

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

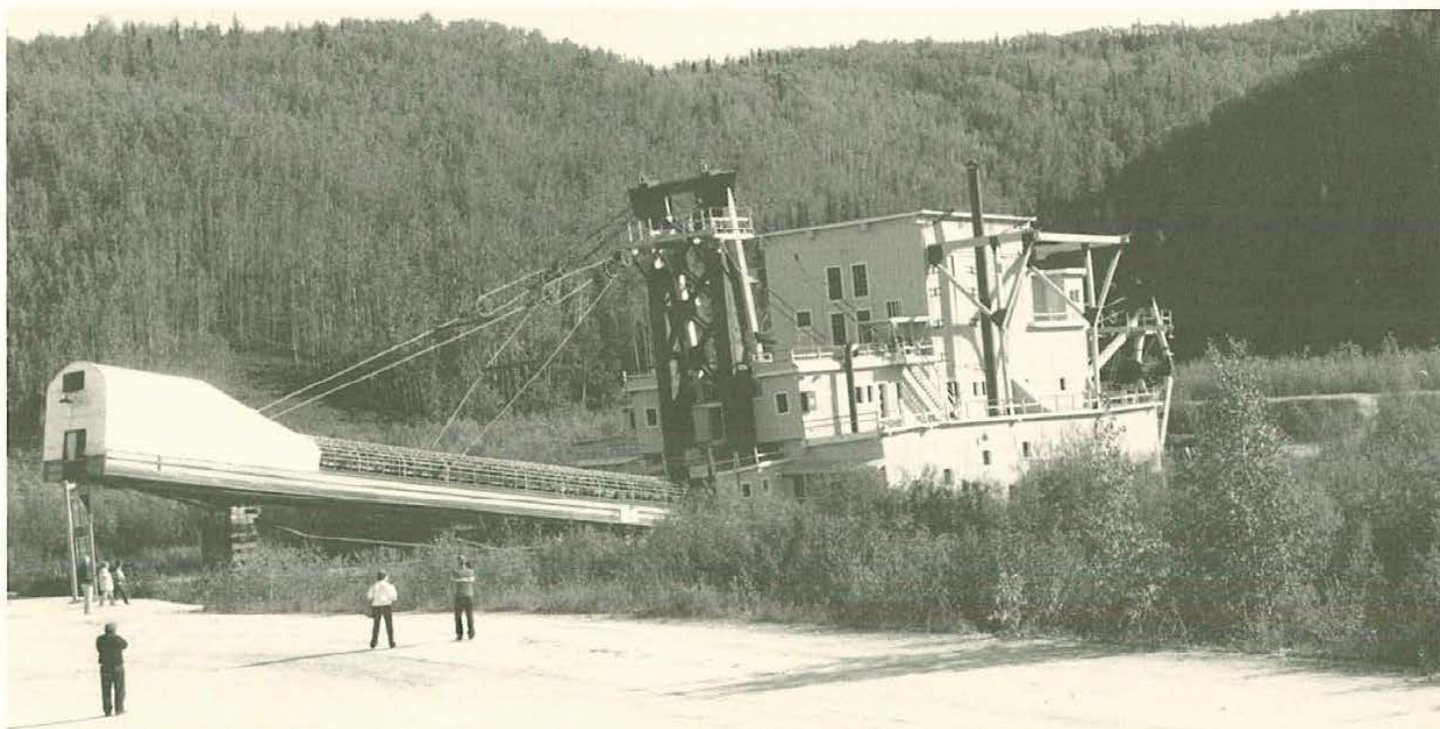
Volume 19

Fall 1990

Number 3

Alaska-Yukon Study Tour, Aug. 18-26, 1990

On the "Trail of '98" with the SIA



Above: Dwarfing nearby SIA members is Yukon Consolidated Gold Co. Dredge No. 4, the largest wooden-hulled bucket dredge ever used in North America. Built in 1912-13, the survivor of a sinking, a dismantling, and a rebuilding, it last ran in 1959 and now is preserved outside Dawson City, Y.T., by Parks Canada. This 3,000-ton behemoth had 72 buckets with a capacity of 16 cu. ft. each. It was a tour highlight. *P. Malone photo.*

Below: The ultimate "windsock"! This genuine DC-3 pivots with the wind at Whitehorse airport. *C. Hyde photo.*



On Saturday, Aug. 18, most of the 40-odd hardy SIA study-tour registrants assembled in Vancouver, B.C. and flew to Whitehorse, Yukon Territory, to join the rest of the group and begin our trek to the Yukon gold fields. The Whitehorse airport featured a unique "windsock": a genuine DC-3 mounted on a post. It moved!

Six fanatics had *literally* followed the route of the "Stamperders" and hiked the dreaded Chilkoot Trail for six days before getting to Whitehorse. Others came by way of mainland Alaska or the Inland Waterway.

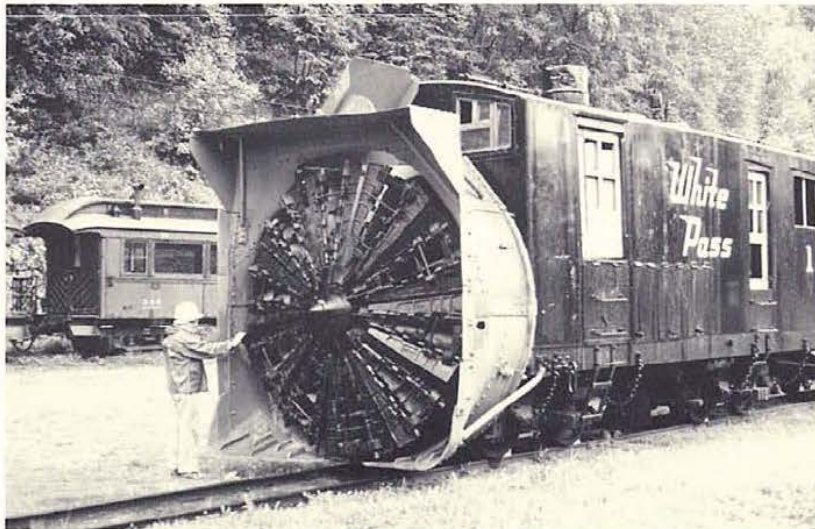
Following an afternoon walking tour and reception, we headed south to Alaska by bus on Sunday morning. We briefly toured the foundation remains of the R.C.M.P. and Canadian Customs at Log Cabin, at the northern end of the White Pass Trail, the second of the two major overland routes used in 1898. We went on to Fraser, where we transferred to a private car on the narrow-gauge White Pass & Yukon Ry. (WP&YR) and began a 41-mile excursion over the White Pass Trail to Skagway. Heavy rains and fog only slightly dampened our enthusiasm.

We spent Sunday in and around Skagway, "Gateway to the Yukon," with Carl Gurcke of the U.S. National Park Service as our able guide for this part of the tour. Extant WP&YR



Above: A narrow-gauge WP&YR locomotive (Baldwin, c1900), scrapped in the 1940s and used as rip-rap along the riverbank at Skagway, Alaska. It and another hulk have since been hauled out. *P. Malone photo.*

Right: A 77-ton WP&YR Cooke rotary snow plow (1900) at Skagway. *C. Hyde photo.*



equipment included an operative 1947 oil-burning Baldwin locomotive (No. 73), a 1900 Cooke rotary snow plow, two turn-of-the-century steam locomotives retrieved from the riverbank, and three additional locomotives (1881, 1900) preserved in an outdoor museum.

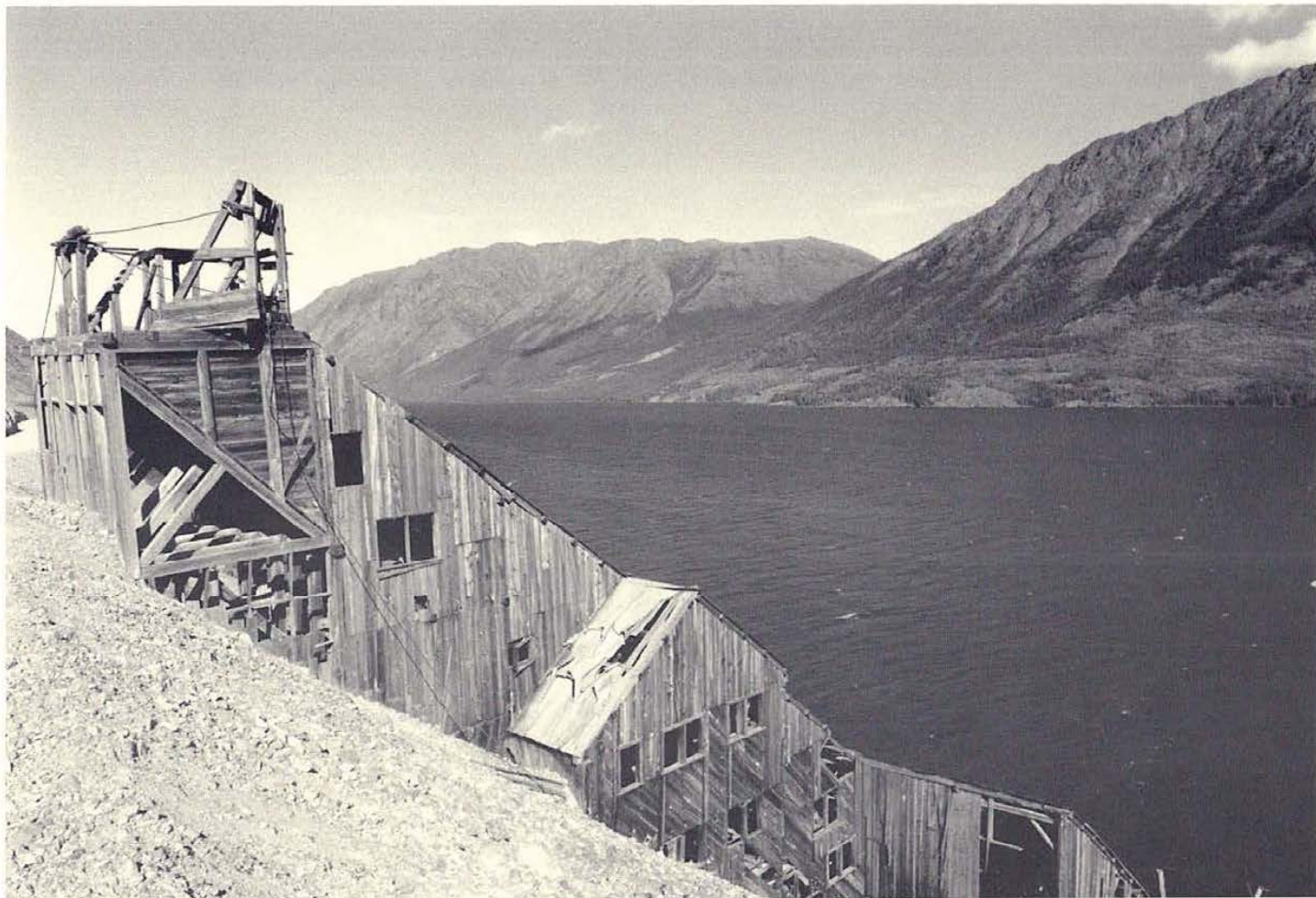
In Skagway proper we visited the Alaska Power & Telephone Co. power plant, with a pair of vintage Fairbanks-Morse diesel generators, and the WP&YR bulk storage and loading facility (1969) for lead/zinc ores. Some SIA visitors spent most of their free time at the Red Onion Saloon (1898) on Broadway, which originally housed a second-floor brothel with ten tiny cubicles or "cribs" (no longer in service).

Monday began with a morning tour of the remains of Dyea, a town that boomed briefly as the departure point for

Stampeders using the Chilkoot Trail. We visited the Slide Cemetery, *not* the final resting place for bad photography, but the place of interment for victims of the April 3, 1898, avalanche on the Chilkoot Trail that claimed some 50 victims. Following lunch, the group then proceeded north to Whitehorse by bus, roughly retracing the route of '98.

By this time, we discovered an unexpected blessing—our Atlas Tours bus driver, Murray, who provided expert historical, geological, and environmental commentary for the rest of the tour. He put his own private Yukon reference library of over 100 volumes in the back of the bus for our use. On our way north to Whitehorse, we stopped briefly at the Venus Mine tramway terminal (1909) on Tagish Lake. At Carcross, 70 miles south of Whitehorse, we examined a

The abandoned lower tramway terminal and concentration mill (1909) of the Venus Mine on Tagish Lake near Carcross, Y.T. The background reveals some of the region's spectacular scenery. *P. Malone photo.*



The SS *Klondike II*, reconstructed in 1936 by the British Yukon Navigation Co. from the remains of its wrecked 1929 namesake. It plied the Yukon River between Whitehorse and Dawson City. C. Hyde photo.



timber Howe truss swing bridge and viewed the sad ruins of the sternwheeler *Tutshi* (1917), tragically destroyed by arson only a month before we arrived.

We toured around Whitehorse on Tuesday. One high point of the day was our visit to the SS *Klondike II*, reconstructed in 1936 by the British Yukon Navigation Co. from the remains of its wrecked 1929 namesake. The sternwheeler carried freight and passengers on the Yukon River between Whitehorse and Dawson City. Alex Barbour [SIA] of the Canadian Parks Service, in charge of restoring this and other steam vessels, gave a nice tour. The day's activities included tours of a Northern Canada Power Co. hydro-electric plant (1959) and fish ladder just south of Whitehorse, a stop at North America's most northerly navigation lock at Marsh Lake, and an evening reception and tour of the McBride Museum in Whitehorse.

On Wednesday, the group split into two sections for the trip to Dawson, one travelling by bus, the other by DC-3. The bus party went *via* the Klondike Highway, which roughly follows the Overland Trail used in the winter when the Yukon River was frozen solid. This route had about 50 roadhouses at the turn of the century, and the one at Montague (1900) has

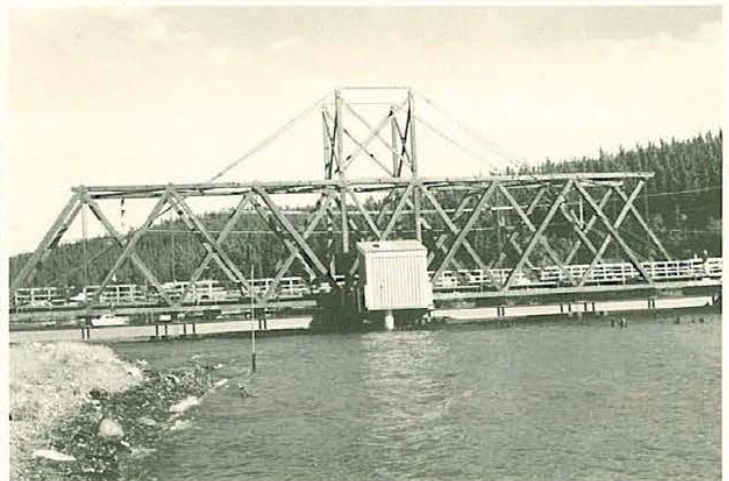
DC-3 fans were revved up for the "flight-seeing" part of the tour in this vintage Air North craft. C. Hyde photo.



several log buildings extant. Our visit to the Lake Le Barge Canoe Works, which made hand-crafted canoes, was brief because the owner was out of town. We then stopped at the treacherous Five Fingers Rapids on the Yukon River, where several windlass-and-cable devices were used after 1898 to "ease" sternwheelers through this dangerous passage. Following lunch at the Midway Lodge and a rest stop at the Moose Head Lodge, we arrived in Dawson City, "the heart of the Klondike," in late afternoon.

We hit the "mother lode" of IA sites on Thursday, Friday, and Saturday. Our day-long tour of the gold fields on Thursday included visits to a large-scale hydraulic gold-mining operation at Paradise Hill; a mid-sized gold mine that used steam shovels to deliver the gold-bearing rock to a revolving trommel, which employed water to remove most of the waste rock; and a Ma & Pa gold mine run by a retired machinist and his wife during the summer months. He used a small bulldozer and front-end loader to move rock to his home-made sluicing machine. His wife then panned the sands to recover any gold. Amy Federman [SIA] tried her hand at this final phase and quickly became an expert. The group also viewed the ruins of Yukon Consolidated Gold Co.'s Dredge

WP&YR wooden Howe-truss swing-bridge still in service at Carcross, Y.T. C. Hyde photo.





Above: Hydraulic gold-mining in the Klondike. The iron nozzle is directed like an artillery piece.

Right: Pratt-truss bridge carrying high-pressure 42"-diam. siphon pipe across Klondike River valley, part of a 70-mi. system built 1907-09 by the Yukon Gold Co. to deliver water with enough pressure for hydraulicking. P. Malone photos.

No. 2 and the vast tailing piles left by the dredging operations.

We spent Friday in and near Dawson City. The day's activities included a walking tour of the city, a visit to the cabin where Robert Service, "Bard of the Klondike," lived, and a tour of a "steamer graveyard" on the banks of the Yukon River, just upstream from Dawson City, led by Alex Barbour. Every year, before the onset of winter, the riverboats were winched out of the Yukon River and deposited on the shore, safely away from the destructive ice. They were simply left there when riverboat service ceased following World War II. One sternwheeler, the SS *Keno* (1922), rests on shore in Dawson City and will be restored in the near future.

Our days in Dawson City were not all work and no play. The group saw the "Gaslight Follies" performed at the Palace Grand Theater (1899). Dawson was hosting the 1990 World Gold Panning Championship and some of us viewed the competition. On Friday night, we feasted on a salmon banquet hosted by the Canadian Parks Service. Pat Malone



[SIA] and Jim Johnson traversed a good part of the Klondike River by canoe. Atlas Tours staked all SIA tourists with chips and drink tickets for an evening of gambling and other pleasures at Diamond Tooth Gertie's Saloon in Dawson City. This writer ended the evening with \$20 in winnings at blackjack, the only player skilled enough to beat the house!

Saturday, our final day at Dawson City, was another bonanza of interesting IA sites. Our tour of the Yukon Consolidated Gold Co. (YCGC) Dredge No. 4 (1913) on Bonanza Creek was perhaps the high point of the entire tour. Alex Barbour and the permanent Canadian Parks Service staff gave us a detailed tour of this enormous machine. The preservation and restoration work on the dredge continues. We spent the rest of the day at the YCGC headquarters complex at Bear Creek, begun in 1904, but built primarily in 1910-16. Bear Creek, which is a Klondike National Historic Site, contains more than 80 buildings and structures, including segments of the Yukon Ditch Pipeline; a 40-ton spud, part of the mechanism used to move dredges to new sites; an intact turn-of-the-century blacksmith shop, described by John Light

Left above: A 40-ton "spud," part of a mechanism used to move dredges to new sites. C. Hyde photo.

Left below: Gold dredges floated in man-made ponds that moved with the process of excavation and back-filling. Here Canadian No. 2 (1910) sits rotting in its last pond, outside Dawson City, Y.T. P. Malone photo.

Below: Disintegrating hulks in the graveyard of steamboats, on the shore of the Yukon River near Dawson City. P. Malone photo.



Right: Members of the Alaska-Yukon SIA Study Tour, on the WP&YR timber Howe-truss swing bridge at Carcross, Y.T. K.A.W. Gansel photo.

[see *IA: Journal of the SIA* 12 (1986)]; the Gold Room (1925), where gold-bearing gravel was assayed; and a wealth of other buildings and objects.

Late Saturday afternoon, we flew from Dawson City to Whitehorse on a chartered Air North DC-3, which took us "flightseeing" over the gold fields for nearly an hour before we finally headed south. After spending Saturday night in Whitehorse we flew by jet back to Vancouver, the official end point of the Study Tour of Yukon and Alaska. We all felt pretty tired by that point, but satisfied that our time and money had been well spent. The tour was a great success because of the support of the Canadian Parks Service and the U.S. National Park Service. Special thanks are in order for four individuals who made it all work: tour organizers Christopher Andreae and David Neufeld [both SIA]; Ken Elder [SIA], who prepared the outstanding guidebook; and Alex Barbour [SIA], who was an extraordinary guide. In addition, Karl Gureke [SIA] helped with the Chilkoot hike and Ron Malis of the Canadian Parks Service provided resources in Dawson.

C.K.H.



Minnesota Transportation Museum restores 1906 lake steamer

Launched in 1906, scuttled in 1925, and raised in 1980, the 70' lake steamer *Minnehaha* is finally being restored. The story begins not in a boatyard, but in a streetcar shop. In 1905 the Twin Cities Rapid Transit Co.'s electric trolley lines reached Lake Minnetonka, a popular resort 12 miles west of Minneapolis. The following year TCRT launched the *Minnehaha* and five sister steamers as an extension of its rail network, providing the first regularly scheduled passenger service on the lake. The boat had a 14' 10" beam, 5' draft (5'7" with 6 tons of coal), displaced 31 tons, and reached 12 mph with a maximum capacity of 135 passengers on two decks. Because of their deliberate resemblance to the TCRT's trolleys, the boats became known as "streetcar" boats. Color scheme, windows, seating, and interior finishes were all borrowed from their rail counterparts.

By the mid-1920s, improved roads and automobiles had cut deeply into TCRT's trolley and boat ridership. No longer economically viable, the boats were stripped of their machinery, superstructures, towed into deep water, and sunk.

The boats' location was pinpointed by divers in 1979. In 1980 a dredging company raised one of the hulks, the *Minnehaha*, evidently with the intent of using it in some sort of commercial enterprise. The state of Minnesota asserted its authority over historical artifacts and seized the boat, but neglected to protect it from the elements and the boat rotted ashore for several more years. Finally in 1986 the *Minnehaha* was turned over to the Minnesota Transportation Museum, a non-profit group of volunteers that previously had restored to operating condition a steam locomotive and two electric streetcars.

The *Minnehaha* is being rebuilt by MTM in a specially built shed a few blocks from the water's edge. A marine survey has revealed that 90% of its cypress is reusable, although half the white-oak ribs may have to be replaced. The superstructure will be rebuilt after original drawings, and the search continues for a suitable steam engine to replace the

missing original 150-hp. triple-expansion condensing engine (5½-9-15x9; Roberts 5x7 water-tube boiler).

Because of extensive rebuilding with modern materials, the boat will serve as an operating exhibit rather than being preserved in an as-found condition. The ultimate hope is to provide weekend passenger service on the lake once again. Info.: Brian Kuebler, 6012 Creek Ridge Ct., Minnetonka MN 55345 (612-934-6418).

Right: Stern of the 1906 TCRT lake steamer *Minnehaha*, raised in 1980 and undergoing restoration. Propeller temporarily removed. B. Kuebler photo.



Below: TCRT sister steamers *Harriet* and *Minnehaha* in 1909 on Lake Minnetonka at the Excelsior docks. Photo courtesy Minn. Hist. Soc.



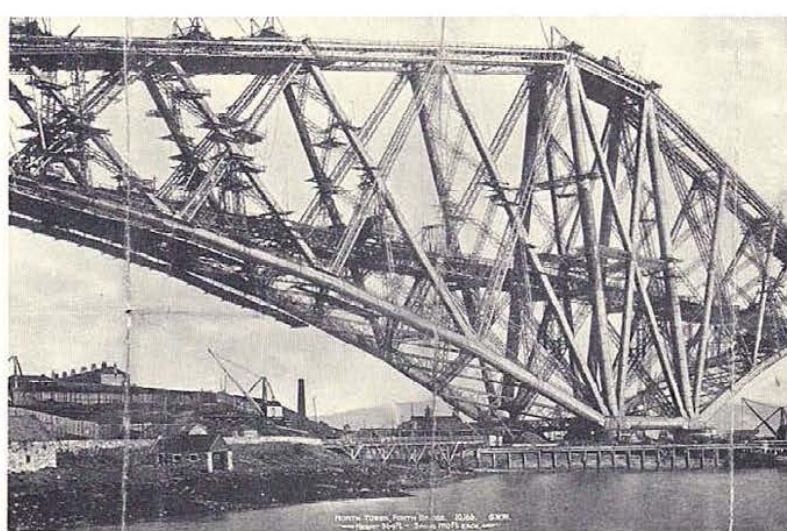
Forth Bridge now a centenarian

Few North Americans starred their 1990 calendars for a special event on Mar. 4, but for railway, bridge, and IA students and enthusiasts—as well as most everyone in Scotland—that date marked the centenary of the great Forth Railway Bridge over the Firth of Forth. On Mar. 4, 1890, Edward, Prince of Wales, later King Edward VII, formally opened the bridge. This Oct. 7th, namesake Prince Edward ceremonially inaugurated a 1,054-floodlight-system that bathes the bridge in rich amber light, making it the largest structure ever to be floodlit. The celebration at Queensferry was complete with Europe's biggest *son-et-lumiere* (sound and light) show and fireworks so awesome that a local paper said it looked like the Forth was on fire.

The story of the great Forth spans involves two "firths" or estuaries on the east coast of Scotland: the Forth, near Edinburgh, and the Tay, at Dundee. Bridges were needed to replace inconvenient railroad ferries. The Tay, wide but less than 80 ft. deep, was the first to be bridged. Thomas Bouch's viaduct was nearly two miles long, comprised of 85 wrought-iron, lattice-truss spans from 200 to 285 ft. long and 27 ft. deep, with 13 through-truss spans at mid channel. This single-track structure was carried on tall, round, cast-iron tubes rising 100 ft. above the water without cross-bracing. The mid-channel spans were supported on piers resting on cast-iron piles driven into the riverbed. When opened Sept. 26, 1877, it was the longest bridge in the world and brought Bouch instant acclaim as one of the greatest bridge builders of the day.

On Dec. 28, 1879, just after 7 p.m., during a winter storm with gales estimated as Force 10 or 11, the through-truss section of the Tay bridge was blown down, carrying a train with it. All on board were killed. The disaster not only shattered Bouch's reputation, it traumatized the British engineering community. Wind force became an important factor in bridge design. A new bridge was built 60 ft. upstream, but the stumps of its ill-fated predecessor remain visible today as evidence of the tragedy.

Bouch also had worked on plans for a Forth bridge, but his appointment was terminated with the Tay loss. Nevertheless, the North British Railroad went ahead with a Forth project to eliminate the ferry between Granton and Burntisland. Messrs. Fowler and Baker were selected to design the bridge. John Fowler (1817-98) was a distinguished civil engineer remembered for the London Metropolitan Ry. and later subways. Benjamin Baker (1840-1907), originally was Fowler's assistant, becoming his partner in 1875. Baker was responsible for the Forth's conceptual plan, the steel cantilever design that he carried out while Fowler did the



The Forth Bridge north tower under construction.

masonry design. Baker designed to a wind loading of 56 pounds per square foot to meet a Board of Trade requirement, equal to 2,000 tons on the main span. This loading has since been found to be excessive, but the Board was understandably cautious after the Tay disaster.

In contrast to the wide and shallow Tay estuary, the Firth of Forth is narrower but has two 210-ft.-deep channels separated by Inchgarvie Island, a mass of rock. Since intermediate piers were out of the question, Baker's cantilevers provided the solution. The three cantilevers, with two 350-ft. suspended spans, provide a 1,710-ft. opening at each channel, with a mid-span vertical clearance of 150 ft. to meet Admiralty requirements. Each of the three towers rests on four individual foundations for its four main columns, with some caissons going down 88 ft. to reach rock. Each tower rises 342 ft. The major tubular members are 12 ft. in diameter, fabricated by iron shipbuilding techniques for which the British were famous. Smaller members consisted of fabricated beams of such size that they exceeded the capacity of steel rolling mills.

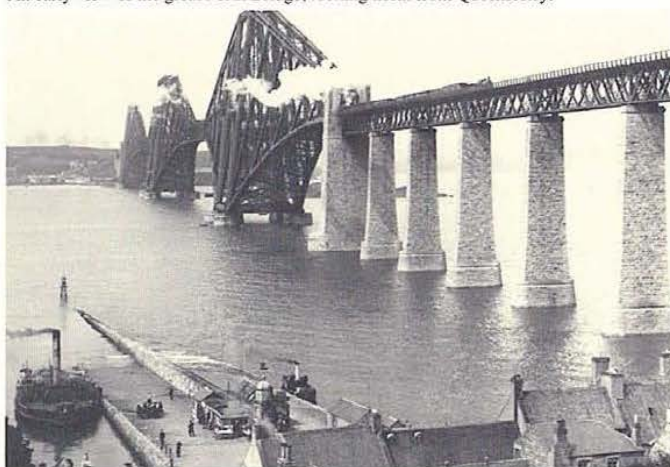
In 1890, the 8,300-ft. Forth Bridge was the largest bridge in the world, a record not broken until 1917 when the bridge over the St. Lawrence River at Quebec was opened. The latter has a single span of 1,800 ft. (100 ft. longer than each of the two Forth spans) between its two cantilever towers, and an overall length of 3,230 ft. It is built of large steel sections not available to the Forth builders, yet it is not nearly as imposing as the earlier bridge.

The A90 Motorway crosses the Forth over a 3,300-ft.-long suspension bridge a short distance upstream. Opened in 1964 and of conventional design, it is dwarfed by the 50,000 tons of steel in the railroad bridge even though it cost over six times as much. Baker, Fowler, and contractor William Arrol well deserved the knighthood bestowed upon them by Queen Victoria. It is doubtful they thought of their work lasting over a century, because most engineers' structures are amortized over a 50-year period and many are technologically obsolete before that.

The bridge has had many admirers and a few detractors, particularly poet William Morris. Praise for the Forth's engineering art is especially noteworthy since the achievement comes in a truss instead of the traditionally applauded arch or suspension bridge. Certainly its long life means that the Forth Bridge has met its own engineer Baker's aesthetic dictum that fitness is the fundamental consideration of beauty.

W.J.E.

An early view of the great Forth Bridge, looking north from Queensferry.



Maine State Museum finds, restores rare 1878 Portland stationary engine

The Maine State Museum has found an extraordinary example of 19th-C Maine technology: a stationary steam engine manufactured by the Portland Co. in 1878. Recently discovered in a N.H. wood-products mill, this engine is believed to be the only surviving one of its kind built by Portland, and the largest Maine-built steam engine known to exist anywhere. Used from 1878 to 1985, the engine was found in excellent original condition, and in running order. By simply oiling a number of parts and adjusting a few valves, the engine was made fully operational. A videotape showing it in motion has been made for later use by the museum. This acquisition marks the successful conclusion of a major international search initiated by the museum last summer in anticipation of enlarging the "Made in Maine" exhibition.

The Portland Co. engine is typical of a number of similar engines that were made in Maine during the middle and second half of the 19th C. It is best described as a 12 x 30, box-bed horizontal engine (with a 12" cylinder and 30" stroke). The engine weighs about 3,500 lbs., the 8' flywheel the same. Although the style of the engine was a common one in the 19th C, the Portland Co. did not build many similar engines. More typical of the company's work were locomotives and marine engines. In fact, the cylinder jacket sports a brass plate that reads: "Portland Co's Locomotive and Marine Engine Works/Portland, Me./1878./No. 91."

The company was founded in 1846 by John A. Poor to build locomotives and cars for the Atlantic & St. Lawrence RR (Portland to Montreal), later the Grand Trunk RR. It manufactured rolling stock and other equipment for the A&St.L., but operated independently and produced machinery and engines for a variety of other customers. From 1846 to 1892, the company produced over 600 locomotives, many

large marine engines, fire engines, boilers, canning pressure-cookers (retorts), and a few stationary engines, including No. 91. In the 19th C, the Portland Co. was Maine's largest builder of heavy machinery. During the Civil War, the company produced gunboats and cannon, and in the 20th C assembled Brush and Knox motorcars under contract. Between 1902 and 1908, Portland's workmen built a number of automobiles promoted by E.T. Burrowes, including the Museum's 1908 "Tourabout," prominent in the "Made in Maine" exhibit.

The Portland engine is undergoing restoration and will be placed on exhibition in 1991 as part of a major overhaul of the concluding segment of "Made in Maine." Because the Museum has acquired so many outstanding Maine-made artifacts since 1985 when "Made in Maine" opened, the staff has explored ways to upgrade the present installation and increase the number of significant objects on exhibition. The redesigned exhibit area will include a variety of other products made by the Portland Co., including a large set of boiler doors emblazoned with the company logo, a canning retort, a voltage regulator, and the Burrowes automobile.

Engine 91 will be displayed in conjunction with a portable "locomotive-type" boiler made by the T.M. Nagle Co. of Erie, Pa. Nagle boilers like this large example, nearly 12' long and 7' tall sans smokestack, were marketed by several Maine manufacturers of steam engines, including the J.W. Penney Co. of Mechanic Falls. The boiler is typical of those employed at portable sawmills. During the late 19th C, such mills were increasingly common because portable machinery and equipment, including steam engines and boilers, allowed the mills to be set up in the woods. Info.: Paul Rivard [SIA], Maine State Museum, State House, Augusta, Me. 04333.

Automatic pin ticketer is ASME National Landmark

The automatic pin-ticketing machine, built c1902, which revolutionized pricing practices in department stores nationwide by eliminating the need for handwritten tags, was designated a National Historic Mechanical Engineering Landmark in Nov.

As the late-19th-C U.S. retail industry evolved from general to specialized outlets, and ownership changed from individual proprietors to larger corporations with departments and a salesclerk work force, price marking continued to be done by hand, with tags pinned or tied to the merchandise. Pricing errors, illegible writing, and the time consumed in marking were costly.

The challenge of automating this multi-function process was complicated by the range of supplies. Any automatic device needed to accurately feed and cut paper ticket stock that varied from roll to roll in stiffness, shear strength, and thickness. It had to feed, cut, and form a staple from wire that also varied in diameter and shear strength. It had to accommodate a range of merchandise thicknesses from cotton

to woolen blankets. In addition, it had to be used continuously for several hours at a time by a clerk.

In 1890 in Dayton, Ohio, Frederick Kohnle (1860-1944) invented and patented (#457783) a paper price-tag device using wire fasteners to attach the tag to garments, yard goods, and textile articles. Meanwhile, William Metcalf, also of Dayton, created a similar device that would produce a ticket from a roll of paper, imprint it, and staple it onto cloth. In 1898 and 1899 Metcalf received patents #607119 and #619773, which eventually were sold to the Automatic Pin Ticketing Machine Co. (later the Monarch Marking system Co.) founded by Kohnle.

Kohnle's table-top, hand-operated machine was produced based on those patents, and a prototype model was completed in 1902. It was tested at Elder & Johnson, a Dayton department store, using either the device now landmarked or a companion model built at the same time. Kohnle soon developed a floor-mounted, foot-treadle version, patented in 1904 (#762322), which went into production.

NOTES & QUERIES

HABS/HAER SUMMER JOBS. Summer 1991 employment is available on recording projects with the Historic American Buildings Survey / Historic American Engineering Record, of the Natl. Park Service. Located at various sites throughout the U.S. and running from May through Sept., the work involves ink-on-Mylar measured drawings, interpretive and process drawings, large-format photographs, and written data to document structures of historic, architectural, engineering, and industrial significance. The following are sought: architects and landscape architects to produce drawings, historians and engineers to conduct research and produce inventories and reports, illustrators and industrial designers to produce interpretive and process drawings, and photographers to produce large-format photographs. Applicants must submit a Personal Qualifications Statements (SF 171), a letter of recommendation, and additional materials depending on the position. Application deadline is Mar. 11, 1991. Info. & materials: Summer Program Administrator, HABS/HAER Div., NPS, POB 37127, Wash. DC 20013-7127 (202-343-9625).

HAER particularly encourages historians interested in American technology to apply. Summer projects will include engineering and industrial sites in the Pittsburgh region and in the nine-county area of south-central Pa. included in America's Industrial Heritage Project, along with the continuing documentation of NPS roads and bridges, probably in Yosemite. Additional sites may include Slater Mill, Pawtucket, R.I.; an irrigation canal in Riverside, Calif.; Folsom Power Plant, Sacramento, Calif.; gold-mining sites in Joshua Tree and Death Valley, Calif.; historic bridges in Washington State; a selection of early cast- and wrought-iron bridges in eastern Pa.; Tredegar Ironworks, Richmond, Va.; and the Huber Breaker in Pa.'s anthracite coal fields.

JOB OPENING. Historic Madison, Inc., invites applications for a new position to plan, establish, and direct a museum of industrial heritage. We are seeking an individual with creative vision and abilities to relocate from its present site and structures to another location a 19th-C factory (c1878-1972) that produced wooden saddletrees and clothespins, with an unusual power production and transmission system, described by HAER as "a rare survivor of a complete single-family manufacturing complex in the old Northwest Territory." Abandonment of the present site will require the applicant to document and carefully select the equipment to be used in an interpretive representation of these industrial processes and at the same time work with a historical architect to plan rehabilitation and display at the new location. Applicant should be a graduate of a museum program with a strong orientation toward history of technology/industrial archeology and solid hands-on experience in mechanical processes. Experience in planning, and museum development and methodologies is required. Salary range is \$25-28,000, with on-site housing included. Allowance for relocation. Send letter of application, resume, and references to John E. Galvin, President, Historic Madison, Inc., 500 West St., Madison IN 47250.

JOB OPENING. Asst. (possibly Assoc.) Prof., tenure-track appointment at Michigan Technological Univ., beginning Sept. 1991, to support a proposed graduate program in

industrial archeology. This program will unite faculty interests in industrial history, material culture, and archeology, with the rich cultural resources of Michigan's Upper Peninsula and with the technical programs (e.g., materials science and geophysics) available in a technological university. Appointment will be in the Science, Technology & Society Studies (STS) Dept., strong in the history of technology, technology and politics, and technology and work, and which has an archeology lab active in regional historic and prehistoric site research. Applicants should be able to demonstrate an active research record combined with excellent teaching skills. Ph.D. required. Attractive teaching load, competitive salary. Send letter of application, c.v., sample of scholarly work, and names of at least three references ASAP to Patrick Martin [SIA], Chair, IA Search Committee, Dept. of Social Sciences, Mich. Tech. Univ., Houghton MI 49931. Mich. Tech. Univ. is an equal opportunity educational institution/equal opportunity employer.

IEEE FELLOWSHIP IN ELECTRICAL HISTORY. The Institute of Electrical & Electronics Engineers (IEEE) invites applications for its 1991-92 Fellowship in Electrical History. The Fellowship supports 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 up to one full year of post-doctoral work in the same field for a recent graduate, with a stipend of \$14,000.

The IEEE Fellowship in Electrical History is made possible by a grant from the IEEE Life Member Fund and is administered by the IEEE History Committee. Submission deadline is Feb. 1, 1991. Info. & application materials from: Director, Center for the History of Electrical Engineering, Rutgers—the State Univ. of N.J., POB 5602, New Brunswick NJ 08903-5062.

ROVENSKY FELLOWSHIPS IN AMERICAN BUSINESS OR ECONOMIC HISTORY. Applicants are sought for up to two \$4500 John E. Rovensky Fellowships for doctoral thesis research in American business or economic history. Applicants must be citizens of the U.S. or Canada who are working toward a Ph.D. degree with American economic or business history as the area of major interest. Fellowship recipients must be enrolled in a doctoral program at an accredited college or university in the U.S. Preference will be given to applicants who are preparing for a career in teaching and research and who will have completed all graduate course work prior to Fall 1991. Info. & application materials: Jeremy Atak, Dept. of Economics, 328F DKH, Univ. of Ill., 1407 W. Gregory Dr., Urbana IL 61801.

EAIA ANNUAL GRANTS. The directors of the Early American Industries Assn. announce an annual grant to provide up to \$1000 for individuals or institutions engaged in research for publication projects relating to the study and better understanding of early American industries in homes, shops, farms, or on the sea. The EAIA, an international collectors' organization, is devoted to encouraging the study and better understanding of all early American industries, and to discovering, identifying, classifying, preserving, and exhibiting obsolete tools, implements, and mechanical devices. Application deadline is Mar. 15, 1991. Info.: John S. Watson [SIA], POB 2128, Empire State Plaza Station, Albany NY 12220 or Alan G. Bates, Ex. Dir., Box 1596, RD3, Hockessin DE 19707.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 19, NO. 3

FALL 1990

Compiled by John M. Wickre

Uncle SIA needs you!

(Answers to questions you may not want answered)

With apologies to the former Robert Vogel, an obscure earlier compiler of PofI, whose natural shyness and fear of expressing an opinion were occasionally overwhelmed by the need to remind his readers that there were some things he could do, and some things he couldn't do (regarding PofI, that is), and that most of all, it couldn't be done without help from them. Much of the following is therefore shamelessly cribbed from The Complete Admonitions of Robert M. Vogel, whose comments remain yet relevant (and he said it better than I could, anyway). The questions and answers are mine, as is the Commentary on the Admonitions. —JMW

1. "The stork brings them" — ("Where do PofI entries come from?")

General note to our readership (if any). Are you out there? The publishers are pretty good about letting us know what's being put out, but the authors, especially of articles, seem their traditional reticent selves. Why should this be? Please, do let us hear from you. A reprint, sent in anonymously, will do the trick and will keep your identity secret, as you seem to wish it to be. Or, rat on your friends; strict confidentiality maintained as to sources of bibliographical information.

And ... let us know, too, of the more obscure books and articles that you stumble across in the more narrowly read periodicals — we can see only a few of these. We don't demand a formal letter of submission — a clipping, a xerox of a title page or dust-jacket blurb, a copy of a review; anything will do. Just let us know what's in print of even remote interest to the IA community. For the great breadth of our interests, and the liberal fashion in which we interpret "IA", you have only to see what a curious blend is in these pages.

Many of these things tend to appear in publications just beyond the fringes of the mainstream, and although we wander in that direction as far as we can, we can't pick it all up. Please help.

2. "Because we're not all there." — ("Why are we all here?")

A note on (in)consistency. You will have noticed that the citations in Ps. of I. vary wildly in their coverage, extent of commentary, information on pricing, location of publishers, and in all other possible ways. This is due to many causes and we hope is not troubling to our readers. As noted many times earlier, we obtain our entries from an astonishing number of sources that, too, vary wildly. These range from very complete notations in publishers' On occasion we actually do see the book or article itself and the commentary is first-hand; sometimes we are quoting a review; sometimes the notations are based solely on rumor; sometimes we set down the not disinterested musings from a dust jacket. You can have no way of knowing.

If a date, publisher, place of publication, price, or other vital statistic is missing, it means simply that we hadn't it available. Nor have we time, we regret, to track down these missing bits, so if you require them, you and your librarian are on your own.

3. "No!" ("Do you take orders?")

Every so often we receive an order for a book cited. We cannot provide such service. In short, it is our intention to provide evidence of all publications of which we are aware that bear more or less directly on industrial archeology and its immediately related fields of interest. We set down all information on each that comes to hand but cannot, regrettably, go to very great lengths to fill in gaps.

4. "Yes!" ("Do you uz abrvtns?")

The use of abbreviations in SIAN and PofI is a traditn dating bk to the Age of Typewriters, when a keystroke saved was a keystroke that could be dedicated to trenchant commentary. Most abrvtns are easily ndrstd.

Serials titles are abbreviated only for the most frequently used and well-known publications. In each case, abrvtns are listed at the end of the PofI, with full title [e.g., T&C — Technology and Culture]

Prices are given to the nearest dollar. A book listed at \$34.95 for the cloth edition and \$16.95 for paperback is listed in P of I as "\$35/17 pap."

JMW Commentary on the Admonitions.

Mistakes can be corrected. If you find errors in the entries, or have comments to make, please send them to me. I regularly update my computer files as I find new information, incl. reviews of works already entered.

We need help not only in regard to specific items, but also with suggestions as to missing subject areas or types of material. It is discouraging to look back and see how much is still being missed or is covered inadequately: government documents, state architectural magazines, tourist magazines, business magazines, foreign publications, regional, state and community histories, etc., etc.

Most help of all, of course, would be readers who would volunteer to cover one of these areas (subject or geographical) on a regular basis (be famous — see your name in print in PofI!).

And a final note to all of you who have sent me notes, clippings, reviews, publications, etc., during my years as compiler of PofI — Thank you.

GENERAL SUBJECTS

Paul S. Adler, "Marx, Machines, and Skill." In *T&C* 31, Oct. 1990, p780-812. Argues for distinguishing between theory and polemic in Marx's writing, and between short-term process and long-term trends in Marx's theory.

Stuart M. Blumin, *The Emergence of the Middle Class: Social Experience in the American City, 1760-1900*. Cambridge U. Pr. (Cambridge), 1989. 448p. \$50/15 pap. Focuses on port cities of New York and Philadelphia; incl. illus. of artisan shops and factories. Rev.: *JAH* 77, Dec. 1990, p995-6.

Asa Briggs, **Victorian Things**. U. of Chicago Pr. (Chicago), 1988. 448p. \$30. Final vol. of trilogy, following *Victorian People* (1954) and *Victorian Cities* (1965). Material culture, incl. Crystal Palace display of 1851; role of iron, coal and paper. Rev.: *AHR* 95, Oct. 1990, p1195.

Stanley D. Chapman, "Industrialization and Production: A Bibliographic Survey." In *Material History Bull.* 31, Spring 1990, p15-21.

John T. Cumbler, **A Social History of Economic Decline: Business, Politics and work in Trenton**. Rutgers U. Pr. (New Brunswick NJ), 1989. 316p. \$42/15 pap. Trenton, N.J. Rev.: *JAH* 77, Dec. 1990, p1052-3.

Pete Daniel, "Going Among Strangers: Southern Reactions to World War II." In *JAH* 77, Dec. 1990, p886-911. Incl. shipyards & other war industry work in Mobile AL, Norfolk VA, Charleston NC, Beaumont TX; women, blacks.

Kelly R. DeVries, "A 1445 Reference to Shipboard Artillery." Research note in *T&C* 31, Oct. 1990, p818-29. Burgundian artillery register; incl. ref. to removable chambers & rear loading.

Chi-Fun C. Fan, **The Relationships between Regional Growth & Manufacturing in the Old Industrial Core: A Case Study of Ohio**. Thesis, Ohio State U., 1989.

J. Valerie Fifer, **American Progress: The Growth of the Transport, Tourist, and Information Industries in the 19th-C. West Seen Through the Life and Times of George A. Croft, Pioneer and Publicist of the Transcontinental Age**. Globe Pequot (Chester CT), 1988. 483p. \$30. Rev.: *AHR* 95, Oct. 1990, p1296-7.

Mark S. Foster, **Henry J. Kaiser: Builder in the Modern American West**. U. of Tex. Pr. (Austin), 1989. 374p. \$30. Roads, dams, shipyards, steel, aluminum, autos and airplanes. Rev.: *JAH* 77, Dec. 1990, p1068-9.

Donald Garfield, "Crossing Boundaries." In *Museum News*, Nov.-Dec. 1990, p43-47. Challenges of industrial heritage regions and corridors.

Robert F. Hunter and Edwin L. Dooley, Jr., **Claudius Crozet: French Engineer in America, 1790-1864**. U. Pr. of Va. (Charlottesville), 1989. 236p. \$25. West Point professor (c.1816-1823), civil engineer on canal and RR projects in Va. and La., and one of the founders of Virginia Military Institute (VMI). Rev.: *JAH* 77, Dec. 1990, p1008-9.

James A. Huston, **Guns and Butter, Powder and Rice: U.S. Army Logistics in the Korean War**. Susquehanna U. Pr. (Selinsgrove), 1989. 492p. \$65. Incl. transport, mfg., Japanese production. Rev.: *JAH* 77, Dec. 1990, p1092-3.

Harmut Keil & John B. Jentz (eds.), **German Workers in Chicago: A Documentary History of Working-Class Culture from 1850 to World War I**. U. of Ill. Pr. (Urbana), 1988. 455p. \$30. 130+ documents, extending the editors' 1983 *German Workers in Industrial Chicago, 1850-1910* (previously noted). Dual rev. with Keil's *German Workers Culture in the U.S., 1850 to 1920* (Smithsonian, 1988, previously noted), in *JAH* 77, Dec. 1990, p1030-1031.

Leonid N. Kryzhanovskiy, "The Lightning Rod in 18th-C. St. Petersburg: A Note on the Occasion of the Bicentennial of the Death of Benjamin Franklin." In *T&C* 31, Oct. 1990, p813-17. Illus., incl. cover.

Labor History 31, Winter/Spring 1990, has a number of articles on labor history resources / archives at various repositories.

Warren Leon & Ray Rosenzweig, **History Museums in the U.S.: A Critical Assessment**. U. of Ill. Pr. (Urbana), 1989. 369p. \$35/15 pap. Incl. Mary H. Blewett on New England textile museums and Joseph J. Corn on technology museums. Rev.: *JAH* 77, Dec. 1990, p982-3.

"Made in Maine." Exhibit, Maine State Museum, Augusta. Rev. in *T&C* 31, July 1990, p466-62, by Duncan Hay [SIA], with a "professor's perspective" by Howard P. Segal, p463-68.

Jeffrey A. Miron & Christina D. Romer, "A New Monthly Index of Industrial Production, 1884-1940." In *J. of Economic History* 50, June 1990, p321-37.

Michael J. Neufeld, "Weimar Culture and Futuristic Technology: The Rocketry and Spaceflight Fad in Germany, 1923-1933." In *T&C* 31, Oct. 1990, p725-52.

Arthur L. Norberg, "High-Technology Calculation in the Early 20th Century: Punched Card Machinery in Business and Government." In *T&C* 31, Oct. 1990, p753-79.

Maureen Ogle, "Redefining 'Public' Water Supplies, 1870-1890: A Study of Three Iowa Towns." In *Annals of Iowa* 50, Summer 1990, p507-30.

Bryan Pfaffenberger, "The Harsh Facts of Hydraulics: Technology and Society in Sri Lanka's Colonization Schemes." In *T&C* 31, July 1990, p361-97. Social, cultural and legal aspects of gravity-flow irrigation, 1920s-present.

Harry R. Rubenstein, "Welcoming Workers." In *Museum News*, Nov.-Dec. 1990, p39-42. Working to do a better job of including workers in IA exhibits.

John J. Rumbarger, **Profits, Power, and Prohibition: Alcohol Reform and the Industrializing of America, 1800-1930**. St. U. of NY Pr. (Albany), 1989. 298p. \$50/17 pap. Incl. steel, railroads & other industries in the early 20th C. Rev.: *JAH* 77, Dec. 1990, p1010-11.

"Selling the World of Tomorrow: New York's 1939 World's Fair." Exhibition (1989-1990), Museum of the City of New York (5th Ave. at 103d St., NYC 10029). Rev.: *JAH* 77, Dec. 1990, p966-70.

West Virginia History 49, 1990, contains a number of articles related to women and work, incl. industrial work, coal camps.

William Worthington, Jr., "The Privy and the Pump: The Mathewman & Johnson Excavating Device." In *T&C* 31, July 1990, p451-55. Privy and cess-pool cleaning; also earth closets. Illus., incl. cover.

Dennis Zembala [SIA], "Now, Industrial History Moves Front and Center." In *Museum News*, Nov.-Dec. 1990, p34-37. "Interpreting America's industrial heritage now means devoting more attention to work process, workers, and the workplace."

MATERIALS

John R. Bowman, **Capitalist Collective Action: Competition, Cooperation, and Conflict in the Coal Industry**. Cambridge U. Pr. (Cambridge), 1989. 271p. \$38. U.S. bituminous coal industry, mostly 1880s-1930s. Rev.: *JAH* 77, Dec. 1990, p1049-50.

Pac-Kun Choi, **Effects of Unionism and Work-Related Safety on Productivity in the U.S. Bituminous Coal Mining Industry, 1898-1945**. Thesis, U. of Ga., 1989.

John Fahey, "The Milwaukee-Youngstown Connection: Midwestern Investors and the Coeur d'Alene Mines." In *Pacific Northwest Q.* 81, Apr. 1990, p42-49.

A. Dudley Gardner & Verla R. Flores, **Forgotten Frontier: A History of Wyoming Coal Mining**. Westview (Boulder CO), 1989. 255p. \$35/13. Rev.: *JAH* 77, Dec. 1990, p1050-51.

Diane Kallman, "Steel on the Susquehanna." In *Pennsylvania Heritage* 16, Summer 1990, p32-37.

W. David Lewis, "The Invasion of Northern Markets by Southern Iron in a Decade of Boom and Bust: Sectional Competition in the 1880s." In *Essays in Economic & Business History* 8, 1990, p257-69.

MISCELLANEOUS INDUSTRIES

James R. Anderson, "Michigan Utility Regulation in the 1960s: Emergent Conflict." In *Essays in Economic & Business History* 8, 1990, p289-302.

Melodie Andrews, "What the Girls Can Do: The Debate Over the Employment of Women in the Early American Telegraph Industry." In *Essays in Economic & Business History* 8, 1990, p109-20.

Ralph A. Austen and Woodruff D. Smith, "Private Tooth Decay as Public Economic Virtue: The Slave-Sugar Triangle, Consumerism, and European Industrialization." In *Social Science History* 14, Spring 1990, p95-115.

Mary H. Blewett, **The Last Generation: Work and Life in the Textile Mills of Lowell, Mass., 1910-1960**. U. of Mass. Pr. (Amherst), 1990. Illus. \$35/10 pap. Industry in decline, from oral histories(?) of 34 workers.

Mary H. Blewett, **Men, Women and Work: Class, Gender, and Protest in the New England Shoe Industry, 1780-1910**. U. of Ill. Pr. (Urbana), 1988. 466p. \$30. Rev.: *AHR* 95, Oct. 1990, p1276-7.

Gerald Carson, "The Piano in the Parlor; When There Was a Parlor." In *Timeline* 7, Dec. 1990/Jan. 1991, p42-54. Pianos, incl. beautiful views of mfg. at Baldwin's Cincinnati plant. Illus., incl. some color; ads.

Gary Gerstle, **Working-Class Americanism: The Politics of Labor in a Textile City, 1914-1960.** Cambridge U. Pr. (NYC), 1989. 377p. \$40. Independent Textile Union (ITU); Woonsocket, RI. Rev.: *JAH* 77, Dec. 1990, p1066-7.

James R. Grossman, **Land of Hope: Chicago, Black Southerners, and the Great Migration.** U. of Chicago Pr. (Chicago), 1989. 398p. \$30. Esp. World War I era; incl. stockyards workers. Rev.: *JAH* 77, Dec. 1990, p1067-8.

William J. Hausman & John L. Neufeld, "The Structure and Profitability of the US Electric Utility Industry at the Turn of the Century." In *Business History* 32, Apr. 1990, p225-43.

Edward, F. Heite & Louise B. 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, 1989. Cannery site.

Edward F. Heite [SIA], et al., **Archaeological Data Recovery on the Collins, Geddes Cannery Site, Road 356a, Lebanon, North Murderkill Hundred, Kent County, Del.** Del. Dept. of Transportation Archaeological Series, No. 83, 1990. 143p, illus., bibliog., appendices. Incl. technological and industrial background history, history of canning in 19th-C. Delaware, tools, list of Del. canneries. (Avail.: DE DOT, Div. of Highways, Location and Environmental Studies Office, no address listed.)

Christine C. Kleinegger, "Cheese Challenge." In *Museum News*, Nov.-Dec. 1990, p53-56. Problems of a single-industry museum, the New York State Museum of Cheese, Rome, NY, part of the Erie Canal Village.

Vernon E. Lynch, Jr., "Entrepreneurship and the Development of Electrical Power in Southwestern Colorado." In *Essays in Economic & Business History* 8, 1990, p270-80.

Material History Bull. 31, Spring 1990, contains a number of articles on textiles and the textile industry, incl. bibliographies.

Seymour H. Mauskopf, "Chemistry and Cannon: J.-L. Proust and Gunpowder Analysis." In *T&C* 31, July 1990, p398-426. Spanish munitions industry, 18th C.; research by Proust (b.1754, d.1826) the most comprehensive and systematic study of gunpowder chemistry in its day.

Ernest W. Ogram, Jr., "Barry Manufacturing Co. & the U.S. Shoe Industry in the 1980s." In *Essays in Economic & Business History* 8, 1990, p281-88.

Robert L. Paquette, **Sugar is Made with Blood: The Conspiracy of La Escalera and the Conflict between Empires over Slavery in Cuba.** Wesleyan U. Pr. (Middletown), 1990. 364p. \$16 pap., reprint.

Thomas Pinney, **A History of Wine in America from the Beginnings to Prohibition.** U. of Cal. Pr. (Berkeley), 1989. 553p. Splendid book; incl. MD, MO, NC, NJ, OH, PA, etc., as well as CA & NY; lots of IA material on individual wineries. —Carter Litchfield.

Luis Pumarada-O'Neill, **La industria cafetalera de Puerto Rico, 1736-1969.** Puerto Rico Office of Historic Preservation (San Juan), 1990. 204p, illus. \$10. Coffee industry, incl. processing. (Avail.: General Engineering Dept., Univ. of Puerto Rico Mayagüez Campus, Mayagüez PR 00709-5000.)

Herman W. Ronnenberg, **History of the Brewing Industry in Idaho, 1862-1960.** Thesis, U. of Ida., 1989.

Philip Scranton, **Figured Tapestry: Production, Markets, & Power in Philadelphia Textiles, 1885-1941.** Cambridge U. Pr. (Cambridge), 1989. 534p. \$50. Industry in decline; a sequel to Scranton's *Proprietary Capitalism ... 1800-1885* (1983). Rev.: *JAH* 77, Dec. 1990, p1051-2.

James H. Soltow, "The Japanese Conquest of Consumer Electronics: Experience of a U.S. Component Manufacturer." In *Essays in Economic & Business History* 8, 1990, p73-81.

Judith Stone, "Big Brewbaha of 1800 B.C." In *Discover* 12, Jan. 1991, p12-16. Sumerian proto-brewing processes duplicated by heady researchers using double-baked barley bread suggested by recipe-hymn to beer goddess Ninkasi.

Allen Tullos, **Habits of Industry: White Culture & the Transformation of the Carolina Piedmont.** U. of N.C. Pr. (Chapel Hill), 1989. 437p. \$35/13 pap. Incl. biogs. of both industrialists and textile mill workers. Rev.: *JAH* 77, Dec. 1990, p1041.

John N. Vogel, **Great Lakes Lumber on the Great Plains: The Laird Norton Lumber Co. in South Dakota.** Thesis, Marquette U., 1989.

STRUCTURE

Dena Crosson, "100-Proof Conversion." *Historic Preservation* 43, Jan./Feb. 1991, p58-9. Brown-Forman Corp. 1935 whisky aging and storage warehouse in Louisville KY, adaptively reused as the corporation's headquarters, complete with orig. water tank — a 100,000-gal. bottle of Old Forester.

F. Ross Holland, **Great American Lighthouses.** Preservation Pr. (Wash. DC), 1989. 346p, illus., bibliog., index. \$17 pap. Historical background; short descr. of 300 lighthouses and lightships. Rev.: *IA* 15/2, 1989, p72-3.

Ann Durkin Keating, **Building Chicago: Suburban Developers and the Creation of a Divided Metropolis.** Ohio St. U. Pr. (Columbus), 1988. 239p. \$25. Incl. transport, water, sewerage, gas, electricity; less on noneconomic factors of ideas and ideals. Rev.: *AHR* 95, June 1990, p917-18.

Michael P. McCarthy, "The Unhappy Tale of Building Philadelphia's City Hall." In *Pennsylvania Heritage* 16, Summer 1990, p18-23.

Walter Minchinton, "The Shot Tower." In *AHTT* 6, Spring/Summer 1990, p52-55. Towers for mfr. of lead shot, from William Watts invention in England in 1782 to present, with many U.S. examples.

Proceedings of the Third Historic Bridges Conference (Oct. 5, 1990). Ohio St. U., Civil Engineering Dept. (2070 Neil Ave., Columbus OH 43210), 1990. 80p. \$25. Incl. much on concrete bridges, also rehab of stone & concrete bridges.

Susan Murray Reddick, "From Dream to Demolition: The Yamhill Lock and Dam." In *Oregon Historical Q.* 91, Spring 1990, p43-80, and Summer 1990, p155-202.

Christine Meisner Rosen, "Business, Democracy, and Progressive Reform in the Redevelopment of Baltimore after the Great Fire of 1904." In *BH* 63, Summer 1989, p283-328. Urban environmental history; new water and sewer systems, underground utilities, street and harbor improvements. Notes success of commissioner-manager form of city govt. in Galveston, Tex., (1900 hurricane and flood leading to new sea wall, bridges, sewers, and raising of grade level of city), and Dayton, Ohio (1913 flood, new bridges, sewers), as well as Baltimore; compared with lack of infrastructure improvements in San Francisco where govt. reforms did not follow 1906 disaster.

Gustina Scaglia, "Building the Cathedral in Florence." In *Scientific American* 264, Jan. 1991, p66-72. Innovative construction techniques and machines used by Filippo di Ser Brunelleschi (1377-1446) to build double-vaulted octagonal dome, c.1420-1440s. Illus., some color, incl. machines.

Keith A. Sculle, "Lessons from the Landscape: The Stone Arch Bridges of Monroe County, Illinois." In *Illinois Historical J.* 83, Summer 1990, p112-26.

The Second Ohio Historic Bridge Inventory, Evaluation and Preservation Plan. Ohio Dept. of Transportation (Columbus), 1990? Illus. \$22 ppd. Update of 1983 Publication Incl. covered bridges, 1940s bridges newly eligible for NR, rehabilitation, new uses for old bridges, index of bridge types. (Avail.: OH DOT, Bureau of Environmental Services, 25 S. Front St., Room 608, Columbus OH 43216.)

James E. Sherow, "Utopia, Reality, and Irrigation: The Plight of the Fort Lyon Canal Company in the Arkansas River Valley." In *Western Historical Q.* 20, May 1989, p162-84. Irrigation canal, Colo./Kans., 1860s-1908s.

John Stilgoe, **Borderland: Origins of the American Suburb, 1820-1939.** Yale U. Pr. (New Haven), 1988. 367p. \$35. Philosophical; drawing on wide range of sources. Mostly N.E. and mid-west U.S. Rev.: *AHR* 95, June 1990, p917.

Dana F. White, **The Urbanists, 1865-1915.** Greenwood (Westport CT), 1989. 302p. \$48. Urban culture as seen by the periodical press. Rev.: *JAH* 77, Sept. 1990, p682-3.

William H. Wilson, **The City Beautiful Movement.** Johns Hopkins U. Pr. (Baltimore), 1989. 377p. \$39. Rev.: *JAH* 77, Dec. 1990, p1059-60.

The World That Moses Built. Motion picture, Obenhaus Films, 1988. 58 mins. (Avail.: PBS Video, 1320 Braddock Place, Alexandria VA 22314-1698). Robert Moses; NYC public works. Rev.: *JAH* 77, Dec. 1990, p1123.

TRANSPORT

Robert H. Babcock, "Saint John Longshoremen during the Rise of Canada's Winter Port, 1895-1922." In *Labour/Le Travail* 25, Spring 1990, p15-46.

Samuel A. Batzli, "From Heroes to Hiroshima: The National Air and Space Museum Adjusts Its Point of View." Exhibit rev. in *T&C* 31, Oct. 1990, p830-37. Making exhibits more "balanced", less celebratory of technology, with broader historical context and more critical perspective.

Gerald Beck, "Constituting Corporations and Markets: Railroads in Gilded Age Politics." In *Studies in American Political Development* 4, 1990, p130-68.

Thomas A. Becnel, *The Barrow Family and the Barataria & LaFourche Canal: The Transportation Revolution in Louisiana, 1829-1925*. La. St. U. Pr. (Baton Rouge), 1989. 216p. \$28. A family financial history, with some data on the canal from 1829 charter to 1935 incorporation into the Gulf Intracoastal Waterway, but not focused on IA. Rev.: *JAH* 77, Dec. 1990, p1016.

"Beyond the Limits: Flight Enters the Computer Age." Exhibit, National Air & Space Museum (Wash. DC). Exhibit rev. by Michael R. Williams in *T&C* 31, Oct. 1990, p838-45. Rev. also notes related book of the same title by Paul Ceruzzi (MIT Pr., Cambridge MA, 1989, 283p, \$30/18 pap.), as well as an educational package for grades 3-12.

Roger E. Bilstein, "The Foreign Connection: International Suppliers to the American Aerospace Industry." In *Essays in Economic & Business History* 8, 1990, p30-39.

John C. Bishop, "Delivering the Goods by Air: The U.S. Air-Cargo Industry, 1945-1955." In *Essays in Economic & Business History* 8, 1990, p40-45.

Andrew F. Burghardt, "Some Economic Constraints on Land Transportation in Upper Canada/Canada West." In *Urban History* Rev. 18, Feb. 1990, p232-36.

Michael P. Conzen & Kay J. Carr (eds.), *The Illinois & Michigan Canal National Heritage Corridor: A Guide to Its History and Sources*. Northern Ill. U. Pr. (DeKalb), 1988. 349p. \$50.

Andrew den Otter, "Railway Technology, the Canadian Northwest, and the Continental Economy." In *RRH*, No. 162, Spring 1990, p8-19.

Edward P. Duggan, "The Education of American Carriage Makers, 1880-1916." In *J. of Transport History* 11, Mar. 1990, p1-11.

Joshua B. Freeman, *In Transit: The Transport Workers Union in New York City, 1933-1936*. Oxford U. Pr. (NYC), 1989. 434p. Rev.: *AHR* 95, Oct. 1990, p1308-9.

Glenn S. Gordinier, "Work on the Water." In *Museum News*, Nov.-Dec. 1990, p48-49. Including labor in maritime museum interpretation.

H. Roger Grant, "Seeking the Pacific: The Chicago & North Western's Plans to Reach the West Coast." In *Pacific Northwest Q.* 81, Apr. 1990, p67-73.

James H. Hitchman, *A Maritime History of the Pacific Coast, 1540-1980*. U. Pr. of America (Lanham), 1990. 225p. \$30/18 pap.

Daniel P. Jones, "Commercial Progress vs. Local Rights: Turnpike Building in N.W. Rhode Island in the 1790s." In *Rhode Island Hist.* 48, Feb. 1990, p21-32.

Maury Klein, "Replacement Technology: The Diesel as a Case Study." In *RRH*, No. 162, Spring 1990, p109-20.

Peter C. Kohler, "America: 'To the Ocean White with Foam.'" In *Steamboat Bill*, No. 194, Summer 1990, p88-130, plus color views on both sides of front and back covers. SS "America" (1939-1964), from proposals (1933) through construction; service as WWII troopship, transatlantic liner, and cruise ship; and sale to Greek firm (which is reported to be scrapping her). Including exterior & interior photos, reproductions of ads, specifications, and deck plans & misc. dwgs.

Robert V. Kubicek, "The Design of Shallow-Draft Steamers for the British Empire, 1868-1906." In *T&C* 31, July 1990, p427-50. Incl. much on naval architect Edward J. Reed (1830-1906).

William L. Lang, "Corporate Point Men and the Creation of the Montana Central RR, 1882-87." In *Great Plains Q.* 10, Summer 1990, p152-66.

William M. Leary (ed.), *Aviation's Golden Age: Portraits from the 1920s and 1930s*. U. of Iowa Pr. (Iowa City), 1989. 215p. \$23. Studies in institutional, regulatory & political history. Rev.: *JAH* 77, Dec. 1990, p1072-3.

Roy Minter, *The White Pass: Gateway to the Klondike*. U. of Alaska Pr. (Fairbanks), 1987. 406p, illus., maps, notes, bibliog., index. \$25. White Pass & Yukon Rwy., AK / BC / Yukon Terr., 1898-present? Rev.: *Western Historical Quarterly* 20, May 1989, p226-7.

David H. Mould, *Canals and Railroads in the Hocking Valley Region of Ohio, 1825-1875*. Thesis, Ohio U., 1989.

Narrow Gauge and Shortline Gazette. (POB 26, Los Altos CA 94023), Nov.-Dec. 1990, includes info on boxcars, work cars, a locomotive, and two motor trucks. Beginning in this issue and concluding in the Jan.-Feb. 1991 issue is an article by George Konrad (SIA), "Modeling a Cyanide Mill", incl. background on extracting precious metals with a cyanide chemical process, with photos, plans of buildings and machinery, and flow charts.

Larry L. Nelson, "Disaster at Dawn: The Crash of the Shenandoah." In *Timeline* 7, Dec. 1990/Jan. 1991, p2-17. First U.S. rigid-frame airship, and first anywhere to use helium, completed 1923; crashed in Ohio during thunderstorm in Sept. 1925; feeding frenzy of souvenir collectors. Illus., incl. diagram, photos of mfg., snapshots of crash scene.

William H. Phillips & William C. Schmidt, Jr., "The Economics of Early Monorail Railroads: The Bicycle Railroad of E. Moody Boynton." In *Essays in Economic & Business History* 8, 1990, p378-90.

William Silag, "The Conquest of the Hinterland: Railroads & Capitalists in N.W. Iowa after the Civil War." In *Annals of Iowa* 50, Summer 1990, p475-506.

Jacob A. Vander Meulen, *The American Aircraft Industry to 1936: A Political History of a Military Industry*. Thesis, U. of Toronto, 1989.

Margaret Walsh, "'See this amazing America': The Long Distance Bus Industry's Use of Advertising in its First Quarter Century." In *J. of Transport History* 11, Mar. 1990, p61-88.

James F. Watters, *The Regulation of RR Technology between 1860 & 1920 and its Effect on the New England Carbuilding Industry*. Thesis, Clark U., 1989.

John H. White, "Spunky Little Devils: Locomotives of the N.Y. Elevated." In *RRH*, No. 162, Spring 1990, p20-79.

IA OF THE FUTURE

Elaine Appleton, "Tool Path Simulation." In *Computer Graphics World* 13, Sept. 1990, p85-91. Computer numerical control simulation, incl. some real-time interactive programs. Is anyone saving this and other computer-aided design and manufacturing software and data for historical, educational and interpretive purposes?

Marsha Freeman, "Mining Helium on the Moon to Power the Earth." In *21st Century Science & Technology* 3, Summer 1990, p29-37. Plans for automated mining of He3 for deuterium-He3 fusion power; problems with working conditions, incl. adhesive/abrasive nature of lunar soil. "One Shuttle payload of helium-3 could produce as much electricity as the U.S. consumed in 1985 from all sources."

Abbreviations used in this PoFI:

- AHIT: American Heritage of Invention & Technology
- AHR: American Historical Review
- BHR: Business History Review
- IA: IA; Journal of the SIA
- JAH: Journal of American History
- RRH: Railroad History
- T&C: Technology & Culture

Readers are urged to send all notices of pertinent publications to John M. Wickre, Compiler, Publications of Interest, SIA Newsletter, P.O. Box 65158, St. Paul, MN 55165-0158 (612-222-5628 or 224-0026).

NOTES & QUERIES

CALL FOR SYLLABI. The Technology Studies & Education (TS&E) Group of the Society for the History of Technology (SHOT) is collecting materials for a third edition of *The Machine in the University*. The first two editions (1983, '87) have proved useful and popular. Although those volumes are still valuable, the vitality and growth of the field call for a new edition. TS&E seeks new and updated syllabi describing courses in any aspect of history of technology or technology studies, from surveys to closely focused inquiries. Nontraditional and non-Western approaches and perspectives will be welcomed.

Course materials submitted for consideration should include a statement of the course's goals, a list of topics covered on a daily or weekly basis, and readings assigned or recommended for each topic. Study and exam questions or paper topics would also be appreciated. All bibliographical materials should include complete citations. Please include full references to any films, videotapes, slide sets, or other instructional materials used in the course (or found useful in the past), as we hope to incorporate an annotated list of such materials.

Submissions may be either hard copy or electronic. If hard copy, please send standard paper (8.5" x 11" or A4), double-spaced, eight copies, and either typewritten or other letter-quality. Files on electronic media (5.25" or 3.5" disks) or sent via electronic mail may be in any version of WordPerfect (preferably), Word 4.0, or ASCII; if the material is in another format, please consult before sending. The Steering Committee of TS&E will review the submissions and make selections for inclusion.

Please forward all materials ASAP and before Feb. 28, 1991, to Robert Rosenberg, Thomas A. Edison Papers, Rutgers Univ., New Brunswick NJ 08903 (E-MAIL: RAROSENB@ELBERETH.RUTGERS.EDU).

HISTORIC IRONWORKING WORKSHOP. The North Jersey Highlands Historical Society is sponsoring a Historic Ironworking Workshop on Mar. 30, 1991, in the iron-rich Highlands that brought the ironworking expertise of Peter Hasenclever to the colonies. It will be held at Skylands Carriage House, Skylands Section, Ringwood State Park, Ringwood, N.J.

Papers addressing any aspect of historic ironworking or any particular site (furnace, forge, mine) are sought. Well-illustrated presentations, limited to 25 mins., are encouraged, from both professionals and non-professionals. Send titles and abstracts by Feb. 15 to Ed Lenik [SIA], Sheffield Archaeological Consultants, POB 437, 24 High St., Butler NJ 07405-0437 (201-492-8525).

ADVISORY COUNCIL 1991 TRAINING SCHEDULE. The Advisory Council on Historic Preservation will be offering 16 training sessions in 15 cities during 1991. The Council's three-day course, "Introduction to Federal Projects & Historic Preservation Law," is designed to teach federal, state, local, and tribal officials and consultants the basics of the project-review process, usually referred to as "Section 106 review," mandated by Section 106 of the National Historic Preservation Act (NHPA).

Courses offered in 1991 will provide an overview of NHPA and up-to-date information about the Sec. 106 implementing regulations, "Protection of Historic Properties,"

which appear at 36 CFR Part 800. Participants will learn exactly what Sec. 106 review is, when it applies, and what they need to do to carry it successfully to completion.

The 1991 schedule: Jan. 15-17, Washington, D.C.; Jan. 28-30, San Francisco, Calif.; Feb. 11-13, Atlanta, Ga.; Feb. 25-27, Phoenix, Ariz.; Mar. 11-13, Kansas City, Mo.; Mar. 25-27, San Antonio, Tex.; April 9-11, San Juan, P.R.; April 22-24, New Orleans, La.; May 8-10, Chicago, Ill.; May 20-22, Albuquerque, N.M.; June 3-5, Hartford, Conn.; June 19-21, Los Angeles, Calif.; July 9-11, Denver, Colo.; July 24-26, Washington, D.C.; Aug. 6-8, Seattle, Wash.; Sept. 10-12, Anchorage, Alaska.

Registration is \$210. Info.: ACHP, Rm. 803, 1100 Pennsylvania Ave. NW, Wash. DC 20004 (Shauna Holmes, 202-786-0505).

Canadian Legislation for historic railway stations

The Heritage Railway Stations Protection Act responds to the longstanding and widespread concern that Canada's heritage railway stations were being afforded an inadequate level of protection. The initiative of a private Member of Parliament, the Act received the support of the government of Canada and reflects a stated commitment to the preservation of the built heritage. The Act provides for the designation of railway stations as "heritage railway stations" and is intended to encourage the preservation of stations so designated for the benefit of future generations. According to the Act, no railway company may in any way alter or dispose of a designated station owned by it or under its control without the authorization of the governor in Council. A railway company planning such action must give public notice of its intention, thereby providing an opportunity to concerned citizens and groups to comment on the proposal.

A heritage railway station is one that is designated as such by the Minister of the Environment, on the recommendation of the Historic Sites and Monuments Board of Canada. Created in 1919, the Board is the statutory body appointed to advise the Minister on historical matters. Its membership includes prominent historians, archivists, and professionals in the heritage field from across Canada.

The Board evaluates railway stations referred to it for consideration in accordance with established historical, architectural, and environmental criteria. In order to be eligible for designation, a railway station must be owned or controlled by a railway company to which the Railway Act applies.

Typical of the stations preserved is the former Canadian National station at St. Thomas, Ont. This large Italianate style station was built in 1871-73 as the headquarters of the American-owned Canada Southern Ry. Co. and is unique in the history of Canadian station design for its elongated plan.

Any group or individual wishing to have a railway station considered for possible designation under the Act should contact: The Executive Secretary, Historic Sites & Monuments Board of Canada, Ottawa, Ontario, CANADA K1A 0H3.

Romance of Steel typifies New Deal industrial murals in Ohio post offices



Glenn M. Shaw, *Romance of Steel, Old*, oil on canvas, 7 1/2 x 16 1/8 ft., 1938. Photographed by Connie Girard for the Ohio Historical Society.

Among the millions of unemployed who eventually drew federal paychecks during the Great Depression were thousands of artists put to work creating murals and sculptures in public spaces and on public buildings. Under the auspices of the U.S. Treasury Dept.'s Section of Fine Arts, artwork was produced for 1,100 different post offices throughout the nation. In Ohio, industrial themes were the subject of more than a quarter of the 71 post offices that were graced with murals.

Typical examples of this "IA in art" were the murals created by Cleveland artist Glenn Shaw (1891-1981) for the Warren post office in 1938. Shaw's murals are among several



Glenn M. Shaw, *Romance of Steel, Modern*, oil on canvas, 6 7/8 x 15 ft., 1938. Photographed by Connie Girard for the Ohio Historical Society.

industrially oriented artworks that accompany an article on the Ohio murals appearing in the June/July 1989 issue of *Timeline* magazine. Historian Gerald Markowitz and art historian Marlene Park co-authored the 18-page piece entitled "Not by Bread Alone: Post Office Art of the New Deal." Production of the article was assisted by a grant from the Ohio Arts Council that made possible the creation of an archive at the Ohio Historical Society of large-format negatives and transparencies of 30 of the state's murals. Info.: *Timeline*, OHS, 1985 Velma Ave., Columbus OH 43211-2497.

D.A.S.

Iceland IA slated for scrap in new steel mill

The first steel mill in Iceland has just opened and there is finally a price for scrap. Iceland is a perfect place for a steel mill, since electricity is incredibly cheap. There already is an aluminum smelter, and another is being planned. Students of power generation should visit simply to tour the power plants and marvel at the zillions of gigawatts of untapped hydro potential. The mill is of such a scale that it probably will meet domestic needs for certain steel items, although there is talk of an export market down the line. Iceland is a country built of reinforced concrete, which requires steel reinforcing bars.

Ship-breaking is a good source of steel but, for want of recycling facilities, Iceland and Norway had been the only nations in the North Atlantic to allow scuttling of old ships. Now Iceland has a steel mill and ships are being recycled, along with everything else. A few decades ago a wool carding mill was buried, just to get it out of the way. Now it would be scrapped. The first electric generator in the country is still in place. There's an early 20th-C cement mixer rusting away on a farm. Every little town has its factory with its pile of old equipment and its sheet-metal buildings. I have been investigating the east fjords during the last year, and some really amazing ancient machines have turned up, right on the streets. They are still packing salt fish in wooden barrels, side-by-side with modern factory flash-freezing. There are still

many "flakes" of wooden poles, on which fish are air dried, just as they were on the Newfoundland coast in the 16th C.

Until now, there has been no place to sell scrap for recycling. Now that scrap steel has a value in Iceland, they aren't scuttling ships, which is good. They also are collecting all those old machines. This is a wonderful opportunity for IA enthusiasts to do a service for posterity. Grab the camera, head for the villages and farms of Iceland, and make a record. Besides, it's a really great place to spend a vacation. The people are friendly and the IA is first class, if you look for it.

E.F.H.

CONTRIBUTORS TO THIS ISSUE

William J. Ellenberger, Escondido, Calif.; Tom Flagg, Photo Recording Assoc., N.Y.C.; Kenneth A. W. Gansel, Niagara On The Lake, Ont.; Laurence F. Gross, Museum of American Textile History, N. Andover, Mass.; Edward F. Heite, Heite Consulting, Camden, Del.; Charles K. Hyde, Wayne State Univ.; Brian Kuebler, Minnesota Trans. Museum; Edward J. Lenik, Sheffield Archaeological Consultants, Butler, N.J.; Patrick M. Malone, Brown Univ.; Paul Rivard, Maine State Museum, Augusta; David Shayt, Natl. Mus. of Am. Hist.; David A. Simmons, *Timeline*, Ohio Historical Society; Steve Victor, U.S. rep. to TICCIH, New Haven, Conn.; and Robert M. Vogel, Wash. D.C. With thanks.

SITES & STRUCTURES

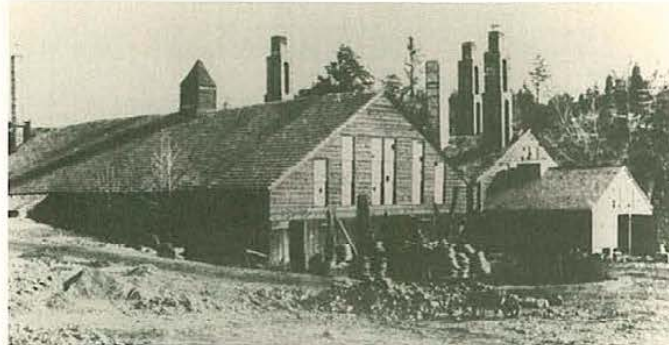
BIG \$\$\$ FOR BIRMINGHAM IA. Sloss Furnaces Natl. Historic Landmark in Birmingham, Ala., was awarded a \$250,000 grant from the Natl. Park Service for use in preserving the No. 2 Furnace [viewed during 1985 SIA Fall Tour] and associated structures. This is the second such grant in three years. An additional \$250,000 appropriation has been made to the NPS Atlanta office to begin study on the feasibility of establishing a Natl. Industrial Heritage Corridor in the larger Birmingham District. This project has been championed by the Birmingham Historical Society. Info.: Randall G. Lawrence, SFNHL, POB 11781, Birmingham AL 35202 (205-324-1911).

MAJOR MORRIS CANAL GRANT. A two-mile section of the Morris Canal at Waterloo Village, N.J. [visited during the 1974 SIA Fall Tour], will be restored through a \$775,000 grant from the N.J. Historic Trust, made possible through the Historic Preservation Bond Program. The funding involves a match by the Waterloo Foundation for the Arts. Opened in 1831, the canal was taken over by the state in 1923 and dismantled in 1924, when most of its works were destroyed [see *SIA* Winter 88:1]. This initial funding for the project's first phase involves restoring the lower canal, the guard lock, the stilling basin, and the RR bridge; site grading; and reconstruction of part of the inclined plane. A grant application is being prepared for the second phase, including further work on the inclined plane, which raised canal boats 80 ft., and replication of the brakeman's house, the turbine house with winding machinery, the cradle car, and two canal boats. The total cost of phase two is estimated at \$5.9 million, and altogether the project will take four to five years. Volunteer equipment and labor will be provided by the Morris & Sussex Building & Construction Trades Council. The restoration is a joint venture project of C.G. Engineers of Englewood, N.J., and Manitou Machine Works of Cold Spring, N.Y., who continue in their quest for the right double-intersection Warren pony-truss bridge (65-70 ft. long, 14-18 ft. wide; c1860-1900) for the project. Info.: Tom Rick [SIA], Manitou Machine Works, 37 Main St., Cold Spring NY 10516 (914-265-3153).

MANITOBA GRAIN ELEVATORS. A report on the ongoing loss of Manitoba's grain elevators was one of many heritage issues, including IA items, highlighted in provincial reports to the first National Heritage Forum by nine of Heritage Canada's governors. The Forum is an initiative of the newly created Canadian Heritage Network, and was part of Heritage Canada's 17th annual conference in Sept. in Newfoundland.

According to the Manitoba report, between 1960 and 1989 the number of elevators in the province dropped from 5,338 to 1,666. Last Feb., the board of Heritage Canada communicated its concern about this trend to the National Historic Sites & Monuments Board of Canada and Provincial Ministers of Heritage, and asked that they identify and designate the best collection of elevators within their jurisdictions. The report noted that heritage organizations in each province, as well as Heritage Canada, likely would give further strong encouragement to accelerate reviews of the existing stock and designation of the best collections. For further info., contact Kenneth G. Kelly, c/o Heritage Canada, POB 1358, Station B, Ottawa, Ontario K1P 5R4.

Impact, Heritage Canada



Pompton steelworks, c1900.

POMPTON IRONWORKS RESEARCH. A report, "The Pompton Ironworks & Village, Passaic County, N.J.: An Archaeological & Historical Survey," prepared for the Pompton Lakes Historic Preservation Commission, was presented to the Pompton Lakes Town Council by Edward J. Lenik [SIA], this past summer. Situated at Pompton Falls on the Ramapo River, Pompton Ironworks was the scene of extensive industrial activity from c1726 to c1908, containing a bloomery forge, a blast furnace, a steelworks, worker housing, school, post office, church, and a section of the Morris Canal. The ironworks was first established by the Schuyler family, passing in 1774 to Gabriel Ogden, who supplied the Continental Army with cannon balls and grape shot. Martin J. Ryerson was ironmaster at Pompton until his death in 1839. James Horner and James Ludlum produced files, knives, nails, saws and railway car springs in the steelworks they developed on the site in the mid 19th C. Much of the village and the complex was destroyed in a 1903 flood.

The report is a comprehensive compilation of all known references to Pompton Ironworks, including bibliography, maps, and photos. The narrative defines Pompton's geographical and historic setting, exploring why an ironworks developed here and why, ultimately, it failed. The patterns of developmental interaction between the adjunct village and the evolving industrial site are observed. Artifacts from the current research and those collected over the years are documented. Recommendations include National Register nomination for the remaining parts of the industrial complex: a furnace-bridge abutment, a raceway, an overflow weir, and associated stone walls. Two buildings, one of them the last extant ironworkers' cottage, also are recommended for nomination. Two steelworks dump sites and a blast furnace dump site are recommended for nomination as archeological districts. Info.: Edward J. Lenik, Sheffield Archeological Consultants, POB 437, 24 High St., Butler NJ 07405-0437 (201-492-8525).

MODELER NOTES RR BRIDGE DETAIL. Careful attention to structural detail and description continues in publications from the RR modeling community (whence cometh numerous SIA members) like *Mainline Modeler*. The Sept. number includes notes, photos, and measured drawings for a three-span, 78-ft. deck-girder bridge erected in 1928 on an elevated-grade section of the old Little Miami Rwy. right of way near Newton, Ohio, now the Norfolk & Western's mainline from Portsmouth to Cincinnati. In addition to recounting the contextual background of regrading, realigning, and bridge rebuilding, author James Austin includes structural drawings that would be at home in any IA recordation project. In a follow-up letter in the Nov. issue, Austin observes that he neglected to include several rivets on the gusset plates and "the overpass makes no structural sense without them." Info.: James A. Austin, 632 Probasco St., Apt. 3, Cincinnati OH 45220-2711.

1990 TICCIH Congress celebrates the industrial archeology of Belgium

Belgium, already the most heavily industrialized region on the European continent by the end of the 18th C, was an appropriate site for the 7th Intl. Congress of TICCIH (The Intl. Committee for the Conservation of the Industrial Heritage). Belgium remains a strong industrial nation, with much extant evidence of the industrial heritage and many specialized museums of industrial subjects. From Sept. 2 to 8, about 170 delegates met to discuss the industrial heritage in a world context, to study the industrial heritage of Belgium, and to renew friendships and make new ones. For the first time, the conference included delegates from all six continents, including a strong contingent from Eastern Europe.

The Netherlands hosted a brief pre-conference tour on Aug. 31 and Sept. 1 in the Rotterdam area. Highlights were a visit to the seaport of Rotterdam, the world's busiest, serving vessels from 400 shipping companies. Participants in the extensive harbor tour saw several generations of dry docks and other maritime structures, as well as a full range of cranes and facilities for handling every type of cargo: liquid, bulk, and containerized. The tour also visited the distillery museum

and modern grain storage and production facilities for Dutch gin at Schiedam.

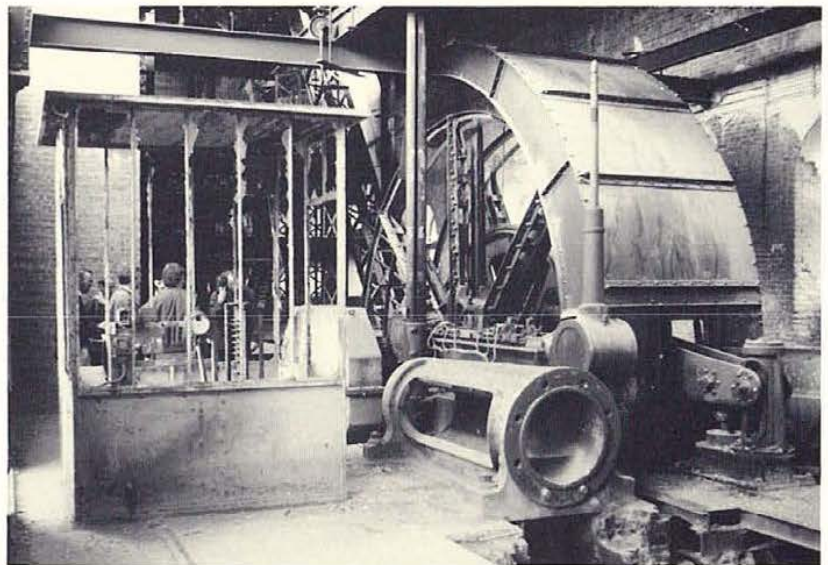
TICCIH '90, as the Belgian conference was called, began with a formal opening in the 15th-C town hall of Brussels. Welcoming remarks were followed by overviews of the industrial heritage of the two major regions of Belgium by Adriaan Linters [SIA], for Flanders, and by Claude Gaier, for Wallonia (French-speaking Belgium). After lunch we were treated to a visit to the Royal Greenhouses, with extraordinary wrought-iron frames (1873-93; Alphonse Balat, archt.). In the late afternoon, participants had a choice of tours either of the industrial heritage of Brussels (by boat and on foot) or a visit to the transportation museums of the city. The tours were capped off with a drink in the engine and compressor room of the abandoned Wielemans brewery.

The General Assembly of TICCIH began on Tues. and reconvened on Fri. The voting delegates elected Louis Bergeron (France) as chair, with Stuart Smith (England) as secretary, and Werner Kroker (Germany) as treasurer. The new board of TICCIH consists of those officers and four members elected at large, plus other members co-opted to the



Left: The Star Mill, Eksel, Belgium, a post-type windmill still grinding grain. S. Victor photo.

Right: Abandoned mine-winding engine, Bois du Luc, Belgium, originally a first-motion steam hoist, later converted to electric drive. Although the cylinders were removed, the crosshead-guide castings were left in place as they are integral with the drum bearings. R. Vogel photo.

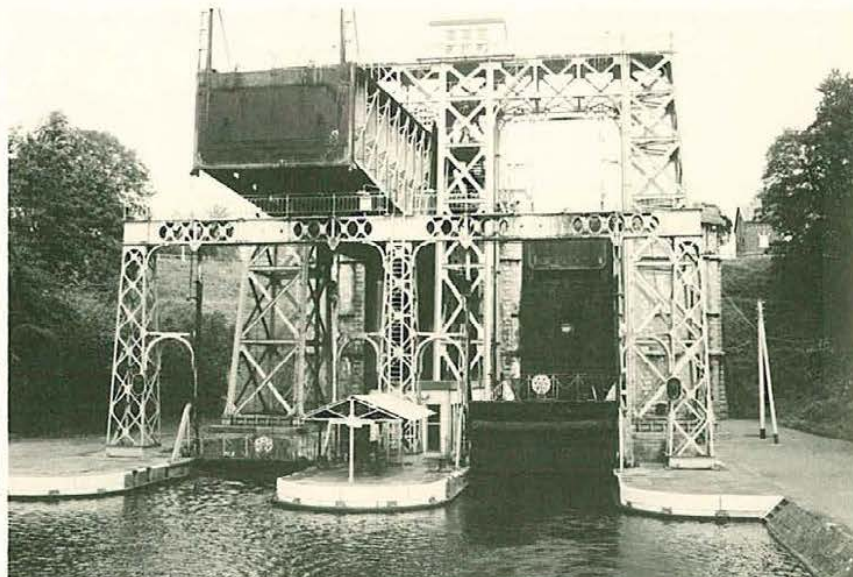


Schiedam: a typical Dutch double-leaf bascule so widely used in the Netherlands to carry roads over canals and rivers, a bridge type essentially unchanged for centuries, whatever the scale or material. This 1873 example is of cast iron. R. Vogel photo.



Above: Reinforced-concrete headgear (1920) at the "Limburg-Maas" coal mines of Eisden, province of Limburg, Belgium. Coal-washing plant was reduced to the twisted rubble at right the day we visited. *S. Victor photo.*

Right: One of flight of four c1890 hydraulic boat-lifts at the Canal du Centre near La Louviere. *R. Vogel photo.*



Board. The elected members are Ola Overas (Norway), Dianne Newell [SIA] (Canada), Peter Nijhoff (Netherlands, and Hoshimi Uchida (Japan). Co-opted members are Eusebi Casanelles (Spain), Jorge Custodio (Portugal), Marie Nisser (Sweden), and Guido Vanderhulst (Belgium). Delegates approved plans to hold the next TICCIIH conferences in Spain in 1992 and in Canada in 1994. Work is under way to publish a listing of industrial heritage sites from around the world under the editorship of Dianne Newell.

Working sessions on several topics began Tues. afternoon and completed their deliberations on Fri. Topics included production of energy and raw materials, transport and communications, agricultural and food industries, interdisciplinary approaches, and new museological approaches to industrialization.

On Weds. and Thurs. delegates had the opportunity to choose two field trips from a list of seven. Those in Wallonia were under the auspices of the Patrimoine Industriel Wallonie-Bruxelles. Highlights of the Hainaut region tour in Wallonia included a canal trip and ride through a hydraulic boat lift (similar to that in Peterborough, Ontario) on the Canal du Centre; a late 18th-C coal-mining community designed in the neo-classical style around an oval at the Grand Hornu; an ecomuseum of coal mining at Bois-du-Luc; a lime kiln; and a stone-quarry museum. The Liege tour included a

coal mine at Blegne-Trembleur open for visitor descent; a hydraulic power station; and the offices and housing of Val St. Lambert, a glassworks founded in 1825 in the buildings of a former monastery. The tour also passed through the wood-producing city of Verviers and along the edge of the large Cockerill steel works at Seraing and visited the iron and coal museum in Liege. The third tour in French-speaking Belgium covered the district between the rivers Sambre and Meuse. It visited an industrial village for a glassworks, a steam railway, a marble quarry, a brewing museum, and an ecomuseum on agricultural mechanization.

The Vlaamse Vereniging voor Industriële Archeologie (Flemish Assn. for IA) led the tours in Flanders. The large number of early 20th-C coal mines in Limburg, all recently abandoned, was a high point of that region. At several of them, "garden city" style housing developments remain. Participants in that tour also had the chance to visit a post-type windmill for a grain-grinding demonstration. The tour ended with a visit to the genever (Belgian version of Dutch gin) museum in Hasselt. The East Flanders trip included a ride on the steam train of a RR restored for tourists, a modern shipyard on the Scheldt and nearby museum of shipbuilding, a 1930s power station with all its original equipment preserved plus earlier machinery and interpretive exhibits, and two museums of IA, focusing on textiles, in Ghent. The Antwerp trip explored quays, shipyards, harbor facilities, and an ecomuseum celebrating the huge brickworks at Boom. The West Flanders tour visited a number of museums (flax, energy, brush-making, shoe-making, brewing), as well as the Pottelberg tile works and a tower grain mill.

The conference concluded with dinner aboard a boat touring the canals and passing canal-side factories and warehouses of Brussels and under several Vierendeel-truss bridges. Traditionally, one side of Brussels' canals held depots of building materials and the other side concentrated on fuels.

To date, we have no information on the publications that usually accompany the TICCIIH conference. Past gatherings have published both a volume of National Reports (activities in world IA since the last conference) and a volume of conference proceedings. For ordering information on reports and proceedings of previous conferences, contact Helena Wright, SIA-HQ, NMAH 5014-stop 629, Smithsonian Inst., Wash. DC 20560.

S.V.



Buttresses at the Royal Greenhouses (1873-93), near Brussels. *S. Victor photo.*

SIA AFFAIRS

HARDHAT MIRACLE (a true story for the holiday season). Reports Vance Packard, one of the Society's founders: "I was driving over Eagle Mountain in Pennsylvania when my Jeep blew out a hose in its water system. I had some duct tape and was able to repair the hose rupture. But what about the lost water? I knew there was a spring not far back, but what could I carry the water in? Looking around the Jeep, I realized that all I had with me was my official *SIA hardhat*, so . . ." Well, we all know the "rest of the story."

NEWS OF MEMBERS

The structural engineering firm of David C. Fischetti, P.E., Consulting Engineer, P.A., was awarded the 1990 Consulting Engineers Council of N.C. Engineering Excellence Award in the Special Projects Category for the rehabilitation of the Cornish-Windsor Covered Bridge (1866), which links Cornish, N.H. and Windsor, Vt. **David C. Fischetti** [SIA] is a principal in the Cary, N.C. firm, which provided the design for the \$3.4-million project, including the temporary cable-stayed structure used to support the bridge during construction. Modern techniques of analysis and design were applied to the evaluation of a historic structure of extreme complexity.

Laurence F. Gross, curator of the Museum of American Textile History, was awarded the 1990 Usher Prize at the annual meeting of the Society for the History of Technology, Cleveland, in Oct., for his article, "Wool Carding: A Study of Skills & Technology," in *Technology & Culture* 28 (Oct. 1987). The text of the citation is of considerable interest for students of industrial archeology:

"In his article Larry Gross tackles one of the so-called 'neglected' issues in the history of technology: labor and work. As have many scholars among the field of the 'new labor history,' Gross refutes the assumption, widely accepted until recently, that skill can easily be replaced with machinery. But Gross's essay is different, because he begins with the machine and technology itself, and rests his analysis on a close consideration of the machine and its operation. His approach is based on a museum background and long experience with textile machinery, and it permits him to speak authoritatively about technological innovation and its effect on labor and skills. This intimate understanding of the work process and the technology adds immensely to his discussion of the 'big question' at issue here, making it easily the best essay on work and technology in the period 1987-89.

"This article also demonstrates in a concrete fashion a point that numerous historians of technology have made, that the artifact is a very useful—indeed, a vital—source of inspiration. One of the things that marks historians of technology is their attention to things. There is some danger that recent currents in the field, especially the surge of interest in sociological theory, will re-create circumstances like the old attitudes of some economic historians—that technology can be placed in a black box, that it offers nothing special in itself, that technology can be studied without any interest or attention to 'the machine.' Larry Gross demonstrates that historians of technology have an important contribution to make to the discussions of labor and business historians, as well as to the work of political economists, precisely because he starts with technology. This is a model essay."

ELLIOT WILLENSKY

With genuine sadness we report the sudden death last May of long-time, active member Elliot Willensky, 56, at his Brooklyn home. Elliot was best known as vice chairman of New York City's Landmarks Preservation Commission and co-author of the king of urban architectural guides, the *AIA Guide to New York City*, which has gone through three editions since its first appearance in 1968 under the sponsorship of the N.Y. Chap. of the American Inst. of Architects. Although the *Guide* emphasizes the city's incredibly diverse architectural bounty, it bears the distinct stamp of Elliot's abiding concern for its industrial archeology as well. In addition to recognizing such space-enclosing IA as breweries, substations, industrial loft buildings, the great railroad terminals, and even the odd industrialist's residence, the *Guide* pays appropriate homage to New York's stunning array of bridges and tunnels. An appendix lists some 65 major spans and the four vehicular tunnels (reasonably, ahead of the list of "Parades and Street Spectacles"), with principal statistical data. At the time of his death, Elliot was at work on—among other things—*Hidden New York*, a compilation of writings about the city's utility, communication, and transportation systems. Let us hope that the work may be completed by others.

Elliot's writing was distinguished, always, by wit and keen perception. His voice on behalf of preservation and the endless wonders of New York's physical fabric was both respected and effective. His many friends, colleagues, and admirers have established a fund in his name to address worthy causes in urban history, architecture, preservation, and surely, industrial archeology. Tax-deductible contributions may be made to the Elliot Willensky Fund/MAS, c/o the Municipal Art Society, 457 Madison Ave. NY NY 10022.

R.M.V.

LETTERS

Spain, Portugal IA Tours

Editor:

A participant on our most recent tour passed on a copy of the brochure for the 1990 SIA Study Tour to the Yukon and Alaska, which seemed to have been arranged very much along the same lines as our tours in southern Spain and Portugal. These resulted from my own association with the area, having worked on the archaeology and industrial remains at Rio Tinto over the past few years. We have now built up good contacts within the area and our tours are proving successful to the extent that we have people returning for a second or a third time.

Our clients' interests cover the whole range of industrial archaeology and mining history studies. In the last two years, research students from the Inst. of Archaeo-Metallurgical Studies at the Inst. of Archaeology, London, have joined us as part of their studies and have contributed a special insight into the archaeology of the very earliest mining and metallurgy in the region.

We have also planned a longer itinerary for the Columbus quincentennial in 1992 that will cover all the major mining fields of southern Spain, including Rio Tinto, Roman lead-mining areas of Linares, the Almaden mercury, etc. In the same year we intend to offer a U.K. mining/metallurgy

industrial-archaeology itinerary concentrating on Wales, which contains a diversity of mineral deposits and a long and ancient mining history.

A detailed brochure on the Rio Tinto Mines & Iberian Pyrite Belt Study Tour, May 17-27, 1991, is available. If SIA members are interested, we would be pleased to arrange travel and accommodation in the U.K. if required or in Spain if a direct flight from the U.S. was preferred.

*James Thorburn
Atalaya Tours
Ceinionfa, Penglais Terrace
Aberystwyth, Wales, SY23 2ET, U.K.
Phone (0970) 625077*

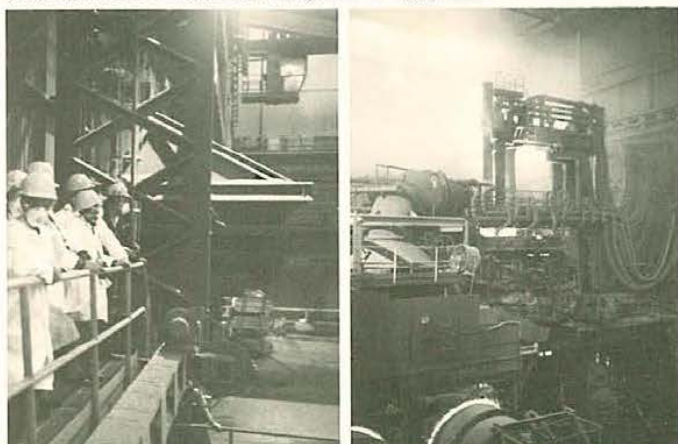
LOCAL CHAPTERS

SOUTHERN NEW ENGLAND. At the Annual Fall Meeting, chapter members toured the Watertown Arsenal [HAER] and the Waltham Watch Co. Established in 1816, the Arsenal site developed over the next 150 years from an ordnance and military supply depot to an important manufacturing and materials-testing facility of the U.S. Army. Since the mid-19th C, the site has been an important center of metallurgical technology development, manufacturing, and research. Tour highlights included the Civil-War-era gun-carriage manufacturing complex; the Commanding Officer's Quarters (1865), built for the controversial Major Thomas Rodman, inventor of a revolutionary casting process for large cannon (the Rodman Gun); the Seacoast Gun & Carriage Erecting Shop (1917, 1942), one of the largest buildings in the U.S. when built; and the Horace Lester Reactor (1960), the Army's first research nuclear reactor.

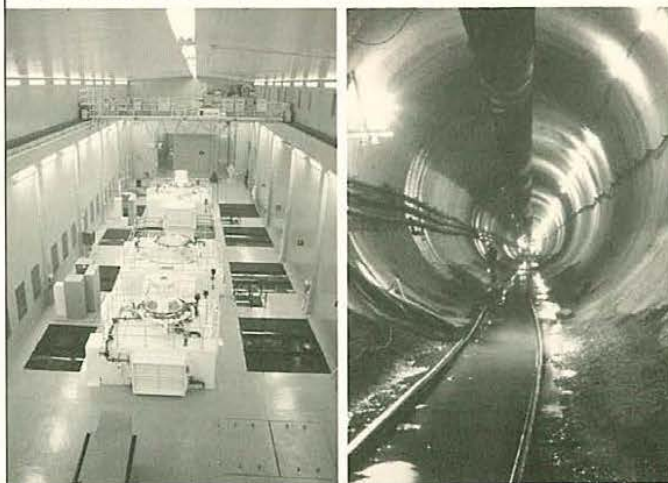
Waltham Watch Co. played a critical role in the development of mass-production techniques in the 19th C. The industry expanded with the introduction of standardized, interchangeable parts, based on the system first developed by Aaron Dennison in the 1840s. Once the largest employer in the city, the Waltham Watch Co. occupied a landmark brick factory complex built between 1870 and 1910. This remarkably intact complex is currently occupied by a variety of industrial tenants, including the Waltham Clock Co., the last remaining active watch manufacturing firm in the city. Waltham Clock operates one of the most important collections of historical machinery in manufacturing use today, much of it originally designed for Waltham Watch.

ROEBLING (greater NYC area). Under the leadership of Jim Musser, this Nov. the chapter toured the IA of the Raritan River Valley in N.J. The chief attraction was the Raritan Steel Works in Perth Amboy. One of the most significant

RSCIA members in protective garb (left) watch the electric furnace being charged (right) at the Raritan Steel Works, Perth Amboy, N.J. *T. Flagg photos.*



CHICAGO GETS READY FOR SIA



Tour itineraries are being firmed up for the SIA 20th Annual Conference, June 13-16, 1991, to be held for the first time in Chicago. Conference planners have announced that tour sites will include: Brad Foote Machine Tools; Stickney sewage treatment plant, the largest wastewater treatment facility in the world; Donnelly Printing; and Mainstream pumping station (*above*.) The Mainstream tunnel system, which has 31 miles of tunnels, 13 to 33 ft. in diameter and 240 to 300 ft. below ground (*above*), is part of Chicago's Tunnel and Reservoir Plan (TARP). It is designed to prevent backflows into Lake Michigan and alleviate flooding in the Chicago area. Optional, post-conf. Monday tours are being planned.

Proposals on the conference theme of "The Industrial Heartland" are solicited for the program of paper sessions on Saturday, June 15. Please submit a one-page abstract for either a 30-min. paper or 15-min. work-in-progress by *Jan. 31, 1991* to Emory Kemp, Hist. Dept., W.Va. Univ., Woodburn Hall, Morgantown WV 26506 (304-293-3867).

Chicago's Bismarck Hotel, located downtown, will be headquarters for the conference, and is offering SIA registrants the unheard-of rate of \$69/single, \$82/double. For additional info., contact the conference co-sponsor and host, the Public Works Historical Society, 1313 E. 60th St., Chicago IL 60637 (312-667-2200 x547 or x582).

elements of the steel mill tour was the official authorization to take photographs, the only such occasion in the memory of many veteran IA tourers. A spectacular sight for the camera (as well as eye), if you could manage the shot, was the electric furnace for melting scrap steel, said to be the largest (or second largest) consumer of electricity in the state. While the Works is technically a "minimill," it produces as much tonnage as Bethlehem Steel does these days. Using the continuous casting process, it makes only steel rod, used by its customers primarily for manufacturing wire.

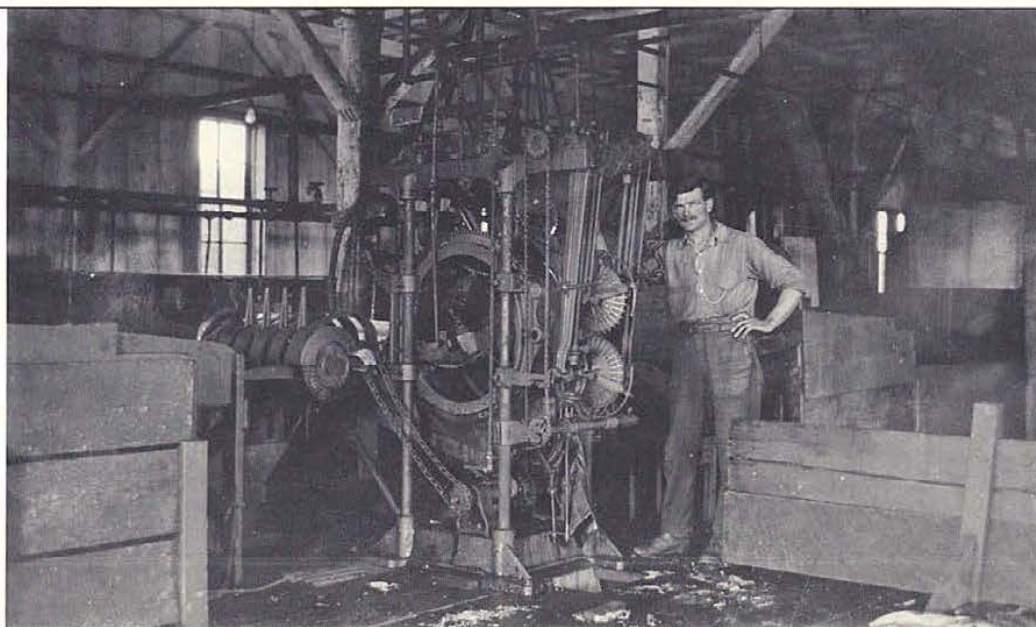
In Dec., the chapter toured the Garfield Moulding Co., Wallington, N.J., the first factory to make Bakelite and where Dr. Bakeland worked to perfect his invention. The process is cold molding and has been in operation since the 1920s.

T.F.

NEW CHAPTER COORDINATOR on the SIA Board is Fred Quivik, 7301 Germantown Ave., Phila. PA 19119 (215-242-3106).

What is this machine and what does it do?

The name and nature of the machine in this historic photo, purchased by David Shayt [SIA] in a Seattle shop, have baffled the curators at the National Museum of American History. Can you do better? If you can identify the machine or its product, contact the editor, *SIAN*.



CALENDAR

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

JAN. 10-17: SIA WINTER STUDY TOUR, PUERTO RICO. Info.: Dorothy Mahony, 508-686-5119.

Feb. 9: 4th Annual Conf. on New England Industrial Archeology, at the Powerhouse of the Wanalancet Mill, Lowell Natl. Historical Park, Lowell, Mass. Jointly sponsored by the Southern & Northern New England chapters of the SIA. Info.: Jeff Howry, 5 Bennett Ave., Lexington MA 02173.

Feb. 22: 3rd Hagley Fellows Conf., Wilmington, Del. Theme is "Risks & Rewards: Perspectives on Operating Mechanical Artifacts." Info.: Mark Mapes, Conf. Coordinator, Hagley Fellows Conf., Hagley Museum & Library, POB 3630, Wilmington DE 19807 (302-658-2400).

May 10-11: Subway History Conf., N.Y.C. Info.: Terrie S. Rousie, Director, N.Y. Transit Museum, 81 Willoughby St., Brooklyn NY 11201.

May 15-18: Annual Meeting, Vernacular Architecture Forum, Santa Fe, N.M. Info.: Chris Wilson, School of Architecture & Planning, U.of N.M., Albuquerque NM 87131 (505-277-2903).

JUNE 13-15: SIA 20th ANNUAL CONF., CHICAGO, in cooperation with Public Works Historical Society. Info.: PWHS, 1313 E. 60th St., Chicago IL 60637 (312-667-2200 x547 or x582).

Sept. 22-28: Annual Conf., Assn. for Preservation Technology, New Orleans, La. Info.: APT 1991 Program Chair, Dean's Office, School of Architecture, Tulane Univ., New Orleans LA 70118.

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; corporate, \$250; 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.

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