

SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

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FAILURE & SUCCESS ON BOSTON'S EL

Whereby We Lose a Station But Gain a Tower

New England continues to be the seat, paradoxically, for some of the most staggering IA losses and stunning, innovative IA preservation schemes. With the dismantling of Boston Elevated's Charlestown line, we noted in SIAN Mar/May 75:7 a variety of proposals for salvage of parts of the structure and some of its buildings. The update provides both grief and joy. None of the structure itself was, in fact, preserved, which is too bad but not too surprising. The plan to preserve the copper-clad, heavy-timber Thompson Sq. Station, though, nearly succeeded. Standing at Main St., Charlestown, it was a

handsome rectangular building with steep hipped roof and an ornate cupola, its copper sheathing heavily paneled, built as an element of the original system in 1901. It had been lowered to the ground intact and stored pending removal to a nearby site where it was to have been converted to a small restaurant by a local tavern owner. The new foundations had even been prepared. On 19 April it was burned beyond any hope of restoration in a fire set by three boys.

Much better it went with Tower C, the interlocking tower that stood at Keany Sq. near the Boston approach of the drawbridge that carried the line across the arm of the Inner Harbor to Charlestown. Stylistically identical to Thompson Sq. Station, it stands two stories and is smaller in plan. Well before the wrecker was to have reached that spot, last fall, the Seashore Trolley Museum arranged for its donation by the Mass. Bay Transportation Auth. Then by a complex series of negotiations with riggers, construction firms, barge and tug operators, truckers, and various of its own members, STM planned for the tower's journey to its property at Kennebunkport, Maine.

The move was a difficult and complicated undertaking, the more so with the necessity for lifting the tower off the elevated structure intact, moving it by lowboy to waterside, lifting it onto a barge, and getting the barge away from the scene, in one afternoon. All that was accomplished on 7 Sept,



Thompson Square Station, 1901, before removal from the Elevated structure. Richard J. Brilliante photograph.



The Reincarnation of Tower "C". (L) The Liftoff at Keany Square. (C) "C" at sea, dead steady. (R) The new home (temporary site near entrance) at Seashore Trolley Museum. L and C: Brilliante photographs.

1977 SIA ANNUAL CONFERENCE

WILMINGTON, DELAWARE! Under the able direction of one of the finest groups of technical museologists in N. America, the Hagley Museum staff. In addition to the rebuilt DuPont powder mills along the Brandywine that are the Hagley nucleus, and their newest pride, The New Century Powerhouse — an 1899 hydroelectric plant recently restored and *put back on stream* — there will be inspection of a wide variety of other noteworthy IA in the area, including the earliest American steam engines on their original foundations. An outstanding program of papers and other events as well. 28 April-1 May. Hold that date. *Other organizations please note to avoid conflict.*

1975, the tower, on its barge, then remaining at the Perini [construction] Corp's. E. Boston yard for two months.

The final ocean voyage to Maine occurred in Nov., the trip taking 15 hours. Ironically, once landed at Kennebunkport, it was necessary to remove the tower's top portion to clear wires for the three-mile overland trip to the Museum. An incision was made just above the second-story window sills, Seashore's plastic surgeons later reuniting the sections with hardly a scar to be seen.

Seashore, the oldest (1939) and largest of the world's trolley museums, has acquired a building of utility, architectural refinement, and historical importance in a bold and imaginative preservation undertaking. When finally sited, the tower will be refitted with equipment—replacing the original which unfortunately was removed—to exhibit to visitors the arcane practices involved in railway interlocking.

The above drawn largely from an account of the Tower C move by George M. Sanborn, Seashore's Director of Special Projects, in the Seashore Trolley Museum 1975 Annual Report, with thanks.

And by way of an interesting turnabout . . . Seashore last year leased to MBTA its overhead-line car No. 4, a c1900 veteran from their collections used by the museum in installing and maintaining its trolley wire system, MBTA needing it for some line work for which its own equipment was inadequate. Nice example of the practical aspects of historic preservation.

PRES PLAUDS PATERSON PRES.

In what may be the first such presentation by a president for an engineering landmark, President Gerald R. Ford dedicated the Great Falls Historic District, Paterson, N.J., as a Nat'l Historic Landmark on 7 June. The dedication ceremony climaxed the efforts of local sponsors and researchers to secure national recognition for the Great Falls Society for Establishing "Useful Manufactures (SUM) Historic District. [SIA Spring Field Trip 1973]. Before a cheering crowd of c60,000 Ford commended the city for preserving its precious heritage of industrial buildings and the canal system that supplied them with power. He also praised efforts to restore the 1914 SUM hydroelectric plant (inactive since 1968) as a meaningful step to alleviate the energy shortage.

The work to secure landmark status for the Historic District began in the late 1960s as the brainchild of Mary Ellen Kramer, wife of Paterson's mayor. She had been stimulated by the vision of Urban Deadline architect John Young [SIA], who saw potential in the decaying mill buildings and canals in the industrial area near the Great Falls, that others saw as eyesores. Paterson was the site of the first planned industrial city in the U.S., sponsored by Alexander Hamilton and founded by the SUM in 1791. The SUM purchased a site near the Great Falls of the Passaic River that subsequently became Paterson and tapped the power of the falls by a three-tiered raceway system initially designed by Maj. Pierre C. l'Enfant, celebrated planner of Washington, D.C. Subsequently the water power encouraged the growth of several industries including cotton and later silk textiles, revolvers (Colt's), and locomotives (Rogers, et al). Paterson became the "Silk City" of the world during the late 19thC and remained so until high labor costs accelerated the migration of the industry to other places, and nylon outmoded the expensive silk fibre for most purposes. The factory buildings were allowed to decay gradually, and most were changed to other uses. A plan for a peripheral highway around Paterson threatened to complete the destruction of the industrial area until Mrs Kramer and others were successful in forming the Great Falls Development Corp. (GFDC) which awakened local interest and secured it Nat'l Register status as a Historic District.

Register recognition enabled the GFDC to act as a salvage authority, conducting an archeological survey headed by Edward S. Rutsch [SIA] along the route of a storm drain being built through the District [SIAN Nov 74:3]. That survey

ultimately led to the tunneling of most of the line rather than the cutting-&-covering that would have destroyed the remaining underground archeology. GFDC also sponsored a HAER survey, directed by Russell I. Fries [SIA Secy], lasting two summers, which documented the history of the power canals, factory buildings and the local industries. This research, combined with the results of the Archeology Salvage Project, demonstrated the national importance of both the activities that had gone on within the district, and their physical remains.

An impressive list of dignitaries sat on the dedication podium in a steady downpour that drenched public, press and President alike. In presenting the Landmark designation Ford praised the vision of the architects, engineers, and workers who planned and created the district originally, and the efforts of those who now sought to restore this vision.

The city has funded development activities in the Historic District using a combination of federal, state, and local funds, and also created the GFDC in the Dept. of Community Development using \$300,000 from revenue sharing funds. Paterson has submitted numerous grant applications, recently receiving a \$1.2 million grant from the state Green Acres program for development of a park along the city-owned raceways. Restoration of the Rogers Locomotive Works erecting shop is being carried out under a \$180,000 Economic Development Admin. grant combined with \$50,000 from N.J. Dept. of Environmental Protection's Historic Preservation Funds. A \$3,000 state bicentennial grant partially funded rehabilitation of the Ivanhoe Paper Mill Wheelhouse as a visitor center. The city is presently investigating engineering proposals and funding sources for the complete restoration of the SUM hydro-electric station at the base of the Great Falls. If funding can be continued and the 80 buildings in the district preserved, then industrial archeology will have one of its most significant monuments saved for posterity. *Russell I. Fries, Univ of Maine.*

THE RETURN OF 1201

The summer of 1976 saw the return to active duty of No. 1201, the last steam locomotive built by the Canadian Pacific Ry. (Angus Shops, June 1944). Now owned by the Nat'l Museum of Science & Technology (Ottawa), the engine was completely rebuilt and converted to oil-firing by the Ontario Rail Assn., a group of enthusiasts devoted to the preservation of steam. The work was done at John St. shops, Toronto, which C.P. Rail made available for the purpose.

Currently, the locomotive is being used on the steam excursions run during the past four summers from Ottawa, a venture sponsored jointly by the Museum under the unswerving and devoted leadership of R. J. Corby [SIA], Curator of Industrial Technology, and the Nat'l Capital Commn. These excursions have received tremendous public support, and No. 1201 bids fair to becoming the most-photographed and televised locomotive in North America. Eventually, when present budgetary restrictions are lifted, it is hoped that No. 1201 and its train of historic passenger cars will be seen by other parts of Canada.



The 1201 gaining way. David M. Baird photograph.

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARKS by ASCE

FOLSOM (CALIF.) POWERHOUSE, 1896, which played a pioneer role in long-distance electrical transmission—between Folsom & Sacramento (22 miles)—in July 1975.

The famed **QUINCY GRANITE RY.**—regarded as the first in the U.S., on its sesquicentennial in 1975. The QGRy was designed and built by Gridley Bryant, contractor for the Bunker Hill Monument in Boston, expressly to carry the monument's stone from the Quincy quarries south of the city to Quincy Bay for shipment by water to the monument site at Charlestown. Operation initially was by horse and gravity. Much of the 3-mile line later was incorporated into the Boston & Maine system; portions are extant today including an incline descending a steep hill. (See: Jas. E. Lee [SIA], "America's Very First RR.", in *Trains*, April 1975.)



Quincy Granite Railway. (L) Ruins of one of the horse-drawn granite cars, with hoisting gear. (R) 1925 replica of same. *Historic American Buildings Survey (c1936).*

THE CROZET TUNNEL, near Waynesboro, Va., opened in 1858 to carry the Blue Ridge RR. (later Chesapeake & Ohio) 4273 ft. under Blue Ridge Mountain, perhaps the only American railway tunnel to be named for its engineer, Claudius Crozet (1789-1864).

WHAT'S THE LARGEST WATER WHEEL IN AMERICA?

There have been at least two 40-foot iron/steel over-shot wheels identified, but the largest apparently is that in Trapp Hollow on the campus of Berry Academy, Rome, Ga., at 42 feet in diam. It was discovered by Miss Martha Berry, Berry's founder, in the old mining town of Hermitage, 8 miles N. of Rome, where in 1883 the first bauxite deposits in N. America were found. The village and mines were owned by Republic Mining Co., a subsidiary of the Aluminum Co. of America, in 1929, the year the wheel was dismantled, moved, and re-assembled in Trapp Hollow. A stone grist mill was completed in 1930. The wheel itself could date from the 1880s, the period during which mining commenced at Hermitage.

The wheel was restored by Berry students. It takes water from a mountain reservoir through a 6-in. diameter cast-iron pipe, developing c20hp. The mill was in continuous operation until WW II, when the old miller died. Today, the wheel survives, but does not turn because it is misaligned and its wooden parts are deteriorating, all in dire need of restoration. *Eric N. DeLony, HAER.*



The Berry Academy Wheel: 42 feet. *Eric N. DeLony photograph.*

TECHNOLOGIES REVIVAL

WATER. According to a N.Y. Times story, David E. Lilienthal, former TVA and AEC director, believes some energy problems can be solved by using 19thC mill dams for small hydroelectric plants. Claims Lilienthal, "The old truism that the larger the unit, the smaller the cost per unit of production just isn't true anymore." New England utilities are "paying from 30 to 55 mills/kw for electricity, while small hydro-turbines can produce at a cost of 10 mills/kw." And while environmental concerns will often delay construction of large dams, adding to their cost, "when you begin talking instead about small hydro-turbines in the 15,000 to 50,000 kw range, which can be installed in 12 to 15 months, you immediately change the economics and hydropower becomes competitive again." *Peter H. Stott.*

GAS. Coal gasification (i.e., coal-gas manufacture, as it used to be called) is undergoing intensive study as the reserve and economic balances between natural gas and coal shift, making coal look better and better and gas worse and worse. Coal as a basic fuel, of course, has monumental defects from the handling standpoint, so the answer is a reversion to its conversion to gas, as was done for something like a century and a half (see *SIAN* Mar/May 75:4). A consortium of Consolidation Coal Co., the U.S. Energy Research & Development Admin., and the American Gas Assn. have set up a 40-ton/day pilot plant at Rapid City, S.D. using the "CO₂ acceptor process," which employs the low-quality lignite and sub-bituminous coals that abound in the West. (Natural gas containing no CO, once more it will be possible to take the old gas pipe.)

WORKING PLACES ON FILM



Tintic Standard Reduction Mill, 1920. Near Goshen, Utah. *Jack E. Boucher photograph for HAER.*

The SIA slide film *Working Places*, illustrating a variety of projects in which early industrial structures have successfully been reconstituted for other uses, has been transferred to 16-mm motion picture film for greater accessibility. The color film runs 24½ mins. and is available from the Society.

The conversion was coordinated by the maker of the original film, John Karol of Orford, N.H., and supported by the Nat'l Endowment for the Arts, Educational Facilities Laboratory, and the Nat'l Trust for Historic Preservation.

The SIA will continue to distribute—on loan, at cost—the original slide-film version and one copy of the new film. Information: Richard M. Candee, 109 Bow St., Portsmouth, NH 03801. The Nat'l Trust also will distribute two copies of the new film: 740 Jackson Pl. NW, Washington, DC 20006.

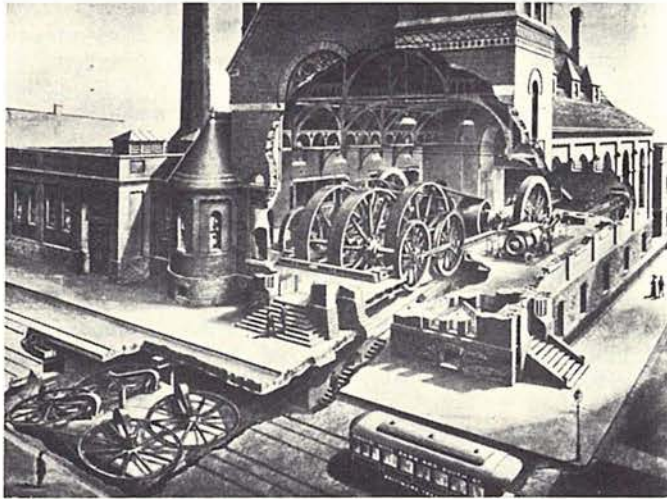
To purchase the film conversion send a check for \$200. per print, drawn to SIA, with mailing instructions, to Courtney Fisher, SIA Treas., The Blair House, Warren, VT 05674. Please allow up to one month for delivery.

EPWORTH CABLE POWERHOUSE DOWN

One of the most curious "reverse" adaptively-used structures of all time has all but disappeared, yet another victim of the "workman's torch." Here was a living example of IA's being where you know where to look for it, for to even the most well trained eye the uninspired, unspired church at Gilmore & Mosher sts., Baltimore, latterly a dry cleaning plant, could not reasonably seem ever to have been anything more than the one or the other. It had been built in 1881 as the Epworth Methodist Church (Epworth the small Lincolnshire town where in 1703 was born John Wesley, founder of Methodism). But—and here is the curious part—in 1892 the building was purchased by the Baltimore Traction Co., which

avored it because it was near the center of a long cable-railway line they were constructing. B.T.Co. removed the pews and alter, converting it to a powerhouse containing two Corliss engines and the outfit of winding gear. No other interior aspects of the church were modified. The gallery, lighting fixtures, and other original fittings were left in place, the contemporary view in Street Ry. Journal (below) leaving no doubt as to the installation's ecclesiastical origins.

In 1894 B.T.Co. electrified, and the building passed to other, far less thrilling, industrial uses. At the time of the fire on 22 April, the dry cleaning plant had just abandoned the site and it was being modified for another tenant.



Street Railway Journal, March 1894.



Epworth Church-Cable Powerhouse-Drycleanery, 1971. Herbert H. Harwood, Jr. photograph.

COLUMBUS IRON WORKS

The Columbus [Ga.] Iron Works Co. was established in 1853, engaging in general and steamboat repair work, water wheel construction, and brass and iron founding. The firm, incorporated in 1857, became a major arsenal of the Confederacy, manufacturing guns, gunboats, and other implements of war. (Columbus produced more goods for the Confederacy than any other city except Richmond.)

The present building (c1880), situated in the Columbus Historic District on the Chattahoochee River, now stands empty, but not lost, for the Iron Works is the site of the proposed Columbus Civic Center & Convention Complex. The Columbus Iron Works offers exciting opportunities for adaptive reuse as a trade and convention center. The two large wings (perpendicular to the river and extending all the way from Bay to Front aves.) contain the large floor areas necessary for exhibition space. The northern area—the old Stove Shop—has a second floor perimeter gallery that will be

used for meeting rooms, overlooking the exhibit floor. The southern area—the former foundry—will be, except for minor circulation changes, devoted entirely to exhibits. Both large exhibit areas will be able to accommodate meetings or dinners too large for the meeting or dining rooms.

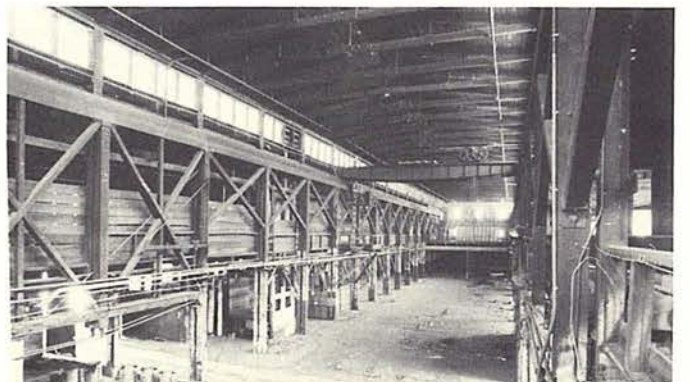
Connecting the northern and southern wings is a two-story building whose lower floor will contain a kitchen, with a dining room for 900 on the second floor, commanding a view of the Chattahoochee from its west windows.

The structures have brick bearing walls carrying massive timber roof trusses. The plan is to clean all interior surfaces to emphasize original workmanship and materials. Many artifacts still in the building also will remain in place to add interest, including large traveling cranes high over the two exhibit areas, the foundry cupola, and the line shafting and pulleys.

The Columbus Iron Works was placed in the Natl Register in 1969. *Janice Biggers, Historic Columbus Foundation.*

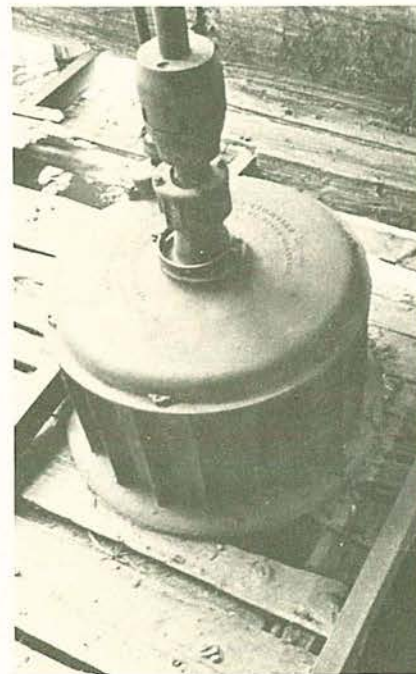
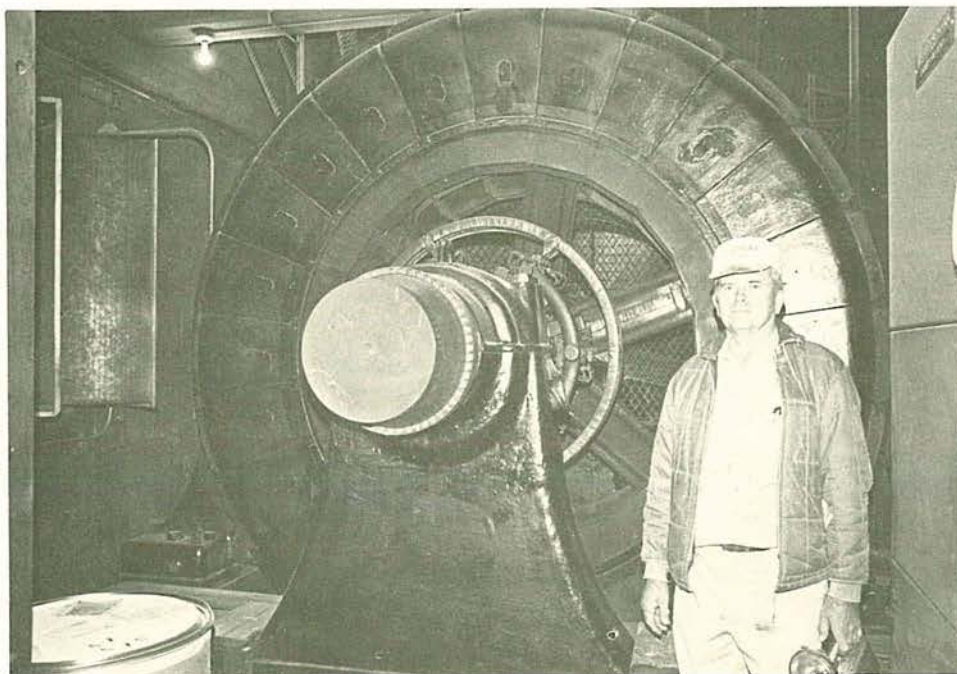


Columbus Iron Works. Lawrence Smith photograph for the Ledger-Enquirer.





Minnesota Water-Powered Flour Mills—a contrast in scale. (Top L) Stockton Roller Mill (1890), the state's sole remaining fully operational mill; all equipment 19thC. (Top R) The celebrated Pillsbury "A" Mill (1881), Minneapolis; to the right, the South "A" Mill of 1916. (Bot. L) Original 1000 hp Westinghouse motor driving both "A" mills through 1200-ft. rope drive. (Bot. R) The turbine at Phelps Mill, Fergus Falls, c1889. *Minn. Historical Soc.*



MINNESOTA MILLS. Minnesota's 19thC water-powered flour mills and mill sites were surveyed during the 1976 summer by the Minn. Historical Soc. as part of a background study for the eventual acquisition of a mill for restoration and interpretation. The search for extant mills and machinery involved the historical documentation of some 800 mills and sites. A field survey of selected mills provided current photos and descriptions. Steam and wind powered mills discovered during research also were noted for future surveys. Of the number documented, about 480 mills were water powered or water & steam; 412 were steam; and 16 were wind. Surviving are 28 water and water/steam, and 5 steam mills.

During the 1870s and 80s the "Hungarian" roller milling system was adopted and improved upon by Minnesota's mills, then rapidly swept the industry nationwide. The desire to produce inexpensive fine white flour from the state's hard spring wheat led to development in rapid succession of the middlings purifier, "New Process" milling techniques, and roller milling. These innovations, combined with plentiful water power and railroads made Minnesota the world's milling center until the 1920s.

A restored mill of that era would show the industry at a technological pivot point. Like other mills of its time, it could

appropriately use equipment and processes from several technological periods. By focusing on the changes from millstones, to rollers and purifying equipment, the overly romanticized "olde mill" syndrome could be avoided.

The final report, due in December, will include a history of early Minnesota milling along with a mill and site inventory. *Robert M. Frame III, Minn. Historical Society.*

N.Y. IRON TRUSS BRIDGES. Because the metal truss highway and RR bridges built during the late 19th–early 20thCs are rapidly becoming an "endangered species," the Divn. for Historic Preservation, N.Y. State Office of Parks & Recreation presently is compiling survey data on such bridges surviving throughout the state. The information will be integrated into the ongoing Statewide Inventory of Historic Resources, which is becoming increasingly important in planning for historic preservation at federal, state, and local levels.

The DHP is actively seeking volunteers interested in surveying the state's historic metal truss bridges on a town or countywide basis. Survey forms, instruction manuals, and technical assistance will be furnished. Individuals, historical and engineering societies, and planners who would like to participate should contact Raymond W. Smith, Historic

Preservation Program Asst., NYS Parks & Recreation, Division for Historic Preservation, Agency Bldg. 1, Empire State Plaza, Albany, NY 12238.

BALTIMORE HARBOR SURVEY. The Maryland Historical Trust (MHT) has undertaken the state's first extensive engineering & industrial survey, in the City of Baltimore. Funded through Title X of the Public Works & Economic Development Act (Dept. of Commerce), it will record and analyze historically the architecturally important industrial structures in the city's inner harbor area to assist Baltimore with its Harbor Opportunities Plan and Coastal Zone Management/Land Use Study. The data collected will be used in early developmental planning for the area so that the Dept. of Planning will have maximum opportunity to consider the protection of these sites in a potential rehabilitation of the area. The survey is of national importance as the \$52,000 grant is one of the largest ever appropriated for such a survey.

The survey will be coordinated through Baltimore's Commn. of Historical & Architectural Preservation. The two surveyors, Samuel Lassiter, an architectural historian, and Loren Lillis, a historian of technology, will provide basic identification and analysis of both structures and sites within the harbor area. Data, to be collected on both MHT data sheets and HAER Inventory cards, will be published in the near future in Vol. 7 of the *Md. Historic Sites Inventory*, for Baltimore. Mark R. Edwards [SIA], MHT.

Information—old photos of the area, primary source materials, &c, that might be of use—is sought by the surveyors; c/o Commn. for Historical & Architectural Preservation, Rm. 900, 26 S. Calvert St., Baltimore, 21202. (301) 396-4866.

MISC SITES & STRUCTURES

Dianne Newell, Univ. of Western Ontario

SOLD. One of the smallest railways in the U.S., complete with engines, depots, and a 1901 presidential Pullman car, went on the auction block at its terminus, Boyne City, Mich., on 15 May. Originally operating as the Boyne City & Southern, it stretched 92 miles across the NE half of Mich., from Gaylord to Alpena on Lake Huron. Passenger service ended in the 1930s; freight in 1969 with the close of its last customer, a large tannery, by which time its length already had been much truncated. At the sale a few antiquarian items were purchased by collectors, but the right-of-way and rolling stock were taken up by a group of local entrepreneurs, who now are operating it as the 6-mile Boyne Valley RR, for tourists. Good luck.

OLD BRIDGE: DANGER. The Fed'l Emergency Bridge Replacement Program [SIAN Nov. 75] has, paradoxically, meant restoration for an iron span at Grand Rapids, Mich.: the 6th Street Bridge (1886). The city applied for the standard fed'l grant of 70% of the \$2 million for a replacement, only to discover under urging by historical groups that restoration and strengthening could be accomplished for \$140,000—less than a third of the city's share for the new bridge. The 4-span structure is the longest early bridge in the state, and under the influence of this effort, will be placed on the Nat'l Register.

DEDICATED. Seattle's third historic district—Ballard, an old fishing and shipbuilding, largely Swedish, community—was dedicated in April by visiting Swedish king, Carl Gustaf XVI.

SAVED. In Bellefonte, Pa., the Gamble (grist) Mill (1894). Condemned by its owners, a beer distribution firm, this Nat'l Register mill was to be replaced with a new warehouse. A local school teacher sensitive to such sites rescued it by persuading the owners to relocate. He plans to restore it for a yet undetermined use. Of special interest, the power canal and turbine are being revitalized. The borough's water department already has made operational the waterpowered generator to provide supplementary electrical power in the area.

CEHR CATALOG 1972-74 PUBLISHED. The Canadian Engineering Heritage Record has published its first catalog, after four years addressing its stated goal of providing "... a permanent record of the tangible remains of Canada's engineering, technological and industrial heritage ..." and bringing to the attention of the responsible authorities those sites and structures worthy of preservation [SIAN Nov. 72:1]. This first catalog admittedly lists only a minute fraction of the nation's immense quantity of IA, but the recording of sites is continuous and supplementary catalogs will appear periodically. It is stated that inclusion of an item is not to be construed as a judgment of its significance. Sites are listed in provincial order, E to W. Data for each site includes: location; name; earliest known date of design, construction, or use; a registration number—computer retrievable—incorporating an industrial classification number; and a brief description. There also is given a letter indicating one of four levels of the record's precision, from mere confirmation of existence and location, up to full documentation with measured drawings.

An IA purist might question such entries as ox yokes, plows, horsedrawn carriages, a scrap yard full of old machinery, the basement of Herb Rose's house where from 1910 to 1940 he made a "miracle" liniment, fire houses, the Heron Road Bridge Failure, and especially, an undated shingle mill of which nothing survives but some photographs. Unfortunately the returns aren't in for some of the provinces, but it is a start. Engl/Fr, each 43 pp. Gratis: CEHR, Dept of Indian & Northern Affairs, 365 Laurier Ave W, 16th Fl, Ottawa K1A 0H4. See other inventories under Publications.

PRESERVATION NEEDED. Only the shriveled ruins of the former Potash Reduction Co., near the ghost town of Hoffland, Neb., bear witness to a once nationally prosperous, if short-lived, Nebraskan potash industry that supplied the fertilizer and explosives industries. It sprang up during WW-I, when German supplies stopped, and by 1919, 27 refinery plants had sprouted, all in NW Neb. By 1921 all plants were closed.

OXFORD FURNACE (1741-1884), Warren Co., N.J. in the 18thC was a bustling mining community with a prominent iron works. Today the site includes a dilapidated furnace and contemporary manor. Friends of the furnace are attempting to interest the state in its preservation, though portions of the site are threatened by a proposed sewer line.

NATIONAL TRUST NEWS



POSTER. The Trust's newly established Preservation Press has published a "Recycle an Old Building" poster, featuring a doorway of the Harris Co. Picker House (c1847), Harrisville, N.H., now a fabric shop. Wm. Pierson, Jr. [SIA] photo. Poster 15" x 22". Avail: PP, Nat'l Trust, 740 Jackson Pl. NW, Wash, DC 20006. \$1.



Philadelphia Museum of Art: On deposit from the Commissioners of Fairmount Park.

This occasional feature is revived momentarily to bring to public attention one of the most intriguing sculptures of the 19thC. Benjamin Rush's *The Schuylkill Freed* is one of a pair (the other: *The Schuylkill Chained*, represented by an old man in chains with no interesting bits & pieces) executed in 1825 for the pediments over the entrance to Philadelphia's Fairmount Waterworks, a Nat'l Historic Landmark [SIAN Jan 76:1]. She is slightly larger than life size, of Spanish cedar, originally painted to simulate the stone of the wheelhouse but

now unfinished. Forgetting young women and old men allegorizing rivers and whatnot, the center of interest here is the water wheel representing those that drove the pumps for raising the river's waters to the elevated reservoir (symbolized by the urn), the cast-iron force main shown here pretty much as the original would have been, and the flanged cast-iron trunk under her knees, that might be a rendering of the suction main that carried the water from the river to the pumps. In the collections of the Philadelphia Museum of Art,

AWARD. One 1976 Trust preservation award has gone to Boston architect & developer, Childs Bertman Tseckares, and The Raymond Cattle Co. for their restoration and adaptive use work on old buildings, including One Winthrop Square, a newspaper plant (1893) converted into offices.

SHIPS

N.Y.C. HARBOR was at mid-19thC the world's busiest and consequently the scene of wrecks galore. An inventory of local shipwrecks has been sponsored by the Army Corps of Engineers and undertaken by the South Street Seaport Museum. The inventory will establish historical priority for future preservation efforts. Vid. *N.Y.C. Piers, Research Inquiries*, below.

THE TRILLIUM, a 1910 sidewheeler built to ferry between Toronto Harbor and Toronto Island, has been painstakingly, completely, restored. The 150-ft craft, powered by two double diagonal compound engines and equipped with a new oil-fired boiler, operates Monday to Saturday for charter, Sundays serving as a regular public carrier between Toronto and the Island.

MUSEUMS

The restored remains of Lock Ridge Furnace, an anthracite ironworks in Alburtis, Pa., house a newly opened industrial museum administered by Lehigh County. Exhibits within the



Carlene E. Stephens photograph.

Lock Ridge Furnace Museum describe anthracite iron production's development into the most important industry of the Lehigh Valley during the 19thC and the consequences of that development for American economic growth. In the park surrounding the museum the county has preserved the ruins of trestles that once carried a narrow-gauge railway, a length of track from the now defunct Catasauqua & Fogelsville RR, and an ore weigh house. Nearby—and not part of the museum property—stand workers' houses, the iron community's church, and a magnificent ironmaster's mansion.

The Thomas Iron Co. operated the two furnaces at Lock Ridge from 1869 to 1921. At its most prosperous, Thomas owned and/or operated in the Lehigh Valley nine furnaces, numerous iron ore pits and limestone quarries, and two RRs. When competition forced a shutdown at Lock Ridge in 1921, the furnaces were sold for scrap. The county's rescue operation for the site has successfully rebuilt many of the structures but has had little luck recovering lost machinery and other artifacts.

Lehigh County boasts three industrial museum sites. In addition to Lock Ridge, the county operates a restored grist mill at Cetronia and plans a park-museum at Coplay's unique cement kilns [SIAN Nov 74:7; Sept 75:6; SIA Fall Field Trip 1974]. Carlene E. Stephens, *Museum of History & Technology*.

The Penna. Historical & Museum Commn's anthracite museum complex in the Scranton area, still in the planning stages, is now beginning to take definite shape. PHMC has named David Salay, lately of the N.Y.S. Historical Assn, director and hopes to have exhibits mounted soon. The complex includes three sites. The Anthracite Museum in Scranton proper will have exhibits depicting the impact of the coal industry on the region. Also part of the Scranton property is a bank of vintage furnaces at the Scranton Ironworks. A second museum at Ashland will deal with the technology of mining. Plans for a third at the miners' village of Eckley call for a visitor center to interpret the social and cultural history of the workers in a patch (company) town. Artifacts related to miners and mining are eagerly sought: Anthracite Museum, RD 1, Bald Mountain Road, Scranton, PA 18504.

THE 1976 CONFERENCE: LOWELL

During the last weekend of April the Society's Annual Conference was held in Lowell, Mass.

The Friday evening reception, given by the Lowell Historical Society at the George Whistler/Paul Moody/James B. Francis House, featured a fascinating exhibit of paintings, sketches, and photographs of the Lowell mills and water power system, of all periods. The presentation of papers, which occupied most of the Saturday session, was the focus of the conference. Such topics as the Lawrence Dam, the Lowell power canal system, the mill architecture of New England, and early power transmission systems in mills were explored in depth, interspersed with accounts on such varied subjects as a multiple arch dam in Utah and glassmaking techniques at Corning, N.Y. At the Annual Business Meeting new Officers and Board Members were elected (see below). The program was held at the Univ. of Lowell, which made its extensive facilities available at no charge, largely through the efforts of Prof. Cliff Lewis, Chairman of the Dept. of American Civilization.

Following the presentation of papers, the Conference adjourned to the Merrimack Valley Textile Museum in North Andover for cocktails and dinner. The locale for the dinner—a total surprise to most—was the Museum's "Machinery Hall," where upwards of a thousand textile machines and tools are stored, many of them in running condition [photo: SIAN Sept 74:6]. Following dinner Edward S. Rutsch stirred the faithful with a description of the IA in the vicinity of Valley Forge during the Revolutionary period, in the SIA's solitary recognition of the Bicentennial. An award was presented by the past and present members of the Board of Directors to Theodore Sande for his very special contributions as one of the Society's founders and its first president, this to be the first time in our 5-year history that he will not sit on the Board. The award, made by outgoing president Paul Rivard, was a framed print of the Old Slater Mill, from a striking rendering by artist Paul D. Malone.

The traditional Sunday bus tour featured the Merrimack River Valley between Manchester, N.H. and N. Andover, by way of Lowell, Groton, Lawrence and Andover, all sites on the tour described in an unusually complete and well designed set of conference notes [see Lowell publs, ff]. At day's end a

single busload of the hardiest proceeded to Billerica to examine the Shawsheen Aqueduct, last significant remnant of the Middlesex Canal. Naturally the weather was miserable! Nonetheless, all sites on the tour were visited, from the celebrated power canal systems of Lowell and Lawrence to a granite quarry in West Chelmsford, the textile mills of Manchester, and a rare up-and-down sawmill (reconstructed) (operating) in Derry, N.H.

About 60 of the conference's 250 initial attendees were able to remain for the Monday walking tour of Lowell's canals and mills. The continuing rain turned it, actually, to a bus tour, but it was a success nonetheless, including examinations of an operating wheel (turbine) house, a textile mill in full cry, and control and gate houses in the canal system. Lunch was at Pollard's Restaurant, in a restored warehouse (c1890). *Peter M. Molloy, Merrimack Valley Textile Museum.*

Conference coordinators were Patrick M. Malone of Slater Mill Historic Site and Peter M. Molloy of the Merrimack Valley Textile Museum. Richard M. Candee was Program Chairman. The conference poster, based on an early posed photograph of a group of Lowell operatives, was designed by Anderson-Notter Assoc. of Boston. To all goes the heartfelt thanks of those who took part in this Conference of conferences.

The 1976-77 Officers & Directors were elected at the Annual Business Meeting as customary, these being:

President: Richard M. Candee, Historic Preservation Consultant, Portsmouth, N.H. BA Oberlin; MA Cooperstown Grad Prog; MA Univ of Penna; PhD cand. Univ of Penna. Born Plainfield, N.J. 1942.

Vice Pres: Dianne Newell, Historical Researcher; PhD cand. Univ of Western Ontario. BSc Ottawa; BA, MA (Canadian Studies) Carleton; Born Ottawa 1943.

Past Pres: Paul E. Rivard, Director, the Rockwell-Corning Museum, Corning, N.Y. BA Univ of Maine; MA Cooperstown Grad Prog. Born Sanford, Me. 1943.

Secretary (to 1978): Russell I. Fries, Prof of History, Univ of Maine. BA Yale; MA, PhD Johns Hopkins. Born Glen Ridge, N.J. 1941.



Boott Mill tower, Lowell, c1835. *Peter H. Stott photograph.*



Swamp Locks & Dam, Lowell. *Russell I. Fries photograph.*



Pair of abandoned Leffel water turbines in "boiler-case" settings, with their governor, sans wheelhouse, at the U.S. Bunting Co. mill, Lowell. The vertical stacks absorbed surges in pressure caused by too-rapid closing of the control gates.

Treasurer (to 1978): Courtney Fisher, Historic Preservation Consultant, Warren, Vt. BA Dickinson; MA cand. Columbia. Born Boston 1946.

Standing Directors:

James C. Massey (to 1978), Director, Dept of Historic Properties, Nat'l Trust. BArch Univ of Penna. Born San Gabriel, Calif. 1932.

George M. Notter (to 1978), Principal, Anderson Notter Assoc. Inc. (architects), Boston. BA, MArch, Harvard. Born Jacksonville, Fla. 1933.

Emory L. Kemp (to 1977), Prof of Civil Engineering, Univ of W. Va. BS Univ of Ill; DIC London; MS Univ of London; PhD Univ of Ill. Born Chicago 1931.

New Directors:

Thomas Phelan (to 1977), Dean, School of Humanities & Social Sciences, Rensselaer Polytechnic Inst.; Pres, Hudson-Mohawk Industrial Gateway, Troy, N.Y. BA College of the Holy Cross; STL Catholic Univ of America; PhD Oxford. Born Albany 1925.

Michael W. Robbins (to 1979), Research Director, Jos. Wetzel Assoc. (museum consultants), Stamford, Ct. BA Colgate; MA Johns Hopkins; PhD George Washington. Born Decatur, Ill. 1938.

Peter H. Stott (to 1979), Historic Preservation Programs Asst., N.Y. State Divn. for Historic Preservation. BA Trinity Coll; MA cand Columbia Univ. Born N.Y.C. 1947.

Editor IA: Emory L. Kemp.

Editor Newsletter: Robert M. Vogel, Curator, Divn. of Mechanical & Civil Engineering, Nat'l Museum of Hist. & Tech. BArch Univ of Mich. Born N.Y.C. 1930.

RECENT LOWELL PRINTS & BOOKS

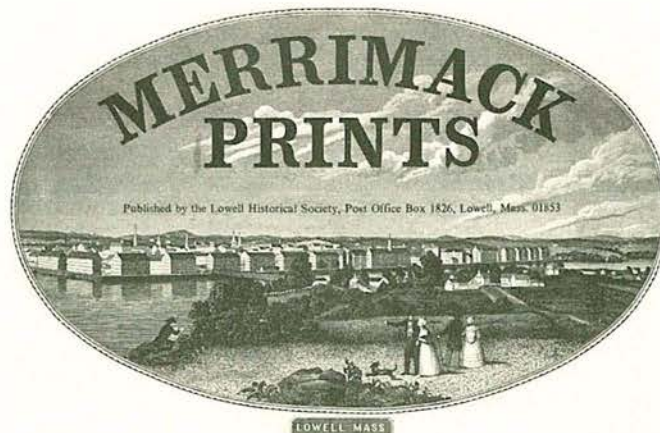
LOWELL MAPS. Set of 6: showing development from an agricultural community to an industrial city. \$3., as above.

BIRDS-EYE VIEW OF LOWELL, 1876, showing all mills, canals, and other structures. 24 x 30 in high-quality: \$12.50; 18 x 23 in: \$2.95, both + post. Merrimack Valley Textile Museum, N. Andover, MA 01645.

Richard K. Darr, A History of the Nashua & Lowell RR Corp., 1835-80. 1965 dissertation, publ. by Arno Press, N.Y., 1976. \$26.



The Fletcher Granite Quarry, W. Chelmsford, Mass., in continuous operation since 1880, now the largest in the U.S.



MERRIMACK PRINTS. Engraving of the city & mills from across the Merrimack, c1835, used originally as a label by the Merrimack Mfg. Co. for its printed-cloth sample catalogs. Limited edition *restruck from the original plate*. White or buff paper, 16 x 20 in. \$10. + post. Lowell Historical Society, Box 1826, Lowell, MA 01853.

Thomas Bender, Towards an Urban Vision: Ideas & Institutions in 19thC America. Lexington: Univ of Kentucky Press. Several chapters on Lowell's development. \$14.50.

Frances Gregory, Nathan Appleton: Merchant & Entrepreneur, 1779-1861. Charlottesville: Univ of Va. Press. \$12.50.

Robert Brook Zevin, The Growth of Manufacturing in Early 19thC New England: The Growth of Cotton Textile Production After 1815. N.Y.: Arno Press, 1975. \$9.

Herbert G. Gutman, Work, Culture, & Society: Essays in American Working Class & Social History. N.Y.: Knopf. \$12.50.

Harriet Robinson, Loom & Spindle; or Life Among the Early Mill Girls (1898 reprint). Kailua, Hawaii: Press Pacifica. \$8./\$4.50. A classic of mill life by one of the legendary "literary operatives."

Cotton Was King: A History of Lowell, Mass. The first general history of Lowell in 50 years. By a group of historians & members of the Lowell Historical Soc. 20 pp bibliog of works on Lowell, and by Lowellians. c400 pp; 42 maps & illus. Out fall, 1976. New Hampshire Publ. Co., 15 Interstate Dr., Somersworth, NH 03878. \$15./\$6.95 + .85/book postage.

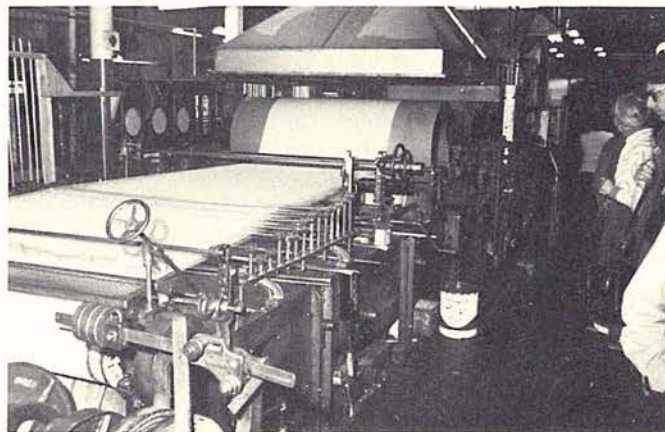
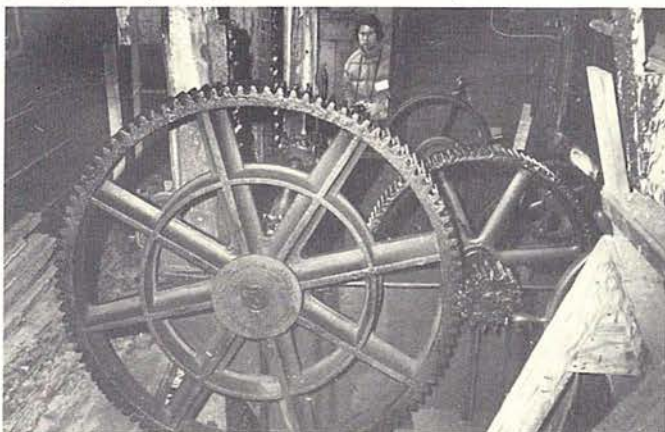
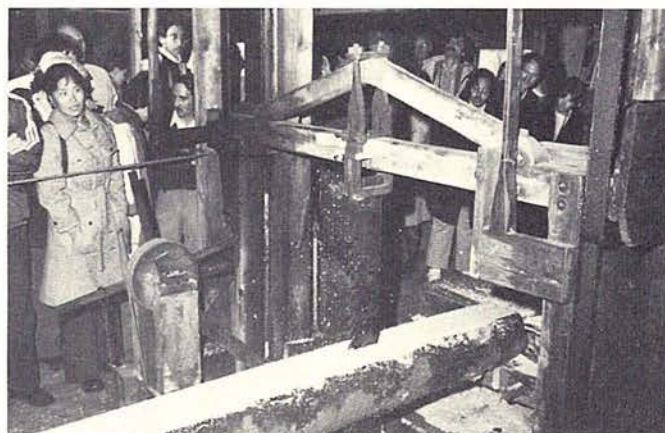
See also Molloy and Malone, under Publications (Inventories).



The Great Stone Dam across the Merrimack at Lawrence, 1845-48, providing a 30-ft head in the hydraulic canals on the N and S banks of the river. *Peter H. Stott photograph.*



The Taylor Mill, Derry, N.H. A reconstructed "up-&-down" sawmill on the site of one that operated c1805-1870. Russell I. Fries photograph (R).



Lowell: (L) Headgate hoists at Swamp Locks & Dam. (R) Warp-yarn "slasher" in full cry at the Wannalancit (formerly Suffolk) Mill. Russell I. Fries photographs.

CHAPTER EVENTS

The Roeblings

The first field exercise of the Roebling Chapter was held 17 July when a group of 15 Whipple enthusiasts gathered to measure the 163-foot double-intersection Pratt (a.k.a. Whipple-Murphy) truss of the NY & Mahopac RR in Goldens Bridge, N.Y. (CROTON FALLS 102722).

Aided by the drawings brought to the group's attention by Henry W. Fischer [SIA], a history of the bridge was compiled and a Nat'l Register nomination subsequently submitted to the state's Divn for Historic Preservation. Formerly part of the West Shore RR's Rondout Creek Bridge (1883), the Phoenix-built span was modified and moved to its present site over the Croton River in 1904.



IA at Goldens Bridge: Robert Holton & the Top Chord; Edward Rutsch & the Bottom. *The Patent Trader* (Mt. Kisco).

The outing was aided immeasurably by fine weather and a rowboat borrowed for the occasion, and measurably by the drawings provided by Mr Fischer, reducing the quantity of field notes required. A set of finished drawings will be submitted to HAER for its scrutiny, and, if found up to HAER's standards, will be deposited in its collections at the Library of Congress. *Peter H. Stott, N.Y.S. Divn. for Historic Preservation.*

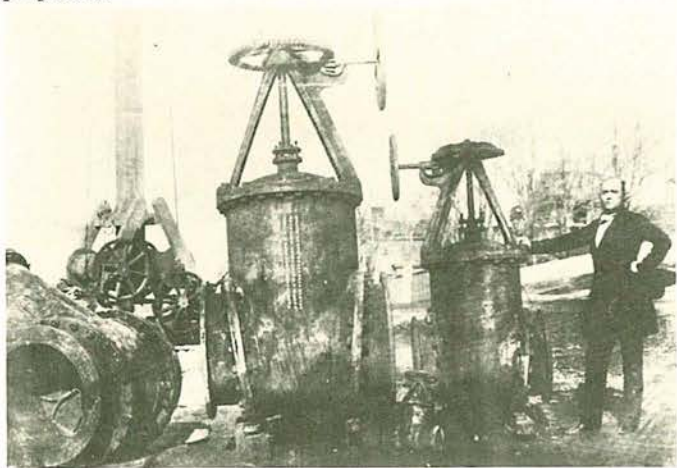
Wonderful! Surely one of the prime justifications for chapters has always been such recording projects, a means of supplementing the efforts of HAER and other formally established recording organizations.

The Meiges

And the following day—the 18th—a bus load of the faithful from the Montgomery C. Meigs Original Chapter of Greater Washington made its 2nd Annual Summer Pilgrimage, *A Montgomery C. Meigs Memorial Field Trip*, in which everything seen was a direct or indirect product of Meigs's mind and hand.

The tour began at the Smithsonian's Arts & Industries Bldg. (1879-81), the only surviving 19thC-exhibition-style structure in the U.S. and one of the few in the world with four identical facades, whose construction was personally supervised by Meigs, a Smithsonian Regent at the time. There is a strong possibility that Meigs, architecturally trained, also was to some degree instrumental in the building's design. The Washington (water supply) Aqueduct, Meigs's first and most monumental engineering work, was the trip's principal focus. The tour began its inspection, as do the Potomac's Waters themselves in their aqueductian flow, at Great Falls, Md., at the intake gate house, completed 1859, where Meigs had inscribed on a dedicatory tablet, "Dei gratia. Esto perpetua." The Aqueduct's supreme structure, Cabin John Aqueduct, then was thoroughly examined, and a sample of the new parapet blocks [SIAN Mar

76:1] viewed to mixed reactions. Then on downstream to the great Georgetown Distributing Reservoir for a singular experience: a descent into the underground Effluent Valve Vault by means of one of the Aqueduct's celebrated cast-iron spiral stairways, into the risers of each step of which the engineer caused to be cast in openwork: "M. C. MEIGS". (Now *that's* perpetua).



Capt. Meigs with Washington Aqueduct distribution valves, c1859. National Museum of History & Technology.

The Aqueduct originally was a full gravity system (except for a small section supplying the upper reaches of Georgetown, by a hydraulic pumping engine) but with the growth of the city it was necessary about the turn of the century to erect several steam pumping stations to supply the higher areas. The grandest of these was the Bryant Street Station (1904), last of the aqueduct structures visited. The building is essentially unaltered architecturally, although regrettably the pumping engines and boilers are gone. There was compensation, however, in the form of a remarkable basement mini-museum, where for years past water department employees and officials have put by odds & ends of wood conduit, antiquarian valves, special fittings, hydrants, self-filling horse troughs, and the like, as taken from service. The result is an unparalleled archeological record of the city's water distribution system.



The Pension Building under construction, 1884. At center, one of the two ranks of mammoth brick columns rising in the court area. NMHT.

Final stop of the tour was also the final work of Meigs himself. The Pension Building was his *tour de force*; the project that today is most intimately connected with his name. This massive office block, the largest brick building in the world on its completion in 1885, was designed and erected by Meigs to contain all government offices disbursing veterans' pensions. It still serves, now housing city courts but shortly to be transferred to the Smithsonian for as yet undetermined purposes. It is completely fireproof, of structural brick throughout, with iron roof trusses. Its principal feature is a colossal covered court 116 x 316 feet, 75 ft high, widely regarded as one of America's great interior spaces.



Between the Capitol domes. At lower-left the back sides of the octagonal coffers in the inner dome; above them the diagonal ties suspending the inner dome from the framing.

A tour adjunct took place on 20 July that for many was the event's ultimate experience. By especial arrangement amounting to the extraordinary (please don't all rush over and ask or you'll queer it forever), a small group who could tear themselves away on a workday morning was permitted access to the normally forbidden interior of the Capitol dome. This is the space formed between the exterior (cast-iron) sheathing and the interior suspended surface, by the great cast-iron ribs and subframing. The dome is the "replacement" designed by Thomas U. Walter (with consultation from Meigs), cast by a veritable host of foundries from N.Y.C. to Baltimore, and erected 1855-64 by Meigs in a feat of engineering brilliance equalling the structural design itself. It was the largest mass of cast iron in any building in the world at the time, and may still be.

CALL FOR PAPERS

The SIA 1977 Annual Conference, Wilmington, Del., is only months away. Those wishing to give papers or brief work-in-progress reports immediately should contact the Program Chairman, T. Allan Comp, Historic American Engineering Record, Nat'l Park Service, Wash., D.C. 20240, who requests that submissions take the form of a 2-3 page abstract and include a discussion of both sources and audio-visual materials.

MISC NOTES

THE HAGLEY PROGRAM OF GRADUATE STUDY is again seeking applicants for its program leading to the MA & PhD in business, economic, or technological history, and in museum and historical work in general. Unparalleled faculty, library, and archeological resources. Fellowships available. Applications in by 7 Feb. 1977. Brochure: Coordinator, Hagley Prog., Eleutherian Mills-Hagley Fndn., Greenville, Wilmington, DE 19807.

HISTORY OF LOWELL COURSE. Evenings, Univ. of Lowell, by Brian Mitchell, non-credit. Information: The Univ., Lowell, MA 01854.

AN INSTITUTE OF ARCHAEOLOGY has been formed at the Univ. of Tennessee at Chattanooga. It is an instructional & research museum serving the entire area, assisting in formulating and executing federally required surveys and excavations, writing Nat'l Register nominations, and planning for historic site interpretation and preservation, all emphasizing IA. Resources include the archives of the Austin-Western Co., builders of industrial-RR rolling stock & contractors' vehicles. Information: Jeffrey Brown, Dir., IofA, Dept. of Anthro., U.T. at C., Chattanooga, TN 37401. (615) 755-4411.

SHOT MEETING. The Soc. for the History of Technology's 19th Annual Meeting, 28-30 Dec., Holiday Inn University City, Philadelphia, holds much of IA interest: Tues. AM—Theodore Z. Penn [SIA], *Phoenixville (CT), 1810-40: Local Records & a Cotton Mfg. Co.*; Edw. S. Rutsch [SIA], *Technology in Layers: Excavating Paterson's Locomotive Works, 1835-1915*; T. Allan Comp [SIA], *Structure as Document: the Salt Lake City Tabernacle, 1867*. Thurs. AM: short work-in-progress papers on gold extraction in N.C.; energy sources & prime movers in the Southern textile industry 1880-1900; the stationary steam engine in the New South; development of the multiple-arch concrete dam; &c. Thurs. PM: field trip by David Orr [SIA] to Phila. Gas Works & Fairmount Water Works. Membership (incl. quarterly Technology & Culture: Tech. & Cult., Univ. of Chicago Press, 5801 Ellis Ave., Chicago, IL 60637. Meeting info.: SIAN Ed.

CIVIL ENGINEERING HISTORY LIBRARY. The Catholic Univ. of America has established a special collection on this, under a grant from the Nat'l Capital Section of the ASCE, housed in the Engineering & Arch. Library. Book List, information: E&A Library, CUofA, Wash., DC 20064. (202) 653-5167.

The Company archives of **MOSLEY & MOTLEY, ROCHESTER, N.Y.** flour millers, one of the major firms in the "Flour City," have gone to the Rochester Museum & Science Center. 50,000 items, 1879-1928.

MUSEUM REARRANGEMENTS. Peter M. Molloy was reported last issue assuming directorship of the Paterson (N.J.) Historic District. Everyone's plans have changed, and he has, in fact, been appointed director of the Western Museum of Mining & Industry, Colorado Springs, where he faces the challenge of organizing that new institution's museum exhibits nearly from the ground up. Molloy's curatorship at the Merrimack Valley Textile Museum, N. Andover, Mass. has been filled by Laurence Gross, former Asst. to the Curator at the Slater Mill Historic Site. Everyone else seems to be put for the moment.

MILLWRIGHTS. With the increasing number of restorations planned of early wind and water mills, there has grown an awareness of the importance of employing consultants capable of undertaking such work with a degree of competence sufficient to assure a job of both historical integrity and practical usefulness. Two men are known to us, both trained in England, both having extensive background in all aspects of millwrighting, from erection to operation. Charles Howell, master miller of Sleepy Hollow Restorations' Philipsburg Manor, Upper Mills, N. Tarrytown, N.Y., is known to many of you as a pioneer member of the SIA. 381 Bellwood Av., N. Tarrytown, N.Y. 10591, (914) 631-5349. Derek Ogden (Rt 1, Box 354-E, Hopewell, VA 23860 (804) 541-0929/458-1781) presently is constructing the Flowerdew Hundred Windmill [SIAN Mar 76:3].

CAST-IRON SLIDES. (That is to say, slides of cast-iron structures.) The Friends of Cast Iron Architecture have through the volunteer efforts of several professional photographers assembled a set of 16 slides of representative iron-front buildings in N.Y.C., 1856-1892, by Bogardus et al, incl. detail views, with explanatory information, offered at \$25 the set. List of buildings avail. Slide Dept., FoCIA, Rm 20, 44 W. 9th St., NYC 10011.

FILMS. The Nat'l Trust has published a fine 75 pp list of films on historic preservation & related subjects avail. from a variety of sources, free or cheap. Some get right into IA: lots, i.e., on western mining history; a series on NYC views that incl. opening of the Broadway subway 1904; RRs, canals, trolleys & steamboats; &c. Preservation Press, 740 Jackson Pl. NW, Wash., DC 20006.

MARINE PRINTS by John Stobart, U.S., sail & steam, ocean & river, all 19thC. Good background detail incl. bridges & cityscapes. Flyer avail. gratis; color catalog \$5. Maritime

Heritage Prints Ltd, Suite 502, 1055 Thos. Jefferson St., NW, Wash. DC 20007.

WANTED. Used 3"/4" matched mill flooring (mill plank) and 6/6 window sash with 10" x 14" lights. Needed in restoration of old mill on Vt.-N.H. border. E.A. Battison, Rm. 5020 NMHT, Smithsonian Inst., Washington, DC 20560.

LYNWOOD BRYANT, eminent scholar and writer on the development of the internal combustion engine, Emeritus Prof. of History, MIT, in Sept. 1975 became Sr. Resident Scholar at Eleutherian Mills Historical Library/Univ. of Delaware.

NEAL FITZSIMONS [SIA], has received the ASCE's 1976 Civil Engineering History & Heritage Award in recognition of his many contributions to that cause, especially his leadership since its founding of the society's Committee on the History & Heritage of American Civil Engineering.

MICHAEL N. GIMIGLIANO [SIA], has been appointed the first Geographer in Residence of St. Bonaventure Univ., Allegheny, N.Y. He is planning an IA seminar course for the Spring, to be based on inventorying and analysing the IA of the nearby Olean area. Present there at various times were lumbering & woodworking, petroleum extraction/processing, specialized metal-goods mfr., and transportation systems, which "... appeared and vanished with each wave of speculation, all of which should provide some interesting field and archival experiences."

We report with regret the death in April of **FRANK B. THOMPSON**, well-known to canal historians as director of the Canal Museum, Syracuse, since its founding in 1962.

RESEARCH INQUIRIES

PIONEER CANADIAN ENGINEERS. Sought by Robert F. Legget, author of the definitive *Rideau Canal*, is information on 1) Thomas Roy, apparently British, gifted C.E. and geologist who worked in Toronto 1834-42; and 2) Francis Hall who worked in the Maritimes in the 1820s making valuable reports on three canal projects. He may have been a pupil of Rennie, but nothing is known of his origins. R.F.L., 531 Echo Dr., Ottawa K1S 1N7, Ont.

TIDE MILL, MAMARONECK. Any information about this mill, built c1792, which ground wheat & corn to the 1840s when converted to pumice grinding, is sought along with that on tide mills in general, and pumice grinding. George G. Kirstein, The Old Mill, Taylors La., Mamaroneck, NY 10543. (914) 698-4456.

N.Y.C. PIERS. Theodore H. M. Prudon is continuing his long-standing interest in these by undertaking a systematic survey/inventory of same, both lost and extant, taking in *all* water-front areas within the city limits. Information, photos, general background material requested. C/o Historic Preservation Grad. Prog., Avery Hall, Columbia Univ., NYC 10027.

IT MAY NOT BE QUITE IA BUT IT'S NOT WITHOUT INTEREST

FALSE SIDE. Manhattan artist Richard Haas has *trompe d'oeilled* the entire blind, exposed side of a loft building at Prince & Green sts. creating windows and full architectural embellishment in exact imitation of the principal facade.

ETERNAL FLAME. The Wall St. Journal, of all people, went into such a transport over it that they devoted 23 prestigious column-inches recently to an account of a light bulb in the stage door vestibule of the now-abandoned Palace Theater in Ft. Worth, Texas, that has burned almost continuously *since the theater opened in 1908*, and has become something of a celebrity there with predictions of universal doom if & when it shuffles off its seemingly immortal coil. But then, that's show business.

RESPONSES

The notice in the last issue about the abolition of the N.Y. Office of State history (p.3), picked up from that normally impeccable source, the *N.Y. Times*, appears to have been exaggerated, although technically correct. Richard S. Allen [SIA] of the state's Bicentennial Commn. reports that to save money, there was a reorganization, the former O.S.H. being converted to something called the Divn. of Historical Services. But universally acknowledged is that the history program was radically diminished.

Victor Darnell [SIA] Kensington, Ct., advises that "The 'wooden anchor' [SIAN Jan 76:7] is a 'killick.' The *Mariners' Mirror*, journal of the Soc. for Nautical Research, London, has had several long articles on these. The form still is used in Cape Breton, although theirs are smaller. The Old Mill project, Middlebury, Vt. [SIAN Jan 76:7] has, according to the local paper, aborted. The mill will not be restored."

With reference to our assertion that the re-firing of Tannehill Furnace (on which we'll report fully, next issue) would be the first time in the 20thC that iron would be smelted with charcoal and a cold blast [SIAN Mar 76:2], Vance Packard [SIA], Pa. Office of Historic Preservation, recalls for us the danger inherent in asserting historical superlatives. He writes: "I checked my facts and Curtin Furnace [nr. Bellefonte, Centre Co., Pa.] was in operation until 1921 employing charcoal and cold blast. At that time they were importing most of the charcoal from the North Mountain area near Wilkes-Barre. They continued the charcoal bloomery forge for a year or so more. However, not content to rest on this, John Tyler [SIA] has discovered that both Richmond Furnace in Mass. and Canaan III in Conn. were in blast till 1923 and, incredibly, there apparently was one lone furnace in Wisc. operating until 1940 or 41 using the output from a wood distillation plant. Unfortunately we can't remember the exact reference." [Can anyone? ed.]

You'll recall the hame shop that was offered for sale last issue. The owner, Gerard F. Jackson writes: "...two Amishmen purchased the shop to manufacture hames for their people. The 19thC is alive and well in the chinks and cracks of our society."

PUBLICATIONS OF INTEREST

*Reviewed: Technology & Culture—Oct. 75 *; Jan. 76 **; Business History Review—Autumn 75 #; Winter 75 ##; Spring 76 †; Summer 76 ††.*

Norman R. Ball [SIA], *Circular Saws & the History of Technology*. In *APT Bulletin*, Vol. VII, No. 3, 1975, pp 79-89.

Fred Bateman & Thomas Weiss, *Market Structure Before the Age of Big Business: Concentration & Profit in Early Southern Manufacturing*. In *Business History Review*, Autumn 1975, pp 312-36.

Bernd & Hilla Becher; Hans G. Conrad; Eberhard Neumann, *Zeche Zollern II*. 1975. 360 pp, 329 photographs. DM 135. (ISBN 3 7913 0108 x). Essay on and stunning Becher photos of the incredible Art Nouveau Machine Gallery of the Zollern II coal mine at Dortmund-Bövinghausen, in the Ruhr, 1904, now a historic landmark.

Frederick Moore Binder, *Coal Age Empire: Pennsylvania Coal & Its Utilization to 1860*. Harrisburg: Penna. Historical & Museum Commn., 1974. 184 pp. \$5.50. #

R. J. Brown, *Windmills of England*. 90 drawings of preserved mills; 26 pp on mill mechanism. \$10.50 + post. London EC1: Robert Hale, Clerkenwell Green.

Keith L. Bryant, Jr., *History of the Atchison, Topeka & Santa Fe Ry.* N.Y.: Macmillan. xvi + 398 pp. \$13. ##

Thomas R. Cox, *Mills & Markets: A History of the Pacific Coast Lumber Industry to 1900*. Seattle: Univ of Washington Press, 1974. xx + 332 pp. \$17.50. ##

E. C. B. Corlett, *The Iron Ship*. Bradford-on-Avon, Wiltshire: Moonraker Press, 1975(?). \$18. Complete story, including recent history of rescue and ongoing restoration, of the world's first large wrought-iron ship: Brunel's legendary *Great Britain*, 1840.

Giles Cromwell, *The Virginia Manufactory of Arms*. Charlottesville: Univ Press of Va., 1975. xxiv + 209 pp. \$20. The state armory, Richmond, from inception in 1798 to closing in 1821. #

Arthur Weir Crouch & Harry Dixon Claybrook, *Our Ancestors Were Engineers*. Nashville Section, ASCE. Public & private works; history of the Section. 60 pp. \$5. H.D.C., Turner Engineering Co., 306 Gay St., Nashville, TN 37201.

H. H. Douglas [SIA], *The Unfinished Independent Line of the Manassas Gap RR*. In *Echoes of History* (Pioneer America Society), Nov., 1975, pp 53-59. Good description of illus. of the considerable IA of this Va. line for which much grading and masonry was completed, but no rail laid—1853-60.

Reed G. Geiger, *The Anzin Coal Co., 1800-1833: Big Business in the Early Stages of the French Industrial Revolution*. Newark: Univ of Delaware Press., 1974. 345 pp. \$18. ##

Howard M. Gitelman, *Workingmen of Waltham: Mobility in American Urban Industrial Development*. Baltimore & London: Johns Hopkins Univ Press, 1974. xvi + 192 pp. \$10. ##

Douglas B. Hague & Rosemary Christie, *Lighthouses: Their Architecture, History, & Archaeology*. Llandysul, Wales: Gomer Press, 1975. 307 pp, illus. \$12/\$8. Deals strictly with the British Isles, but one of the finest, most authoritative works on the subject ever. Nearly all based on archeological examinations by the authors.

Kenneth R. Hanson [SIA], *Port Oram—North Jersey Transportation Center*. In *Train Sheet* (Railroadians of America), Summer, pp 1-4, 7-8. Presently Wharton, once a mighty center of RRs, canals, & ironmaking. (1145 46th St., Des Moines, IA 50311.)

Carol E. Hoffecker, *Wilmington, Delaware: Portrait of an Industrial City, 1830-1910*. Charlottesville: Univ Press of Va., for the Eleutherian Mills-Hagley Fndn., 1974. xvi + 187 pp, illus. \$10. *

Peter J. Holmes, *The Stockton & Darlington Ry., 1825-1975*. Ayr, Scotland: First Publ. Co., 1975. 194 pp. \$15.

Francis E. Hyde, *Cunard & the North Atlantic, 1840-1973. A History of Shipping & Financial Management*. Atlantic Highlands, N.J.: Humanities Press, 1975. 382 pp. \$27.50. ††

Derrick Jackson, *Lighthouses of England & Wales, Including the Channel Islands & the Isle of Man*. Newton Abbot: David & Charles. 128 pp, dwgs. \$10.

Kelly Jordan, *Atlanta's Mill Towns*. In *Atlanta Gazette*, 17 Dec., 1975, and Mitchell Shields, *Waiting Beside the Tracks*. In *AG*, 17 March 1976. Illus essays on A's M.T.s & Georgia's RR stations. (\$.24 stamped, addressed 8½ x 11 envelope to AG, 1189 Virginia Ave., Atlanta, GA 30306.)

Melvin Kranzberg & Joseph Gies, *By the Sweat of Thy Brow: Work in the Western World*. N.Y.: Putnam's Sons, 1975. 248 pp. \$3. (paper). **

Sarah Bradford Landau, *The Colt Empire in Hartford*. In *Antiques*, March, pp 568-79. Excellent account of his factories, houses, churches, &c, many of them surviving.

Omer Lavalée [SIA], *Van Horne's Road*. Montreal: Railfare (Box 1434, Station B), 1975. 304 pp, illus & maps. \$25. Faultless, heroic account of the Canadian Pacific Ry.

David L. Lewis, *The Rise & Fall of Old Henry's Northern Empire*. In *Cars & Parts*: Pt 1, Dec 1973, pp 90-97; Pt 2, Jan-Feb 1974, pp 100-105. Ford's iron mines, sawmills, assembly plants, &c, in Mich's. Upper Peninsula, 1920s-1954. Now all closed, but much IA.

- Paul C Morris, *American Sailing Coasters of the North Atlantic*. Chardon, Ohio: Block & Osborn Publ Co, 1973. 224 pps. \$29.75.
- Christopher Norwood, *About Paterson: The Making & Unmaking of an American City*. NY: Saturday Review Press/Dutton, 1974.
- August Perez & Assoc, *The Delta Queen: Last of the Paddle-Wheel Palaces*. Ed by Myron Tassin. Gretna, LA: Pelican Publ Co, 1973. 96 pps, illus. \$8.95.
- Louis A Pérez, Jr, *Reminiscences of a Lector: Cuban Cigar Workers in Tampa*. In *Florida Historical Quarterly*, April, pp 443 ff. (See SIAN 4:2/3:16.)
- Benjamin H Powell, *Establishing the Anthracite Boomtown of Mauch Chunk [PA], 1814-25: Selected Documents*. In *Penna. History*, July 1974, pp 249-62.
- John Prenis (ed), *Energy Book #1: Natural Sources & Backyard Applications*. Running Press, 38 S 9th St, Phila, PA 19103. 112 pp. \$4.25 PP. "... dedicated to all the backyard experimenters & basement tinkers who have shown that alternative energy research need not be the exclusive domain of "experts"." "Mother Earth format," full of practical stuff on wind power, bio-gas (methane), heat pumps, solar energy, &c.
- John Pudney, *London's Docks*. London: Thames & Hudson. Good account of this massive complex—once the largest area of artificially enclosed water in the world—from the late 18thC to now, when they are fading in importance and closing.
- C A Schicke, *Revolution in Sound: A Biography of the Recording Industry*. Boston: Little Brown & Co, 1974. 246 pp. \$6.95.*
- David C Smith, *Pulp, Paper & Alaska*. In *Pacific Northwest Quarterly*, April.
- William E Trout III [SIA], *A True Account of the Adventures of an American on Japan's Biwako Canal in the Year of the Monkey*. In *The Towpath Post* (Canal Soc of NJ; copies Robert R Goller, 257 River Dr, Elmwood Park, NJ 17407, \$1.) Summer 1974, pp 3-12, illus. Biwako Canal [SIAN 1:4:3], 1885-90, was based largely on American technology. Most of it is intact.
- C H Vivian, *Burros, Mules, & Mines*. In *Compressed Air Magazine* (942 Memorial Pkwy, Phillipsburg, NJ 08865), Feb (pt 1) & March (pt 2). The zoölogical side of mining & prospecting.
- Daniel J Walkowitz, *Statistics & the Writing of Working Class Culture: A Statistical Portrait of the Iron Workers in Troy, NY, 1860-80*. In *Labor History*, Summer 1974, pp 416-60.
- James Walton, *Water-Mills, Windmills, & Horse-Mills of South Africa*. Cape Town: C Struick. 204 pp, illus.
- Caroline Watkins, *Some Early Railroads in Alchua County*. In *Florida Historical Quarterly*, April, pp 450 ff.
- John H White, Jr, *The Steam RR Comes to Cincinnati*. In *Cincinnati Historical Soc Bulletin*, Winter 1974, pp 177-84.
- , *A History of the Railroad Hand Car*. Reprint from *Railroad History*, Oct 1972. 40 pp, illus. \$1.35. Covers hand, foot, & power; mfgs listed. Ry & Loco Historical Society, Harvard Business School, Boston, MA 02163.
- Peter Wilkes, *A Phoenix from the Ashes: The Story of Aveling & Barford*. In *Live Steam*, June 1974, pp 6-11. The history of steam rollers from their inception.
- Paul N Wilson, *Water Turbines*, a Science Museum Booklet. London: Her Majesty's Stationery Office, 1974. (In NA: Pendragon House, 220 University Ave, Palo Alto City, CA 94301). 31 pp. \$1.50. Principal types described & illus; history of each.
- Charles E. Twining, *Downriver: Orrin H. Ingram & the Empire Lumber Co*. Madison: State Historical Society of Wisconsin, 1975. xii + 309 pp. \$17.50. ##
- Richard E. Lingenfelter, *The Hardrock Miners: A History of the Mining Labor Movement in the American West, 1863-1893*. Berkeley: Univ of Calif. Press, 1974. 228 pp, illus. \$12.50.*
- Harold C. Livesay, *Andrew Carnegie & the Rise of Big Business*. Boston: Little, Brown & Co., 1975. x + 202 pp. \$4.†
- George S. May, *A Most Unique Machine: The Michigan Origins of the American Automobile Industry*. Grand Rapids, Mich.: William B. Eerdmans Publ. Co., 1975. 408 pp. \$10.††
- William D. Middleton, *When the Steam RRs Electrified*. Milwaukee: Kalmbach Publ. Co., 1974. 439 pp., illus. \$30.*
- Arthur E. Morgan, *The Making of TVA*. Buffalo, N.Y.: Prometheus Books, 1974. xiv + 205 pp. \$10.95.**
- Paul L. Murphy, *The Passaic Textile Strike of 1926*. Belmont, Calif.: Wadsworth Publ. Co., 1974. xv + 185 pp. \$4.†† and ...
- Albert Weisbord, *Passaic: the Story of a Struggle Against Starvation Wages & for the Right to Organize*. NY: AMS Press (56 E. 13 St., 10003), reprint of 1926. 64 pp, map. \$7.50. One of a reprint series on the labor movement. Account of the strike from the Communist perspective.
- William J. McKelvey, Jr., *The Delaware & Raritan Canal: A Pictorial History*. York, Pa.: Canal Press (39 W. Springettsbury Ave., 17403), 1975. 128 pp., 275 photos. \$14. 1850s to demise, c 1935.
- H. V. Nelles, *The Politics of Development: Forrests, Mines, & Hydro-Electric Power in Ontario, 1849-1941*. Hamden, CT: Archon Books; Toronto: Macmillan Co., 1974. 514 pp., illus. \$21/\$9.95. Recommended. Heaviest in 20thC.*
- Howard H. Newlon, Jr. [SIA], *From a Diverse Heritage... Teachers I Never Knew*. In *Journal of the American Concrete Inst.*, Feb. 1975, pp 67-75. (Reprint avail: Va. Highway & Transportation Research Council, Univ. of Va., Charlottesville.) Smeaton, Hyatt, Ward, & Duff Abrams, and their pioneer work with concrete.
- Gordon Odegard, *America's First Common-Carrier RR*. In *Model Railroader*, July, pp 74-86. Not at all a bad general account, well illus, of the B&O's early physical history.
- George A. Parker, *The Susquehanna Bridge on the Philadelphia, Wilmington & Baltimore RR*. In *Railroad History*, Spring, pp 39-55. Reprint (with addl. illustrs.) from the *Journal of the Franklin Inst.*, describing the colossal timber structure that in 1866 finally created a solid rail connection between N & S. Well illus.
- John E. Piper, *The Janes & Kirtland Iron Works*. In *Bronx County Historical Society Journal*, Fall, 1974, pp 52-70. Architectural foundry that cast much of the Capitol Dome, extant 1857-1900. (3266 Bainbridge Ave., Bronx, NY 10467.)
- William F. Robinson, *Abandoned New England*. N.Y. Graphic Society. (Avail: Little, Brown, 200 West St., Waltham, Mass. 02154). 192 pp. 5 maps; 20 color/120 b&w illus. \$20. Roads, canals, farms, mills, sawmills, lumbering, mining, iron, lime kilns, charcoaling, textile mills, gasholder houses, ropewalks, RRs, &c.
- Lars G. Sandburg, *Lancashire in Decline: A Study in Entrepreneurship, Technology, & Int'l Trade*. Columbus: Ohio State Univ Press, 1974. xvi + 276 pp. \$15.**
- Mac Seabee & Paul Ward, *Transit's Stepchild: The Trolley Coach*. Cerritos, CA: Ira L. Swett, 1973. 288 pp., illus. \$14.50**
- Peter N. Stearns & Daniel J. Walkowitz (Eds.), *Workers in the Industrial Revolution*. New Brunswick, N.J.: Transaction Books, 1974. x + 441 pp. \$15/\$6.*
- William E. Trout, III [SIA], *Edward Lorraine's Nine-Mile Tunnel*. In *Bulletin, Va. Dept. of Highways & Transportation* (O.O.P.), May-June 1975, pp 18-21 & 44. Part of an aborted 1870s scheme for a trans-Allegheny canal.

David St John Thomas, *The Great Way West: The History & Romance of the Great Western Ry's Route from Paddington to Penzance*. N. Pomfret, VT: David & Charles, 1975. Illus. \$15. Includes series of strip maps with points of RR, scenic, & general interest.

Norman B. Wilkinson, *Papermaking in America. The full story from handmade to machinemade, especially in Penna., and Del.* Illus. Hagley Museum, Greenville, Wilmington, DE 19807, \$2.50.

REPRINTS

Asher & Adams' *Pictorial Album of American Industry—1876*. 1976 reprint by Rutledge Books, NY; distrib. by Larousse & Co., NY. 192 pp. 11 x 16 ins., \$6.95, paper. Long overdue facsimile of one of the most historically interesting & valuable 19thC publications. Originally a folio atlas, supplemented by a series of plates with long descriptions of a wide variety of American firms. Profusely illus. with cuts of the works & the products—quarries to locomotives to silver-plate to locks to you-name-it. Here are the plates alone, reduced about 25%, but the cuts still clear. A winner.

R. Thurston Hopkins, *Old Windmills & Watermills*. (1934 reprint). Introduction to the English pattern of mills & millwrighting. E. P. Publishing, E. Ardsley, Wakefield, W. Yorkshire, England. \$8. + post.

Carroll L. V. Meeks, *The Railroad Station*. New Haven: Yale Univ. Press, 3rd printing 1975 (1st: 1956). 203 pp. illus. \$25. The classic work on the genre, still available.

Kenneth Roberts [SIA], *Wooden Planes in 19th Century America*. Fitzwilliam, N.H.: Ken Roberts Publ. Co., (Box 151, 03447), 1975. Index; appends.; illus. \$22.50 PP. Also: reprint of *Stanley Rule & Level Co. 1909 catalog & price list*. 120 pp, 55 full-page illus. \$4.50 PP; \$5. with Planes, above. Flyer avail.

INVENTORIES, GUIDES, SITE REPORTS

Fred & Isabel Bartenstein, *A Report on New Jersey's Revolutionary War Powder Mill*, (with) Edward J. Lenik [SIA], *A Preliminary Archeological Survey of the Ford Powder Mill Site*. Morristown: Morris County Historical Society. c190 pp. The documentary search for, & subsequent excavation of, the site of NJ's RWPM. This is IA at its best: the mutual interpretation of record & remain.

Neil Cossons [SIA], *The BP Book of Industrial Archaeology*. Newton Abbot: David & Charles, 1975. 496 pp, 103 illus. \$10. Superb general treatment, in 14 topical chapters covering Wind & Water Power, Steam Engines, Chemical Industries, Rivers & Canals, &c &c, in terms of historical development and the technology, exemplified by selected British sites. 13 pp bibliog., lists of 144 IA (& related) organizations & 44 industrial museums, thus, a guide as well. (To be reviewed in *IA*.)

Dan Grove Deibler, *Metal Truss Bridges in Virginia: 1865-1932, The Culpeper Constr. District*. Virginia Highway & Transp. Research Council, Box 3817 Univ. Stn., Charlottesville 22903, 1975. 68 pp. Essays, photos, & tabular data on a wide variety of truss types and ages, 3rd in the series.

Elaine E. Freed [SIA], *Colorado Springs' Historic Ironwork: the Old North End; and Iron Goods & Wire Work: Colorado City/Near West Side*. Walking-tour guides to iron fences. (2111 N. Tejon, Colo. Spgs, CO 80907.)

Herbert H. Harwood, Jr. [SIA], *Philadelphia's Victorian Suburban Stations. Railway History Monograph Series, Vol. IV, No. 3*. Crete, NB: J-B Publ. Co., 430 Ivy Ave., 68333. 50 pp; 50 photos. \$5. Chapters on the pertinent RRs, station architecture in general, architectural styles, the downtown terminal, and on each of the suburban lines with each surviving station listed & described. A marvelous IA study.

John P. Heisler, *The Canals of Canada. Canadian Historic Sites: Occasional Papers in Archaeology & History, No. 8*. Nat'l Historic Sites Svc., Ottawa, 1973. 183 pp, illus. \$5. Thorough historical study based on the records.

Peter M. Molloy, *The Lower Merrimack Valley: An Inventory of Historic Engineering & Industrial Sites*. Sponsored by the Merrimack Valley Textile Museum & HAER. One of the very best of the HAER inventories—thorough, professional, useful, interesting. Seemingly nothing of significance has been missed in this area of extreme IA importance, every structure historically and physically described; the most important also illus. As well as many small towns, covers Lowell, Lawrence, Methuen, Amesbury. 110 pp. HAER, Nat'l Park Service, Wash, DC 20240.

Patrick M. Malone [SIA] & the HAER staff, *Selections from The Lowell Canal Survey, Historic American Engineering Record*. Excerpted text, drawings, & photographs, prepared for the SIA 1976 Annual Conference, Lowell, but a self-standing, valuable document as it is, not the least for the maps of the canal system's sequential growth to today. 20 pp. HAER, as above.

Eberhard G. Neumann, *Industrie-Architektur in Westfalen*. Photos by Klaus Michael Lehmann. Splendid illus. essay on & directory of the IA of Westphalia classified by industry: metal mining & working, coal mining, salt mining, textiles, &c. 1975. 28 pp. Landesamt für Denkmalpflege, Landschaftsverband Westfalen-Lippe, 4400 Münster, W. Germany.

Nathaniel Mason Pawlett & Howard H. Newlon, Jr. [both SIA], *Historic Roads of Virginia: The Route of the Three Notch'd Road—A Preliminary Report*. Va. Highway & Transportation Research Council, Box 3817 Univ. Stn., Charlottesville 22903. 26 pp, illus, folding map. Description of an important Colonial road that survives nearly intact.

Nathaniel Mason Pawlett [SIA], *Historic Roads of Virginia—An Index to Roads in the Albemarle County Surveyors' Books, 1744-1853*. 10 pp. VH&TRC, as above.

Roger Pilkington, *Waterways in Europe, A Guide to Inland Cruising*. NY: Charles Scribners, 1974. \$9. Authoritative & accurate as is based on 1st-hand cruising.

Douglas Young, *A Brief History of the Staunton & James River Turnpike*. Another in the series on the historic roads of Virginia, publ by the VH&TRC. 22 pp. (see *Pawlett*, above.)

William F. & Janet L. C. Rapp [SIA], *Catalog of Funicular Railways of N. America. In Railway History Monograph: Pt. 1, Jany; Pt. 2, April*. c70 pp total. J-B Publ. Co., 430 Ivy Ave., Crete, NB 68333. \$2. each. Lists 56, built & proposed, with principal data & comments. Strictly those having two rail-borne, cable-connected cars in balance. Many of these interesting systems do survive.

Carole Rifkind & Carol Levine, *Mansions, Mills, & Main Streets*. NY: Schocken Books, 200 Madison Ave., 10016. Illus. \$12.50/\$6. A guide to exploration within 50 miles of NYC, incl mills, RR stations, &c.

Robert L. Schuyler [SIA], & Christopher Mills. *The Supply Mill on Content Brook in Massachusetts*. In *Journal of Field Archaeology*, Vol. 3 No. 1, 1976, pp 61-95. (Boston Univ., 745 Commonwealth Ave., 02215.) The methodology and interpretation of the excavation of a sawmill site near Billerica. Good case of the ideal relationship between excavation, oral history, and documentary research to produce coherent, rational conclusions.

Kenneth H. Thomas, Jr., *McCranie's Turpentine Still: A Historical Analysis of the Site, with Some Information on the Naval Stores Industry in Georgia & Elsewhere*. Description of the best-preserved still, and its village, in Georgia. 102 pp. 1975. Georgia Dept. of Natural Resources, Historic Preservation Section, 270 Washington St., SW, Atlanta 30334. A fascinating account of an obscure rural industry. Appendix listing 50(!) uses of turps in 1930.

Advisory Council on Historic Preservation, *Adaptive Use: A Survey of Construction Costs*. (Report—Special Issue, June). Results of a survey of 31 adapted structures, from houses to city halls, to office buildings: Trolley Square; Chickering Piano Factory; Butler Squares; &c., tabulating for comparison all hard & soft costs. Bibliog. 27 pp. 1522 K St., NW, Wash, DC 20005.

———, *Report—Compliance Issue*, July-August. Status of a wide variety of preservation projects & laws, with respect to govt agencies, incl. several of IA interest. 132 pp.

The Next Station Will Be . . . Vol. 3. Railroadians of America (270 W. Colfax Ave., Roselle Pk., NJ 07204, 1975. 56 pp. \$4. Third in a series reproducing a group of Erie Ry photos of 1910, these on the Greenwood Lake Divn. Brief history of the line, period map, timetable.

The World's Highest Dams, Largest Earth & Rock Dams, Greatest Man-Made Lakes, Largest Hydroelectric Plants, Major Dams. 1975. 5 pp. Bureau of Reclamation, U.S. Dept. of the Interior, Wash, DC 20240. Attn: Code 200. Gratis.

REFERENCE & TECHNIQUES

James Lawton (Ed.), *Shoptalk: Papers on Historical Business & Commercial Records of New England*. Boston Public Library, 1975. 52 pp. \$3. Essays from a 1973 symposium on the wealth of business records available for research and the slight use made of them. [See Madison & Muise, below.]

James H. Madison, *The Credit Reports of R. G. Dun & Co. as Historical Resources*. In *Historical Methods Newsletter*, Sept. 1975, pp 128-31, and . . .

D. H. Muise, *The Dun & Bradstreet Collection: A Report*. In *Urban History Review*, Feb., pp 23-26. This valuable but largely unrecognized resource at the Baker School of Business, Harvard, consists of hundreds of volumes of MS reports by D&B of industrial & commercial firms in the U.S., describing their principals, products, equipment, &c. Rafts of otherwise unavailable information.

Frederick L. Rath, Jr. & Marilyn Rogers O'Connell (Eds.), *Historic Preservation: Vol. I of A Bibliography on Historical Organization Practices, Organizations, Law, Research & Planning, Action*. ix + 141 pp. \$10. American Assn. for State & Local History, 1400 8th Ave, S., Nashville, TN 37203.

R. A. Salaman, *Dictionary of Tools Used in the Woodworking & Allied Trades, c1700-1970*. London: George Allen & Unwin, 1975. 545 pp, illus. \$40. A definitive work.

John R. Volz, *Brick Bibliography*. In *APT Bulletin*, Vol VII, No 4, 1975, pp 38-49.

The Arts in Found Places—A Report from Educational Facilities Laboratories & The Nat'l Endowment for the Arts. Facilities for all the arts from available spaces, incl. industrial bldgs. 138 pp. \$7. PP. EFL, 850 Third Ave, NYC 10022.

Canal Boat Construction Index. References & information on plans, photos, literature, models, and the many reconstructions, all in hopes of assuring accuracy in future reconstructions. 23 pp. \$2.50. American Canal Society, 1932 Cinco Robles Dr., Duarte, CA 91010.

Local Histories in the Library of Congress: A Bibliography. 4 vols., 4,500 pp. \$250. Magna Carta Book Co., 5502 Magnolia Ave., Baltimore, MD 21215.

Directory of Historical Societies & Agencies in the U.S. & Canada. 434 pp. \$20. AASLH. (See Rath, above.)

J. Henry Chambers, *Cyclical Maintenance for Historic Bldgs*. Interagency Historic Architectural Services Prog., Nat'l Park Svc. Highly practical work on what should be attended to & how to go about it. 125 pp. From Supt. of Documents, USGPO, Wash, DC 20402. \$2. (Stock No. 024-005-00637-1.)

Robert C. Mack, *Preservation Briefs*, IHASP (see Chambers, abv). 1: *The Cleaning & Waterproof Coating of Masonry Bldgs.*; 2: *Repointing Mortar Joints in Historic Brick Bldgs.* 4

& 8 pp. Gratis: Lee H. Nelson, Office of Archeology & Historic Pres., Nat'l Park Service, Wash, DC 20240.

John Coles, *Archaeology by Experiment*. N.Y.: Charles Scribners, 1973. 182 pp., illus. \$9./\$3.50. Hypotheses based on experimental, actual use of artifacts, incl. much on crafts & craft industries.

William Hockey, *Scaled-Rectified Photography On Site*. In *APT Bulletin*, Vol. VII, No. 3, 1975, pp 37-78. Thorough introduction to an architectural photogrammetric method employing inexpensive (relative to conventional high-precision topographic) equipment.

Francis Pryor, *Earthmoving on Open Archaeological Sites*. Nene Valley Research Comm. 32 pp. \$.50. Avail: Mrs C. Mackreth, 32 Hall Lane, Werrington, Peterborough, Engl.

SERIALS & SERIES

Possibilities: For Management of Vermont's Built Environment. Chester Liebs [SIA], Ed. Quarterly news journal by Historic Pres. Grad. Curriculum, Univ. of VT, Burlington 05401. News, bibliogs., preservation law, &c, not exclusively, of course, but heavy in, IA. 8 pp/issue. High-grade publ. that wouldn't hurt a lot of other states/provinces to emulate.

History of Technology: First Annual Volume, 1975. A. Rupert Hall & Norman Smith, Eds. New series concerned with technology as an essential feature of human society, aiming to investigate the technical problems of different cultures & periods, and the measures taken to solve them. Sample contents: D.S.L. Cardwell & Richard Hills, *Thermodynamics & Practical Engineering in the 19thC*; Norman A. F. Smith, *Attitudes to Roman Engineering & the Question of the Inverted Syphon*; R. A. Buchanan [SIA], *The Promethean Revolution: Science, Technology, & History*; Marie Boas Hall, *The Strange Case of Aluminium*. In *US/Canada: ISBS*, 10300 S. W. Allen Blvd., Beaverton, OR 97005. 200 pp. \$24., hard.

Transit Canada Magazine: Canada's Nat'l Journal of Passenger Transport. Bi-monthly. \$10/year in Canada; \$12 U.S. Box 503 Oshawa, Ont L1H 7L5.

Newcomen Society Transactions. Back volumes available at special prices to members. One of the most useful publs. in the history of technology. Membership information &c: Newcomen Society, Science Museum, London SW7 2 DD.

Railroading & ancillary publications such as the definitive history of the Starrucca Viaduct: The Bridge of Stone. Back issues of one of the most intelligent RR serials ever published. Listing: Starrucca Valley Publs., Lanesboro Rd., Starrucca, PA 18462.

South Street Seaport Museum publishes a variety of serials & books touching more or less on IA, particularly with respect to the preservation of NYC's East River waterfront. 1976 catalog: SSSM, Museum Publs., 16 Fulton St., NYC 10038.

Shortline RR Series. Flyer avail: Stephen Green Press, Brattleboro, VT 05301. Much good stuff on SLs + subways, wrecks, &c.

WATERWAYS BOOKSHOP LTD

A group of canal artists and publishers have established a firm by that name, to deal exclusively in canal literature. An associated company—Canals Bookshop Ltd—will deal in 2nd-hand materials. Shortly to join in the organization are several other firms and individuals with canal interests, such as artists, dealers in canal merchandise, publishers of waterways material, authors, professional photographers, and trip-boat operators. The goal is to consolidate and offer to the public in its concern for canals as both a hobby and source of recreation, from one location, all publications, materials, and services now available only from widely scattered sources. WBL has a long-term lease on a former British Waterways Board workshop at Claydon on the southern Oxford Canal, and is negotiating for eight other shop sites. Information: Michael Hanford, WBL, 52 Park St, Bristol BS1 5JN, England.