—Mar. 18: "An Intro. to Architectural Woodworking."
—Apr. 22: "Repointing Historic Brick Masonry."

Sponsored by the Preservation Institute for the Building Crafts, each program covers the history, theory, practical application, and latest technology involving the particular skill. Regis. info.: Charlotte Barrett, Dir., PIBC, POB 1777, Windsor VT 05089 (802-674-6752).

CONTRIBUTORS TO THIS ISSUE

Jon Bergenthal, St. Louis; Emory L. Kemp, West Virginia Univ.; David McConnell & Jean-Claude Parent, Canadian Parks Service, Ottawa; Diane Newell, Univ. of British Columbia; Nicholas & Virginia Westbrook, St. Paul, Minn.; David L. Wright, Bridgeville, Pa. With thanks.



Silver Mine, Cobalt, 1930, by Yvonne McKague Housser. Oil on canvas, London (Ont.) Regional Art Gallery. From the exhibition "Industrial Images/Images Industrielles." *Courtesy Art Gallery of Hamilton.*

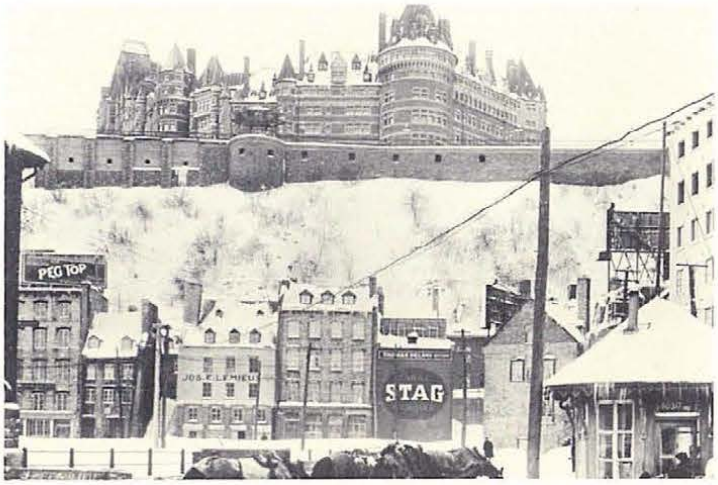
"INDUSTRIAL IMAGES/IMAGES INDUSTRIELLES," an exhibition mounted by the Art Gallery of Hamilton, Ont., explores industrial imagery in Canada. It now is winding down its yearlong tour with a stint through Oct. 23 at Mount St. Vincent Univ. Art Gallery in Halifax, N.S. The show looks at how Canadian artists responded to industry from 1900-50, and includes some 149 images. The 150-page exhibition catalog, *Industrial Images*, organized geographically (the Maritimes, Quebec, Ontario, the Prairies, and B.C.) and published in French and English, is available for $15 ppd. from Terry Tobin, Art Gallery of Hamilton, 123 King St. W., Hamilton, Canada L8P 4S8.

"ALL ABOARD! THE RAILROAD IN NEW ENGLAND," an exhibit running through Nov. 6 at the Essex Institute, celebrates the 150th anniversary of train service to Salem, Mass. It examines the technological, geological, and historical growth of railroads in New England. Covering the development of rails and locomotives, it places railroads in the context of other public improvements, including bridges and turnpikes. A section of rail laid in 1835 for the Boston & Lowell is featured along with models and other railroad artifacts from the Institute's and other local collections. Included are photos of New England railroad stations and engineers with locomotives. Info.: Essex Inst., 132 Essex St., Salem MA (617-744-3390).

ALUMINUM TECHNOLOGY QUERY. The U.S. Army Rock Island Arsenal Museum is seeking blueprints, specifications, or other information relating to the design and manufacturing of the Model 1910 seamless aluminum canteen and cup. The manufacturing technique was experimented with and adopted at the Arsenal about 1910-11. Correspondence with specialists in aluminum manufacture and technology is particularly desired. Contact Kris Gayman Leinicke (SMCRI-PCA-M), Curator, Rock Island Arsenal Museum, Rock Island IL 61299.

IEEE FELLOWSHIP. The Institute of Electrical & Electronics Engineers [SIA institutional member] invites applications for its 1989-90 Fellowship in Electric History, which is for either one year of full-time graduate work in the history of electrical engineering and technology at a college or university of recognized standing or for the support of up to one year of post-doctoral work in the same field for a recent graduate. For a pre-doctoral recipient the stipend is $9,000, with an additional amount up to $2,000 to pay academic tuition and fees. The stipend is $11,000 for a post-doctoral recipient. The Fellowship is made possible by a grant from the IEEE Life Member Fund and is awarded by the IEEE History Committee. Application deadline is Feb. 1, 1989. Info.: IEEE Center for the History of Electrical Engineering, 345 E. 47th St., NY NY 10017.

Québec in 1989

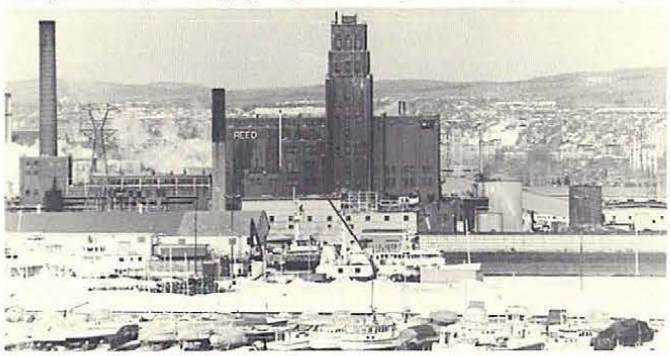


Left: The 1892-93 Chateau Frontenac, viewed from lower town, Quebec, c1910. Its silhouette appears in the SIA conference logo. *Right:* Quebec City, c1890. In the foreground is workers' housing. In the distance, along the Saint-Charles River, are lumber and shipbuilding yards. *Photos courtesy Historic Research Branch, Canadian Parks Service, Environment Canada.*

For the first time ever, an SIA Annual Conference will be hosted by a Canadian city. There have been Fall Tours in the Rideau Canal corridor (1973), Toronto-Hamilton (1975), and the Niagara Peninsula (1984), but from June 1 to 4, 1989, we will meet in Quebec City, where our 17th Annual Conference will be sponsored by the *Commission des biens culturels* of the Government of Québec and with the participation of the *Ministère des Affaires culturelles* of the Government of Québec and the Canadian Parks Service of Environment Canada. The conference schedule will follow the time-tested pattern: registration on Thursday, guided tours of sites in Québec City on Friday, paper sessions on Saturday, and a choice of two tours on Sunday. The conference theme is "Industry and the Town" (see Call for Papers in this *SIAN*). The convening of this conference in the historic city of Quebec reflects the growing interest in IA in both Québec and Canada.

Interest in Canadian IA has surged in recent years, with both professional and amateur activity at the local, provincial, and national levels. This is timely, for changes in the Canadian economy have left many structures in jeopardy. In fact, in Canada as elsewhere, many already have been destroyed, either by design or by accident, and others have been adapted to different modern uses. Whatever their fate, important elements of the Canadian industrial heritage is disappearing.

Recognizing the importance of our industrial heritage, the Historic Sites and Monuments Board of Canada and the Canadian Parks Service of Environment Canada have identified specific industries for study. Recently a study group was set up to identify and study our manufacturing heritage in our cities and towns from Confederation to the beginning of World War II. Using decennial census data for each decade from 1880 to 1940, a system was devised to rank manufacturing cities in importance for the whole period.



Reed Paper Co., 1927, Quebec City. *Photo courtesy Commission des biens culturels.*

From the resulting list of 511 cities and towns the 60 most important were chosen for surveying to discover what remained of our manufacturing heritage therein. Not surprisingly, 75% of these cities were in central Canada, with the exception of Sault Ste. Marie, in the corridor stretching from Quebec to Windsor. SIA conference attendees will see the industrial heritage of three from this group: Quebec, Trois-Rivières and Shawinigan, along with two others, Chicoutimi and Val-Jalbert.

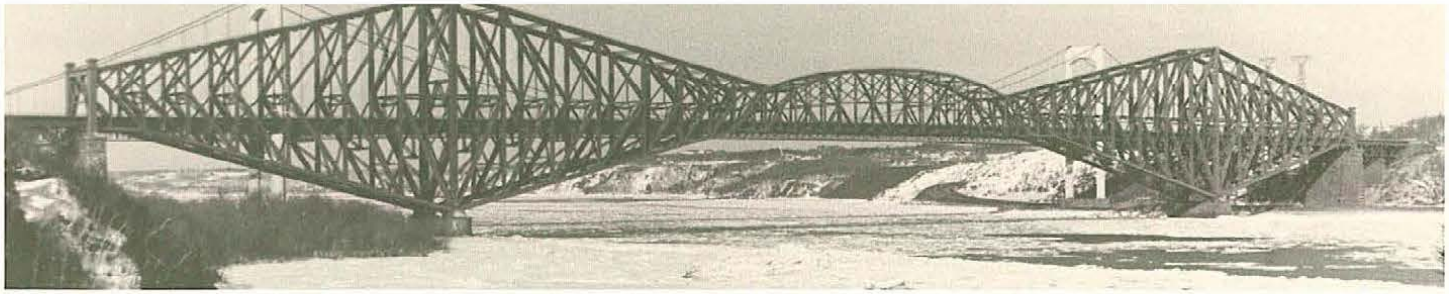
The popular romantic tourist image of Québec City conceals its rich industrial heritage. In the 30 years before World War I, Québec City was home to many boot and shoe factories, tanneries, paper-box factories, breweries, printing and publishing firms, and other industrial activities. Today more than half of the 300 manufacturing buildings erected before World War II survive.

On Friday, conference participants will see Québec City industrial sites. Among them will be Maranda & Labrecque, a company specializing in tanning, dressing and dyeing furs. Established in the first decade of the 20th C, the factory moved from its original location to an industrial area created after World War II. The firm is still operating and working furs the way it did 75 years ago.

A major stop will be the Québec Bridge, designated in 1987 as one of five International Civil Engineering Landmarks by the American Society of Civil Engineers. (The bridge is in good company; the other four are the Eiffel Tower, the Panama Canal, the Statue of Liberty, and the Zuiderzee Dam in the Netherlands.) Work on this monumental steel cantilever bridge began in 1907, but it collapsed during construction, killing about 80 men. It then was rebuilt according to a new design and, after two attempts, completed in 1917. Since then, it has been used as a road and railway link between the north and south shores of the St. Lawrence River.

Another important Quebec City visit will be the Reed Paper Co., a major 1927 pulp and paper mill specializing in newsprint, which is exported to New York City and European newspapers.

On Sunday participants will choose between two tours. One will bring them to Chicoutimi, a little town 120 miles northeast of Québec City. Located at the confluence of the Saguenay and Chicoutimi rivers, it began as the site of sawmills operated from the 1840s to the early 20th



Above: The celebrated Pont de Quebec, built between 1900 and 1917. *Photo courtesy Commission des biens culturels. Below:* The 1898 pulp mill at Chircoutimi. *Photo courtesy Corporation de las vieille pulperie.*

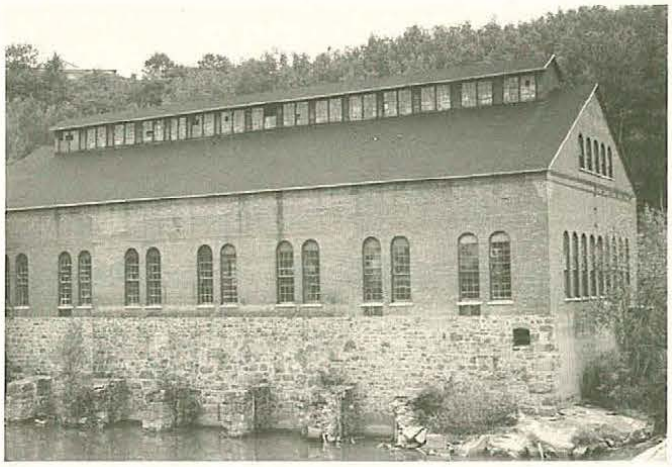
C. In 1898 a pulp mill was opened and expanded until the 1929 crash. Today the *Corporation de la vieille pulperie* has restored the remains of the wood-pulp factories.

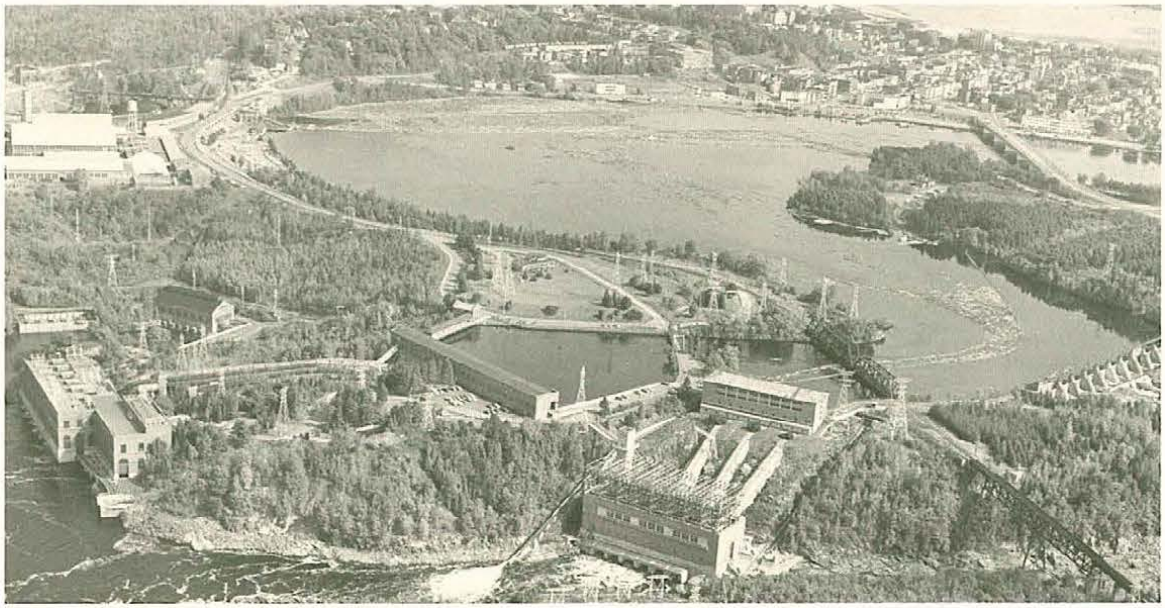
En route, the tour will visit Val-Jalbert, an industrial ghost town operated as a tourist attraction by the provincial government. Built in 1901 around a pulp and paper mill, this once-thriving village of 1,000 people was abandoned in 1930 after the mill closed. A few miles to the north of Chicoutimi at Jonquière, the tour will drive through the large works of the Aluminum Co. of Canada (Alcan). Approaching the towns, the buses will cross the Jonquière aluminum bridge, an engineering landmark. On the way to Chicoutimi and Val-Jalbert, the tour will travel through *Parc national des Laurentides* where the mountain landscape is spectacular.

The other tour will head west to Trois-Rivières to visit the site of *les Forges de Saint-Maurice*, the first ironworks (1830s) in what was to become Canada. These works remained in operation until the 1880s. Now the site is being developed and interpreted by the Canadian Parks Service of Environment Canada.

The tour will continue north to Shawinigan, where the Shawinigan Water & Power Co. in the early 20th C began to produce hydroelectric power from the falls, which was destined to attract pulp and paper, aluminum, and chemical industries. The hydro installations, and works of DuPont, CIL, B.F. Goodrich, and Canada Carbide, among others, still can be seen in a strikingly beautiful setting.

The combination of Canadian IA, a historical setting, beautiful scenery, Québecois hospitality, and *joie de vivre* will make the 18th Annual Conference especially memorable. *D.McC. & J.-C. P.*





Left: Aerial view of the industrial complex at Shawinigan, including three hydro-electric plants, an aluminum plant, and a paper mill. *Photo courtesy Hydro-Quebec.*

Top: Hydro-electric plant built in 1901 by the Northern Aluminum Co. (predecessor of Alcan) to serve their aluminum plant nearby. No longer operating. It is visible near the left of the aerial view. *Environment Canada, Parks photo.*

Above: 1911 hydro-electric plant built by the Shawinigan Water & Power Co. Still operating. Visible at the left edge of aerial view. *Environment Canada, Parks photo.*

SIA AFFAIRS

TICCIH NEWSLETTERS AVAILABLE. Are you curious about what's happening in IA around the world? The SIA is an organizational member of The International Committee for the Conservation of the Industrial Heritage (TICCIH). That affiliation entitles members to receive free the *TICCIH Bulletin*, published three times a year, and the annual *World Industrial History. WIH* is published jointly by TICCIH and the British Assn. for IA. Barrie Trinder, well known to many in the SIA, edits the *Bulletin*. To receive copies contact the TICCIH U.S. Representative: Stephen Victor, Exec. Dir., American Silver Museum, 39 W. Main St., Meriden CT 06450 (203-238-7585). Victor [SIA] also will forward news of the SIA and chapters to Trinder and is attending the Oct. meeting of TICCIH national reps. in Barcelona.

JOB OPENING. The W.Va. Dept. of Culture & History has a position available for an industrial archeologist. Candidates must meet the professional qualifications listed in 36 CFR 61: a graduate degree in archeology or related field plus one year of full-time professional experience, four months of supervised experience, and one year of supervisory experience. The job will be located in an area of the coal fields of southern W.Va. A competitive salary is being offered. Info.: William G. Farrar, Deputy SHPO, W.Va. Dept of Culture & History, Capitol Complex, Charleston WV 25305 (304-348-0240).

CORRECTIONS to recent articles in *SIAN*. From Spring '88: The Fairmount Waterworks [HAER] in Philadelphia is a National Historic *Mechanical* Engineering Landmark. Regarding the Northern Pacific Rwy.'s Livingston, Mont., shops: late 1970s BN employment was *1,150* workers, and work force decline began about *1981*. From Winter '87: The photo of the 1805 chapel at Weymouth, N.J. (p. 3), should be credited to *Gerry Weinstein* [SIA] of Photo Recording Associates, N.Y.C.

NEWS OF MEMBERS

Words of encouragement and messages of get-well-soon go to Past President **Thorwald Torgersen** who has suffered a serious stroke. Reports are that Thorwald is doing very well and is recovering rapidly.

William E. Shank received official congratulations from the Pa. Professional Engineers in Private Practice (PA/PEPP), a section of the Pa. Society of Professional Engineers, for ten years of continuous editing and publishing of *PEPP Happenings*. Shank retired from the editorship with the Dec. 1987 issue.

Carol Poh Miller has received a Public Education and Awareness Award from the Ohio Historic Preservation Office of the Ohio Historical Society "for articles and publications that have increased public awareness of Cleveland's historic and architectural resources.

SIA TRIBUTE TO HERBERT DARBEE AT ANNUAL CONFERENCE

About ten years ago the Southern New England Chapter of the SIA created an award for outstanding service to the field of IA. We've only presented one in the past, and I'm honored to have the assignment of announcing the second, to Herb Darbee. Many New Englanders know Herb simply as the finest chapter secretary the world has ever known. Herb's notes on proceedings were a high point of any meeting—literate, graceful, and voluminous high point.

But Herb had been serving the cause of IA for many years before the chapter was formed, many years before the term "industrial archeology" was coined.

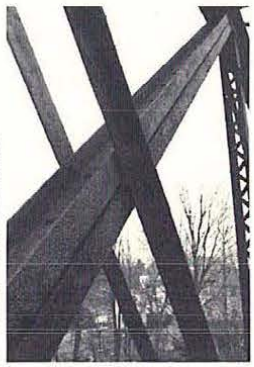
In fact, one of the words which turned up most often as I talked to people about Herb Darbee was "pioneer." In the days when Old Sturbridge Village was developing its interpretations, Herb was there to see that village crafts, early operations combining skill and power for public service, were primary parts of the scene that Sturbridge created. The blacksmith shop, potter shop, print shop, and others bear his stamp. OSV would be a different place, and a lesser one, without his contribution.

In 1965 Herb Darbee was appointed associated director and first employee of the Connecticut Historical Commission and proceeded to direct the creation of its Register of Historic Places. Over the next few years he and his staff inventoried over 3,000 buildings, often while camping in trailers in state parks. When Matt Roth conducted a HAER survey of Connecticut he found no omissions to Herb's inventory of productive industry. In his ten years there he created the historic preservation movement's role in state planning. After retirement, Herb played a prominent role in the planning and execution of the SIA's Annual Conference at Hartford.

It is a pleasure to present the SNEC outstanding service award to IA pioneer, Herbert C. Darbee, truly a man for all seasons.

LAURENCE F. GROSS

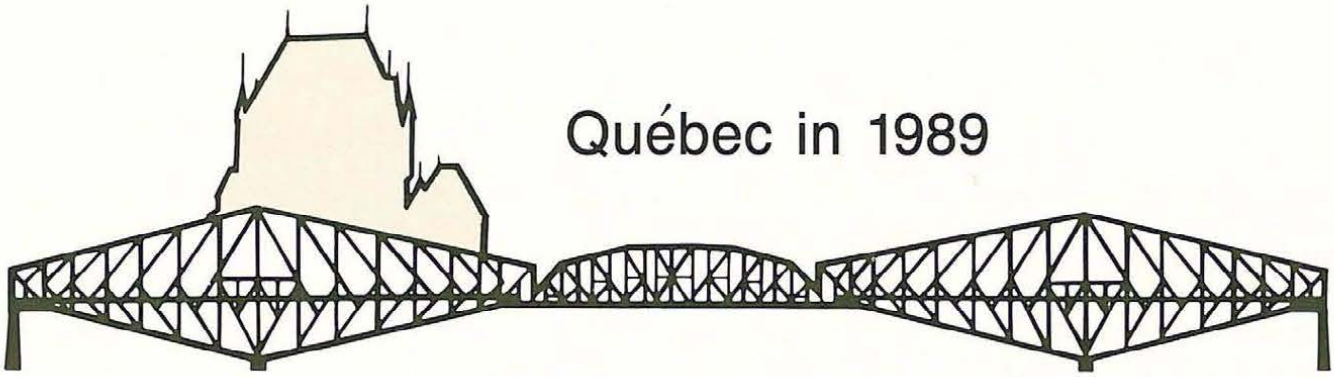
SITES & STRUCTURES



BRIDGE ODDITY. Located in the Village of Millers Falls, Town of Montague, Mass., where it carries Bridge St. over the Boston & Maine and Central Vermont railroads, is a metal truss bridge with an unusual configuration in its truss webs. In these webs, the designer has combined crossed diagonals, riveted rigidly together at their intersection with stiff web verticals in a pattern which appears to mix elements of Pratt, Howe, and lattice-truss design. This is the only known example of this peculiar truss configuration among the 201 metal bridges under Mass. Dept. of Public Works purvue. Bridge M-28-18 was built in 1897 by the Edge Moor [Del.] Bridge Works for the Fitchburg Railroad. It is a 95′ single span, 21′6″ wide, with an 18′ truss height. MDPW has the 1897 shop drawings, including a single paragraph of specs., which describe the bridge as "a through, riveted, latticed truss with wooden stringers and made from soft steel." If you have info. about a bridge like this, contact Stephen J. Roper [SIA], Historic Bridge Specialist, MDPW, RM. 4260, 10 Park Plaza, Boston MA 02116 (O: 617-973-7492, H: 617-745-9327).

N.J. LINSEED OIL MILLS. A detailed documentary and site survey of all linseed oil mills that have operated in the state of New Jersey, from colonial times to the present, is being conducted by Carter Litchfield and Richard Porter [both SIA]. A book on the history of N.J. linseed oil mills will be the final product. Anyone with information on these mills is urged to pass it on to Litchfield (Drawer H, Kemblesville PA 19347, 215-255-4335) or Porter (POB 303, Ringoes NJ 08551, 201-788-5525).

HISTORIC ELEVATOR AVAIL. An Otis hand-operated freight elevator, originally installed about 1868 in Horton's Feed Store, Peekskill, N.Y., is available free. The 1,000-lb.-cap., 5-ft.-sq. car is complete with wooden rails, safety catch, endless-hand-rope pulley, and winding drums providing for a 20-ft. lift. It has been in storage since removal from Horton's in 1968. Contact Tom Rick [SIA], Manitou Machine Works Inc., 37 Main St., Cold Spring NY 10516 (914-265-3153).



Québec in 1989

QUEBEC IA IN LITERATURE

The 1989 conference logo is Quebec's great cantilever bridge of the St. Lawrence River. The bridge collapsed during construction in 1907, killing more than 80 workers, including its engineer.

American novelist Willa Cather turned this tragic story into vivid raw material for her first published novel, *Alexander's Bridge*, in 1912. Here, too, the engineer dies during the collapse of the bridge. Alexander (the engineer) is torn by love for two women and a yearning for life lived at a high pitch. Concentrating on his mistress, Alexander neglects a warning of impending disaster on the bridge. Cather's book recently has been reprinted in an expensive paperback by the University of Nebraska Press's Bison Books. *Read it before the conference.*

N.&V.W.

SIA CALL FOR PAPERS

The Conference Committee invites papers proposals for the SIA 18th Annual Conference, June 1-4, 1989, Quebec City, Canada. The overall conference theme is "Industry and the Town," focusing on the richness and multiplicity of the industry-town relationship.

Special Theme 1—Types of Industries

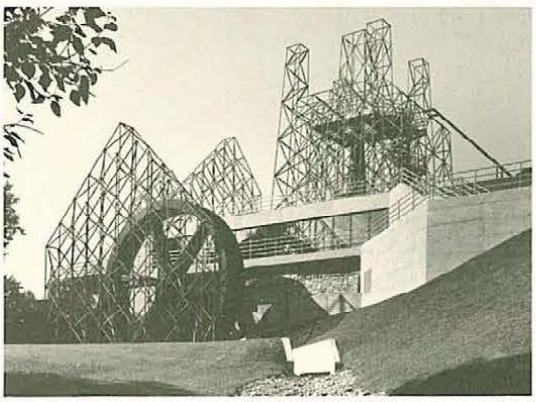
—The industrial development of a number of regions in North America has been characterized by the tapping of abundant natural resources. These lands, which are vast and relatively sparsely populated, but richly endowed with raw materials, sources of energy and communications axes, have attracted a specific type of industry: logging, pulp & paper, mining, hydroelectricity, fishing, furs, etc.

—Industries which process or produce material goods, often referred to as the secondary sector, constitute another form of the economic development of a given territory. The proximity of major markets, access to abundant labor and raw materials, and the utilization of safe, productive technology are important determining factors.

Speakers may deal with the historical, technological, or urbanistic aspects of each type of industry, as they wish.

Special Theme 2—The Industrial Landscape

This second theme covers all the phenomena set in motion by the process of industrialization as it affects the landscape (e.g., roads, bridges, canals, aqueducts, lighthouses, wharves, dry docks, stations, railroads). Industrial landscapes per se (e.g., natural landscapes which have been transformed by industry, such as slag heaps located near asbestos mines, and opencast mineral deposits) also are included.



The ironworks site at Saint-Maurice, one of the tour stops scheduled for the SIA's 1989 Québec conference. *Canadian Parks Service photo.*

All paper proposals must include a summary (two pages maximum) describing the problem issues, the approach used, and, where applicable, the methodology and thesis developed. Proposals will be examined by the conference committee, including SIA president Emory Kemp. Those papers selected will be published in the language of the author, with a summary in the alternate language, English or French. Complete papers must be submitted to the conference committee by April 1, 1989, so the texts can be distributed to conference participants.

Submit to Conference committee, Commission des biens culturels, 12 rue Sainte-Anne, Quebec (Quebec), Canada G1R 3X2.

Lead mining is interpreted in Missouri

The Missouri Mines State Historic site, formerly Federal Mill No. 3 complex, opened May 8. Located in Flat River, it was donated to the state in 1976 by the St. Joe Mineral Corp. The lead ore concentrating works, built in 1906-07 by the Federal Lead Co., includes a powerhouse, ore shaft and primary crusher, secondary crusher building, ball and rod mill, flotation plant, Dorr thickeners, and a filter and dryer building.

Significant underground lead mining began here in the 1860s with the St. Joe Lead Co., among others. By the early 20th C, St. Joe was the largest, due to its innovations in underground engineering technology, mining equipment, and smelting technology. It eventually controlled all the area's lead mines, but in 1972 the Flat River mines closed thanks to competing richer ore beds in Missouri's "New Lead Belt." Left were nearly 1,000 miles of multi-level tunnels and some 250 miles of underground railroad tracks connecting mines and mills.

The powerhouse was converted into a museum. Current exhibits include a gallery of restored underground mining equipment, including the St. Joe Shovel (an electric shovel for loading ore cars) and "electric mules" for hauling ore cars. A partially renovated compressor room, geology and mineral displays, and an orientation room showing programs on the site and lead-mining technology, complete the present site development. Future plans include the repair of the crusher and mill interiors to allow inside tours of the processing buildings. Info.: Mo. Mines State Historic Site, POB 492, Flat River MO 63601. *J.B.*

CALENDAR

Have a meeting, conference, or event of interest to SIA members? Submit announcements to the Editor, SIAN.

NOV. 5: ANNUAL FALL MEETING, SOUTHERN NEW ENGLAND CHAPTER SIA.

Nov. 10-13: Annual conf., Pioneer America Society, Mobile, Ala. Deadline for paper proposals is July 1. Info.: Philippe Oszuscik, PAS Program Director, Art Dept., Univ. of South Alabama, Mobile AL 36688.

Dec. 7-9: The Interiors Conf. for Historic Buildings, Wash., D.C. Includes history of interiors (mills, firehouses, tenements, etc.), reusing historic elevators and systems, and other topics. Info.: Program Director, ICHB, POB 27080, Central Station, Wash. DC 20038 (202-343-9578).

1989

Jan. 3-6: 10th Annual Wood Identification Workshop, Univ. of Mass., Amherst. Includes methodology for identifying wood in historic objects. Limited enrollment. Info.: Alice Szlosek or Trudie Goodchild, Div. of Cont. Ed., Goodell Bldg Rm. 608, Univ. of Mass, Amherst MA 01003 (413-545-2484).

Jan. 23-27: Historic Mining Workshop, Death Valley Natl. Monument, sponsored by Natl. Park Service. Will focus on extant historic mining sites (with above-ground remains) in North America, covering preservation, protection, documentation, and interpretation. Info.: Eric DeLony [SIA], HAER, NPS, POB 37127, Wash. DC 20013 (202-343-9603) or Robert Spude, Chief, Natl. Preservation Programs, NPS, POB 25287, Denver CO 80225 (303-969-2875).

Jan. 28: Symposium, "Preservation & the Quality of Life," at Columbia Univ., N.Y.C. Sponsored by Preservation Alumni, Inc. Presentations in four areas: planning, history of preservation, design, & conservation. Info.: Pres. Alumni Inc., PQL Symposium, Box 669, NY NY 10272 (or call Donna Ann Harris, Symposium Chair, 215-985-0609).

Feb. 4: 2nd Annual New England Conf. on Industrial Archeology, Old Sturbridge Village. Details to be announced.

Mar. 31-Apr. 2: 35th Annual Meeting, Business History Conf., Boston. Theme is "Manufacturing & Marketing," focusing on "new" (for their time) products. Info.: Thomas K. McCraw, Baker Library 217, Harvard Business School, Soldiers Field, Boston MA 02163.

Apr. 7-8: 2nd Annual Conf. on Humanities, Science & Technology, Ferris State Univ. Info.: Craig Newburger & George Nagel, Coordinating Program Committee, Dept. of Humanities, Ferris St. Univ., Big Rapids MI 49307 (616-592-2771 or 2758).

May 10-14: Annual Meeting, Vernacular Architecture Forum, St. Louis. Deadline for paper proposals is Nov. 30. Info.: Thomas C. Hubka, VAF Papers Chair, Dept. of Architecture, Univ. of Wis.-Mlwk., POB 413, Milwaukee WI 53201.

JUNE 1-4: SIA 18TH ANNUAL CONFERENCE, QUEBEC, CANADA. Info.: Conference committee, Commission des biens culturels, 12 rue Sainte-Anne, Québec (Québec), Canada G1R 3X2.

June 5-7: 5th Canadian Masonry Symposium, Vancouver, B.C. Topics include architectural & engineering design, and masonry restoration. Info.: D.L. Anderson, Dept. of Civil Engng., Univ. of B.C., Vancouver BC Canada V6T 1W5.

June 7-10: "Water & the City," an int'l urban water management conf., Chicago. Info. & paper proposal details: Conf. mgr., Public Works Historical Society, 1313 E. 60th St., Chicago IL 60637 (312-667-2200).*

Sept. 4-9: Annual Conf., Assn. for Preservation Technology (APT), Chicago. Presentation abstracts due Jan. 15 to APT 1989 Program Chair, c/o Small Homes Council, 1 E. St. Mary's Rd., Champaign IL 61820.

Sept. 21-22: Special conf., "Building the West: Vernacular Architecture West of the Rockies," Reno, Nev. Co-hosted by Nev. SHPO & Nev. State Council on the Arts. Paper themes may involve Mormon, mining, ranching, ethnic, commercial, Native American, railroad, or company town architecture. Abstracts due Dec. 1, 1988. Selected papers may be published in *Nev. Hist. Soc. Qtly.* Info.: Ronald M. James, Deputy SHPO, 201 S. Fall St., Carson City NV 89710 (702-885-5138).

**Find details on this event elsewhere in this issue.*

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 $25; couple, $30; institutions $30; contributing, $50; sustaining, $100; student, $20. Send check payable to SIA to Treasurer, Room 5020, National Museum of American History, Smithsonian Institution, Washington, D.C. 20560; all business correspondence should be sent to that office. Editorial correspondence should be sent to ROBERT M. FRAME III, Editor *SIA Newsletter*, P.O. Box 65158, St. Paul, Minn. 55165-0158. ISSN 0160-1067

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