

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

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HAER SETS MS LIBERTY'S RECORD STRAIGHT

Beyond being a powerfully symbolic, 100-year-old sculpture, who is Ms Liberty? Her vital statistics are awesome. Fingernails measure 13 x 10 in.; her mouth, 3 ft. wide; her classic Roman nose, 4 ft. 2 in. long; her head, 10 ft. from ear to ear and 17 ft. 3 in. from chin to cranium; her index fingers are eight ft. long and 3½ ft. in circumference at the second joint; her hands, 16 ft. 5 in. from wrist to finger tip. Her right arm is 42 ft. long and 12 ft. thick at the biceps. With a bicep of this size, she has had no trouble holding aloft, for a century, a 21-ft., 4,000-lb. torch. Her left arm holds a 2-ft.-thick tablet, measuring 23 ft. 7 in. by 13 ft. 7 in., with the date of July 4, 1776 inscribed in raised copper letters and Roman numerals. The seven spikes in her tiara measure 20 ft. and represent the world's seven continents and seven seas. Not seen by the visitor are the broken shackles and axe head on the base, symbolizing Liberty breaking the bonds of slavery and taking her first step of freedom.

The statuesque lady's measurements are 45 x 35 x 45—not inches, but feet; proportionate human dimensions are 43 x 34 x 43.

LIBERTY FOR THE INDUSTRIAL ARCHEOLOGIST

The industrial archeologist, however, craves engineering and technical data. Liberty stands 151 ft. on a 154-ft.-high concrete- and granite-pedestal, for a total height of 305 ft. Supporting the 3/32-in.-thick skin (comprised of 300 riveted copper plates weighing 100 tons), is a wrought-iron structural system designed by Gustave Eiffel. A central pylon of eight bents, 97 ft. high from the foot to the neck, supports a secondary structural system or armature of wrought-iron angles that approximates the internal configuration of her body. Radiating from the armature are single wrought-iron bars, the outer ends of which attach to 1,600 undulating wrought-iron straps that follow the curvature of the robe and skin. The pylon sits on built-up steel beams resting, at the top of the pedestal, on a concrete core wall. These beams in turn are anchored to another matrix of cross-beams embedded in the pedestal walls 60 ft. below the top by 16 pin-connected, steel eye-bars. The anchoring method



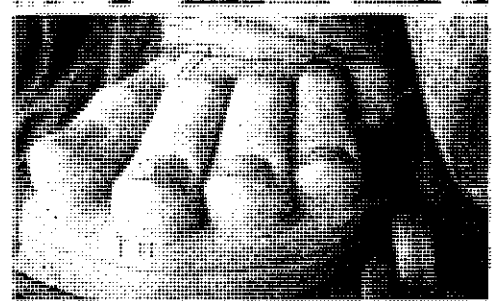
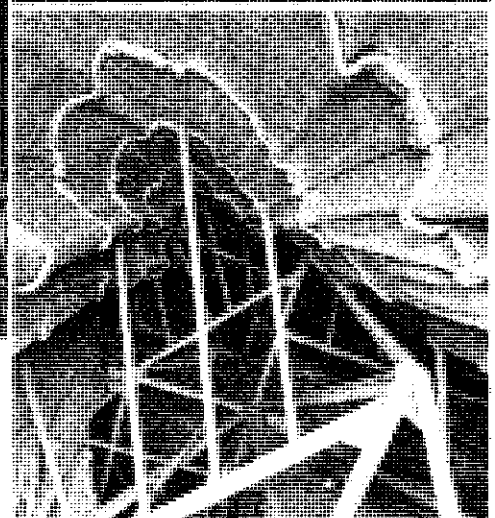
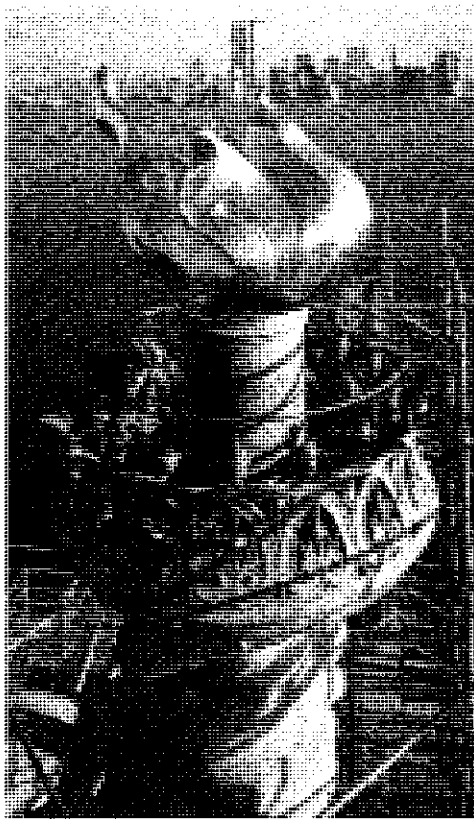
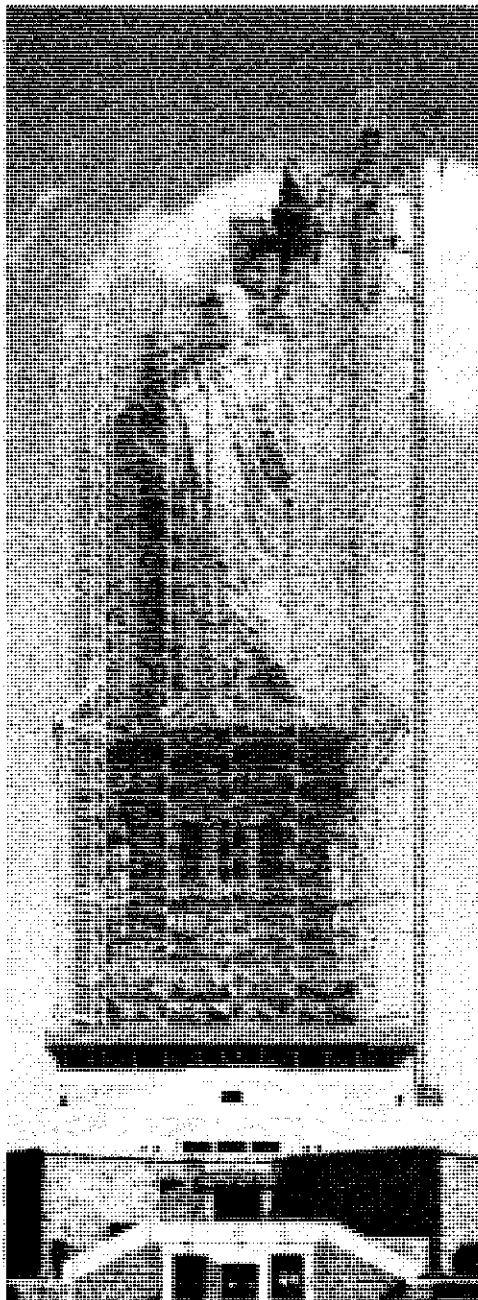
Liberty's magnificent head. The dark area at the eye marks a graft of new copper skin. The lobe of the nose also has been repaired. Streaks on the face and neck were caused by a bicarbonate-of-soda solution, used to remove coatings on the interior surface, which oozed through joints between copper plates and through the holes for rivets connecting the skin with iron support straps on the inside. *Jet Lowe photograph for HAER (12-85).*

allows the Statue to withstand gale winds over 100 mph.—Eiffel was one of the world's foremost authorities on the effect of wind on structures.

Equally interesting and of similar engineering accomplishment is the tubular aluminum scaffolding that enveloped Liberty during renovation and which now has been removed. Tied only at the top of the pedestal by steel cables, this rectangular, aluminum doughnut rose 150 ft. and stood free of the statue proper. The scaffolding was built of non-corrosive, 3½-in. aluminum tubing so as not to stain the copper skin during the work. Like Eiffel's iron skeleton, the scaffold was designed to resist 100+ mph. winds, with a maximum movement at the top of only 3 in. Platforms sliding inward from the rectangular scaffolding gave access to every square inch of the Statue's surface.

THE MYSTERIOUS PHOTOGRAPHIC RECORD

When architects and conservators began researching the Statue for renovation, one of the most critical records was found to be missing—*continued on next page*



Left: Rear view just after the scaffolding was topped off (5-84). The scaffolding is free-standing above the diagonal supports visible at the top of the pedestal. A museum in the base will be devoted exclusively to Eiffel, Bartholdi, and the art & engineering of the Statue. The present Museum of American Immigration is moving to Ellis Island. *Above:* The new flame & balustrade are in place and scaffolding is being dismantled (12-85). Manhattan's skyline is in the distance. *Right top:* Interior of the workshop at the Statue's base, where the torch flame was replicated in copper and the armature bars and strap iron were reworked in stainless steel. The plaster flame model rests on the floor. *Right center:* Looking up Liberty's toga (1984). The undulating iron bars & straps allow the copper skin to be hung from the main structural system. The deteriorating iron was replaced with stainless steel. *Right bottom:* Liberty's left foot with piece of broken chain (1984). *Jet Lowe photographs for HAER.*

ing—the photographic record. Liberty was built at the height of popularity of the new medium of photography. A few photographic images surviving showing her in various stages of erection, and there is a limited number of stereographs showing her completed. But where is the “mother lode” of documentary photos that would depict, certainly on a weekly if not daily basis, the process of construction?

We know that the Photgraveur Co. of New York was given an exclusive contract by the French-American Committee to photograph the statue, but few images from this collection have turned up. One would think that the contractor who assembled the Statue would have hired his own photographer to take progress pictures. Evidently, photography was such a new medium that contractors had not thought of its possibilities on the job-site. Even though the Statue stands on an island, it is not far from the New Jersey shoreline. Certainly, an amateur photographer could have rowed out in a boat and “bootlegged” photographs. The dearth of photographic coverage for such a well known project remains a mystery. What photos that were taken, officially or not, have eluded researchers. Perhaps they have been destroyed or maybe one of the Commissioners collected them when the project ended. Neither have photographs of the Statue's pre-assembly in France been found.

ENTER HAER

Not to repeat this mistake, National Park Service architects requested the Historic American Engineering Record (HAER) to document the existing fabric and condition of the Statue during the renovation. Not to be confused with thousands of “field” photographs snapped on a daily basis by NPS officials and renovation contractors, or the hundreds of images by commercial photographers, HAER exposed large-format, 4 x 5 and 5 x 7-in. negatives, both black & white and color, that will become part of a permanent record in the Library of Congress. Thus, 100 years in the future, if she requires another renovation, a collection of photographs documenting the Statue as she existed in 1984-86 will be available.

A photographic program was outlined at the beginning of renovation. Using Lehrer/McGovern's Critical Path Network Schedule, HAER and NPS architects identified “windows of photographic opportunity” during the work sequence: exterior & interior views prior to renovation (Feb. '84); exterior views after topping off scaffolding (May '84); upon removal of the flame (July '84); after removal of the elevator, stairs & landings in the pedestal (Oct. '84); after removal of

continued on next page

STATUE *continued from page 2*

the protective grillwork enclosing the helical stairs in the Statue proper (Oct. '84); reinstallation of the flame (Nov. '85); after removal of the platform in the head (Dec. '85); after completion of renovation (July '86).

Over the past two-plus years, the predetermined photography has been achieved. Actual removal of the flame was not documented because of logistical problems imposed by the 4th-of-July public ceremony and TV program. However, the replication of the flame by French craftsmen using the repoussé technique was considered of documentary importance. HAER also documented the making of the new stainless-steel straps that replaced the original iron straps supporting the skin. Excavations at the base of the pedestal for the installation of new heating, ventilating and air-conditioning equipment allowed HAER to document the massive concrete foundation. This 27,000-ton, stepped block was the largest single mass of concrete poured up to that time.

HAER AND THE PHOTOGRAPHER

John T. "Jet" Lowe [SIA], 38, took the record photographs. In his years on the HAER staff since 1978, he has produced more than 7,000 documentary views. Jet considers the Statue his toughest assignment in years of shooting historic bridges and industrial sites. Physical strength and agility, in addition to an aesthetic eye and intuitive understanding of often complex structural systems and factory processes, are prerequisites for HAER photographic work. The documentary, large-format negative necessitates a heavy and cumbersome view camera and tripod, plus an additional 75 lbs. of film holders, lenses, and other equipment. To get the best view, Jet must sometimes set up his gear on precarious perches at knee-weakening heights.

By July 4th when the renovated Statue is presented to America on her 100th birthday, over 200 of Jet's large-format views will have been transmitted to the HAER collection in the Library of Congress. Some 50 large-format color transparencies will be included with the

black & white record photographs. These magnificent images, in addition to being a contemporary study collection, have enhanced the pages of several national magazines, professional periodicals, and illustrated calendars published during Liberty's centennial year. What makes the HAER record even more important is that all is available to the public for use and reproduction without restriction, other than the courtesy of a credit line identifying the program and the person producing the documentation.

To access the LC collection: Architecture, Design & Engineering Collections, Prints & Photographs Div., Library of Congress, Wash. DC 20540 (202-287-6399). To contact HAER: HAER, Nat'l Park Service, P.O. Box 37127, Wash. DC 20013-7127 (202-343-9600).

E.N.D.



Photographer Jet Lowe (R) and architect Eric DeLony (L) in front of the replicated flame. The new flame is gilded in gold leaf, following Bartholdi's original intention. Peter Kaplan photograph.

JET LOWE'S STATUE OF LIBERTY SLIDES AVAILABLE. The SIA, with HAER, offers a superb 12-slide set (10 color, 2 b/w) on the renovation & construction techniques of the Statue, including images the same or similar to those published above. These are Lowe/HAER views and unavailable to most photographers. Send \$12 (SIA), \$16 (nonmembers) + \$1 p&h to SIA—Slides, R.D.1 Bald Mt. Road, Scranton PA 18504. SIA & HAER plan future releases from HAER archives.

SIA CO-SPONSORS STATUE OF LIBERTY CONF. "The Statue of Liberty—Today for Tomorrow," a joint effort of the Nat'l Assn. of Corrosion Engineers and the Nat'l Park Service, offers discussions of 19th-C French metallurgy and technology that determined the Statue's engineering and construction. Also sessions on the Statue's corrosion and significant (and controversial) repairs and replications. This important symposium features the historians, architects, and engineers involved in the work. Co-sponsored by SIA, ASCE, ASTM, ASM, NCCP, NSPE, AASLH, & NTHP. Slated for Oct. 20-22 (rescheduled from Sept. 22-24) at the Doral Inn, 49th St. & Lexington, N.Y.C. Get full program from SIA, Rm. 5020 NMAH, Wash. DC 20560.

REX WAILES, 1901-1986

Rex Wailes of Beaconsfield, Buckinghamshire, England died on Jan. 7. The following tribute by Charles Howell [SIA], miller at Philipsburg Manor Upper Mills, Tarrytown, N.Y., is published courtesy of Howell and Old Mill News, where the original version appeared. Ed.



Rex Wailes at work in 1977, explaining the mechanism in the cap of Berkeswell Windmill, a privately owned tower mill near Bradnock's Marsh, West Midlands. John C. Robertson photograph.

Rex Wailes was born in 1901, son and grandson of engineers, and was educated at Oundle School, Northants, England. In 1924, following an apprenticeship in mechanical engineering at Robey & Co., Lincoln, he joined the family engineering firm in London, where he became head. George Wailes & Co. was closed in 1960 on its 105th anniversary.

He was elected a member of the Newcomen Society for the Study of the History of Engineering & Technology, London, in 1925, and was appointed president in 1953, serving two years. He was honorary technical advisor on mills to the Society for the Protection of Ancient Buildings (SPAB), London. He served as chairman of the Wind & Water Mills section 1971-74, and as president since 1979. In addition, he served on the Council of the Institution of Mechanical Engineers and was a Fellow of the Society of Antiquaries of London. In 1977 he became the first Honorary Life Member of The International Molinological Society (TIMS).

In 1963, Wailes was appointed consultant to the Industrial Monuments Survey of the British Isles, a position he held until 1973. In 1974, in honor of his splendid work on the Survey, he was awarded The Order of the British Empire (O.B.E.), the first of its kind ever given to anyone working in industrial archeology.

Among his most important publications are *Windmills in England* (1948), *The English Windmill* (1954), *A Source Book of Windmills & Watermills* (1979), and *A Source Book of the Industrial Past* (1980). He contributed over two dozen titles to the Newcomen Society *Transactions*, and countless additional technical papers on wind and water mills. No one has ever treated the subject of early mills with the same attention to completeness and accuracy of technical detail. To illustrate these books and papers, Wailes took thousands of superb photographs of the congested interiors of mills and factories as well as the exteriors.

In the 1930s he conducted major studies of the windmills on Long Island and in New England, and both projects were worked into several papers. His last visit to the U.S. was in 1981.

Without doubt, Rex Wailes was among the world's best known molinologists and industrial archeologists, in addition to being the world's leading authority on traditional windmills.

NEW LIFE FOR SAVAGE MILL

Located on Rt. 32 at Savage, Md., along the Little Patuxent River and adjacent to the world's only known surviving Bollman truss bridge [B&O RR, 1869; NR, NHCEL, HAER], the Savage Mill complex is being converted to a "shopping mill" and industrial museum. The site had been used for milling since the mid-18th-C, when the Savage Mfg. Co., founded by John Savage of Phila., purchased it in the early 1820s. The complex then included textile, flour, and saw mills, along with a warehouse and 500 acres. The company began producing cotton duck, and by 1825 had 200 employees, 120 power looms, and had added an iron foundry and machine shop.

In 1847 the entire operation was sold to William H. Baldwin, Jr., whose firm, Woodward, Baldwin & Co., was a well-established Balt. dry-goods marketing company. During the late 19th C, the iron foundry concentrated on manufacturing cotton-processing machinery. The majority of the workers' houses in the village of Savage date from this period. In c1836, a spur of the B&O had been laid to the factory, and in 1889 the Bollman truss was moved in, replacing an earlier structure.

Baldwin's firm reorganized as Baldwin, Leslie & Co. in the early 20th C and in 1916 added a 123,000-sq.-ft. weave shed in anticipation of wartime needs. A decade later the Baldwin family erected a community hall for the town and constructed a large group of tenant houses. By the 1930s, the complex included 16 factory buildings; steam turbine & boiler house; officers' house; warehouse; branding, storage, & shipping building; and a picking & spinning building. One loom, the "Big Bertha," produced cloth 208 in. wide.

The mill was closed in 1948 and sold. The new owner, Harry H. Heim, made an abortive effort at turning it into a Christmas ornament factory, and renamed the town "Santa Heim, Merrieland." Sanity returned when the complex was purchased in 1950 by the Winer brothers, who used the buildings for light manufacturing and storage. A son, Jay Winer, heads the current project.



Interest in the historic mill complex was sparked largely by IA attention paid to the Bollman truss in the 1960s. In 1974 the site was listed on the Nat'l Register, along with a portion of the town. An \$8-million industrial revenue bond from the county helped in the early planning stages. In April, the 1916 New Weave Room opened with two levels of shops, completing the first phase of renovation. The oldest surviving mill building, built c1832, will house the industrial museum, dedicated to interpreting the development of textile manufacturing and related industrial activity in Md. Temporary exhibits of historical artifacts, photos, diaries, and fabric samples already are on view in the New Weave Room. The 1918 turbine & boiler house, overlooking the river and with a view of the Bollman truss, will become a restaurant. For further info. & brochures, contact Diane R. Krieger, Seidel & Kayanan, 207 E. Redwood St., Baltimore MD 21202 (301-576-0500).

EXHIBITS



Broad Street Bridge, Rochester, N.Y., in 1985. From the exhibit "New York Bridges." Photograph copyright by Richard Margolis for the Rochester Area Foundation.

"NEW YORK BRIDGES," an exhibit of the statewide bridge photography of Richard Margolis, is available for loan from Sept. 1986 through Sept. 1988. It includes 35 framed prints (20 x 24 in.) and five posters, with check list and labels, totalling c100 running ft. Margolis teaches photography and "Technology & Society" at SUNY-Brockport, N.Y., and previously has concentrated on landscapes sans urban artifacts. The exhibit tends to be ahistorical (e.g., no construction dates). The fee is \$350 for four weeks, plus ins. & trans. via GANYS, to the next site. Info.: Photography Program, Dept. of Art., SUNY, Brockport NY 14420 (716-395-2209).

"ON THE ROAD, ON THE LINE: BUFFALO AND THE AUTOMOBILE" will remain on view at the Buffalo & Erie County Historical through 1987. The exhibit treats the impact of auto production on the local economy, changes in the labor process at local auto plants, and the effects of private cars on the cityscape. Work on the Pierce-Arrow factory floor (1907-38) is contrasted with methods in the local Ford assembly plant (1931-58). Info.: T.E. Leary [SIA], B&ECHS, 25 Nottingham Ct., Buffalo NY 14216 (716-873-9644).

"BUILT BY HAND: AN INTRO. TO THE ARCHITECTURAL STUDY COLLECTION" is an ongoing exhibit of 18th-C building practices, at the First Bank of the U.S., 3rd St. bet. Walnut & Chestnut, Independence NHP, Phila.

"SCHLESINGER/MILLWORK: THE MILL AS ART," an exhibit of more than 40 works of Cambridge artist Marian Schlesinger, runs June 29 through Dec. 14 at the Museum of American Textile History (MATH), N. Andover, Mass. Schlesinger's watercolor and pen & ink drawings feature mill buildings and settings in the Merrimack River Valley, plus many scenes in N.H. The exhibit also includes samples of works-in-progress, as well as a video cassette on her career, mills, and the exhibit itself.

"PAST AS PRESENT: A PHOTOGRAPHIC SURVEY OF BALTIMORE'S INDUSTRIAL ARCHEOLOGY" is an exhibit of works taken 1975-85 by photographers from the Historic American Engineering Record (HAER). It is cosponsored by the Engineering Society of Baltimore and opened in April at the Engineers' Club in Baltimore, moving a week later to the Baltimore Museum of Industry (BMI) where it runs until Aug. 31. Text panels relating the history of each site were prepared by the museum, which is sponsoring IA lectures through the summer. Info.: BMI, 1415 Key Hwy., Balt. MD 21230 (301-727-4808).

The museum also has opened its exhibit of "Historic Workers' Clothing," including period work garments recreated by fashion design students from the Community College of Baltimore. They are displayed in the settings for which they were designed: print shop, canning, drugstore, and telephone displays.

A "Britain-Wales Industrial Tour" is being sponsored by the BMI for Aug. 7-22. Led by museum director Dennis Zembala [SIA], it will feature visits to prominent British industrial museums, including Ironbridge Gorge Museum. For info., contact Zembala at the BMI address above.

SITES & STRUCTURES



GOLD DREDGE 8, Fairbanks, Alaska. Each manganese-steel bucket weighs 1,583 lbs. and has a 6-cu.-ft. capacity. ASME and Fairbanks Convention & Visitors Bureau photograph.

GOLD DREDGE 8 [NR], one of the original dredges used in large-scale Alaskan placer mining, was designated as the 83d Nat'l Historic Mechanical Engineering Landmark by the American Soc. of Mechanical Engineers (ASME) in May. Built by Bethlehem Steel's Shipbuilding Div. in Pa., GD-8 was assembled in 1928 just west of Fox, Alaska, at the head of the Goldstream Valley. It was operated by the Fairbanks Exploration Co., a subsidiary of the U.S. Smelting, Refining, & Mining Co. (USSR&M), until operations ceased in 1959. During that time it cut a 4.5-mi. track (a rate of .0000332 mph, if operated 12 hrs./day, 365 days/yr., over its 31-yr. working life), scooping thawed gravel and sifting out the trapped gold, recovering more than 7.5-million ounces.

GD-8 is a floating vessel nearly 100 ft. long, five stories high, displacing 1,065 tons when fully loaded. When operating, the dredge was capable of digging 28 ft. below the water line. Gravel ahead was thawed by water forced to bedrock and percolating back to the surface. As the dredge moved forward, the thawed gravel was scooped from the stream bed by a belt-driven chain of 68 buckets that rotated around an adjustable ladder frame. Loaded buckets moved up the incline and deposited the gravel, which was sorted and washed, with the waste sent out a conveyor behind the dredge. Gold was trapped on the riffles of the gold tables. Over the years, efficiency was reputed to be 95%. Since 1982 GD-8 has been a historic property depicting early Fairbanks Mining Dist. days, and can be boarded by visitors.

IA NATURE TRAIL. Readers no doubt are familiar with nature trail signs identifying the flora, but what about signs like "barge canal to river" and "phosphate factory"? The Edisto trail is a short walk through a South Carolina cypress swamp that includes both a wilderness and the traces of an industrial site. Operated by Westvaco, on U.S. 17 at Jacksonboro, it makes a pleasant stop driving between Charleston, S.C., and Savannah, Ga. *D.F.*

ARCHEOLOGICAL REMAINS OF A c1745 STEEL FURNACE, a c1731-34 plating mill, and a c1836 paper mill have been located on the grounds of the N.J. State House Hist. Dist. [NR], Trenton. Archeological work was begun in Fall 1985 to supplement earlier historical research, in connection with State House expansion. Of particular interest is Petty's Run, a stream that flowed through the area which is now a park between the State House and the Trenton Barracks, and was a focal point for early urban-industrial development. Trenton was designated the permanent state capitol in 1790, with the first State House erected in 1792. The paper mill was erected in association with the Trenton Water Power Canal, constructed in

the mid-1830s. A goal of the dig was to locate evidence of the furnace, mills, and the water channel. By this spring, fieldwork was finished, documentary research was in progress, and data analysis just beginning. Archeological work was done by Terrence W. Epperson and Richard W. Hunter, Heritage Studies, Inc. Info.: Office of N.J. Heritage, CN 404, Trenton NJ 08625 (609-292-2028).

THE ROCKY RIVER PUMPED-STORAGE hydroelectric station on the Housatonic R. in New Milford, Conn., has been designated a Nat'l Historic Civil Engineering Landmark by the American Soc. of Civil Engineers (ASCE). Constructed in 1929, it was the first hydroelectric station in the U.S. designed to pump water to a high elevation and then release it to generate electric power during times of peak demand. It was designated a Mechanical Engineering Landmark by the ASME in 1980. *APT Communique*

NEW WIRE ROPE for the Brooklyn Bridge—some 500 tons of it—is being produced at the Williamsport, Pa. works of Bethlehem Steel Corp., the firm that bought the trade name and wire-rope technology of John A. Roebling's Sons Co. when its Trenton plant closed in 1973. Scheduled for delivery this summer, the galvanized wire rope will replace the 103-year-old bridge's suspension cables. *T.K.*

SHIPBUILDING RECORDS AT MIT. Processing of 185 boxes constituting the Bethlehem Shipbuilding Collection at the MIT Museum has progressed to the point where research is now possible. Bethlehem Steel Corp. donated the Boston-area materials to the Museum's Hart Nautical Collections in 1980. Included are items relating to the Fore River Shipyard in Quincy, the Simpson Patented Dry Dock Co. of East Boston, and the temporary wartime shipyards in Squantum and Hingham. The collection of ships' plans, photographs, negatives, movies, engineering records, business records, ships' registers, and marine industry periodicals documents steel shipbuilding history in New England—from 1898 to 1963 for the Fore River yards, and 1856-1946 in the Bethlehem-owned East Boston ship repair yards. There are more than 60,000 photographic negatives. Photos from the collection are reproduced in *The MIT Museum Newsletter*, Winter/Spring 1986. Info.: Curator John G. Arrison, Hart Nautical Collections, MIT Museum, 265 Mass. Ave., Cambridge MA 02139 (617-253-4444).

"FROM STUMP TO SHIP" is a 30-min. film on **lumbering in Maine**, originally shot by Maine lumberman Alfred Ames in the 1930s, and recently restored and reassembled by a team of filmmakers, historians, and folklorists. The film is accompanied by a viewers' guide on the forest economy and history of Me. Info.: Dept. of Public Info. & Central Services, Univ. of Maine at Orono, PICS Building, Orono ME 04469-0150.

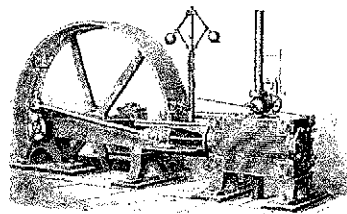
RUTSCH/TORGERSON IA COURSE ENCORES IN 86-87. Back by popular demand will be "Intro. to IA" at N.Y.C.'s Cooper Union, co-taught by Edward Rutsch & Thorwald Torgerson [both SIA], with 16 lectures and 5 field trips. Info.: CU Extension Office, 41 Cooper Sq., NY NY 10003.

CONTRIBUTORS TO THIS ISSUE

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NOTES & QUERIES

STATIONARY-ENGINE SOCIETY STEAMS UP. Following a notice last year in *SIA* and an initial mailing of 150 announcements to potential members, Roger L. Robertson [SIA] has declared The Stationary Engine Society (TSES) officially under way. In April he mailed the debut issue of *The Stationary Engine Society Newsletter*, setting out organizational objectives. The key goal is to develop an inventory of surviving steam and larger internal-combustion engines (including marine engines) in the U.S. and Canada. Robertson was inspired to found TSES after studying the work of the Stationary



Engine Research Group (SERG) in Great Britain. He is busy soliciting additional members, along with articles and news notes for the newsletter. For copies of the society announcement and newsletter write R.L. Robertson, The Stationary Engine Society, 3706 Emily St., Kensington MD 20895.

MANITOWOC [WIS.] MARITIME MUSEUM'S new 21,000-sq.-ft. building is under construction on the Manitowoc River, at a total cost of \$2.5 million. An NEH Challenge Grant of \$181,250 will aid exhibits and furnishings. Special focus of the new museum will be on the western shore of Lake Michigan and northern Wisc., and is expected to be the largest maritime museum on the Upper Great Lakes. Info.: MMM, 809 S. 8th St., Manitowoc WI 54220 (414-684-0218).

LOCOMOTIVE & RAILWAY PRESERVATION, a new bi-monthly devoted exclusively to RR historic preservation, has released its first issue. Each number will contain at least 56 pages of news and articles on RR museums and tourist lines, restoration technique, history, museum management, and profiles of people in the movement. Subscriptions are \$16/yr. from *L&RP*, P.O. Box 5, Huntington VT 05462. *Project 1225 Newsletter*

APT CONF. UPDATE on the Annual Conf. of the Assn. for Preservation Technology, Oct. 1-4, Austin, Tex. The theme is "Building Technologies: Handcrafted to Machine-Made."

Sessions include: granite masonry & marble restoration; fluorescent stains in paint analysis; training for craftspersons; archeological stabilization; heavy timber framing; mail-order housing; moving historic buildings; evaluation of architectural conservators; structural & ornamental metal; earth, mud, & tabby; capitol restorations; landscape & rural; & others.

Technical tours include: granite & limestone quarries & mills; Alamo Iron Works & city of San Antonio; Winedale & Fayetteville; Hill Country & LBJ ranch; mainstreet Georgetown & Taylor; Tex. capitol; U. of Tex. campus.

Pre-Conf. Training Courses: Three courses are offered Sept. 29-Oct. 1.

—"Methods & Standards for the Conservation of Historic Bridges: A Working Seminar," including hist. of N. American bridge construction; survey techniques & standards; safety issues; materials testing; procedures & specs. for preservation. Faculty includes Eric Delony, Howard Newlon Jr., Abba Lichtenstein, Joe King [all SIA].

—"Manufactured Building Hardware, 1840-1920," including the evolution of the technology, patents, mfg. processes, styles, finishes & distribution systems associated with historic hardware; documentation techniques; & others. Faculty includes Thomas Hennessy [SIA].

—"Preservation is Maintenance," including deterioration, repair/replacement, & cleaning of masonry, wood, & metal.

Details & fee info.: APT/Austin '86, P.O. Box 2593, Austin TX 78768-2593.

WANTED

ARCHEOLOGY ON RADIO NEEDS SCRIPTS. "Patterns of the Past" is a two-year series on archeology funded by the Nat'l Endowment for the Humanities and produced by Western Public Radio, San Francisco. It will be distributed over the Nat'l Public Radio satellite to all major PBS US markets, and include one five-min. and one two-min. program each week. Programs will follow four general themes: great archeologists and great discoveries; recent finds; controversies; and how archeology works. Brian M. Fagan is the series writer and reportedly he needs material for future segments. Items should be of basic interest to a non-academic audience, have a high data content and some relevance to the wider world of archeology, and involve topics that are readily described verbally, with a well developed story line if possible. Reprints, manuscripts, and even newspaper stories can form the basis for a script. Contact Fagan at the Dept. of Anthropology, U. of Calif., Santa Barbara CA 93106 (805-961-2163).

THE HANDBOOK OF AMERICAN BUSINESS HISTORY is seeking contributors for articles on the entire range of business sectors, beginning with a first volume on **manufacturing**. Those interested should contact Donna Hull, American Soc. of Agricultural Engineers, 2950 Niles Rd., St. Joseph MI 49085-9659.

STEEL-MILL ARTIFACTS. Large and increasingly rare objects are needed by the Pittsburgh Historical & Landmarks Foundation to interpret steel-mill history. The "wanted list" includes:

- Single-stand, 3-high, over-&-under bar mill.
- Single-stand, 2-high or 4-high, hot-strip mill.
- Single-stand, 4-high, reversing cold mill (min. width 36 in.).
- "Z" mill, any size, possibly with coiling equipment.
- Large, open-die, steam-operated forging press.
- Large, steam-operated, board drop hammer.
- Large, chilled-iron, back-up roll (e.g., O.D. 72 x 60-in. face).
- Large Brinnell hardness-testing machine with large weights & chains.
- Charging machine & charging box for electric or open-hearth furnace operation.
- Early gas producer for use with bituminous coal (e.g., Wellman Eng.).
- 72-in. goggle valve from blast furnace, with short sections of pipe attached.
- Large steam-engine which powered a blooming mill or large bar mill.
- Early Cooper-Bessemer or Ingersoll-Rand horizontal reciprocating air compressor.

Leads in locating any of the above should be directed to Walter C. Kidney [SIA], 134 Bertha St., Pittsburgh PA 15211 (412-471-5808).

HISTORY-OF-TECHNOLOGY MANUSCRIPTS. The Program in the History of Technology & Science, Dept. of Hist., Iowa State Univ., is soliciting manuscripts for the *ISU Press Series in the Hist. of Tech. & Sci.* Emphasis in the series will be on the scholarly monograph, but also seriously considered will be: translations; republication of "classic" works with annotations; and memoirs and biographies of significant figures in engineering, technological, or scientific history. The initial volume, appearing this spring, is Christiaan Huygens' *The Pendulum Clock (Horologium Oscillatorium)*, Richard Blackwell ed., with an intro. by H.J.M. Bos. A maximum of one volume per year will be published. Info.: Robert E. Schofield, H.T.S., Dept. of Hist., Ross Hall, I.S.U., Ames IA 50011.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 15 NO. 2

1986

Compiled by Sandra L. Norman, Slater Mill Historic Site and Marguerite A. Darroch & Robert M. Vogel,

National Museum of American History

GENERAL SUBJECTS

GARLAND BIBLIOGRAPHIES. A series of comprehensive bibliographies by leading authorities in their respective fields are published by Garland Publ., 136 Madison Ave., NYC 10016. (212) 686-7492. (Europe: GP, 15 Bolton St., London W1Y 7PA (01) 493-7642.) All hard bound, on acid-free paper. Catalog available.

Elizabeth Sue Pease, **OCCUPATIONAL SAFETY & HEALTH.** Diseases, safety, hazards, hazardous industries, &c. 1970 to present. 294 pp. \$45.

Robert P. Multhauf [SIA], **THE HISTORY OF CHEMICAL TECHNOLOGY.** 1,529 entries in 2 sections: "Traditional" technologies (glass, ceramics); and "modern" (dyes, acids, alkalies). International. Fully annotated and indexed. 338 pp. \$61.

Marc Rothenberg, **THE HISTORY OF SCIENCE & TECHNOLOGY IN THE U.S. 1550-1975.** 800 entries. The natural and social sciences as well as technology. 262 pp. \$43.

Peter M. Molloy [SIA], **THE HISTORY OF METAL MINING & METALLURGY.** 1500 entries, international, prehistory to 1940. 353 pp. \$55.

John Peter Oleson, **THE HISTORY OF BRONZE AGE, GREEK, & ROMAN TECHNOLOGY.** 1600 entries, monographs & articles in all European languages. 528 pp. \$71.

Claudia Kren, **MEDIEVAL SCIENCE & TECHNOLOGY.** 5th to 15th century, primary & secondary material. 390 pp. \$53.

Darwin Stapleton [SIA] & Roger L. Shumaker, **THE HISTORY OF CIVIL ENGINEERING SINCE 1600.** CE and related fields in 1200 entries: English, French & German mainly, with a few in other languages. By period and topic. Author index. 272 pp. \$40.

Jeffrey L. Sturchio, **THE HISTORY OF CHEMISTRY.** International; arrangement by chronology and subject. Index. 250 pp. \$35.

R. Richard McKinstry, **TRADE CATALOGS AT WINTERTHUR--A GUIDE TO THE LITERATURE OF MERCHANDISING, 1750-1980.** Winterthur's collection of 1,885 catalogs, in 30 categories. Index plus geographical and chron. indexes. 478 pp. \$60.

Helena Wright [SIA], **THE MERRIMACK VALLEY TEXTILE MUSEUM--A GUIDE TO THE MANUSCRIPT COLLECTIONS.** All aspects of textile technology and related fields. 404 pp. \$43.

Alan Burnham (ed. by Arnold Markowitz), **NEW YORK CITY--AN ANNOTATED BIBLIOGRAPHY COVERING ITS GROWTH & DEVELOPMENT.** In 16 sections. 500 pp. \$60.

Robert William Fogel & G.R. Elton, **WHICH ROAD TO THE PAST? TWO VIEWS OF HISTORY.** Yale U. Pr. (New Haven), 1983. 136 pp. \$14.95. Rev.: *The American Historical Review*, Feb. 1985. This brief book contains primarily 2 short essays. Fogel contrasts "scientific history" and "traditional history." Elton offers rebuttal. Also a brief introduction & conclusion by the 2 authors.

Patrick E. Martin [SIA], **THE MILL CREEK SITE AND PATTERN RECOGNITION IN HISTORICAL ARCHAEOLOGY.** Mackinac Island State Park Commission (Box 30028, Lansing, MI 48909), 1985. 265 pp. illus., \$21.50 PpD.

James C. Massey [SIA], **READINGS IN HISTORIC PRESERVATION.** National Preservation Institute (Pension Bldg., Judiciary Sq. NW, Wash. DC 20001), 1986, 37 pp. Annotated bibliography of the principal books & periodicals published through the end of 1985 in this growing field. Sections on historic gardens & urban planning; index of authors.

PERSPECTIVES ON PUBLIC HISTORY. A series of occasional papers from the Hagley Museum and Library. Papers given at a Dec. 1984 conference. Complimentary copies avail: Publications Dept., Hagley Museum Library, Box 3630, Wilmington, DE 19807.

Peter J. Priess, **ARCHEOLOGY AND RESTORATION, A QUESTION OF RESPONSIBILITIES.** In *Bulletin of the Association for Preservation Technology*. Vol. XVII, No. 3 & 4, 1985. (Box 2487 Stn. D, Ottawa, ONT K1P 5W6) Cultural remains in & on the ground cause archeology to become part of a restoration project. The responsibility of archeology is to provide answers to questions which may originate outside the profession in a restoration project, but the entire preservation community is responsible to archeological resources and data.

Mark H. Rose, **THERE IS LESS SMOKE IN THE DISTRICT: J.C. NICHOLS, URBAN CHANGE, AND TECHNOLOGICAL SYSTEMS.** In *Journal of the West*, Jan. 1986, pp. 44-55.

Nancy Carlson Schrock, **ARCHITECTURAL RECORDS MANAGEMENT.** Am. Inst. of Architects Foundation (The Octagon, 1799 New York Ave. NW, Wash. DC 20006) \$1.00. Excellent brochure designed to aid architectural firms in the preservation of their records and drawings. A useful model for engineers and other professions as well.

Norman Smith (ed.), **HISTORY OF TECHNOLOGY** (8th Annual Vol., 1983). Mansell Publishing Ltd. (London & N.Y.), 1984. 149 pp. \$20.00. Rev.: *Business History*, Mar. 1985. Eight essays in technological history--among them H.J. Braun analyses the transfer of technology between the U.S. and Germany and W. Bernard Carlson studies the reasoning behind Edison's magnetic ore-separation project.

James S. Wamsley, **HENRY FORD'S AMAZING TIME MACHINE.** In *American History Illustrated*, Apr. 1985. History of Greenfield Village & the Henry Ford Museum.

W. Thomas White, Robert M. Frame III [SIA], and Kathryn J. Gutzmann, (Eds.), **THE JAMES J. HILL PAPERS, 1866-1916.** Univ. Publications of America (Frederick, MD), 1985. Microfilm, Personal and Private Series, 1874, 1877-1916, 17 reels, \$1,100. Pre-Railroad Business Series, 1866-1878, 4 reels, \$250. Railroads Series, 1877-1898, 27 reels, \$1,750. Discounted price for all three series: \$2,790. An edited compilation of Hill's most substantive outgoing correspondence, divided according to Hill's own office arrangement. They overlap and reflect Hill's wide-ranging concerns with transportation, economic development, politics, art, agronomy, etc.

MISC. INDUSTRIES

Peter Baida, *BREAKING THE CONNECTION*. In *American Heritage*, June-July 1985. The story of AT&T from its beginning to 1984's divestiture.

George Walter Balogh, *CROSSETT: THE COMMUNITY, THE COMPANY, AND CHANGE*. In *Arkansas Historical Quarterly*, Summer 1985. History of the Crossett Lumber Company beginning in 1899, continuing through its consolidation with the Georgia-Pacific Corp. in 1962, which created many changes--maintaining & expanding the area of Crossett.

Wallace Clark, *LINEN ON THE GREEN--AN IRISH MILL VILLAGE 1730-1982*, 2nd ed. The Universities Pr. (Belfast), 1983. 183 pp., \$8.60. Rev.: *Business History*, Mar. 1985. Description of the development of an Ulster linen firm, Clarks of Upperlands, through the introduction of steam power in the 1890s and power-loom weaving in 1906. Lively, entertaining style.

Robert Scott Davis, Jr., *ROBERT FINDLAY: ANTEBELLUM IRON FOUNDER OF MACON*. In *The Journal of Southwest Georgia History*, Fall 1985, pp. 17-43. Scottish immigrant who established an important machine works in the South building principally stationary steam engines.

Roland L. DeLorme, *RATIONAL MANAGEMENT TAKES TO THE WOODS: FREDERICK WEYERHAEUSER AND THE PACIFIC NORTHWEST WOOD PRODUCTS INDUSTRY*. In *Journal of the West*, Jan 1986, pp. 39-44.

C. Alexander G. DeSecada, *ARMS, GUANO, & SHIPPING: THE W.R. GRACE INTERESTS IN PERU, 1865-1885*. In *Business History Review*, Winter 1985, pp. 597-621. The all-inclusive interests of Grace in Latin America, including RR construction and the exploitation of natural resources.

John Fahey, *BIG LUMBER IN THE INLAND EMPIRE: THE EARLY YEARS, 1900-1930*. In *Pacific Northwest Quarterly*, July 1985, p. 95.

Franklin M. Fisher, James W. McKie & Richard B. Mancke, *IBM AND THE DATA PROCESSING INDUSTRY: AN ECONOMIC HISTORY*. Praeger Publ. (N.Y.), 1983. 532 pp. \$37.95. Rev.: *Business History Review*, Summer 1985. Comprehensive industry history originating with the trial transcript of the antitrust suit filed against IBM in 1969. Written by 3 economics professors, it focuses primarily on the dominant trends in the history of this industry before 1980.

T.R. Gourvish & R.G. Wilson, *PROFITABILITY IN THE BREWING INDUSTRY, 1885-1914*. In *Business History*, July 1985, pp. 146-165. Special circumstances in the London & Burton-on-Trent companies justified difficulties of brewers there after the 1880s. Stresses the importance of management styles, especially financial, in explaining the varied profitability of breweries in this period.

Clifford Gulvin, *THE SCOTTISH HOSIERY AND KNITWEAR INDUSTRY, 1680-1980*. John Donald (Glasgow), 1984. 163 pp. \$16.00. Rev.: *Business History*, Nov. 1985. Well-written and researched study covering each aspect of the industry.

Anthony Howe, *THE COTTON MASTERS, 1830-1860*. Clarendon Press (Oxford), 1984, 359 pp. \$22.50. Extensive history of the industrial elite of Lancashire--"a work of permanent value."

INLAND EMPIRE LUMBERING: FRANK PALMER'S PHOTOGRAPHIC RECORD OF AN INDUSTRY, 1898-1920. In *Pacific Northwest Quarterly*, July 1985, pp. 104-113. Prints from a wonderful collection of photos by Palmer of lumbering in eastern Washington and northern Idaho: the woods, rafting, fluming, R.Ring, all the rest of it.

Paul F. Lambert & Kenny A. Franks, *VOICES FROM THE OIL FIELDS*. U. of Oklahoma Pr. (Norman), 1984, 260 pp. \$19.95. Rev.: *Arizona & the West*, Autumn 1985. Collection of 20 interviews with old-time oil field workers and associates in late 1930s. Down-to-earth picture of life in the oil fields according to reviewer.

Gloria Ricci Lothrop, *A TRIO OF MERMAIDS--THEIR IMPACT UPON THE SOUTHERN CALIFORNIA SPORTSWEAR INDUSTRY*. In *Journal of the West*, Jan. 1986, pp. 73-83. Bathing suits. (Look, it's an industry.)

Michael R. McCormick, *TROUBLE IN THE AUTO INDUSTRY: KAISER-FRAZER AND THE UAW 1945-1953*. In *Detroit in Perspective--A Journal of Regional History*, Fall 1983, pp. 58-73.

B.R. Mitchell, *ECONOMIC DEVELOPMENT OF THE BRITISH COAL INDUSTRY, 1800-1914*. Cambridge U. Pr. (N.Y.), 1984, 381 pp. \$59.50. Rev.: *The American Historical Review*, Oct. 1985. Labored style according to reviewer & more of an economic history. Detailed statistical evidence.

Dianne Newell (SIA), *TECHNOLOGY ON THE FRONTIER: MINING IN OLD ONTARIO*. U. of British Columbia Pr. (303-6344 Memorial Rd., Vancouver, BC V6T 1W5), 1986. 232 pp., illus., maps, tables. \$24. Canada; \$19.50 US. The extraction of minerals--including oil--in Ontario from about 1840 to 1890, emphasizing the technologies imported, adapted, invented, and exported. An important study.

Roger W. & Diana D. Olien, *OIL BOOMS: SOCIAL CHANGE IN FIVE TEXAS TOWNS*. U. of Nebraska Pr. (Lincoln), 1982. 220 pp., \$17.95. The effects of oil on the five study towns. Rev.: *Business History Review*, Winter 1985.

_____, *WILDCATTERS: TEXAS INDEPENDENT OILMEN*. Texas Monthly Pr. (Austin), 1984. 234 pp. \$16.95. Rev.: *Arizona & the West*, Winter 1985 and *Business Hist. Rev.*, Winter 1985. Chronological interpretation of the history of the independent oil industry. Meticulously researched except for omission of research into the public records of regulatory agencies.

Sara Payne, *THE GURTEENS OF HAVERHILL: 200 YEARS OF SUFFOLK TEXTILES*. Woodhead-Faulkner Ltd. (32 Trumpington St., Cambridge, England & 51 Washington St., Dover, NH 03820), 1984. 96 pp., illus. Long-time manufacturers of various types of cloth and latterly, of ready-to-wear clothing.

Emerson W. Pugh, *MEMORIES THAT SHAPED AN INDUSTRY: DECISIONS LEADING TO IBM SYSTEM/360*. MIT Press (Cambridge), 1984. 323 pp. \$25.00. Rev.: *Business History Review*, Summer 1985. Technical examination of the development of high-speed ferrite-core memories that led to stored-program computers. Concentrates on period before 1964.

Mary Alice Quigley & David E. Collier, *A CAPITAL PLACE: THE STORY OF TRENTON [N.J.]*. Windsor Publs. in cooperation with Trenton Historical Soc. (Avail: N.J. Historical Comm., 113 W. State St., Trenton, 08625), 1984. 160 pp., illus. \$24. The entire history from 17th C., but much on the industry of The City of Iron & Clay incl. a chapter on "The Staffordshire of America," said to be the best account available of the city's potteries. Review doesn't say how much treatment there is of Peter Cooper's early iron working and the establishment of John Roebling's wire-rope works--some, surely.

David Starbuck [SIA] and Mary Bentley Dupre, *THE HAZELTINE POTTERY SITE, CONCORD, NH*. In *The New Hampshire Archeologist*, 26:1 (1985), pp. 135-45. Excavation of 19th-C kiln houses for NH redware pottery in context of local industry.

Paul Thompson et. al., *LIVING THE FISHING*. History Workshop Series. Routledge & Kegan Paul (Boston), 1983. 398 pp. \$25.00. \$12.95. Rev.: *The American Historical Review*, Feb. 1985. Informative work on the British fishing industry containing oral histories. Useful maps, pictures and glossary of fishing terms.

Barbara Weinstein, *THE AMAZON RUBBER BOOM, 1850-1920*. Stanford U. Pr. (Stanford, CA), 1983. 356 pp. \$29.50. Rev.: *The American Historical Review*, Apr. 1985. Detailed, well-documented, well-written study of this export industry.

MATERIALS

Horace R. Collins, *THE HANGING ROCK IRON REGION OF OHIO*. In *Ohio Geology Newsletter*, Winter 1986, pp. 1-5. (Divn. of Geological Survey, Dept. of Natural Resources, Columbus, OH 43224. 614-265-6605.) The south-central region of the state produced charcoal pig iron from 1818 to 1916 and during the Civil War was one of the nation's major sources of both pig and plate. (Here was cast the monster cannon *Swamp Angel* that helped besiege Charleston Harbor.) General description of the mining and production methods; good drawing of the Buckeye Furnace, Jackson Co., now partially restored.

Craig E. Colton, *INDUSTRIAL WASTES IN THE CALUMET AREA, 1869-1970: AN HISTORICAL GEOGRAPHY*. Illinois Dept. of Energy & Natural Resources, Research Report 001 (Box 5050, Station A, Champaign, IL 61820), 1985. 124 pp., maps, tables. Explores the feasibility of using historical records to

document the patterns of industrial waste disposal in an extensive industrial complex on the SE side of Chicago.

Dwight Holing, ON THE LAST FRONTIER. In *Americana*, May/June 1985. The restoration/preservation of Skagway, Alaska, an 1898 gold boom town.

L. Hunt, HISTORY OF ALLOY DEVELOPMENT. The Inst. of Metals (Marketing Dept., 1 Carlton House Terrace, London SW1Y 5DB). 1986. (No pp or price). The philosophy of alloys and the discoveries of their properties and uses from the Middle Ages, through the first real understandings at the end of the 19th C., to the early 20th C.

R.F. Tylecote, THE PREHISTORY OF METALLURGY IN THE BRITISH ISLES. The Institute of Metals (US Distrib: Brookfield Publ. Co., Old Post Rd., Brookfield, VT 05037) 1986. 265 pp. illus. Bibl., maps, aerial & other photos. \$34.95. Definitive treatise on the application of metallurgical techniques to the analysis of archeological finds and sites, integrating the works of metallurgists, chemists, and other specialists. Essential reference for historical metallurgists, museologists, and students of prehistoric and early historic man. Ferrous and non-ferrous, incl. smelting and refining. Flyer avail.

Owen Ward, BRITISH BURRSTONES, 1799-1821. In *Cylchgrawn Cymdeithas Melinau Cymru (Journal of the Welsh Mills Group)*, No. 1 (1985). A study of burrstones and the Welsh mountains from which quarried.

Jon M. Williams, A GUIDE TO IRON & STEEL PICTURES IN THE HAGLEY MUSEUM & LIBRARY. (Hagley Publications, Box 3630, Wilmington, DE 19807.) 1986. \$6.50 Ppd. 76 pp. Covers 10 major and several minor collections including Bethlehem, Lukens, Midvale, Phoenix, Alan Wood, Taylor Wharton, and others. Hagley's holdings in this critical area are large and fine, now probably the most important in the country.

TRANSPORTATION

Marcus Binney (with photos by Manfred Hamm; notes by Axel Föhl), GREAT RAILWAY STATIONS OF EUROPE. Publ. unk. (Avail: ASCE Book Sales, 345 E. 47th St., NYC 10017), 1985. \$29.95. Photographs of the great termini "as places where art, technology, and life meet and mingle." And you even can get a train sometimes.

George Charlesworth, A HISTORY OF BRITISH MOTORWAYS. Thomas Telford, Ltd (UK), £15. The evolution of the social and political attitudes toward motorways (super highways). Rather parallel to the US experience although with a lag of a decade or two: initial euphoria at the relief offered, with resulting big boom of construction in 1960s and '70s; then a dawning realization that there is an environmental downside with ensuing slowdown. Other factors, of course, all herein described, for England, Scotland, & Wales.

Richard Covington, WHY NOT CARS? In *Americana*, July/Aug. 1985. An exhibit on the aesthetics of automobiles at the Detroit Institute of Arts: "Automobile and Culture--Detroit Style."

G.W. Crompton, EFFICIENT AND ECONOMICAL WORKING? THE PERFORMANCE OF THE RAILWAY COMPANIES 1923-33. In *Business History*, July 1985, pp. 222-37. The railways were beyond their period of maximum impact on the economy. The negative pattern of structural change in the economy, many new types of competition, and regulation created disadvantages.

Robert P. Davis, AMERICA'S MARITIME HERITAGE. In *American History Illustrated*, Dec. 1985. A renowned marine artist, John Stobart, paints great ships, ports, and events from America's maritime past.

Richard J. Dent, ON THE ARCHAEOLOGY OF EARLY CANALS: RESEARCH ON THE PATOWMACK CANAL IN GREAT FALLS, VIRGINIA. In *Historical Archaeology*, Vol. 20, No. 1 (1986), pp. 50-62.

Stephen Fisher (ed.), BRITISH SHIPPING AND SEAMEN, 1630-1960: SOME STUDIES. Exeter Papers in Economic History 16 (University of Exeter), 1984. 109 pp. £3. Rev.: *Business History*, Nov. 1985. A compilation from 5 papers delivered at the 1983 Exeter conference on maritime history.

John Gruber, ELROY RECALLS: CITY CELEBRATES CENTENNIAL, DEDICATES RAILROAD STATION. In *Railway Gazette* (Mid-Continent Railway Historical Society), July-Aug. 1985, pp. 9-16. Not only a history of railroading in Elroy, Wis. But the revival of enthusiasm that restored the station.

THE LONELY DEPOT. In *Cowlitz Historical Quarterly*, Vol. XXVII, No. 3, 1985. Some history of the Kelso depot on the Northern Pacific RR from 1870.

William D. Middleton, A CENTURY OF CABLE CARS. In *American Heritage*, April-May 1985. Extensive history of the cable car which briefly dominated urban transportation throughout the country.

Jeffrey Richards & John M. Mackenzie, THE RAILWAY STATION: A SOCIAL HISTORY. Oxford, 1986. 440 pp. £15. "If all works of art and entertainment that in some way involve motor cars and service stations were to disappear overnight it would be no great loss, except to such people who actually enjoy those interminable car chases that have contributed so much to the tedium of cinema-going. Likewise with planes and airports. But perform the same vanishing act with trains and railway stations and the loss would be catastrophic." And he's right, of course. Such chapters as The Station in Architecture; the Station in Politics; the Station in the Economy; the Station in Wartime; &c. In other words, a social history of the station, movie and literary plot summaries included. A book, clearly, to call up fond memories, inspiration, and despair at the losses.

Philip R. Smith, IMPROVED SURFACE TRANSPORTATION AND NEBRASKA'S POPULATION DISTRIBUTION, 1860-1960. The Ayer Co. (Box 958, Salem, NH 03079), 1981. \$30. The impact of railroad construction on the population changes of Nebraska's cities and counties between 1860-1910, and later responses to motor transportation.

Robert Mize Sutton, THE ILLINOIS CENTRAL RR IN PEACE AND WAR, 1858-1868. The Ayer Co. (Box 958, Salem, NH 03079), 1981. \$25. A unique railroad, the I.C. was the largest in the U.S. at the time of its completion and the first to benefit from a grant of public land to assist in its construction. Describes in detail the arrangement worked out to cover the wartime relationship between the land-grant railroads and the federal government.

Alice Teichova & Penelope Ratcliffe, BRITISH INTERESTS IN DANUBE NAVIGATION AFTER 1918. In *Business History*, Nov. 1985, pp. 283-300. The relationship between the politics and economics of this industry through the 1930s.

Susan Vreeland, GOING BY STEAM. In *Americana*, May/June 1985. Description of some steam trains still in operation.

David Weitzman [SIA], A REQUIEM FOR STEAM. In *American West*, May/June 1985. The story of steam locomotives and the reasons for their demise.

John H. White, Jr., THE GREAT YELLOW FLEET. Golden West Books (Box 80250, San Marino, CA 91108-8250), 1986. 185 pp., illus. \$45. Not bananas but the RR refrigerator car--the "reefer"--that vital link between the farm and marketplace that made perishables available across the country and at all seasons. The great fleets of private and railroad-owned cars; the technology of icing and later mechanical refrigeration; the rest, Bibl. and index.

HOLMES HINKLEY & THE BOSTON LOCOMOTIVE WORKS. Offprint from *RR History*, Bulletin 142 (Spring 1980). Avail: The author, Divn. of Transportation, Natl Museum of American History, Wash. D.C. 20560. 63 pp., illus. Prominent builders from 1841 to 1889. Good account, including complete roster of their engines (of which there is one, sole survivor, the *Lion* of 1846, now in the Maine State Museum).

Griffith H. Williams, ALASKA'S CONNECTION: THE ALCAN HIGHWAY. In *Pacific Northwest Quarterly*, April 1985, pp. 61-69. The building of this 1,480 miles of road between March 9 and October 25, 1942.

POWER

D. Victor Anderson, ILLUSIONS OF POWER: A HISTORY OF THE WASHINGTON PUBLIC POWER SUPPLY SYSTEM (WPPSS). Praeger

(N.Y.), 1985. 159 pp., \$27.95. Includes a chronology of key dates in the WPPSS saga, 1956-1983, where they tried to build themselves a nuclear station and it blew up in their faces.

ELECTRICITY: 50th ANNIVERSARY TVA 1983. Edited by Bill Sims; designed & illus. by David Macaulay (SIA). 48 pp. illus. pamphlet from TVA (Director of Information, 400 W. Summit Hill Drive, Knoxville, TN 37902), free while they last. Macaulay's usual top-notch illus. of the workings of dams, power plants, & electricity distribution; how it has worked over the 50 yrs. of TVA.

(FIRST) PARSONS INTERNATIONAL TURBINE CONFERENCE. Parsons Press (Trinity College, Dublin) & Institution of Mechanical Engineers (London), 1984. 251 pp., illus. No price given. Proceedings of a conference commemorating the invention by Charles A. Parsons in 1884 of the 1st practical steam turbo-generator. Of the 28 papers published here only four are historical. The remainder treat the state of the art in turbine design and manufacture, but altogether a valuable document historically from that standpoint. The authors represent nearly every industrial country where turbines are produced.

SOCIAL & LABOR HISTORY

P.W.J. Burtrip & S.B. Burman, THE WOUNDED SOLDIERS OF INDUSTRY: INDUSTRIAL COMPENSATION POLICY, 1833-1897. (Oxford Socio-Legal Studies.) Clarendon Pr. of Oxford U. Pr. (N.Y.), 1983. 253 pp. \$29.95. Rev.: *The American Historical Review*, Feb. 1985. How the government was instrumental in safety and compensation of industrial labor.

J.W. Durcan, W.E.J. McCarthy & G.P. Redman, STRIKES IN POST-WAR BRITAIN: A STUDY OF STOPPAGES OF WORK DUE TO INDUSTRIAL DISPUTES, 1946-73. George Allen & Unwin (London), 1983. 448 pp. \$37.50. Rev.: *Business History Review*, Spring 1985. Detailed documentation of the level & pattern of strike activity in postwar Britain.

Roy C. Horner, TEMPO AND THE GLASS FOLKS OF SOUTH JERSEY. Gloucester County Historical Soc. (Box 409, Woodbury, NJ 08096), 1985. 165 pp., illus. \$8.95. The "tempo" was the coffee break, for socializing and production of personal glass projects. Both history of the workers and of the many S. N.J. glass houses, with a good bit on technique.

Angela John, COALMINING WOMEN: VICTORIAN LIVES & CAMPAIGNS. Cambridge U. Pr. (32 E. 57th St., NY, 10022), 1984. 44 pp., illus. \$3.95. Primary research in labor history and govt. docs. for use by students at secondary school level. Covers history of women in British coal mines in 19th century, both above and below ground work; their coverage by media in 1880s and testimony before Parliament. Very well produced.

STRUCTURES

Virginia Guest Ferriday, LAST OF THE HANDMADE BUILDINGS: GLAZED TERRA COTTA IN DOWNTOWN PORTLAND. Mark Publishing Co. (Portland, OR), 1984. 149 pp., illus. Much information about how terra cotta is made and used, as well as a lot on its preservation, as well as a history of its use in Portland.

Michael George (photographer), A LADY FOR THE AGES. In *Americana*, Sept/Oct. 1985. Striking photographs of Statue of Liberty.

Bill Harvey, TESTING TIMES FOR ARCHES. In *New Scientist*, 15 May 1986, pp. 54-59. Questions arise concerning the capacity of the 100,000+ British road and RR arch bridges leading to new methods of analysis and the possibility of reintroducing the arch as a viable structural element with low maintenance potential. Good discussion of arch theory in general, too, with interesting graphics.

Paul A. Miller, TUNNELS IN TIME. In *Railway Gazette* (Mid-Continent Railway Historical Society), Nov.-Dec. 1985, pp. 6-10. An interesting look at the 11 railroad tunnels built in Wisconsin, what they were built through and how well they've stood up.

Steven S. Ross, CONSTRUCTION DISASTERS. McGraw-Hill (NY), 1984. 417 pp., illus. \$37.50. The lessons to be learned from structural failure. Thoughtful analysis of 27 failures resulting from earthquake, fire, inadequate inspection and poor design. Of considerable historical and engineering consequence. Excellent review by Emory Kemp [SIA] in *Public Works Historical Society Newsletter*, Fall 1985.

David Starbuck [SIA], THE WORLD'S LONGEST TIMBER CRIB DAM: THE SEWALL'S FALLS DAM IN CONCORD, NH. In *The New Hampshire Archeologist*, 26:1 (1985), pp. 103-116. Constructed 1892-94 to dam the Merrimack River for a hydro-electric generation project, the dam survived until 1984 when a large mid-section washed away. Many fine historical illus. in this paper, originally presented at SIA's 1985 Conference in Newark.

Nick Taylor, ON TO 1986. In *Americana*, Sept./Oct. 1985. Restoration of Statue of Liberty.

Marilyn E. Weigold, SILENT BUILDER: EMILY WARREN ROEBLING AND THE BROOKLYN BRIDGE. Associated Faculty Pr. (Port Washington, NY), 1984. \$19.95. Bio. study of the wife of Washington Roebling, who acted as intermediary between him and his engineering staff during the time of his incapacitation as chief engineer of the Brooklyn Bridge construction. Also her civic and other non-engineering activities. (Available through Kraus Reprints.)

Richard Guy Wilson, MACHINE-AGE ICONOGRAPHY IN THE AMERICAN WEST: THE DESIGN OF HOOVER DAM. In *Pacific Historical Review*, Nov. 1985, pp. 463-493. Analysis of the dam's engineering & architecture. illus.

BIBLIOGRAPHIC NOTES

INDUSTRIAL ARCHAEOLOGY. Vol. 1 to Vol. 11, No. 3. 43 issues in all, plus 'Craig & Donald' supplement. 1964-74. \$100.00. From The Book House, Grey Garth, Ravenstonedale, Kirkby Stephen, Cumbria, UK CA17 4NQ. Also, odd single issues usually available. Librarians please note: another 10-vol. set soon may be available. This is the old original serial in the field, with a complicated publishing history, to wit: Lambard Press, David & Charles, Bratton Publishing, and West of England Press, to 1974. Three years later irregular issues appeared from another house: Graphmitre. This run includes through the Bratton issues; Vol. 11, no. 3, plus one of the two supplements.

INDUSTRIAL ARCHAEOLOGY REVIEW. Vols. 1-6, 1976-82, 18 issues. \$18.00 from the Book House [see above]. This is the academic successor to INDUSTRIAL ARCHAEOLOGY [above] now published by Oxford U. Pr. for the Assn. for Industrial Archaeology. Our British cousins' version of our IA.

IRONWORKINGS--THE NEWSLETTER OF THE FRIENDS OF LONG POND IRONWORKS. A new quarterly dealing with this important northern NJ site that is under restoration (SIA Fall Tour 1976). Vol 1, No. 1 appeared last Oct. \$10. / year for membership in the Friends brings the Newsletter. Box 809, Hewitt, NJ 07421.

LOCOMOTIVE & RAILWAY PRESERVATION. A new and absolutely top-drawer RR magazine that is more IA-worthy than all the rest combined. It is just what it says, dealing solely with the restoration of rolling stock and entire RRs, at the technical and legal nuts-&-bolts level. Vol 1 contains lengthy articles on the Cass scenic RR (WV) and the rebuilding of a Cotton Belt 4-8-4; Vol II on the nearly total reconstruction of the Pere Marquette's No. 1225, a remarkable essay into steam locomotive technology and the will of a small group of enthusiasts. Highly recommended. Bi-monthly @\$16./year US; \$17. Canada; \$18.50 overseas. Box 95, Richmond, VT 05477.

SUBSCRIPTION OFFER: *North American Archaeologist*, published by Baywood Publishing Company of Farmingdale, NY, offers a \$13 discount on subscriptions or renewals to SIA members by virtue of our participation in Archaeological Assns. Write to Room 5020 for the coupon form necessary to receive the discount.

AMERICAN RRS, CANALS, & MINING BEFORE 1877. Catalog of books (No. 24) available from Joseph J. Falcone, Inc. (Rare Books), Box 366, Princeton, NJ 08540. (609) 924-0539.

SIA AFFAIRS

ROYALTY GIFT RECEIVED. The Society is pleased to announce receipt of the eighth royalty check (\$64.38) from sales of *Historical Archaeology: A Guide to Substantive & Theoretical Contributions*, ed. Robert L. Schuyler (\$19.50 ppd., Baywood Publishing Co., Inc., Farmingdale NY 11735).

WHO-DO-YOU-TRUST DEPT. The March issue of the Nat'l Trust's *Preservation News* took note, as it does on occasion, of the work of SIA and *SIAN*, along with the historical arms of ASCE & ASME. They still think we're all lost in the ozone, though, given to talking up "such eye-of-the-beholder gems as the McLouth steel-bop [sic—"BOP" is Basic Oxygen Process] vessel and the wind-powered Archimedes screw pump." Well, if *PN* covered our Annual Conference in Cleveland, or Fall Tour in New England, we might give the Trust a deserved boost in these pages. Their heart's in the right place and we're sure they could use the help.

FALL TOUR '86

Headquartered in Mystic, Conn., and hosted by the Southern New England Chapter, the Fall Tour will be Oct. 3-5. The theme is 350 years of maritime New England history and will feature IA sites in southeastern Conn. and neighboring coastal Rhode Island. Organizational work is largely by SNEC members in the Conn. Hist. Commn. and the R.I. Dept. of Environmental Management. Details: Mary Donohue or David Poirier at 203-566-3005.

WRIGHT REPORTS ON TICCIH BOARD MEETING IN SWITZERLAND

A meeting of the Board and the National Representatives of The International Committee for the Conservation of the Industrial Heritage (TICCIH) was held in Switzerland, Aug. 30 through Sept. 4, 1985. Eighteen representatives from 12 countries, including Dianne Newell, Canada, and Helena Wright, USA [both SIA], met in Lausanne for a week of meetings and site visits arranged by Swiss host Marc Barblan of the Assn. for Industrial Patrimony in Geneva. We were joined by representatives from ICCROM, UNESCO's Rome center for the conservation of cultural materials, and the Council of Europe in Strasbourg. SIA has joined TICCIH as an organizational member, making all SIA members now *ipso facto* members.

We discussed at some length the following issues: financial reporting by countries to the treasurer and fund-raising for the international body; intermediate conferences, seminars, and other educational programs; publications, especially a new brochure and the TICCIH newsletter; and identification and listing of international landmarks of the industrial heritage, including an awards program to be implemented through the Council of Europe. We voted final acceptance of the wording of a draft agreement with ICOMOS (UNESCO's International Council on Monuments & Sites), and we spent the better part of two days working out the details for the next conference. The Austrians have organized the 6th TICCIH conference to be held in Vienna and the Voderberg region of Styria in Sept. 1987. Further details will be forthcoming.

As the US National Representative, I made the final report on the 5th Int'l Conf. held here in 1984, including a budget summary, and on the progress of the conference *Proceedings*, now published (copies avail. through SIA-HQ for \$15 ppd; richly illus., 217 pp., packed with int'l IA case studies).

The 1985 program included museum and site visits in western Switzerland. We were taken to see two new museums, the Centre International de la Mécanique d'Art et Musée des Automates (CIMA) in Sainte-Croix and the Musée d'Alimentation (Food Museum) in Vevey. Both opened in Spring 1985. CIMA, the Mechanical Arts

NEWS OF MEMBERS

In April, NYC Mayor Edward Koch presented **Margot Gayle** with the 4th annual Doris C. Freedman Award, established to honor the late Doris Chanin Freedman, who was Dir. of Cultural Affairs for the city. Reports **Aron Eisenpress**: "An SIA contingent (**Tom Flagg**, **Gerry Weinstein**, **Thorwald & Janet Torgersen**, and myself) was there for the presentation. Mayor Koch called Margot 'a New York City institution' and compared her to cast iron—hard, strong, and unyielding. The award is an impressive 55-lb. replica (I think it's brass!) of a sculpture called 'The Alamo' that stands across from Cooper Union."

Outgoing SIA President **Helena Wright** has been appointed exhibit review editor for *Technology & Culture*, journal of the Soc. for the Hist. of Technology, succeeding **Larry D. Lankton**.

Darwin H. Stapleton, currently director of the Program in the History of Science & Technology at Case Western Reserve Univ., has been appointed director of the Rockefeller Archive Center (North Tarrytown, N.Y.) and Adjunct Professor at The Rockefeller Univ.

LOCAL CHAPTERS

MONTGOMERY C. MEIGS ORIGINAL CHAPTER (Wash.-Baltimore). Gray Fitzsimons succeeded Eric DeLony as chapter president in March.

Museum, represents a local effort to interpret the precision metalworking industry of the region, principally the manufacture of music boxes and automatons. The Food Museum is a superb achievement encompassing the science of nutrition, agriculture and food production worldwide, and the results of industrialization affecting the transportation, marketing, preservation, and consumption of food. It is funded by the Nestlé Corp. headquartered there in Vevey, but it is not in any sense a company museum.

We also visited several historic industrial sites presently being interpreted by local historical societies, including an excellent museum of iron in a former forge in Vallorbe, a 17th-C underground water-

Museum of Iron, Vallorbe, Switzerland. Helena Wright photograph.



power site, and the huge Grande Dixence dam near Sion, with several of its power plants. Process tours of modern Swiss industries included Maillefer, manufacturers of cable-making machinery; Kudelski, renowned audio equipment manufacturers; and Castolin-Eutectic, an industrial engineering firm specializing in "wear prevention" for industrial applications. It was a very full week. If any SIA members are planning to travel in Switzerland, I'd be happy to provide details on these and other sites visited.

H.E.W.

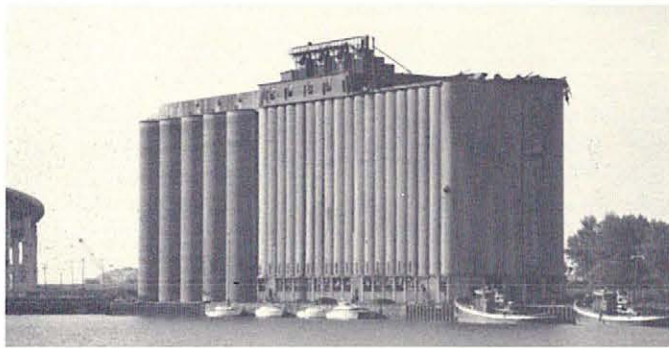
BUFFALO'S MIGHTY ELEVATORS SET FOR DISTRICT STATUS

Buffalo, N.Y.'s extraordinary collection of world-class grain elevators may be on its way to becoming the Joseph Dart [of mid-19th-Century elevator fame] Historic District—that is, if “those crazy grain elevator people” of the Industrial Heritage Committee, Preservation Coalition of Erie Co., N.Y., have their way. Although Buffalo's perceived position as no. 1 in elevator history might get arguments from elevator aficionados in Montreal and Minneapolis (where the first circular reinforced-concrete tank, the Peavey-Haglin Elevator [NHL], was erected in 1899), there's little doubt that the city's concrete giants deserve recognition and preservation.

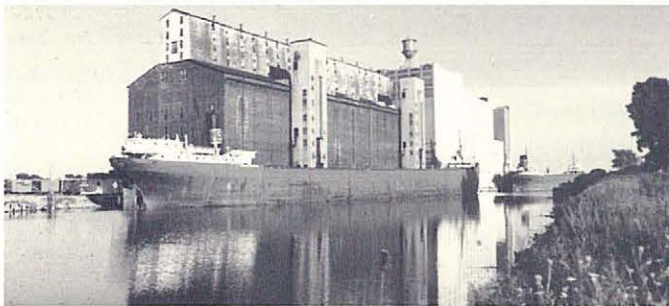
Lately the PCEC's efforts have gotten a national boost from Reyner Banham, whose just-published *A Concrete Atlantis: U.S. Industrial Building & European Modern Architecture* (MIT Press) devotes a chapter to concrete elevators, particularly Buffalo's. Banham, in fact, believes “that it is difficult not to feel that [Buffalo] ought to be, as it were, the Coalbrookdale of North American industrial archaeology”—although he concedes that that title probably will go to Lowell or Troy, since both are “nearer to centers of academic, legislative and communicative power, whereas

Buffalo—‘the armpit of New York’—is near to nothing but the first center of cheap hydro-electric power, Niagara Falls.”

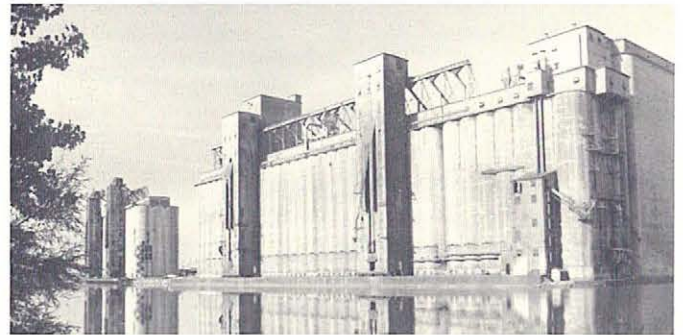
As early as 1953, the Buffalo section of the American Society of Civil Engineers picked the 3.5-million bu. Cargill Superior Elevator [1915; A.E. Baxter, engr.] as the first of “Seven Engineering Wonders of Western N.Y.” At one time there were about 50 elevators in use, but when the St. Lawrence Seaway opened in 1958, making the Erie Canal obsolete, grain trade diminished drastically. Recently, only four elevators remained operative. Last year, PCED sponsored a panel discussion on “The Past, Present & Future of *continued on next page*”



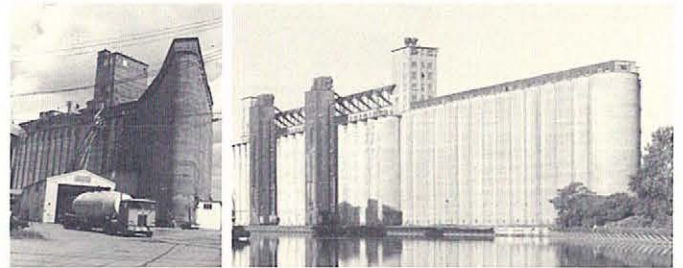
Connecting Terminal (1919, 1955).



Pillsbury (AKA Great Northern; 1897, Max Toltz, engr.).



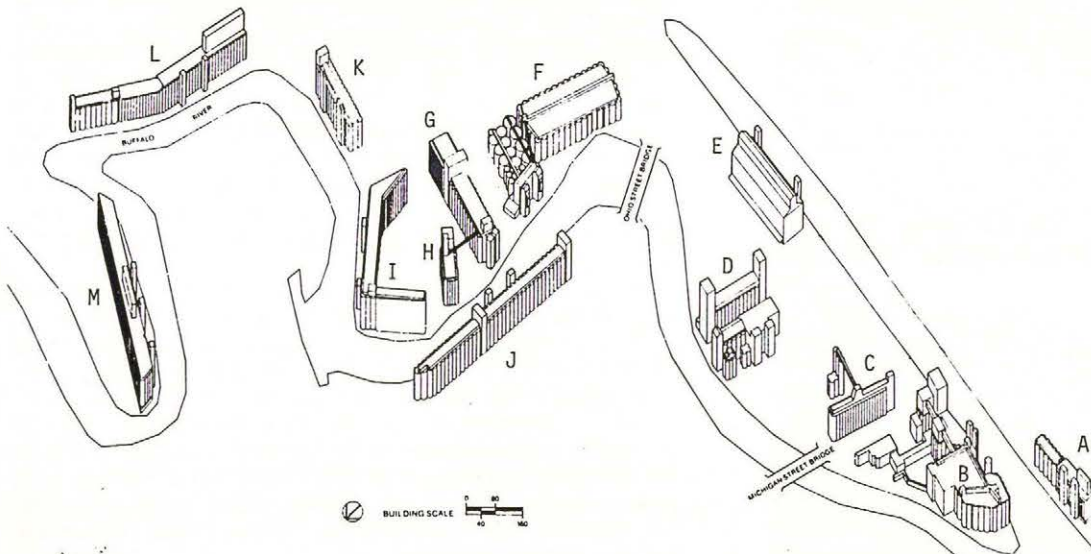
At left is the Marine “A” (1924); at right is the Lake & Rail (1927).



Left: The triangular Childs St. end of the Lake & Rail. Right: Pillsbury (AKA Standard; 1928, 1940, A.E. Baxter Engng. Co.).



Concrete-Central (1918, Monarch Engng. Corp.).



Terminal elevators on the Buffalo River.

- A. Connecting Terminal
- B. General Mills (AKA Frontier).
- C. St. Marys of N.Y. Cement Co. (AKA Kellogg).
- D. Agway.
- E. Pillsbury (AKA Great Northern, Mutual).
- F. Cargill Electric.
- G. American.
- H. Perot.
- I. Lake & Rail.
- J. Pillsbury (AKA Standard).
- K. Marine “A”
- L. Cargill Superior.
- M. Concrete-Central.

Map adapted from Buffalo Architecture: A Guide (Cambridge, Mass.: MIT Press, 1981). Jerry Molloy photographs for Preservation Coalition of Erie Co.

ELEVATORS *continued from page 8*

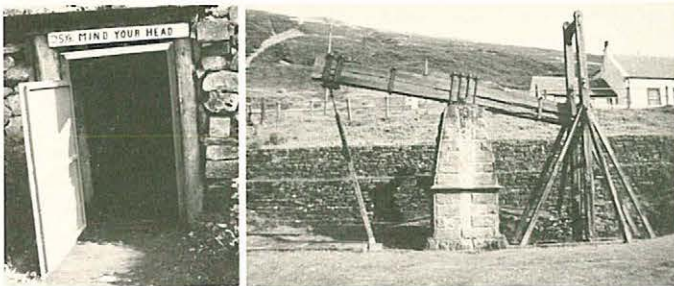
Grain Elevators" as a push for public appreciation. At the same time, consultants were moving ahead on a half-million-dollar waterfront study that includes the Buffalo River shoreline holding most of the elevators.

Later last summer, during Buffalo's HarborFest, successful boat and walking tours publicized the district plan, as did lunchtime elevator slide shows at Jerry Molloy's Harbor Inn. The tours are running again this summer, twice a month, June thru Sept. If you can't get to Buffalo, you still can give concrete support to this elevating IA effort by ordering a Joseph Dart Hist. Dist. sweatshirt or T-shirt, featuring the giant Pillsbury elevator (where else can you get a shirt with a grain elevator on it?). Tours: PCEC, 20 Angle St., Buffalo NY 14214 (716-837-8858). Shirts: Victoria Taylor, Indus. Heritage Comm., 100 Grosvenor Rd., Kenmore NY 14223. As you might guess, they'd also like any good ideas about reuse possibilities.

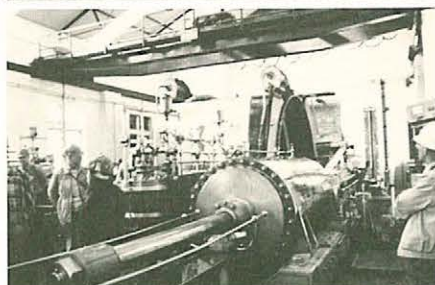
IA IN THE UK

THE ASSN. FOR IA MEETING, GLASGOW

While in Europe to attend the TICCIIH meeting (see report in this issue), I took the opportunity to attend the annual conference of the Assn. for Industrial Archaeology in Glasgow, Sept. 1-15, 1985. Our British (or Scottish) cousins follow a different format for their meetings, beginning with museum and site visits as a pre-conference option during the week. The weekend conference proper includes general sessions for papers, with plenary sessions on regional industries, followed by a business meeting and the Rolt Memorial Lecture. One weekend afternoon is devoted to excursions, usually process tours and site visits, but participants must choose from among three options. Often these are hard choices if one will not be return-



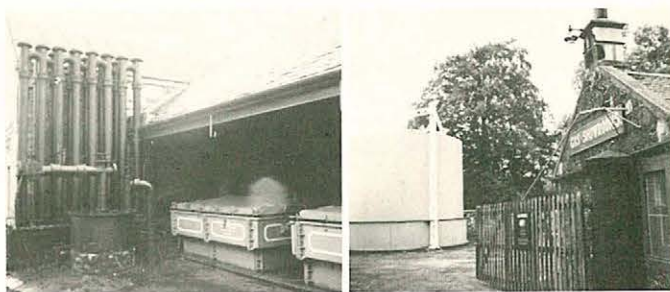
Above: Polite warning in a lead mine, Scotland. Above right: Beam engine at Wanlockhead. Right: AIA tourers at the Lady Victoria Colliery winding engine. Below: Smelter at Wanlockhead. Helena Wright photographs.



ing to the area, or if something is specially arranged to operate just for the visit.

The Tuesday pre-conf. trip centered on a visit to the *H.M.S. Unicorn* at Dundee and the Scottish Fisheries Museum at Anstruther. Wednesday (my first day at the conf.) we took a long bus ride along Loch Lomond to reach the Bonawe Iron Furnace on Loch Etive near Taynuilt, east of Oban. Established in 1752-53 by ironmasters from England, Bonawe was the largest and longest lived charcoal blast furnace in the Scottish Highlands. Production continued there until 1876, with imported ore moved to the source of the charcoal. Owned by the Secretary of State for Scotland, the carefully restored site includes charcoal sheds, iron-ore shed, furnace, and workers' housing. Foundations remain for the blowing house, casting house, storehouse, and smithy. There is an excellent exhibit about the production of iron. On the return trip to Glasgow, we stopped to see a blast-furnace ruin and the Auchendrain farm museum, a surviving handful of 19th-C buildings surrounding the last piece of communally-owned and -farmed land in Scotland.

Thursday's trip took us south from Glasgow to mining villages at Leadhills and Wanlockhead in Lanarkshire. The Wanlockhead site includes a small museum of lead mining, the Loch Nell mine, a beam engine, smelting mill and wheelpit ruins, and the remains of some



Gasmaking and purifying (left) and a gasholder (right) at Biggar. Helena Wright photographs.

workers' housing. We entered the mine for a level walk of about 200 yds. into the 18th-C drift. A mapped trail has been laid out to provide self-guided access to the engine and the foundations on the site. That afternoon we visited the gas works at Biggar, a 19th-C site interpreted by the Royal Scottish Museum, and the Gladstone Court Museum, a reconstructed series of shops and small businesses typical of Victorian village life.

On Friday we drove east to Newtongrange, where the Scottish Mining Museum is developing two open-air sites. One, the Lady Victoria Colliery, built 1890-94, was one of the most advanced and productive in Scotland. We saw the Lancashire boilers and the great steam winding engine (1891). The Museum is proceeding to renovate the headframe and buildings following the closing of the works in 1981. Linked by the Coal Heritage Trail is the second site, the Prestongrange colliery and brickworks near Prestonpans. Here is a giant 1853 beam engine used in tin mines in Devon and Cornwall. Refitted and sent to Prestongrange in 1874, it is the last Cornish engine in Scotland. There is a large display of mining tools at Prestongrange. In the afternoon we had a tour of Lorimer & Clark's Caledonian Brewery (1869), Edinburgh, where Scottish beer is brewed in the "traditional" manner. [Unfortunately, due to the tight schedule, we could not stay to sample the brew and had to return to Glasgow for the beginning of the conference papers. Somehow I think that is another difference between the British program and ours...]

The Saturday afternoon excursions offered a choice of two visits repeated from earlier in the week, plus a visit to Robert Owen's celebrated cotton mill village at New Lanark. At the latter we found an extensive restoration project under way, under the direction of the New Lanark Conservation Trust and local government groups.

Ongoing during the meeting were exhibits of the many active local IA chapters in Britain featuring their publications and guidebooks to local sites and industries. The 1986 meeting will be Sept. 12-14 in Loughborough, Leicestershire, with the preliminary program Sept. 8-12. Booking info.: J.R. Fletcher, 7 Shenton Close, Whetstone, Leicester LE8 3NZ, England. H.E.W.

NOTES & QUERIES

1986 EAIA AWARDS. The Early American Industries Assn. announced its three \$1,000 Grants-in-Aid:

—Mary Rose Boswell (curator of collections, Shaker Village, Inc., Canterbury, N.H.) will document the hand tools, machines, skills, & products of the manufacture of fancy boxes & sewing machine equipment, 1840s-1950s, by the Shakers of six New England & N.Y. societies.

—Bruce A. Cartwright (free-lance journalist & photographer, Cedarburg, Wis.) will research the history of Yerkes & Plumb Co., important in the hand-tool industry.

—William S. Pretzer (curator, Henry Ford Museum & Greenfield Village), will document and interpret the manufacture & use of hand tools in the 19th-C printing industry.

For EAIA grant info., write Charles F. Hummel, c/o Winterthur Museum & Gardens, Winterthur DE 19735.

PA. CANAL SOCIETY PROGRAM. Emory Kemp [SIA] will speak on "Hydraulic Cement and the Chesapeake & Ohio Canal" at a combined meeting of the Pa. Canal Society and the Monongahela River-buffs Assn., Oct. 25, in Morgantown, W. Va. Kemp's talk will follow a day-long, fall-foliage Monongahela boat ride that includes locking through at Morgantown, Hildebrand, and Opekiska. On the evening of the 24th John Folmar, editor of *Voice of the Mon*, will give an illustrated talk on the Mon. R. Info.: PAC, Canal Museum, P.O. Box 877, Easton PA 18042.

AVAILABLE

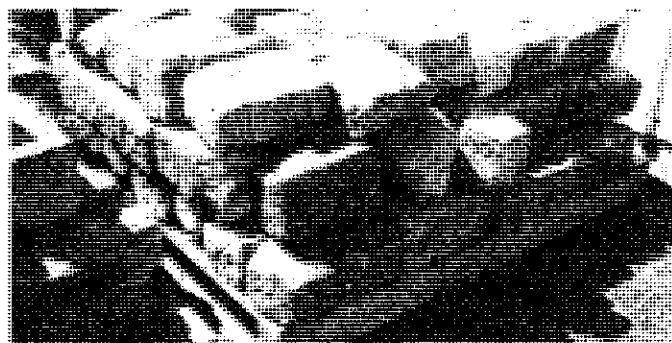
1985 ADVISORY COUNCIL REPORT. *Report to the President & the Congress of the U.S.* (illus., 98 pp.), published by the Advisory Council on Hist. Pres., Wash. D.C., is avail. free from Publications, ACHP, Old Post Office Bldg., 1100 Pennsylvania Ave. N.W., Rm. 809, Wash. D.C. 20004. This is historic preservation as the feds see it. Includes detailed review of the AC's Section 106 activities (a good primer on Sec. 106 process), along with discussions of preservation topics nationwide during 1985, on federal, state, & local levels. Excellent photos, some IA.

FORGING MACHINERY must be moved soon from the former Chain Forge at Charlestown Navy Yard, Boston. Includes post-1940 mechanical, pneumatic, and steam forging hammers and presses; reheating furnaces; traveling cranes; and other heavy machinery, avail. for exchange, loan, or donation to appropriate museums and qualified groups. Info.: Arsen Charles, Curator, NPS, Boston Nat'l Historical Park, Charlestown Navy Yard, Boston MA 02129 (617-242-5615).



Pneumatic presses and hammers available at the Charlestown Navy Yard. Jack E. Boucher photograph for HAER.

OLD GRANITE PAVING BLOCKS, removed from a RR freight yard in Harrisburg, Pa. that is being converted to townhouse development, are available for \$150/ton F.O.B. Harrisburg (discounts for volume purchases). After three days of trucking to their private dump, Carlisle Hauling Co. ended up with 2,300 tons of this



excellent multipurpose building material (sometimes called Belgian pavers). Average dimensions: 11½ x 6 x 5½-in., 27 lbs. Contact: Joe Farrell, Carlisle Hauling Co., 7401 Paxton St., Harrisburg PA 17111 (717-588-8843).

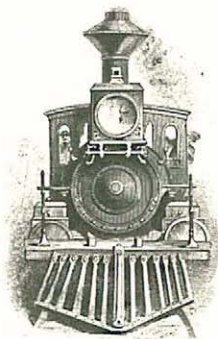
THE PARK AVENUE RAILROAD TUNNEL: A Program of Restoration is a 12-page, full-color booklet outlining the history, design, and future of NYC's tunnel beneath famed Park Ave. The line is a legacy of the old New York & Harlem RR and others, and sections date to the 1870s. Copies (while they last) are available to members for \$1 P&H from Aron Eisenpress [SIA], 235 West End Ave., NY NY 10023.

UPSCALE IA GIFT. For the industrial archeologist or canal buff who has everything, Sotheby's Int'l Realty *Portfolio of Distinctive Properties for Sale* (Spring '86) offers the c1900 *De Zwerver* [the Wanderer], a 100-ft. long, 16-ft. wide, hand-riveted steel-hull canal boat, designed by Dutch architect Wynand O.J. Nieuwenkamp. Nicely refurbished to "welcome guests in style and elegance," she features rare woods, Delft tiles, and 17th-C antiques. For winter, there's an oil-fired central heating system. The \$300,000 ticket includes the furnishings and delivery to a major U.S. seaport. For a copy of the *Portfolio* (\$3), which includes color photos and other offerings "for those who are particular" (a Frank Lloyd Wright house, a Southern plantation, and a 13th-C Italian monastery), contact Sotheby's, 2903 M St. NW, Wash. DC 20007.

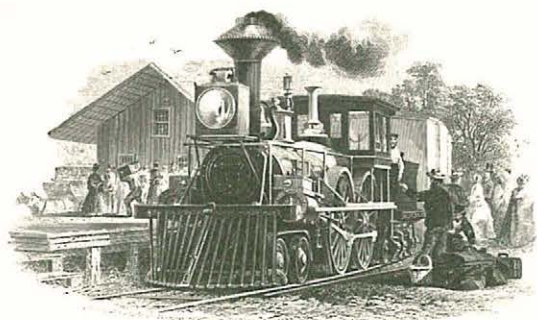
LABOR/URBAN RESEARCH GRANTS. The Walter P. Reuther Archives of Labor & Urban Affairs, Wayne State Univ., Detroit, will make research travel awards of up to \$700, thanks to a grant from the Henry J. Kaiser Family Foundation of Menlo Park, Calif. Begun in Jan. 1986 and now extended, the program provides funds to help defray costs of transportation and lodging for research in the Archives. It is particularly designed to aid doctoral candidates and junior faculty. Archives holdings include the papers of nine major unions, worker organizations, social reform organizations, as well as individuals active in these groups. There is extensive additional material on urban affairs. Info.: Philip P. Mason, Director, AL&UA, Walter P. Reuther Library, WSU, Detroit MI 48202 (313-577-4024).

HILL RESEARCH GRANTS. The James Jerome Hill Reference Library will award grants of up to \$2,000 to support scholarly research in the James J. Hill Papers. The personal and business papers of Great Northern Rwy. entrepreneur James J. Hill include almost 500 lin. ft. of correspondence, copybooks, financial records, and other materials from the 1860s through Hill's death in 1916. Special collections within the papers include the records of a flour mill, lumber company, experimental farms, mining and coal operations, and other enterprises. The application deadline is Dec. 1, and grants may be used any time in 1987. Info.: W. Thomas White, Curator, Hill Reference Library, 80 W. 4th St., St. Paul MN 55102. [SIA members might want to talk to SIAN editor Bob Frame at 612-227-9531—he's the Assoc. Curator.]

AMERICAN BANK NOTE CO. ENGRAVINGS REISSUED



Three of seven vignettes, reproduced actual size, from the first sheet ("Railroads") released in ABNCo.'s new limited edition series of historic engravings.



Elegant, exquisitely tooled 19th-C steel engravings from the archives of the American Bank Note Co. (ABNCo.) will be used to produce a limited-edition series of intaglio printed sheets, if there are enough subscribers. Tracing its history to Robert Scot, who was also the first engraver at the U.S. Mint in 1793, ABNCo. was the original U.S. currency and postage stamp printer, and long has been the world's supplier of bank notes, stock & bond certificates, commercial paper, stamps, and a multitude of other security documents. Many of these items included miniature masterpieces of the steel-engraver's art and all of the dies—now totalling some 26,000—remained the company's property. Today, the firm is a major producer of holograms.

ABNCo. is using these original engraved plates to produce sheets of vignettes. Twelve intaglio printed sheets on security paper will be issued in an annual portfolio. Each 8½ x 11-in sheet will include three to eight vignettes on a single theme per sheet. The first issue will be on railroads and include engravings originally appearing on stamps, stock certificates, and bank notes. Accompanying each sheet of vignettes will be data notes, with information about the designers and engravers along with lists of the original documents on which the particular graphics appeared. Subsequent sets will include topics from transportation, industry, Indians, politics, animals, and others as suggested by subscribers. Cost is \$150/yr., including a free portfolio. These will not be printed if there are not 5,000 startup subscribers—and if not, the unique dies remain locked in ABNCo.'s high-security vaults in Ramapo, N.Y. Info.: Aurelia Chen, ABNCo., 70 Broad St., New York NY 10004 (212-542-9200).

RARE 1897-98 HYDRO PLANT THREATENED

The Mechanicville [N.Y.] Hydroelectric Plant, built 1897-98 by Stillwell-Bierce & Smith-Vaile and designed by their chief engineer, A.C. Rice, is threatened with demolition by its current owner, Niagara Mohawk Power Corp., who want a modern station on the site. A competing license application has been filed by Long Lake Energy, who also would build a new plant, but would retain and restore (albeit dewatered) the original facility. Long Lake's plan would cost less, while delivering more KWs, than Niagara Mohawk's.

In an urgent drive to save the site, comparative hydro-plant data and restoration/preservation/reuse advice are needed by Jeannette Collamer [SIA], president of Collamer & Assoc., Inc., archeological consultants to LLE. The plant's history has been reviewed by Donald C. Jackson and Robert M. Vogel [both SIA], who believe it to be one of the earliest, intact, surviving plants of its type. Of particular significance are the revolving-field generators.

The Mechanicville facility was designed in part to supply power to the General Electric plant at Schenectady, 18 mi. southwest. GE furnished the 3-phase, AC equipment for the site.

Major original structures extant at the Hudson River (Lock C-2, Champlain Canal) site are a 215-ft. concrete gravity spillway-dam, and the 257 x 84-ft., 1½ story brick-and-concrete powerhouse. The powerhouse includes a 1901 brick boiler room for an auxiliary steam engine (now gone), a post-1920 "battery room," and other small additions. The head is 18 ft.

When constructed, the plant had 42-in. Victor horizontal turbines rated at 1000 hp./turbine. These were replaced in 1902 by the present six 51-in. S. Morgan Smith main turbines (4 wheels each; 1902-04). Also extant are six Lombard and one Sturgess main turbine governors (1902-04); two 18-in. Victor cylinder gate exciter turbines (3 wheels each; 1898); two GE generators (1899); and other equipment.

In 1898 there were five unitooth, 3-phase, 40-pole, 114 rpm, 750 KW AC generators. The surviving two units, of identical specs., were added in 1899, and are among the earliest extant examples of revolving-field generators. Their addition brought the plant to full



capacity. In the 1930s, the boiler room was used for experimental DC transmission to GE and is still called the "DC room." The site has been nominated to the Nat'l Register.

Are similar plants extant elsewhere? What are their present uses? What concerns should be addressed in preservation and restoration? Contact Jeannette Collamer, 114 Gardner Hill, E. Nassau NY 12062 (518-766-5387).

'METALS IN MONTANA' ORAL HISTORY PROJECT

The Montana Historical Society's Oral History Office has begun work on "Metals in Montana: Industry & Community in the 20th-C." The year-long project will focus on the metals industry in Montana and its relationship to four communities in which smelters and refineries were located: Anaconda, Black Eagle, Columbia Falls, and East Helena. The project is funded by the state legislature through a grant from the coal severance tax fund.

Although the metals industry has played a major role in Montana's development, historians have paid little attention to the reduction of ores to metals in the state. Project director Laurie Mercier will interview those who have lived in the communities for ten or more years, or who have worked in the Great Falls or Anaconda Reduction Works, the ASARCO smelter, or the Columbia Falls aluminum plant.

The research will culminate in a book and a traveling photograph exhibit. Info.: Laurie Mercier, Mont. Hist. Soc., 225 N. Roberts, Helena MT 59620 (406-444-4779). *Montana Historical Society*

CALLS FOR PAPERS

SOUTHEASTERN 19TH-C STUDIES ASSN. conf. on "Industrialization & Urbanization," Birmingham, Ala., April 9-11, 1987. Interdisciplinary papers & sessions encouraged, embracing the relationship between I&U and art, literature, economics, politics, society. Appropriately hosted in Birmingham, site of the SIA 1985 Fall Tour and a 19th-C southern industrial city (coal, iron, RR) par excellence. Submit brief abstract (20-min. papers) & vita by Nov. 1, 1986 to Barbara Schnorrenberg, 3824 11th Ave. S., Birmingham AL 35222 (205-595-1683).

"ASTM SYMPOSIUM ON SERVICE LIFE OF REHABILITATED BUILDINGS & OTHER STRUCTURES," week of April 26, 1987, Cincinnati, O. Topics include: residual life of rehabilitated structures, prediction of service life of building materials, condition assessment of buildings & structures, building economics as related to residual life of buildings & structures, and case studies of service life of rehabilitated buildings. Abstracts (300-500 wds.) are invited by July 31, 1986. Submittal forms avail. from Theresa Smoot, ASTM, 1916 Race St., Phila. PA 19103 (215-299-5413). Addn'l info.: Wayne P. Ellis, Standards Consultant, 754 Bob-Bea Ln., Harleysville PA 19438 (215-256-6888).

CALENDAR

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

Thru Aug. 31: Exhibit: "Past as Present: A Photographic Survey of Baltimore's Industrial Archeology," Baltimore Museum of Industry, 1415 Key Hwy., Balt. MD 21230 (301-727-4808).*

Sept. 6-7: Annual Fair, Society of Workers in Early Arts & Trades (SWEAT), Richmondtown Restoration, Staten Island, N.Y. Info.: Fred Bair, Jr., 606 Lake Lena Blvd., Auburndale FL 33823 (813-967-3262).

Sept. 12-14: Annual Conf., Assn. for IA, Loughborough, Leicestershire, England.*

Sept. 25-27: 7th Biannual Meeting, Atlantic Canada Workshop, New Brunswick. Interdisciplinary, focusing on industrialization, rural life, communications, & lifestyles in transition. Info.: Rosemarie Langhout, Hist. Dept., Univ. of N.B., Box 4400, Fredericton, N.B., Canada E3B 5A3.

Sept. 30-Oct. 3: Nat'l Meeting, Am. Assn. for State & Local History, Oakland, Calif. Info.: AASLH, 172 2nd Ave. N., Suite 102, Nashville TN 37201 (615-255-2971).

Oct. 1-4: Annual Conf., Assn. for Preservation Technology, Austin, Tex. Info.: APT Austin '86, P.O. Box 2593, Austin TX 78768-2593.*

Oct. 2-5: SIA FALL TOUR, MYSTIC, CONN. Info.: Mary Donohue or David Poirier at 203-566-3005.*

Oct. 15-19: Nat'l Meeting, Nat'l Trust for Historic Preservation, Kansas City, Mo. Info.: 202-673-4000.

Oct. 20-22: SIA co-sponsored special historical/technical conf., "The Statue of Liberty—Today for Tomorrow," N.Y.C. Program from SIA, Rm. 5020 NMAH, Wash. DC 20560.*

Oct. 23-26: Annual Meeting, Society for the History of Technology (SHOT), Pittsburgh. Info.: W. Bernard Carlson, Mich. Tech. Univ., Houghton MI 49931.

Oct. 30-Nov. 1: Lowell Conf. on Industrial History, Lowell, Mass. "Politics & Industrialization." Info.: Robert Weible, Lowell Nat'l Historical Park, 169 Merrimack St., Lowell MA 01852 (617-459-1027).

Nov. 5-8: Special conf., "Built Form & Culture Research: Purposes in Understanding Socio-cultural Aspects of Built Environments," Univ. of Kansas. Info.: David G. Saile, School of Architecture & Urban Design, U. of K., Lawrence KS 66045 (913-864-5127).

Dec. 27-30: Annual Meeting, Am. Historical Assn., Chicago. Info.: 202-544-2422.

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

The *SIA Newsletter* is published quarterly by the Society for Industrial Archeology. It is sent to SIA members, who also receive the Society's journal, *IA*, published annually. SIA promotes the identification, interpretation, preservation, and re-use of historic industrial and engineering sites, structures, and equipment. Annual membership: individual \$25; couple, \$30; institutions \$30; contributing, \$50; sustaining, \$100; student, \$20. Send check payable to SIA to Treasurer, Room 5020, National Museum of American History, Smithsonian Institution, Washington, D.C. 20560; all business correspondence should be sent to that office. Editorial correspondence should be sent to ROBERT M. FRAME III, Editor *SIA Newsletter*, P.O. Box 65158, St. Paul, Minn. 55165-0158. ISSN 0160-1067.

Submission deadlines: Feb. 1 (Spring), May 1 (Summer), Aug. 1 (Fall), and Nov. 1 (Winter).

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