

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

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Number 1

LOWELL FIRE GUTS 1832 MILL

With the eleven-alarm blaze which ravaged the Lawrence Manufacturing Corp., Lowell has lost another of the major companies on which its fame was based, including the oldest mill buildings in a major complex. Discovered on the evening of March 23, the fire burned furiously into the middle of the next day. This was one of the few remaining complexes which stood visible as a discrete and imposing entity.

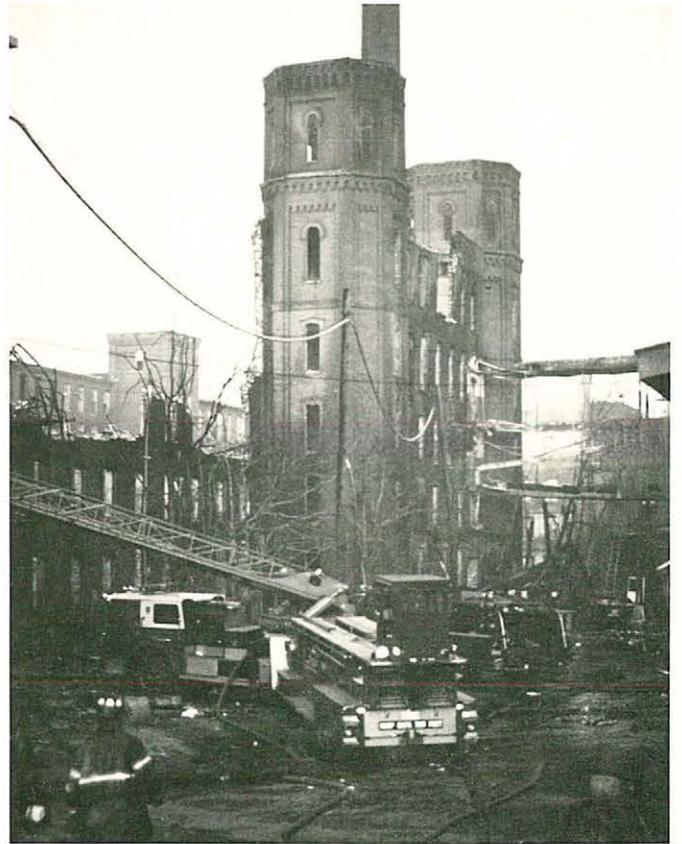
Sadly, the central part of the complex, containing the most impressive edifices, including two six-story stair towers, was lost. The two original 1832 buildings and the 1855 connection, with its impressive appearance and imposing towers, were destroyed, as was the 1835 cotton storehouse and numerous nearby structures. Other buildings suffered varying amounts of fire and water damage. Several hundred people were put out of work. Lowell Univ.'s plans to expand into the space apparently will proceed.

Both stair and toilet towers remained standing after their interiors burned. Six-story factory walls crumbled from the intense heat. Despite firefighters' efforts to establish water curtains around the buildings first involved, radiant heat carried the fire from structure to structure. Moreover, the sprinklers in the first building had been shut off, apparently because of winter freeze damage.

The mills' location at the river prevented access from that direction, and the narrow alleyways within the complex, while passable for trucks, could not be used because of the danger of falling walls. Firefighters had to work from the ends of the complex and from the roof of the c1900 structure (which survived) at the top of the yard.

Of the nine major original Lowell companies, only three (Boott, Massachusetts, and Suffolk) still stand as discrete entities. Three others (Appleton, Hamilton, and Lowell) stand, but are not readily identifiable in terms of scale or impact. Since these mills represent the only extant memorials to the hundreds of thousands who labored there, this loss is a particularly harmful one for those who would interpret this history artifactually. The visible record has been seriously diminished.

L.F.G.



LAWRENCE MANUFACTURING CORP., Lowell, Mass.

Left: 1930s view of the two 1832 mill buildings and their 1855 stair-tower connecting unit. *John Coolidge photograph.*

Right: Water from fire hoses plays on the 1855 stair towers at the height of the blaze, midnight on Mar. 23. The roof, floors, and walk have fallen. *Laurence Gross photograph.*

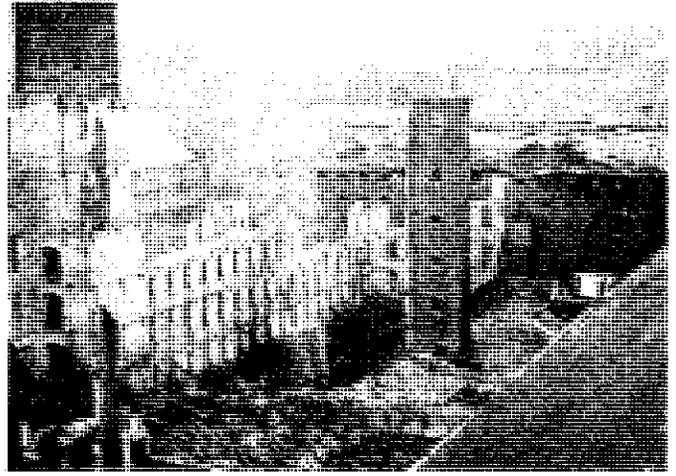
Above: The same view as the sun rises on the morning of Mar. 24. *Laurence Gross photograph.*

All photos courtesy Museum of American Textile History.



More photos on next page.





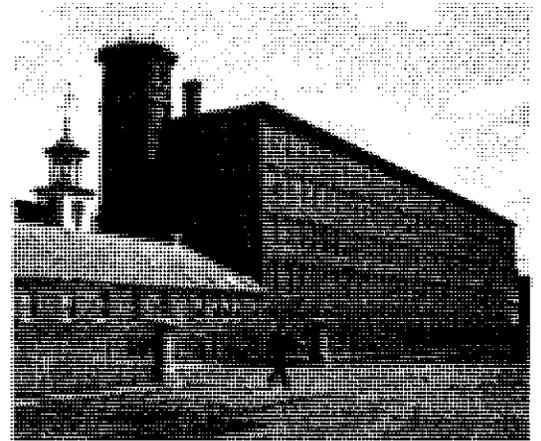
LAWRENCE MANUFACTURING CORP. *Above left:* View from behind the 1855 stair-tower unit. Note the absence of stairs, and the now-visible rectangular holes in which floor beams rested as part of the "slow-burn" construction. *Above right:* View from the roof of the remainder of the river mill reveals still-smoldering charred timbers amidst the ruins of one stair-tower and adjoining wall (left), the water-closet tower (center), and the 1835 cotton storehouse beyond. A crane works to demolish unstable walls. *Laurence Gross photographs for Museum of American Textile History.*

More mill news from Mass. . . .



BOOTT MILLS, Lowell, Mass.

Left: Wood engraving of Mills 1 & 2 and 3 & 4, with Mill 5 in the rear. Note attached picker houses and landscaped yard. *Gleason's Pictorial.* *Right:* 1930s John Coolidge photograph of the Counting House, Mill 6, and shuttle weather-vane on tower. *Images courtesy Museum of American Textile History.*



BOOTT MILLS STUDY, Laurence Gross [SIA] and Russell Wright recently completed a Historic Structures Report on the Boott Mills [HAER] for the Denver Office of the Nat'l Park Service. Wright addressed the history of the structures involved, while Gross treated the occupation and use of the spaces they delineated. Targeted areas included the Counting House, Mill 6, the Court Yard, and the facades of Mills 1 & 2. The Boott Cotton Mills was among the last of the major Lowell mills to be founded (1835), and one of the last to go out of business when it closed (1954).

This 600-page, illustrated account is unusual for two reasons: little attention previously has been given to the Lowell of the post-Civil War years, and earlier historians have not focused on a single company. Following the Boott's history up to 1954 allows attention to the periods in which most of the people who worked in the Lowell mills played their roles. Concentrating on a single company allows the historian to analyze those roles and to portray the contributions of and conflicts between treasurer, agent, overseer, and laborer.

The NPS has purchased the Counting House and Mill 6, which will house their Lowell offices and exhibits. Visitors will enter through the millyard and view the facades of the earlier mills. The Report provides information for the use of the Denver office in its role as architect and planner for the system. At the same time, it offers the Lowell Nat'l Historic Park a wealth of data for use in its interpretation of the industry in general and the Boott Mills in particular. *L.F.G.*

FALL RIVER CONFLAGRATION. A massive, \$10 million blaze on Jan. 12 destroyed a Fall River, Mass., complex that included the **Kerr Thread Mill**, a large, six-story mfg. plant formerly owned by the American Thread Co. The Kerr, one of only two brick mills in this city of otherwise solid-granite mills, was occupied by a variety of small firms and retail outlets.

ON THE BALTIMORE BEAT

THE STEAM TUG BALTIMORE, owned by the Balt. Museum of Industry, will have the renovation of her main engine finished by this summer. The rebuilt boiler was successfully steamed last summer and a growing list of auxiliaries have been tested. The museum is raising money to replace a third of her 1906 hull, some frames, rivets, and main deck. About \$80,000 has been donated in materials and services, not counting her volunteer crew, which includes Mark Ruhl and Steve Heaver [both SIA].

In a less happy BMI story, the museum has abandoned previously announced plans to repair the historic Phila., Wilmington & Balt. RR (later PRR) **President Street Station** [1849-50; HAER; viewed during 1975 Annual Conf.] because of the extensive labor and money needed. It is regarded as the earliest extant American urban station, and the oldest station with an adjacent train shed (which dates from the early 20th C). Although the owner has no demolition plans, the headhouse remains exposed to vandalism and weather, and the station may go the way of the B&O's Mt. Clare shops.

An \$18,000 grant from the National Endowment for the Humanities will go toward planning the Children's Workshop and Activity Center to be housed within the museum. The center will be comprised of small projects representing historic factory work. When the planning process is complete, the museum will be eligible to apply for an NEH implementation grant to construct and stock the center. Info: BMI, 1415 Key Hwy., Balt. MD 21230 (301-727-4808).

BUTTE-ANACONDA HISTORICAL PARK SYSTEM GOES ON LINE



Left: The M-10, on its first run after rehabilitation, heads for the BA&P's Silver Bow Creek bridge on the line between Anaconda and Butte. The only truss bridge on the BA&P system, it was built in 1898 by the Lassic Bridge & Iron Works, Chicago.

Below: The BA&P's 20-stall, brick roundhouse (1893, 1907) in Anaconda. It is among the oldest extant in the West.

Bottom: Structures at the Anselmo mineyard in Butte include (l to r) the main hoist house, change house, auxiliary hoist house, carpenter's shop, headframe, and the tippie. Following a typical Butte pattern, the headframe was moved to Anselmo from the Black Rock mine in the 1920s, replacing an earlier wood headframe.

Fred Quivik photographs.

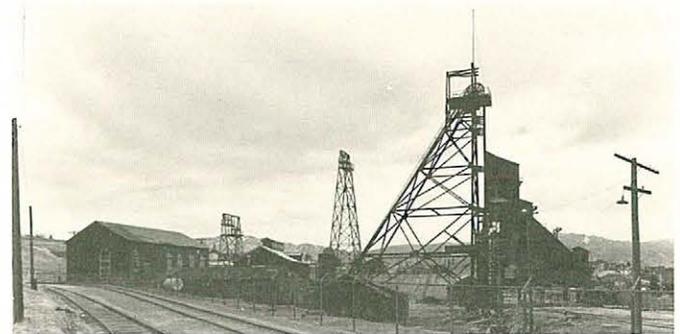
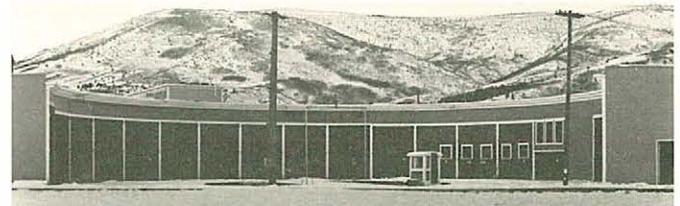
The Butte-Anaconda [Mont.] Historical Park System [HAER; see also *SIA* Fall 86:6] realized its first major project last Sept. with the successful operation of a rebuilt line car on the right of way of the Missoula Gulch line of the historic Butte, Anaconda, & Pacific Rwy. (BA&P), a wholly-owned subsidiary of the Anaconda Copper Mining Co. (ACM). The park organization leased the M-10, a historic BA&P unit, from a collector in Bozeman, restored it, and sent it on its maiden run as a passenger motor car with Mont. Gov. Ted Schwinden on board.

The BA&P built the M-10 in 1926 as a maintenance vehicle for repairing overhead wires on its electrified system. In 1912-13 the BA&P had become the first RR in the U.S. to electrify its entire system and, at 2,400 volts DC, had the highest voltage applied to an electric RR at the time. This electrification afforded increased power, allowing the ACM to run more ore trains in less time from its mines in Butte to its smelter in Anaconda, than was possible under steam. ACM also electrified the BA&P to promote RR electrification in general, so the company could expand its market for copper wire.

For its catenary repairs, the BA&P needed a self-propelled line car. The first, the M-1, is displayed at the World Museum of Mining in Butte. The M-10 replaced the M-1 and operated on the line until the shift to diesel locomotives in 1969. Always powered by an internal-combustion engine, it is driven today by a Buick straight-eight gasoline engine with chain drive. The original roof work platform has been temporarily removed. The park system plans to operate the M-10 during the coming tourist season along the Missoula Gulch line (the branch line on the Butte hill connecting the many underground mines) from the Orphan Girl mine (site of the World Museum of Mining), past the Anselmo mine, to the Kelly mine.

Within a few seasons, the park hopes to operate the car up through two switchbacks to the top of the Butte hill, where viewers will see the headframes of the Diamond mine (Butte's first steel headframe, erected in 1898 by the Gillette-Herzog Mfg. Co. of Minneapolis), the Granite Mountain mine (scene of the worst hard-rock mining disaster in U.S. history, when 163 miners were killed underground in 1917), and the Badger State mine (one of Butte's major zinc producers). From that vantage above the city, tourists also will be able to see the one-mile-plus-diam. Berkeley open-pit copper mine, and a mountain valley filled with debris from the Berkeley Pit, all against the backdrop of the Continental Divide and two mountain ranges with snow-capped peaks of over 10,000 ft. It's quite spectacular.

The park organization also has prepared a proposal to the state legislature for a grant from the Resource Indemnity Trust fund (the source



of which is a portion of the severance tax on all mineral extraction in the state) to reclaim the grounds and restore the buildings at the Anselmo mine for eventual use as the major interpretive site of the park system in Butte. The Anselmo is the only historic mineyard in Butte with all its ancillary buildings extant, so that a complete picture of the surface works of an operating underground mine can be interpreted. Major interpretive sites in and near Anaconda will be a prehistoric quarry site, the 19th-C roundhouse and shops of the BA&P, the c1900 foundry complex of the ACM, the 585-ft. stack of the Washoe smelter (now a state monument), and the ruins of the old upper and lower smelter works predating the Washoe.

Once the largest copper mining, smelting, and fabricating company in the world, the Anaconda Co. now employs less than 30 people, with only six in Montana. Despite the firm's virtual demise, local groups have successfully kept several former Anaconda Co. facilities operational. The foundry complex is being run with three shifts per day by AFFCO, Inc.; the Rarus Rwy. is operating the BA&P as a shortline [*SIA* Spring 86:11]; and recently the Washington Corporations, a Mont.-based construction firm, purchased the Anaconda Co.'s Butte properties and reopened the open-pit mine and concentrator.

F.Q.

THE FEDS IN STEAMTOWN

If you haven't heard what's been happening recently with Steamtown in Scranton, Pa., you're not alone. At the end of its Fall 1986 session, Congress surprised everyone, including the National Park Service, by appropriating an immediate \$8 million for NPS to begin to take over Steamtown and establish, in effect, a national railroad museum. A story appeared in the *Washington Post* (Nov. 25, 1986), but the Steamtown affair has received little coverage outside Scranton, despite its significance for the museum and historic preservation community. Writing in the March, 1987, *Pacific RailNEWS*, Brian Norden [SIA], secretary of the Assn. of Rwy. Museums, summarized recent developments in this effort to establish a federal rail site.

The 40-acre museum has floundered over the past three years while seeking to get settled in its new Pa. location, following the collection's move from Bellows Falls, Vt. The government's plan to establish a National Historic Site for railroad preservation calls for total expenditures of at least \$20 million. The NPS, which did not seek the acquisition, is not really in the business of exhibiting and running trains, and has expressed concern, as the Steamtown operation would represent a significant portion of its annual budget.

Some other groups, such as the Assn. of Rwy. Museums and the Smithsonian Inst., have expressed their profound disappointment that the Scranton collection was chosen. They cited other collections, such as those of the B&O Museum in Baltimore, the National Museum of Transportation in St. Louis, and the California State Railroad Museum in Sacramento as having far more significant holdings of rolling stock and thus being more worthy of the federal funding. Although the Steamtown collection is extensive, half of the engines are from Canada, and few in the group are historically significant. In a letter to the Interior Secretary, John C. White, transportation curator at the Smithsonian, stated that, "at best, this inconsequential collection largely duplicates what can be found elsewhere in better condition."

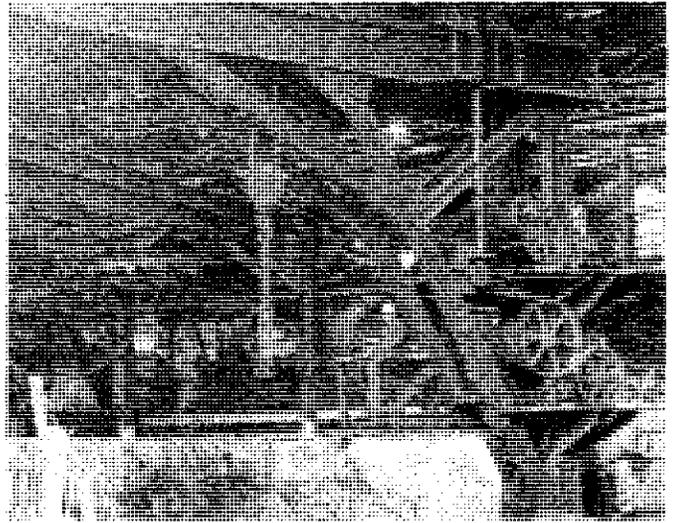
William L. Withun [SIA], the Smithsonian's deputy chairman of science and technology, has said that "the Park Service has been asked to take over a local problem." Withun's comment refers to the work of Rep. Joseph M. McDade, who attached the Steamtown amendment to a \$576 billion catchall spending bill at the end of the 99th Congress, as a way of pumping federal dollars into the economically distressed Scranton area. "We are not doing this just for the sake of historic preservation, even though that is a noble goal," McDade said (Scranton *Tribune*, Jan. 31, 1987). The amendment bypassed the entire NPS review process.

The project is strongly supported by NPS Director William Penn Mott, who believes that the collection can be improved by trading and swapping among RR collectors and museums. Mott also argues that Scranton is significant as an important site in the American Industrial Revolution. Both points are strongly debated by White, who believes that no one knows the availability of all historic cars or locomotives, there being no national inventory, nor are any significant swaps or purchases likely. White also observes that the I.R. largely was over by the time Scranton entered the scene.

Despite the controversy, Steamtown is chugging ahead on several fronts. In Feb., Pa. state officials awarded Steamtown a \$1 million grant as part of a \$3.9 million public-private package to enable the museum to acquire and rehabilitate track and equipment for a 20-mile excursion run into the Poconos. In Sept., the NPS will submit a comprehensive management plan as required by the federal legislation.

CONTRIBUTORS TO THIS ISSUE

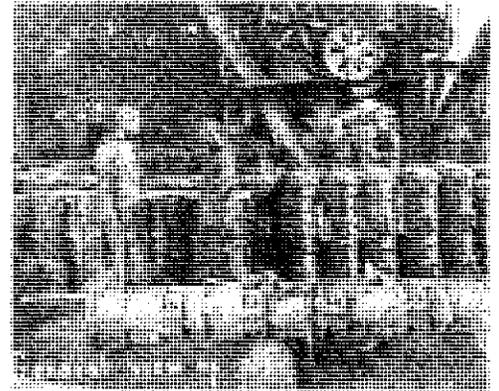
Edward L. Bell, Boston; Robert Casey, Sloss Furnaces; Betsy Fahlman, Old Dominion Univ.; Clayton Fraser, Fraserdesign; Laurence F. Gross, Museum of American Textile History; Kirsten Johnson, Office of Rep. Bruce Vento, Wash., D.C.; Brian Norden, Assn. of Rwy. Museums; Fredric Quivik, RTI, Inc., Butte, Mont.; David L. Salay, Eckley Miners Village, Weatherly, Pa.; David Shayt, NMAH, Smithsonian; David Sherman, Wash., D.C.; Michael Wells, Spencer Shops; Helena Wright, NMAH, Smithsonian. With thanks.



Above: A 1970s view of the jib crane in operation at the ACIPCO works in Birmingham, Ala.

Right: The jib crane is visible in the background of this early view of the iron-pipe vertical pit-casting operation. Centrifugal casting made pit casting obsolete.

Photographs courtesy American Cast Iron Pipe Co.



Landmark Jib Crane Goes to Sloss

A gigantic jib crane, one of six installed in 1906 at the American Cast Iron Pipe Co.'s just-completed plant, was donated by the firm and moved to Sloss Furnaces National Historic Landmark in Birmingham, Ala. In 1977 the crane was designated a National Historic Mechanical Engineering Landmark by the American Society of Mechanical Engineers. The ASME believes that, prior to the move, it was the last remaining jib crane of its type operating in the U.S. The crane was viewed *in situ* at the ACIPCO works during the SIA 1985 Fall Tour. Standing 28 ft. high, its boom covering a 33-ft.-radius circle, the 5-ton-cap. crane was used in the iron-pipe vertical pit-casting process.

Working with painstaking care, the ACIPCO crews had to cut the crane in two for the move, since no truck was large enough to carry it in a single load. The parts are being stored in Sloss's West Cast Shed (not open to the public), which is awaiting eventual redevelopment with the crane as a centerpiece exhibit. Along with other equipment donated by the US Pipe & Foundry Co., it will constitute the core exhibition interpreting the story of Birmingham's cast-iron pipe industry. Info: Randall G. Lawrence [SIA], Sloss Furnaces, Birmingham AL 35222 (205-324-1911).

A **BIG-ENGINE LIST** is being compiled by William J. Ellenberger [SIA] who is interested in steam engines (surviving or not) of large horsepower ratings, especially those of unusual design or operating characteristics. The largest noted thus far is a 25,000 hp. counterflow engine driving a rolling mill in an English steel plant, described in *Power*, Sept. 26, 1922. Send addn'l citations to W.J.E. at 6419 Barnaby St., Wash. DC 20015.

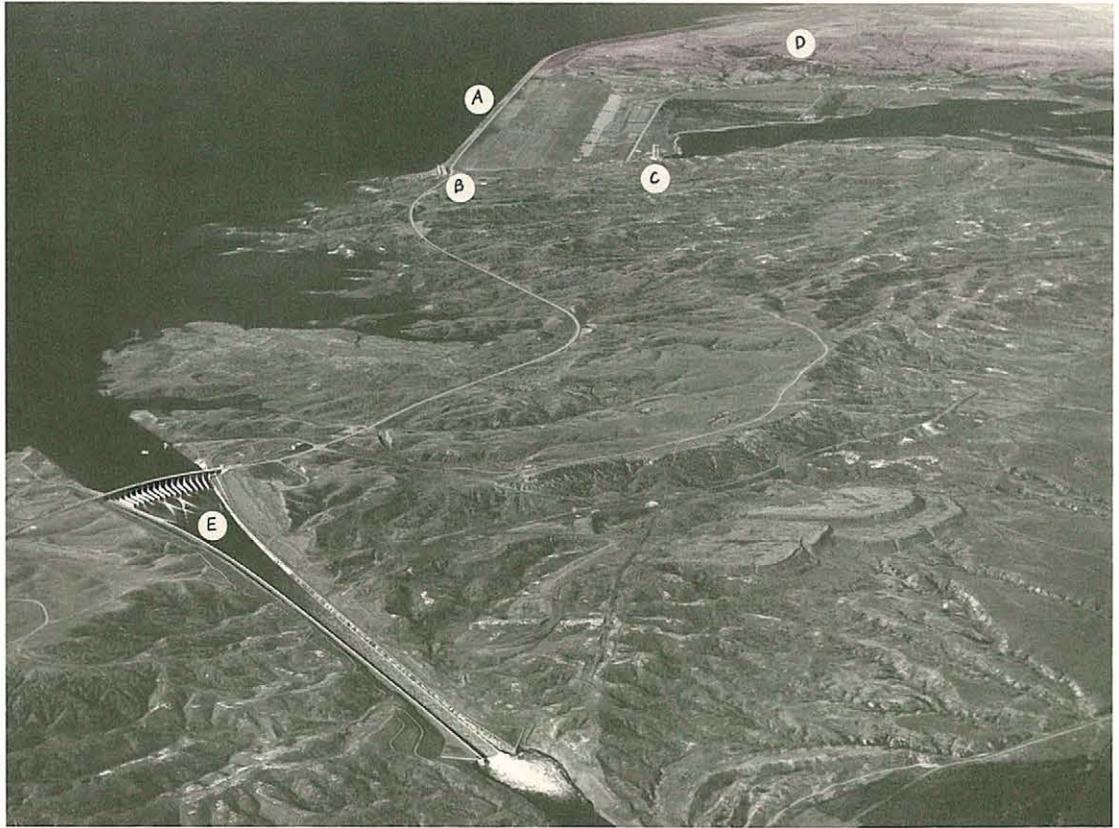
ARMY CORPS DIVESTS FORT PECK TOWNSITE

FORT PECK, Montana.

Right: 1950s view of the Fort Peck Dam area. The massive dam is at "A," creating Fort Peck Lake. Water intake is at "B," where gates control flow into tunnels leading to the powerhouses at "C." Only one powerhouse is visible in this photo, a second having been built in 1961. The Fort Peck townsite is at "D." While "E" appears to be a dam, it actually is the spillway. The dam raised the lake level enough to let water flow between two hilly areas, allowing the construction of the spillway there.

Below: The Fort Peck Theatre, built in 1934 at the townsite to entertain the thousands of workers constructing the dam. It was designed by Kansas City architects Robert O. Boller, who specialized in theatres, and Edward W. Tanner, who supervised the designing of the townsite.

U.S. Army Corps of Engineers photographs.



Last August, the Army Corps of Engineers transferred ownership of the townsite and buildings next to its Fort Peck Dam to Mont.'s newest incorporated town, Fort Peck. Built by the Corps in 1934 to house construction workers for the dam, the townsite is entered in the National Register for its architecture, and for its association with the dam which, at the time of construction, was the world's largest earth-fill dam (and remains the world's largest *hydraulically-filled* earth dam). Funded by the PWA, the Fort Peck construction project consistently employed more than 6,000 people over a five-year period and at the peak of construction in 1936, had over 10,000 employees. Students of the history of the photography of industrial and engineering sites will recognize the Fort Peck Dam as the subject of Margaret Bourke-White's photo-journalism in the first issue of *Life* magazine.

The dam was built on the Missouri River to improve downstream navigation. Since the northeastern Mont. location is quite remote and the climate harsh, the Corps had to build a sizable city of sound construction which, nevertheless, would be temporary. For this test, they hired Edward W. Tanner, who was the architect for the J.C. Nichols Co., developer of the renowned Country Club district on the south side of Kansas City, Mo. In the Fort Peck design, Tanner closely followed the

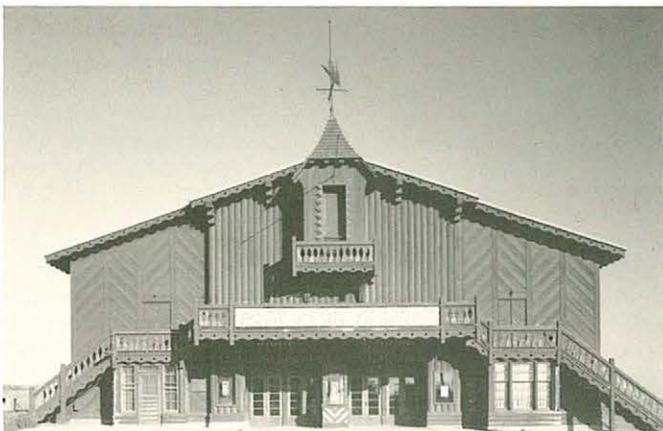
plan layout and style already established in the district. The town has curvilinear streets and a large green in front of the Administration building. The green is surrounded by other public buildings in the manner of a New England town. Landscaped rows of trees make the location an oasis in the midst of the otherwise arid and treeless plains.

As originally intended, only the Administration Building and twelve residences were to be permanent. All other buildings in the town planned for 6,500 residents were to be temporary. Once it was realized that the permanent population would exceed twelve families, however, the Corps decided to maintain many of the public buildings and numerous temporary residences. The temporaries were replaced by permanent buildings in the 1960s, but most of the public buildings survive. Furthermore, many of the temporary structures are scattered over the landscape of northeastern Mont., serving as farm buildings, second homes around the Fort Peck reservoir, and other uses.

In addition to the Administration Building, surviving public buildings include a hotel, the town garage and fire hall, the hospital (which was converted to apartments after construction was complete), the school, a recreation center, and a 1,000+ seat theatre. All are designed in the Swiss Chalet style and exhibit various rustic decorative elements of late Arts-&Crafts movement. The theatre is especially ornate and remains in use as a major cultural center for residents of thousands of square miles in this sparsely populated region.

The Corps transferred all the townsite's buildings (except the Administration Building) to the new town without any preservation easements to protect the NR qualities of the district. This was considered an adverse effect by the Advisory Council on Hist. Pres. In mitigation, the Corps Omaha District has prepared HABS documentation of the townsite, including 4x5 b/w photos, photoreproductions of the original architects' drawings, and a narrative architectural history, which has been contracted to Fred Quivik [SIA] of Renewable Technologies, Inc., of Butte.

The town today has a population of over 100 families and virtually all the household heads work for several federal agencies there. Under Reagan Administration policies, the gov't is ridding itself of federally administered townsites.



NOTES & QUERIES

LANDMARK HAER PROTOCOL SIGNED. A Protocol endorsing the efforts of the National Park Service's Historic American Engineering Record was joined by NPS representatives, the Library of Congress, and the five national engineering societies. The signing occurred March 26 in the Mansfield Room of the U.S. Capitol, and was done in conjunction with the American Society of Civil Engineers' designation of the Capitol as a Civil Engineering Landmark. The driving force behind both events was Neal FitzSimons [SIA].

NEW SHOT GROUP SHOULD INTEREST SIA. At the meeting last Oct. of the Society for the History of Technology, considerable enthusiasm was expressed for the creation of an interest group devoted to the history of civil & structural engineering, architecture & architectural technology, public works, and building construction. The group's organizational meeting will be at the 1987 SHOT conf. (Oct 29-Nov. 1) in Raleigh, N.C., where two conf. sessions will be devoted to the group's area of interest. If interested in being on the program, or just on the group's mailing list, contact Jane Morley, Grad. Fellow, Dept. of History & Soc. of Science, E.F. Smith Hall, U.of Penn., 215 S. 34th St./D6, Phila. PA 19104 (215-898-8400).

Meanwhile, don't forget about SHOT's TEMSIG (Technology Museums Special Interest Group), which publishes a first-rate newsletter, *Artifactory* (\$5/yr, cb IEEE Center for History of Electrical Engng., 345 East 47th St., NY NY 10017).

CONSTRUCTION EQUIP. SOCIETY BUILDS. The Historical Construction Equipment Assoc. is rumbling past its first anniversary, having already begun a quarterly newsletter (*Equipment Echoes*) and held an SIA-style fall meeting in Peoria, complete with tours of the Caterpillar plant and a strip mine. The non-profit HCEA was founded in April 1986 to foster the preservation of the history of all types of construction, surface mining, and dredging equipment, along with associated archives and other materials. Charter members at the inaugural meeting in Mentor, O., took turns at the controls of a restored 1921 Erie crawler steam crane, fitted with clamshell, and did "a super job of digging up owner Chan Bleil's back yard." Among the members are those who own and have restored original equipment. Dues are \$10 US & Canada, \$14 elsewhere. Info.: HCEA, 485 S. Hillside Dr., Canfield OH 55506.

"TRACKS & WHEELS" VIDEO. The American Society of Agricultural Engineers has just released the first in a series of ten video tapes (VHS only) of early farm and construction equipment in action, produced from silent and sound films c1915-1960s, both b/w and color. Included are Caterpillar, Vickers, Fiat, John Deere, Holt, and others, in farming, logging, earthmoving, and construction:

—Tracks & Wheels #1 (902VT187): farming c1938; Vickers tractors c1954; Le Tourneau dozer & scrapers; international farming, mining, logging, earthmoving, c1938; tractors & machines on the farm c1940s.

—Tracks & Wheels #2 (902VT287): first "full-time" tractors c1908; starting & servicing a tractor c1925; tractors & farm machinery on the plains; big earthmovers c1938; combines, manufacture & operation c1943.

Tapes are \$35 each (1.50 P&H per order): ASAE, Dept. 2222, 2950 Niles Rd., St. Joseph MI 49085-9659 (616-429-0300 ext. 41).

OHIO SHPO DIGITIZES. A \$295,000 project to computerize the Ohio Preservation Office's inventory of nearly 77,000 historic places, architectural landmarks, and archeological sites got a \$73,743 startup grant from the George Gund Foundation of Cleveland. When fully funded, the Ohio Historical Society's IBM System 36 computer will be loaded with dates, styles, architects, builders, materials, and other physical and historical features, and they claim that Ohio will be the first state with a readily accessible database of this type. Info.: Richard Francaviglia, OHS, 1985 Velma Ave., Columbus OH 43211.

ARCHIVAL POSTSCRIPT TO SOLVAY SAGA. In the last *SIA*N, Mark DeLawyer [SIA] raised questions about preservation at the Solvay Process Co. quarry. Now comes news that the Solvay Process Co. (Allied Chemical) archives have been opened by the Solvay [N.Y.] Public Library. The collection includes data on the Syracuse Works licensed by the Belgian firm of Solvay et Cie in 1881. The Onondaga County works opened in 1884 and closed last year. The collection includes chemistry and chemical engineering reports, books, periodicals, maps and technical drawings, photos, drawings, pamphlets, advertising, ephemera and memorabilia, biographical material, accounts, and correspondence. Info.: Hans Plambeck, SPL, 615 Woods Rd., Solvay NY 13209 (315-0468-2441)

PRR ARCHIVES REVIEWED. A consortium of repositories has been appraising the 300,000 cubic ft. of records of the Pennsylvania RR and its successor companies: Penn Central and Conrail. Included are the Pa. & N.Y. state archives, Ohio Hist. Soc., N.Y. Public Library, Harvard's Baker Library, Penn. State U., Temple U., and the Hagley Museum & Library. Under direction of a seven-member steering committee, an appraisal archival team has surveyed the records, intending to reduce them to 8-10,000 ft. of historically valuable records, which may be distributed among several institutions.

Midatlantic Archivist

STEAM-POWER UPDATE. The Stationary Engine Society has updated the data form for their Engine Inventory project, which is being coordinated with the Historic American Engineering Record's file of some 380 engines. A sample form is included with the Jan. *SES Newsletter* (details from inventory coordinator Brad Smith, 7574 S. 74th St., Franklin WI 53132). SES will enter the data in a computer database (probably dBASE III+), coordinating formats with HAER and the British Stationary Engine Research Group, aiming at an eventual data exchange.

Meanwhile, why not join SES at a May 13 Open House given by the Stationary Engineering Class of the Bergen County (N.J.) Vocational Technical School where SES member Frank Vopasek teaches steam-power engineering. As the *SES Newsletter* puts it, how many other schools do you know of where reciprocating steam power is still being taught? Info.: Roger L. Robertson [SIA], *SES*N, 3706 Emily St., Kensington MD 20895 (301-942-3507).

INCREDIBLE STEAM IN STEREO. Conrad Milster [SIA] has produced two 90-min. stereo cassette-tapes of the sounds of steam. *Faithfully Yours, Boulton & Watt* features British mill engines driving a variety of plants, from textile mills to rolling mills; pumping engines, from an 1812 single-cylinder beam engine to a massive triple-expansion unit of 1928; marine-paddle engines; colliery hoisting engines with cylinders of 7-ft. stroke; and narrow-gauge locomotives, both rack and adhesion. The second tape, *Full Ahead*, offers the sounds of N.Y. Harbor steamboats during the 1960s, including engines ranging from one-cylinder, non-condensing to four-cylinder, triple expansion. The tape also includes bells, telegraphs, whistles, and other sounds that could be heard in the final days of steam. \$7.50 ea. ppd. from N.Y. Technological Society, 178 Emerson Pl., Brooklyn NY 11205.

"ENGINEERING GEOLOGY as Related to the Study, Preservation & Protection of Ancient Works, Monuments & Historic Sites" is an international symposium of the Int'l Assn. of Engineering Geology, scheduled for Sept. 19-23, 1988, in Athens, Greece. Included are field trips to Greek archeological sites. Info.: Greek Committee of Engng. Geology, 1988 Symposium Secretariat, POB 19140, GR-117 10 Athens, Greece.

HISTORIC MILL SYMPOSIUM, May 22-24, at Colvin Run Mill Historic Site in Gt. Falls, Va., will cover historic mill technology and interpretation. Speakers include architects, archeologists, and hydro-power engineers. The Colvin Run Mill is a modern structure that faithfully follows Oliver Evans' grist-mill specifications. Registration info.: Jeffery Rainey, Site Administrator, CRHMS, 19917 Colvin Run Mill Rd., Gt. Falls VA 22066 (703-759-2771).



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 16 NO. 1

1987

Compiled by Robert M. Vogel & Helena E. Wright,
National Museum of American History

GENERAL SUBJECTS

DEUTSCHES MUSEUM--FÜHRER DURCH DIE SAMMLUNGEN (Deutsches Museum--A Trip through the Collections) The Deutsches Museum/Verlag C.H. Beck (Museum insel, 8000 München 26, Fed. Rep. Germany), 1986. 288 pp. 232 illus. (95 color), 50 plans. Erste-Klasse (first-class) guide to the museum & collections. A model that might well be emulated by the world's other great technical museums.

Keith Falconer & Robin Thornes, INDUSTRIAL ARCHAEOLOGY AND THE RCHME. In *IA Review*, Autumn 1986, pp. 24-36. Survey of the involvement of the Royal Commission of the Historical Monuments of England with IA, starting (very slowly) ca1905, and in the 1970s becoming a major commitment. Good examination of the computerization of listings. (See Giles, below)

Colum Giles & Ian H. Goodall, FRAMING A SURVEY OF TEXTILE MILLS: RCHME'S WEST RIDING EXPERIENCE. In *IA Review*, Autumn 1986, pp. 71-81. Good study of the conduct of a survey: the philosophy and the methodology. Useful model. (See Falconer, above)

Robert S. Harding, REGISTER OF THE WILLIAM J. HAMMER COLLECTION, ca1874-1935, 1955-57. National Museum of American History Archives Center (Washington, DC 20560), 1986. 99 pp., illus. Gratis. Hammer (1858-1934), an early Edison assistant, became a combination publicist for, mainly, the incandescent lighting system worldwide, and unofficial historian of E and his works. Vast collection of H's papers, photos, & other records herein described & listed.

Jane Hatcher, THE INDUSTRIAL ARCHITECTURE OF YORKSHIRE. Phillimore (Chichester), 1985. 178 pp., illus. £ 12.50. Although covering one of England's most important industrialized counties, it is, according to the reviewer (*IA Review*, Autumn 1986, pp. 87-8), heavily flawed. But perhaps as a working guidebook, better than nothing.

Barbara Howe & Emory L. Kemp (SIA), eds., PUBLIC HISTORY: AN INTRODUCTION. Krieger Publ. Co. (Box 9542, Melbourne, FL 32902-9452), 1986. 33 articles on all aspects of PH, inc. "A Perspective on Our Industrial Past through IA," by Kemp. Flyer avail.

Ann D. Keating, et. al., INFRASTRUCTURE & URBAN GROWTH IN THE 19TH CENTURY. Essays in Public Works History No. 14. Public Works Historical Soc. (1313 E. 60th St., Chicago, IL 60637), 1985. 85 pp. \$5.

Thomas Kiernan, THE ROAD TO COLOSSUS: A CELEBRATION OF AMERICAN INGENUITY. Wm. Morrow (NY), 1985. 332 pp., \$16.95. Compact history of American technology and industrial development.

Michael McMahon, comp. THE FRANKLIN INSTITUTE & THE MAKING OF INDUSTRIAL AMERICA. CIS Academic Editions (4520 East-West Hwy., Suite 800-DM, Bethesda, MD 20814), 1987. 500

microfiche sheets, each holding 98 pp. of documentation, with companion printed guide. \$1,345 to 31 July; \$1,560 after. Compilation of verbal & graphic records drawn from the FI's archival collections on the many critical aspects of 19th-c technology they examined. Flyer avail.

Robert C. McMaster, THE ORIGINS OF ELECTROMAGNETIC TESTING. In *Materials Evaluation* 43, July 1985, pp. 946-56. The early origins of electromagnetic, eddy-current, and other electrical methods of non-destructive testing.

Hugh C. Miller (SIA), Lee H. Nelson, & Emogene A. Bevitt, SKILLS DEVELOPMENT PLAN FOR HISTORICAL ARCHITECTS IN THE NATIONAL PARK SERVICE. NPS, Preservation Assistance Div. (Box 37127, Wash DC 20013-7127), 1986. Looseleaf, ca200 pp., Gratis. Guide to the skills needed in the field, & suggestions as to how they may be acquired. Good bibliographies.

Patrick O. Moore, THE DEVELOPMENT OF BOILER INSPECTION, 1866-1947. In *Materials Evaluation* 43, June 1985, pp. 800-805. The reasons for the awful boiler explosions of the 19th c, the means adopted then to avoid them, & the introduction of non-destructive testing methods. Excellent essay.

Hans-Heinrich Müller, ed., PRODUKTIVKRÄFTE IN DEUTSCHLAND: 1870-1917/18. (Productive Power in Germany) Akademie-Verlag (Berlin), 1985. 489 pp., 122 tables, 15 drawings, 13 maps, 153 photos (small folio). Monumental study of production in all major fields: general industry, agriculture, transport, &c. (Part 2 of trilogy: *Geschichte der Produktivkräfte in Deutschland von 1800 bis 1945, 1800-1870 & 1917/18-1945* also available.)

Terry Reynolds (SIA), ed. THE MACHINE IN THE UNIVERSITY: SAMPLE COURSE SYLLABI FOR THE HISTORY OF TECHNOLOGY & TECHNOLOGY STUDIES, 2nd ed. Technology Studies & Education Committee of the Soc. for the Hist. of Technology in cooperation with Science, Technology, & Society Programs of Mich. Tech. U. and Lehigh U. (ST&SP, 327 Maginnes Hall #9, Lehigh Univ., Bethlehem, PA 18105), 1987. 241 pp. \$7.95 (Checks to Lehigh U.) 23 sample course syllabi typifying the broad range of courses in these fields. Can serve as intro to the H of T or as a guide to instructors. Includes also an appendix listing 112 courses. Exceedingly rich & valuable resource containing a volume of information quite astonishing.

_____, 75 YEARS OF PROGRESS--A HISTORY OF THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, 1908-1983. (315 E. 47th St., NYC 10017), 1983. 200 pp. \$20/15.

Dorothy Truman, THE MUSEUM OF AMERICAN TEXTILE HISTORY: ARCHIVAL SOURCES FOR BUSINESS HISTORY. In *Business Hist. Rev.*, Winter 1986, pp. 641-50. Good general description of the non-object resources of the largest & finest collection of papers, literature, and graphic records of the textile & immediately associated industries in the nation and probably the world.

Robert Weible, ed., THE WORLD OF THE INDUSTRIAL REVOLUTION: COMPARATIVE & INTERNATIONAL ASPECTS OF INDUSTRIALIZATION.

Published by the Society for Industrial Archeology Editor: Robert M. Frame III

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Essays from the 1984 Lowell Conference. Museum of American Textile History (800 Massachusetts Ave., North Andover, MA 01845), 1986. 177 pp., illus., \$11.50 Ppd. Excellent series of papers on various aspects of technology, industrialization, labor, &c. Flyer avail. (Combined volume of 1982 & '83 conference papers is \$17.50 Ppd.)

William McKenzie Woodward & Edward F. Sanderson, PROVIDENCE: A CITYWIDE SURVEY OF HISTORIC RESOURCES. Rhode Island Hist. Preservation Comm. (Avail: Prov. Pres. Soc., 24 Meeting St., Providence, RI 02903), 1986. 278 pp., illus., \$14.95. Good general physical history of the city and its architectural resources, with full listing of significant buildings inc. good lot of mills & factories. Many early & contemporary engravings & photos of these.

A. P. Woolrich (SIA), MECHANICAL ARTS & MERCHANDISE: INDUSTRIAL ESPIONAGE AND TRAVELLERS' ACCOUNTS AS A SOURCE FOR TECHNICAL HISTORIANS. De Archaeologische Pers (Zeelesterstraat 147, ML-5652 EE Eindhoven, Netherlands), 1986? 153 pp., 24 illus., \$ 6.25/4.25. Description of the many examples of this in the 18th & 19th Cs, the people, the methods, the part played by gov'ts. in protecting 'secrets', &c. Chapter on the discovery & uses of such diaries & accounts; extensive bibliography.

FERRNER'S JOURNAL: THE TRAVELS OF AN INDUSTRIAL SPY IN BATH & BRISTOL, 1759/1760. De Archaeologische Pers, as above, 1986? 58 pp., 15 illus., \$1.90. Translation of the journal of Bengt Ferrner, a Swede visiting England who took an exceedingly sharp interest in her industries, especially zinc distillation for use in brass mfr, a process kept secret. He bribed, spied, and tried to recruit away workers. Fully annotated, with introduction.

MATERIALS

Richard Burkert (SIA) & George Hand, IRON & STEELMAKING IN THE CONEMAUGH VALLEY. In *Johnstown, the Story of a Unique Valley*, pp. 255-315. Johnstown Flood Museum Assn., (304 Washington St., Johnstown, PA 15901), 1985. 743 pp., illus., \$22.50 Ppd. The book a general description of the region in broadest terms, but with chapters on coal mining and transportation (the Penna. RR) as well as I&S. B&H's article a splendid exposition on the subject in general and the important events at the Cambria Works, still in operation--just.

Roger Burt, THE BRITISH LEAD MINING INDUSTRY. (Dyllansow Turran), 1984. 344 pp., \$10.95. Rev.: *IA Review*.

Thomas Cox, et. al., THIS WELL-WOODED LAND: AMERICANS AND THEIR FORESTS FROM COLONIAL TIMES TO THE PRESENT. U. of Nebraska Pr. (Lincoln), 1985. 342 pp., illus., \$26.95. Highly favorable review (*Oregon Historical Quarterly*, Winter 1986) notes wide coverage and general excellence. Attempts at conservation over time; amount of and reasons for deforestation; usage; & c.

H. W. Dixon, BLOWING OF COPPER IN CONVERTERS AS PRACTICED AT ANACONDA, MONTANA, USA. Archaeologische Pers (See Bibl. Notes, below), 1900/1986(?) 70 pp., illus. \$7.60 (ISBN 906585 2018) Reset reprint of part of 3rd ed. of *Notes on Lead & Copper Smelting & Copper Refining*. Details of process, equipment, & costs, and detailed dwgs.

Patricia Hart & Ivar Nelson, MINING TOWN: THE PHOTOGRAPHIC RECORD OF T. N. BARNARD & NELLIE STOCKBRIDGE FROM THE COEUR D'ALENES. U. of Wash Pr. for the Idaho Hist. Soc. (Seattle), 1984. 179 pp., illus. \$24.95. Photographic record of the region that started with a gold boom thru the 1880s and settled down to silver: from the start to WW I. All is based on the negative colln. at the U of I Library. Good rev. by Larry Lankton (SIA) in *Technology & Culture*, Oct. '86.

Margaret Hindle Hazen & Robert M. Hazen, WEALTH INEXHAUSTIBLE: A HISTORY OF AMERICA'S MINERAL INDUSTRIES TO 1850. Van Nostrand Reinhold (NYC), 1985. 457 pp., illus., \$42.50. Essays on the location, extraction, uses, and economic importance of the major and minor minerals, from coal and iron down to clay, salt, & stone. Favorable, full review in *IA* 12:2, 1986, pp. 72-3.

Duncan McDowall, STEEL AT THE SAULT: FRANCIS H. CLERGEUE, SIR JAMES DUNN, & THE ALGOMA STEEL CORP., 1901-1956. U. of Toronto Pr., 1984. 326 pp. \$35. An ill-starred firm that eventually pulled out largely on account of generous govt. subsidies. Rev.: *Business History Rev.*, Autumn 1986.

Peter M. Molloy (SIA), THE HISTORY OF METAL MINING & METALLURGY: AN ANNOTATED BIBLIOGRAPHY. Garland Pub. Co. (NY), 1986. 319 pp., \$55. Covers 19th & 20th C secondary works on mining, smelting, & refining. In Garland's excellent history of technology series, R. P. Multhauf (SIA) ed.

Richard E. Moore, THE SILVER KING: ED SCHIEFFELIN, PROSPECTOR. In *Oregon Historical Quarterly*, Winter 1986, pp. 367-87, illus. (1230 SW Park Ave., Portland, OR 97205) Late 19th-C prospector in OR; his ups & downs.

Otfried Wagenbreth & Eberhard Wächtler, eds., DER FREIBERGER BERGBAU: TECHNISCHE DENKMALE & GESCHICHTE. (The Mines of Freiberg: Technological Monuments & History) VEB Deutscher Verlag für Grundstoffindustrie (Leipzig), 1985. 382 pp., illus. Fine account of metalliferous mining in the Freiberg region, all periods. Wonderful diagrams of hoisting & pumping machinery; sections thru mines; maps; &c. Good lot of photos of surviving IA.

W. A. Waiser, "DREDGERS": RESEARCHING THE LIFE & TIMES OF CANADIAN NO. 4. In *Archivaria* (Journal of the Canadian Archivists) No. 22, Summer 1986, pp. 136-146. Wonderful account of research on one of the great "dryland dredges" used to extract gold from the alluvial gravels of the Klondike during the first half or so of the 20th C.

MISC. INDUSTRIES

R. Lee Burton, CANNERIES OF THE EASTERN SHORE. Tidewater Publ. (Centreville, MD 21617), 1986. 206 pp., illus. \$22.95. Largely economic history of the vegetable-canning industries once thriving along Chesapeake Bay's Eastern Shore. Unfootnoted but solid annotated bibliography on canning generally. Useful chapters on collecting canning artifacts--tokens paid tomato peelers, box stencils, labels. Good example of a regional industrial history although weak on the technology.

John R. Harris, MICHAEL ALCOCK AND THE TRANSFER OF BIRMINGHAM TECHNOLOGY TO FRANCE BEFORE THE REVOLUTION. In *The Journal of European Economic History* (Rome), Spring 1986, pp. 8-57. Both small hardware & steel; the vicissitudes of international transfer--probably harder then.

A. Heerding (Derek Jordan, Jr.), THE HISTORY OF N.V. PHILIP'S GLOEILAMPENFABRIEKEN. VOL I: THE ORIGIN OF THE DUTCH INCANDESCENT LAMP INDUSTRY. Cambridge U. Pr. (NY), 1986. 357 pp., 60 plates. \$47.50. The first of a projected 3-vol. history of a major multinational; covers the early economic and technological development of the Dutch electrical industry prior to the founding of Philips in 1891, and the basis of the firm in business and gas lighting.

Mary Ellen Huls, AUTOMOBILE FACTORIES: A BIBLIOGRAPHY, and TEXTILE MILLS: A BIBLIOGRAPHY OF THEIR HISTORY & REUSE. (Nos. A-1717 & 1718). Vance Bibliographies (Box 229, Monticello, IL 61856), Dec. 1986. Each 5 pp. and \$3.00.

Eric Johnson, PEAVEY MANUFACTURING CO. ENJOYS A RICH HISTORY & BRIGHT FUTURE. In *Northern Logger & Timber Processor* 34 (June 1986): 8-9. Traces the firm from its development of the peavey (an educated cant hook) to its present operation as a sawmill, all in Maine.

Terry S. Reynolds (SIA), DEFINING PROFESSIONAL BOUNDARIES: CHEMICAL ENGINEERING IN THE EARLY 20th CENTURY. In *Technology & Culture*, October 1986, pp. 694-716.

THE STORY OF HARDWOOD PLYWOOD. Hardwood Plywood Mfr's. Assn. (1825 Michael Faraday Dr., Reston, VA), 1986. 11 pp. Gratis. Development, manufacturing processes, uses.

Jon M. Williams & Daniel Muir, CORPORATE IMAGES: PHOTOGRAPHY & THE DU PONT COMPANY 1865-1972. Hagley Museum & Library (Box 3630, Wilmington, DE 19807), 1984. 72 pp., illus. \$6.50 Ppd. The use of photography by DP and check list of the most important of the collections.

RAILROADS

Richard Francaviglia (SIA), STREETCARS TO THE SMELTERS: A HISTORICAL OVERVIEW OF THE DOUGLAS STREET RYS., 1902-1924. In *The Cochise Quart.*, Spring 1986. (Cochise Co. Historical & Archeological Society, Douglas, AZ.)

Eugene Huddleston, THE WORLD'S GREATEST MALLETS! Chesapeake & Ohio Historical Soc. Book Dept. (2450 Knob Hill Dr., Dubuque, IA 52001), 1986. 48 pp., illus. \$7.95 Ppd. Complete history of the two most powerful steam locomotives of all time (!?): the C&O's Allegheny and the Norfolk & Western's Class A. Many photos + interesting comparative tables and drawings.

Donald M. Itzkoff, OFF THE TRACK: THE DECLINE OF THE INTER-CITY PASSENGER TRAIN IN THE U.S. Greenwood Pr. (Westport, CT), 1985. 164 pp. \$28.95. Short but insightful history of long-distance passenger train service from 1900 to the 1980s, with main focus on the 1940s & '50s. Discusses management's preference for freight, & other problems; excellent summary of the literature on the subject. Rev.: *Business History Review*, Winter 1986.

Edward A. Lewis, AMERICAN SHORTLINE RAILWAY GUIDE. Kalmbach Publ. Co. (1027 N. 7th St., Milwaukee, WI 53233), 1986. 240 pp., illus. \$12.95. Facts, figures, locomotive rosters of 404 U.S. shortlines: description, brief history, address, miles of operation, &c. &c. Update of 1978 edition.

A RAILFAN'S GUIDE TO EASTERN MASS. & RHODE ISLAND. Bay RR Enthusiasts (Box 360, Babson Park, MA 02157), 1987. 24 x 36 foldout sheet with map of the region showing all extant rail lines. On reverse: list of all passenger services; surviving stations & other structures; MBTA rapid-transit lines, &c. \$3.75.

Malcolm Rosholt, TRAINS OF WISCONSIN. Rosholt House (Box 104, Rosholt, WI 54473), cal985. 176 pp., illus. \$30.95 Ppd.

Charles W. Turner, Thomas W. Dixon, Jr (SIA), & Eugene Huddleston, CHESSIE'S ROAD. Chesapeake & Ohio Historical Soc. Books Dept (As Huddleston, above), 1986. 2nd edn. (1st in 1955), with additions, nearly doubling original. 310 pp., illus. \$29.95. History of the C&O Ry since 1836; the merger with the B&O; the Pere Marquette; and more.

WATER TRANSPORT

Norman Brouwer, INTERNATIONAL REGISTER OF HISTORIC SHIPS. National Maritime Historical Soc. (132 Maple St., Croton-on-Hudson, NY 10520), 1985. 368 pp., illus. \$31.70 Ppd. (\$32.45 foreign). Lists over 700 vessels, each with photo and all the essential data.

Duncan Haws & Alex A. Hurst, THE MARITIME HISTORY OF THE WORLD. NMHS (As Brouwer, above), 1986. 2 vols., 960 pp., 31 maps, 200 illus (62 color), 100-p. index. \$139.50 (\$142.50 foreign). Formidable coverage of all aspects of the sea, including battles, maritime technology, &c. &c. Arranged chronologically.

Les Strang, Jacques, CARGO CARRIERS OF THE GREAT LAKES. Harbor House (221 Water St., Boyne City, MI 49712). \$9.50. History of the great variety of Lake boats, from the dugout to the present.

_____, THE GREAT LAKES-ST. LAWRENCE SYSTEM. (Harbor House (As above), cal986. \$15/12 bilingual; \$6. English only (paper). The entire range of the combined waterway: ships, ports, &c. Many fine color photographs.

_____, SEAWAY. Harbor House (As above). \$19.95/8.50. 300 photos. History of the St. Lawrence Seaway, opened in 1959, which spawned some 50 new US and Canadian ports.

Julian Parton, THE DEATH OF A GREAT COMPANY (Lehigh Coal & Navigation Co.). Center for Canal History & Technology (Box 877, Easton, PA 18042), 1986. \$9.54 Ppd.

Edward S. Warner, THE LAKE ERIE SCHOONER TRADE IN 1838: 26 DAYS ABOARD THE WYANDOT. In *Inland Seas*, Fall 1986, pp. 184-88. (480 Main St., Vermilion, OH 44089). Taken from the W's log as reflecting typical conditions of the time.

STRUCTURE

Robert J. Blancato, RADIOGRAPHY FINDS "BROKEN BONES" IN CAPE HATTERAS LIGHTHOUSE. In *Materials Evaluation*, March 1980, pp. 13-15. Examination of the cast-iron upper structure of the brick shaft by non-destructive testing.

Linda Gilbert Cooper (ed.), A WALKER'S GUIDE TO THE OLD CROTON AQUEDUCT. NY State Office of Parks, Recreation, & Historic Preservation, Taconic Region (Staatsburg, NY 12580), 1987. 20 pp., illus. Gratis. Fine account of the inception, design, and construction of one of the 19th-C's most important civil-engineering works, which supplied New York with water (1842). Out of service but much of it survives, including High Bridge and other structures. Most are accessible by foot, an interesting and informative experience made all the more so by this booklet. Maps and other instructions for finding and understanding the principal features of the work.

John Fitchen, BUILDING CONSTRUCTION BEFORE MECHANIZATION. MIT Pr. (Cambridge, MA/London), 1986. 326 pp., illus. \$25. Interesting study of the means for erecting buildings and other large structures: dikes, dams, bridges, earthen fortifications--all structures, all times, all places--before powered machinery, mathematical data, or even the records of prior techniques were available.

Rheba Massey & Rick Ewig, WYOMING'S TRUSS BRIDGES. In *Annals of Wyoming*, Fall, 1986, pp. 46-54. A number of these survive, including the first, a King Iron Bridge Co. bowstring truss of 1875.

R.M. Monti & Joseph M. Eglot, TUNNEL CEILING REPLACED OVER TRAFFIC. In *Civil Engineering*, June 1986, pp. 80-83. Replacement of Holland Tunnel ceiling and Lincoln Tunnel floor.

Dwight Smith, HISTORIC HIGHWAY BRIDGES OF OREGON. Oregon Dept. of Transport. (Avail: 3 State Dept. Bldg., Salem 97310), 1986. \$10. A state survey of 70 pre-WW-II spans, from 42 timber bridges to the 26 on the 55-mile Columbia River George Historic Highway. All have been declared eligible for the National Register. In danger, however, are the 13 concrete structures on scenic coastal Route 101, built in the 1920s and not covered by the survey.

Norbury L. Wayman, ST. LOUIS UNION STATION. The Evelyn E. Newman Group (40 N. Kings Highway, St. Louis, MO 63108), 1986. 111 pp., illus. \$9.95. The entire history of what once was the largest station in the world (in 1920 93,000+ trains--269/day, not commuter!!) from construction in the 1890s to the present re-use scheme with hotel, shops, &c. Also a full rundown on all the RRs that served St. L.

William Bruce Wheeler & Michael J. McDonald, TVA & THE TELLICO DAM: A BUREAUCRATIC CRISIS IN POST-INDUSTRIAL AMERICA. U. of Tennessee Pr. (Knoxville), 1986. 290 pp. The controversies surrounding Tellico (completed in 1979; planned since 1936) as a window on the workings of TVA at various periods in its first half century.

ENERGY & POWER

David H. Breen, WILLIAM STEWART HERRON: FATHER OF THE PETROLEUM INDUSTRY IN ALBERTA. Hist. Soc. of Alberta (Calgary, Alberta, Canada), 1984. 359 pp. \$19.95 Can. Book of documents with intro. by Breen tells the story of Herron's melodramatic career, from his initial faith in the location of his strike, through painful negotiation and losses of mineral rights, to dramatic death on the rig. Rev.: *Business Hist. Rev.*, Autumn '85.

Arthur L. Donovan (SIA), ed., MATERIAL & SOCIETY, VOL. 7, Nos. 3 & 4: ENERGY IN AMERICAN HISTORY. Pergamon Pr. (Elmsford, NY), 1983. Pp. 243-487. \$55. Series of 22 essays based on a conference, treating the energy crisis that began in 1973. Rev.: *Technology & Culture*, Oct. '86.

Dave Engel, THE AGE OF PAPER: CONSOLIDATION OF THE WATER POWER AT WISCONSIN RAPIDS, 1886-1904. Publ. unknown (Wisconsin Rapids), 1986. (Avail: River City Memoirs, 5597 Third Ave., Rudolph, WI 54475) 115 pp., illus. \$15.95 Ppd. History of building Consolidated Papers, Inc.

Gilbert Gude, *WHERE THE POTOMAC BEGINS: A HISTORY OF THE NORTH BRANCH VALLEY*. Seven Locks Pr. (Cabin John, MD & Washington, DC), 1984. 187 pp., illus. \$18.95 The upper reaches of the Potomac in Western Maryland and W Va; the land and its formation, especially the coal, coal towns now deserted, and their people. Good selection of Farm Security Admin. photos of 1939.

Jan Kubicki, *BREAKER BOYS*. Atlantic Monthly Pr. (NY), 1986 (?). 390 pp. \$17.95. Novel of life in the anthracite town of Jeddo, Pa. centered on the Morgan family & young Euan who, of course, works in the breaker picking slate. Says the review, a gripping saga of unionism, brutality, and complicated labor and personal relationships. Said well researched. Review (*Wash. Post*) generally favorable but she gets a little picky when she compares poor old Kubicki to Dickens. Sounds good. Nothing wrong with IA in literature. (But why is it impoverished and exploited coal miners most of the time?)

William McCook, *WINDMILLS OF THE WORLD*. Author (41 Grace St., Springvale 3171, Victoria, Australia). 109 pp., 300 illus. \$18 (US) PPD. (Airmail \$6 add'l) Mechanical details and historical narrative. (The extent of our information, sorry) (Sounds good.) (What's \$18 these days anyway?) (But. . . will it all be printed upside down?)

William A. Myers, *IRON MEN & COPPER WIRES: A CENTENNIAL HISTORY OF THE SOUTHERN CALIFORNIA EDISON CO.* Trans-Anglo Books (Interurban Pr., Glendale, CA), 1983. 256 pp., illus. \$15.05 PPD. Popular but solid history, Rev. by Donald Jackson (SIA), *Technology & Culture*, Oct. '86.

Jacques Payen, *TECHNOLOGIE DE L'ENERGIE VAPEUR EN FRANCE DANS LA PREMIERE MOITIE DU XIX^e SIECLE: LA MACHINE A VAPEUR FIXE*. Comite des Travaux Historiques & Scientifiques (Paris), 1985. (Order from: La Documentation francaise, 29-31 quai Voltaire, 75340 PARIS Cedex 07) 215 pp., illus., 220 Fr. + postage. Said to be excellent exposition on the history of the stationary steam engine. (Not seen.)

SHAWINIGAN: UN CENTRE D'INTERPRETATION DE LA TECHNOLOGIE. Hydro Quebec Dept. of Information (75 Dorchester St. W., Montreal, PQ, H2Z 1A4), 1983. 22 pp., illus. Gratis. Interesting prospectus and history of the great hydro-electric plant built by the Northern Aluminum Co. at Shawinigan Falls in 1900, and now to be made into a museum and interpretive center of hydroelectric technology by its present owner, Hydro Quebec. Very good presentation of an admirable plan.

Donald E. Thomas, Jr., *DIESEL: TECHNOLOGY & SOCIETY IN INDUSTRIAL GERMANY*. U. of Alabama Pr. (Tuscaloosa, 35487), 1987. 279 pp. First biography of D. since that by son Eugen (1937) and first in English. Detailed study of man and engine in the context of the social and technological milieu in which he worked.

SOCIAL & LABOR HISTORY

Marjorie Ruzich Abel, *PROFILES OF 19th-C WORKING WOMEN*. In *Historical Journal of Massachusetts*, Jan. 1986, pp. 43-52. Primary focus is relationship between household and factory work and the economic role of women in the Connecticut Valley.

Raymond Boryczka and Loris Lee Cary, *NO STRENGTH WITHOUT UNION: AN ILLUS. HISTORY OF OHIO WORKERS, 1803-1980*. Ohio Hist. Soc. (1982 Velma Ave., Columbus 43211), 1986. 328 pp., 500 illus. Traces Ohio's role in transformation of American society from agrarian to urban-industrial. Focuses on workers' experiences with mechanization, unionization, health and safety, housing & recreation.

Martin Brown and Peter Philips, *THE DECLINE OF THE PIECE-RATE SYSTEM IN CALIFORNIA CANNING: TECHNOLOGICAL INNOVATION, LABOR MANAGEMENT, AND UNION PRESSURE, 1890-1947*. In *Business History Review*, Winter 1986, pp. 564-601.

FIELD AND FOUNDRY: A WORKING CONTRAST. Museum of Our National Heritage (Box 519, Lexington, MA 02173), 1987. 16 pp., 14 B & W photos. 56 PPD. Contrasts rural, Southern agricultural life with urban, Northern, industrial. Stunning photos of La. sugar fields and processing plus Ct. brass industry. Based on exhibit with photos by Debbie F. Caffery (La.) and Charles Reich (Ct.), with essay by Alan Trachtenberg.

Dennis Hoffman & Vincent J. Webb, *POLICE RESPONSE TO LABOR RADICALISM IN PORTLAND & SEATTLE, 1913-19*. In *Oregon Historical Quarterly*, Winter 1986, pp. 340-66. Illus.

Hartmut Keil & John B. Jentz (eds.) *GERMAN WORKERS IN INDUSTRIAL CHICAGO, 1850-1910: A COMPARATIVE PERSPECTIVE*. Northern Illinois U. Pr. (DeKalb), 1983. 252 pp. illus. \$22.50. Essays from a conference, the principal theme the diversity among the workers, from low to high skills. Many of course were skilled in the wood and metal trades and much emphasis on these. Full rev. IA. 12:2, 1986.

Bryan D. Palmer, *WORKING CLASS EXPERIENCE: THE RISE & RECONSTITUTION OF CANADIAN LABOUR, 1800-1980*. Butterworth & Co. (Toronto), 1983. 298 pp. \$23. Broad history of labor in Canada. Favorable rev. *Business History Rev.*, Summer 1986.

Ian Walter Radforth, *BUSHWORKERS & BOSSES: A SOCIAL HISTORY OF THE NORTHERN ONTARIO LOGGING INDUSTRY, 1900-1980*. NYU Press (NY, NY) 1985.

P. Andre Sevigny, *THE WORK FORCE OF THE RICHILIEU RIVER CANALS, 1843-1950*. (Canadian Govt. Publ. Centre, Supply & Services Canada, Hull, PQ, K1A 0S9), 1983. 134 pp. \$7.50 Can. Principally the labor problems in staffing and maintaining the workforce on the Chambly Canal and related waterways.

Cynthia J. Shelton, *THE MILLS OF MANAYUNK: INDUSTRIALIZATION & SOCIAL CONFLICT IN THE PHILADELPHIA REGION, 1787-1837*. Johns Hopkins U. Pr. (Baltimore, MD 21211), 1986. \$26.50. Role of British immigrants who brought skills and political values different from New England's native-born textile workers discussed in context of conflicts between owners and operatives.

Robert Slayton, *BACK OF THE YARDS: THE MAKING OF A LOCAL DEMOCRACY*. U. of Chicago Pr. (5801 S. Ellis Ave., Chicago IL 60637), 1986. 278 pp. \$22.00. Model community history of working-class neighborhood. Uses oral interviews for authentic portrait of stockyard workers.

Robert Zussman, *MECHANICS OF THE MIDDLE CLASS: WORK & POLITICS AMONG AMERICAN ENGINEERS*. U. of Calif. Pr. (Berkeley & L. A.), 1985. 269 pp., \$27.50. Based on site observations and interviews with 80 engineers in the metal-working and electronics industries.

BIBLIOGRAPHIC NOTES

IA BOOKS &c FOR SALE. Large collection of books, trade catalogues, & periodicals is available. The FIRST LIST--20 pp--now out with at least 2 more to follow. RRs, steam engines, steam boats, wind & water power, model engineering, electricity, science, math, mfg., etc. \$1.00 to Robert L. Johnson (SIA), Route 1, Box 265-A, Rossville, GA 30741.

RAILROAD VIDEOS. List of about 65, apparently transferred from a wide variety of RR films of all types and ages, from Keaton's immortal *The General* to WW II documentaries. Traction, steam, diesels, the lot! Lots of action, lots of steam (*Thunder of Steam in the Blue Ridge*, fans!) Prices from \$20 to \$55, depending on length, period, & thrill quotient. Full 80-pp catalogue of tapes & books \$2.50 PPD (refundable w/order): JMC Sourcebook, 1025 Industrial Drive, Bensenville, IL 60106-1297.

DE ARCHAEOLOGISCHE PERS (Zeelsterstr. 147, NL-5652 EE Eindhoven, The Netherlands), publishers of history of technology books, offers a wide range of material on IA, H of T, and in particular, a number of reprints of important early works in metallurgy, all European, 19th C. Some really wonderful things here, in English. Catalog available. (All prices in £ sterling; agitate them for \$ pricing as well.)

THE GREAT LAKES BOOKSHELF. Harbor House (221 Water St., Boyne City, MI 49712) publishes a small but select collection of books on many aspects of shipping on the Lakes. Descriptive folder available. They publish also *Seaway Review*, a quarterly of the Lakes and Seaway, full of color. \$5 per issue; \$20 per year.

NOTES & QUERIES

IA EFFORTS HONORED BY TRUST. Several notable works of IA interest are among 16 Preservation Honor Awards for 1986 made by the National Trust for Historic Preservation. Included are:

—Howard Newlon, Jr. [SIA], for his preservation plan for Virginia's historic bridges. Bridge historians from coast to coast are forever indebted to Newlon for his pioneering metal-truss bridge work which resulted in the series of survey reports by the Va. Hwy. Dept. (Nor will we forget his research in reinforced concrete.)

—Beyer-Blinder-Belle, N.Y.C., for the restoration of three cast-iron arch bridges in Central Park [HAER], and their surrounding landscapes. Designed by Jacob Wrey Mould, the bridges were major elements in Frederick Law Olmsted's plan.

—Meredith & Grew, Inc., for restoration of the Art Deco United Shoe Machinery headquarters building (1929) in Boston.

—Upper Illinois Valley Assoc. for renewal of the 120-mile-long Illinois & Michigan Canal National Heritage Corridor [HAER]. The UIVA was formed in 1982 to promote revitalization of the area by combining economic development and preservation. The Corridor was established by Congress in 1984.

“PRESERVATION OF BLACK & WHITE PHOTOGRAPHS” is a workshop for curators, archivists, and conservators, Aug. 16-20 at the Rochester Inst. of Tech., concentrating on the identification of 19th- & 20th-C image-forming processes, appropriate b/w photo storage & handling procedures, and safe duplication of prints and negatives. The faculty is drawn from Eastman Kodak Research Lab., George Eastman House, the Image Permanence Inst., National Archives, and the Canadian Center for Architecture. Special workshops in RIT's darkroom labs follow the regular program. Registration is \$495; enrollment is limited. Info.: RIT/T&E Seminar Center, 1 Lomb Memorial Dr., Rochester NY 14623.

“SOCIETY FOR THE HISTORY OF MEDIAEVAL TECHNOLOGY & SCIENCE” has been founded in Britain following the formation of the Assoc. Villard de Honnecourt in France. The inaugural meeting was held in Oxford last Nov. Info.: Geoffrey Hindley, 32 Stile Rd., Headington, Oxford OX3 8AQ, England.

SUMMER PRESERVATION WORKSHOPS have been scheduled by the non-profit Campbell Center for Historic Preservation Studies. Four series are Museum Collections, Furniture Conservation, Architecture Preservation, and Interdisciplinary Studies. A series includes a number of different workshops, lasting from two to five days each, taught by visiting faculty. Of interest to SIA members might be “Measuring & Recording Historic Buildings,” “Rehabilitation of Wooden Structures,” “Structural Stabilization of Historic Buildings,” “Masonry Conservation: Cleaning & Repair,” a course on the history, technology, and repair of concrete structures, and overviews of National Register & hist. pres. basics (taught by Keith Sculle [SIA]). Info.: Campbell Center, POB 66, Mt. Carroll IL 61053.

A TEFLON SILVER ANNIV. This year the LPF Corp. celebrates the 25th anniv. of its Happy Pan of 1961, the first Teflon-coated cookware to be produced in the U.S. Marion Trozzolo, LPF Corp. founder, has donated one of the first Happy Pans to the Smithsonian Inst. As part of the celebration, Trozzolo is putting a \$10,000 Teflon coat on the cast-iron fence around Harry Truman's house in Independence, Mo., at no cost to the National Park Service. The project grew out of an invitation to bid on a paint job for the fence, which had suffered rust. Teflon was developed more than 50 years ago by E.I. duPont de Nemours & Co. In 1956 Trozzolo began producing plastic-coated scientific utensils, including a Teflon-coated magnetic stirring rod.

MORE IA VISUALS FOR TROY. Troy, N.Y., audiovisual producer James Bleecker has prepared a new show, “Where Water Ignited a Revolution . . . the Story of Riverspark,” for one of N.Y.'s 14 Urban Cultural Parks. The six-projector, quadrasonic, stereo multi-image slide show tells the story of the use of waterpower in iron and textile production in the Hudson-Mohawk region. It will be the centerpiece of the downtown Troy visitor center, but also will be available on video cassette. Bleecker describes the sensory effects: “Through a summer of ear-splitting sessions we synthesized a monstrous chorus of machine ‘voices.’ These we synchronized to my six-projector animation of still-operating 19th-C factories, intercut with old photos of workers. The resulting effect, with machinery reeling on the screen and four track sound sweeping over the theater is industrial Pandemonium.” Info.: J.S. Bleecker, 59-2nd St., Troy NY 12180 (518-272-0191).

D.L.S.

AVAILABLE

GOOD BOOKS, CHEAP. MIT Press is having a “moving sale” until June 30 on titles in industrial design, architecture, and the history of science and technology, all at 20-80% off. Catalog avail. from MIT Press, 55 Hayward St., Cambridge MA 02142.

HABS/HAER Pubs, FREE. HABS/HAER Chief Robert Kapsch [SIA] reports that extra copies of Terry Reynolds' [SIA] *Sault Ste. Marie: A Project Report* (132 pp., 1982), and the HABS/HAER *FY 1986 Annual Report* (34 pp.) are available free to SIA members. The Reynolds study is a first-rate, illus. history of the Michigan Lake Superior Power Plant, which was designed to combine a mammoth electric power plant with a calcium-carbide mfg. process, within a single building. Copies from Jean Yearby, Pubs. Specialist, HABS/HAER Div., NPS, POB 37127, Wash. DC 20013-7127.

A GUIDE TO WIS. CHEESE FACTORY OUTLETS & TOURS is a handy IA addition to your auto's glove compartment when traveling in the Midwest. The brochure lists the location, mail-order, and process-tour info. for 70 cheese factories in the Dairy State. Also noted are the Hoard Museum & Dairy Exhibit in Ft. Atkinson, the U. of Wis. dairy plant in Madison where visitors can view milk bottling and ice cream and cheese production, and other specialized industrial and historic sites. A companion piece is *Let's Go Wine Tasting In Wis.*, a guide to state wineries. Both avail. free from Wis. Dept. of Agriculture, 801 W. Badger Rd., POB 8911, Madison WI 53708.

“BREWERY ARCHITECTURE IN PA.” is a poster-size collage of photos taken 1980-87 of some 30 extant brewery structures in Phila., Pittsburgh, Wilkes Barre, Scranton, Erie, Norristown, Allentown, Oil City, Kittanning, and others. The work results from brewery field trips of Rich Wagner and Rich Dochter [SIAN Fall/Winter 84:8]. Avail. for \$7 ppd. (checks payable to “Soy World”) from Poster, POB 22, Lock Haven PA 17745.

WANTED

WHETSTONE & SCYTHSTONE MFG. info. is sought on this rural industry which flourished in the 19th C. in Delaware Co., Pa., where a whetstone factory was excavated recently. Of particular interest are contemporary accounts of the mfg. process and any trade catalogs illustrating the range of products. Contact Michael Parrington, Principal Archeologist, John Milner Assocs., 1133 Arch St., 8th Fl., Phila. PA 19107 (215-561-7637).

SANTA FE'S SURF LINE. Info. (history, photos, timetables) is wanted about this line, esp. WWII and pre-Amtrak passenger operations, for M.A. thesis. Contact Jeff Schultz, 4621 Iowa St., San Diego CA 92116.

ROUNDHOUSE. Want to acquire a roundhouse, c1890-1910, brick or stone, 3-6 stalls, 65-85 ft. length. Contact John Scott, The Edison Inst., 20900 Oakwood Blvd., Dearborn MI 48121.

EXHIBITS

"IMPULSE & REACTION: WATERPOWER ON THE BRANDY-WINE," an exhibit produced by U. of Del. "exhibition of artifacts" students, continues through Sept. 7 (Labor Day) at Hagley's Henry Clay Mill. It traces the waterpower technology employed in the Hagley yards and along the Brandywine during the 19th C. Featured are interactive games and demonstrations illustrating waterwheels, water turbines, and horsepower. Info.: Jill A. MacKenzie, Hagley Museum & Library, POB 3530, Wilmington DE 19807 (302-658-2400 ext. 238).

"EDISON AFTER THE ELECTRIC LIGHT: The Challenge of Success" uses photographs to tell the story of the inventor's years after 1887 at his new laboratory in West Orange, N.J. The exhibit closes with the 1929 celebrations, orchestrated by Henry Ford, of "Light's Golden Jubilee." This travelling exhibit will be at the National Atomic Museum, Albuquerque, N.M., from May 9 through June 21. Scheduling inquiries should be sent to Wendy Pollock, Travelling Exhibition Service, Assoc. of Science Technology Centers, 1413 K St. NW, 10th Fl., Wash. DC 20005 (202-371-1171).

Artifactory

"BRIDGING THE CENTURY: Images of Bridges from the Hirshhorn Museum & Sculpture Garden," drawn entirely from the museum's permanent collection, traces the use of the bridge in American art as both a symbol for modernity and a metaphor for the past. Included are 37 paintings, drawings, and photos from the late 19th to mid-20th C by 29 artists. N.Y.'s Brooklyn, Queensboro, and Williamsburg bridges, the footbridges of Venice, a rwy. viaduct in Cornwall, England, a causeway in Fla., and the ancient arch bridges of Paris are among the diverse structures envisioned and interpreted.

The exhibit's earliest works are romanticized bridge images by Winslow Homer, James McNeill Whistler, Alvin Langdon Coburn, and others who were attracted to the structure's picturesque qualities. Works by Joseph Stella, Louis Lozowick, Ralston Crawford, and other pioneer modernists show the bridge as a powerful symbol for the machine age. The bridge's sociological and psychological dimensions are reflected in a variety of later works by Nicholas de Stael, Henry Koerner, Jack Tworckov, and others. Curator Judith Zilczer, who organized the exhibit, is lecturing on "The Bridge as Symbol & Metaphor" on April 29. The exhibit continues through May 24, 10-5:30 Mon.-Sun., no charge. Info.: J. Zilczer, Hirshhorn Museum, Smithsonian Inst., Independence at 8th St. NW, Wash. DC 20560 (202-357-1618).

"THE MACHINE AGE IN AMERICA, 1918-1941" is an exhibit organized by the Brooklyn Museum, and represents the mechanical elements of design in a wide range of objects, such as automobiles, appliances, skyscrapers, bridges, and dams. It will be on view through June 28 at the Carnegie Museum of Art, Pittsburgh, and then travels to the Los Angeles County Museum (Aug. 16-Oct. 18) and the High Museum in Atlanta (Dec. 1-Feb. 14, 1988).

H.E.W.

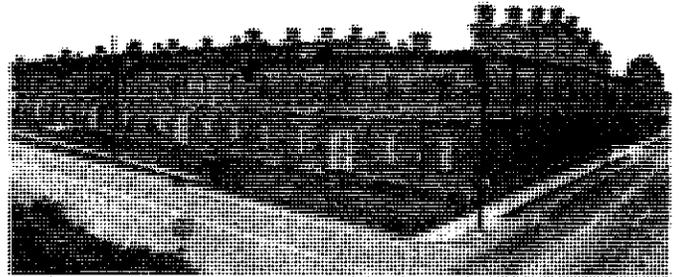
"HIGH IRON" is a series of three exhibits in Lima, Ohio:

—**"High Iron through Lima: The Railroad Right of Way Shapes the Community,"** runs through May 2 at the Barr Hotel (Mon.-Fri., 10-4; Sat.-Sun., 1-4).

—**"The Trolley & Interurban Connection,"** runs through May 2 at the Lima Municipal Building (Mon.-Fri., 10-5).

—**"Lima & the Lima Locomotive Works,"** May 17 through June 14, Crouse Hall lobby, Veterans Memorial Civic & Convention Center (noon-3, 7 days a week). The exhibit opens on May 17 with a symposium at 3 p.m. featuring John Stilgoe, John Keller (Lima RR historian), and Eric Hirsimaki.

"REMAKING AMERICA: NEW USES, OLD PLACES," a traveling exhibit from the Smithsonian, will be on view June 20-July 19 at Spencer Shops State Historic Site, 411 S. Salisbury Ave., Spencer, N.C. The exhibit, sponsored by the N.Y. Landmarks Conservancy and touring some 15 cities through Summer 1988, is comprised of 50 panels of vintage and contemporary photographs and text. Adaptive use examples include a c1900 Durham, N.C., tobacco warehouse (now "Brightleaf Square," an open-air shopping complex), the 1894 St. Louis



1978 view of Durham, N.C., warehouses (today "Brightleaf Sq."), used for storage and aging of cigarette tobacco. Only 10 of the 72 brick chimneys are ornamental. Photo courtesy Spencer Shops.

Union Station, Sloss Furnaces in Birmingham, Ala., the Danbury [Conn.] Mill, Tivoli Union Brewing Co. in Denver, and Rockingham Canal House in Bellow Falls, Vt. A special pre-exhibit show at Spencer on June 19 will feature the slide-lecture program "Remaking North Carolina," a viewing of the SIA-produced film *Working Places*, and a new videotape, *Good To Be Home*, on the conversion of Nashville's Union Station into a luxury hotel. The 57-acre Spencer Shops complex [see *SIA* Spring-Summer 83:10-11; visited on the 1980 SIA Fall Tour] was the Southern Rwy.'s most significant railroad repair and staging facility. It now houses the state transportation museum. Open Mon.-Sat. 9-5, Sun. 1-5 (704-636-2889).

New Award Is Great News for Exhibits

In establishing its important new Dibner Award, the Society for the History of Technology has helped take the exhibit out of the scholarly closet. Funded by contributions from the Charles Edison Fund and from Bern Dibner, the award is intended to recognize excellence in museum exhibits that explore the interactions of technology and culture.

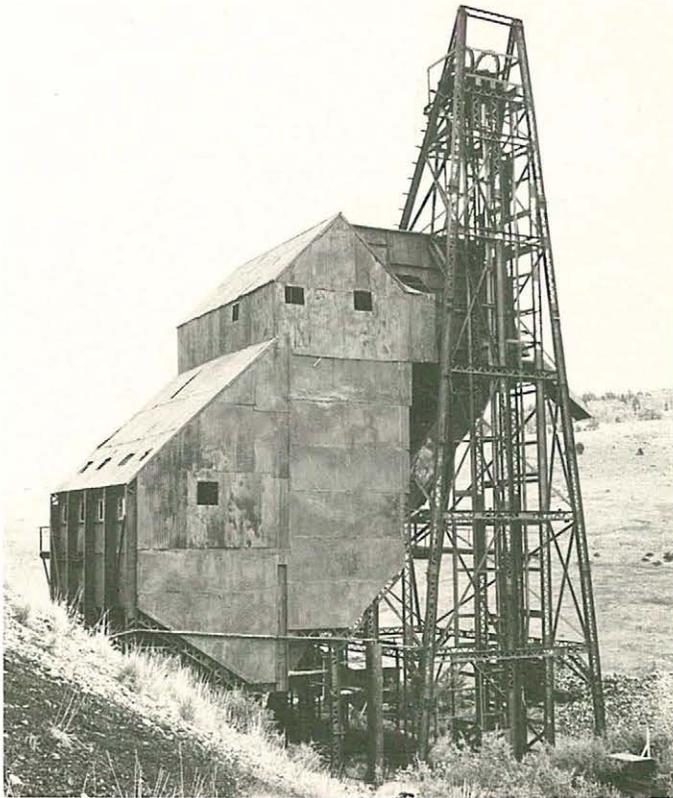
Anyone, including the institution or individual responsible for its creation, may nominate an exhibit for the Dibner Award. Nominations, which should be made within a year of the exhibit's opening, go to the award's administrator, who is appointed by the chair of SHOT's Technology Museums Special Interest Group (TEMSIG). The administrator selects an exhibit reviewer who visits the exhibit (using travel funds available from the administrator) and submits a report, which addresses the award's criteria.

The winning exhibit, in addition to being well designed and produced, should raise significant and pertinent historical issues. The exhibit may be of any size. It should be based on scholarship which is solid and current, correct and complete in its factual content and implication. Artifacts and images should be used in a manner that interests, teaches, and stimulates both the general public and historians.

Each August, the collected reviews (each including an award recommendation), along with exhibit documentation (catalogs, photos, etc.), will be sent to the Dibner Award Committee, a group of five SHOT members appointed by the society's president. The committee will recommend an award recipient to the SHOT executive council.

The prizewinning exhibit will be announced at SHOT's annual meeting. The award consists of a certificate or trophy awarded to the institution responsible for the exhibit, and the first will be presented in October. Send nominations to Bernard S. Finn, Rm. 5025 NMAH, Smithsonian Inst., Wash. DC 20560. He will administer the nomination process along with Robert H. Casey [SIA] of Sloss Furnaces, and Joyce E. Bedi of the IEEE Center for the History of Electrical Engineering.

COLORADO METAL-MINE INVENTORY



Left: Theresa (gold) Mine. Right: Independence (gold) Mine. Both mines are near Victor, Colo., and date from the 1890s. Clayton Fraser photographs.

A partial inventory of Colorado gold and silver mines recently was completed for the Mined Land Reclamation Div. of the Colo. Dept. of Natural Resources, the agency responsible for stabilizing and capping potentially dangerous mine-related sites. The work was done by Fraserdesign, a Loveland, Colo.-based consulting firm, headed by Clayton Fraser [SIA].

Thirty-five sites in the Leadville, Boulder County, and Cripple Creek districts were selected for extensive documentation on the basis of historic significance and present state of physical integrity. The inven-

tory was intended to document individual sites and present historical overviews of the mining districts, and will culminate in an article in *Colorado Heritage*, the quarterly of the Colo. Hist. Soc.

Although a major attraction in Colo.'s tourist circuit, these remote mountain sites have suffered greatly in recent years from weathering and vandalism. For instance, few surface structures in the once-teeming Leadville district remain, and many shafts and tunnels have collapsed, leaving gaping surface holes. This extensive documentation is a form of preservation, however poor a substitute for the sites themselves. For further info., contact Fraser, 1269 Cleveland Ave., Loveland CO 80537 (303-669-7969).

NOTES

BRITISH IA INSTITUTE PROGRAM. The Ironbridge Institute (formerly the Inst. for IA) Short Course Program for 1987 has been announced by the sponsoring institutions, the U. of Birmingham and the Ironbridge Gorge Museum. Located in Coalbrookdale, the Inst. is a center for research and professional training in IA and heritage studies—management, interpretation, and education. A 12-mon. program offers the Diploma in IA and, with additional study, a master's in social science, the only postgraduate qualifications offered by a British university. Also available is a series of special classes offered through Nov. Particularly IA-worthy are:

—Sept. 13-26: "The Ironbridge Training Excavation in IA." Involves working on a site in the Ironbridge Gorge, with training in IA techniques.

—Oct. 22: "The Marriage of Mechanical Engineering & Mining." One-day course examining the role of engineering in mining and the development of pumping and winding equipment as used in mines.

—Nov. 12: "Plot on the Landscape: An Integrated Approach to Industrial History." Focuses on the broader industrial landscape; considers

the work of the Nuffield Archaeological Inventory in its plot by plot recording of the Ironbridge Gorge and other such contextual studies.

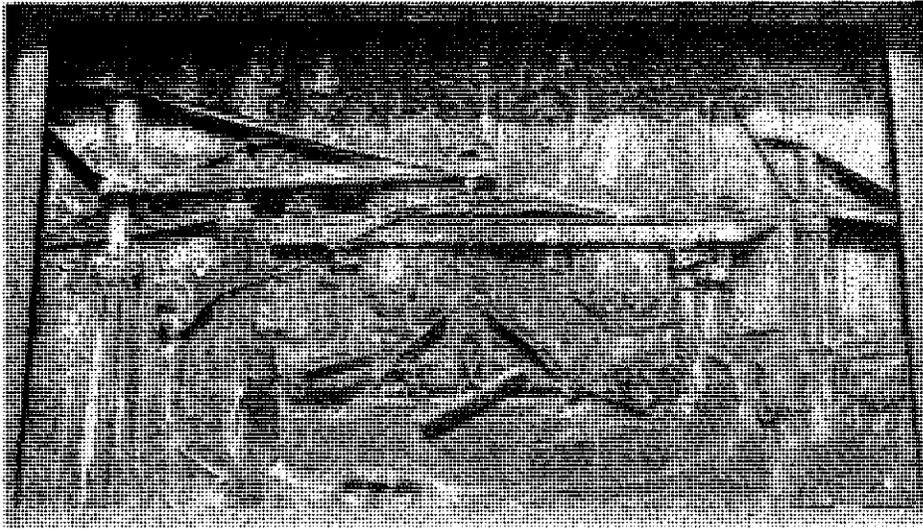
The complete program, registration details, and info. on the degree offerings, are avail. from Ironbridge Gorge Museum, Ironbridge, Telford, Shropshire TF8 7AW England.

VACUUM-TUBE VIDEO. With Raytheon Co. funding, the MIT Museum has produced a 15-min., general-audience videotape entitled "The Subminiature Vacuum Tube: The Cycle of Technology," which uses the story to demonstrate the process of technological innovation in electronics. It traces the development of radio and of vacuum tubes from the discovery of electromagnetic waves in the mid-19th C, and emphasizes the way that unexpected applications are found for existing technologies.

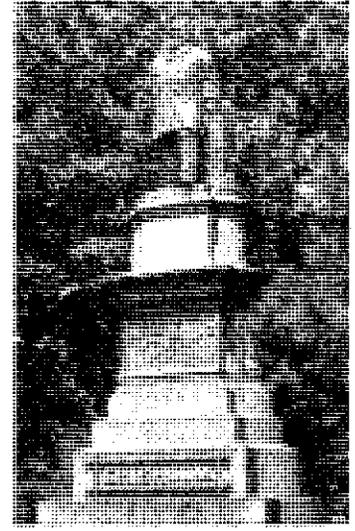
The subminiature tube, a major breakthrough in electronics, was used in hearing aids and in the development of the proximity fuse in WWII. Tube production ceased about a year ago at Raytheon in Mass. The MIT Museum filmed the entire tube mfg. process before this last major tube assembly-line closed down. The 25 hrs. of film are in the museum's collection and were used to produce the tape, which is available free to nonprofit educational groups. To order the tape, or if interested in the archival footage, contact Warren A. Seamans, Director, MIT Museum, 265 Mass. Ave., Cambridge MA 02139 (617-253-4444).

Artifactory

THE CHISHOLM MONUMENT IN CLEVELAND'S LAKEVIEW CEMETERY



Left: The monument's cast-bronze panel depicting a steel-mill floor. Note the Bessemer converters in the background.



Right: The bronze figure of Chisholm atop its granite base.

David Shayt photographs.

Described as "everybody's friend" in the inscription carved on the granite base of the monument erected to his memory, Cleveland industrialist Henry Chisholm (1822-1881) was an important figure in that city's 19th-C commercial development, for it was he who established Cleveland as a major iron and steel center. Chisholm was a native of Scotland, as was his more famous friend Andrew Carnegie. The fact that Chisholm remains less well known today may be attributed to his untimely death in 1881 at age 59, following a short illness.

His father died when young Chisholm was ten. While still in his early teens he served an apprenticeship as a carpenter before settling in Glasgow. By the early 1840s, he had emigrated to Montreal where he found work as a journeyman and contractor. Attracted by the economic opportunities he saw there, he then moved to Cleveland in 1850, finding work on construction projects.

His hard labors and evident technical expertise led to his meeting John and David Jones, who recently had opened a rail mill. Together they formed Chisholm, Jones & Co. in 1857, and the firm's reputation was made through rerolling worn rails. Chisholm embarked on independent ventures, constructing his first blast furnace in Newburg, south of Cleveland (today within city limits). The earliest in that part of Ohio, it included a mill capable of producing up to 50 tons of rerolled rails daily. It was a success and he continued to expand the mill's works, as well as establishing mills in Ill. and Ind.

In 1864 Chisholm organized the Cleveland Rolling Mill Co., eventually part of U.S. Steel. Within several years steel was being produced by the Bessemer process, and the mill was one of the earliest in the U.S.—and the first in the Cleveland area—to adopt it. In the 1860s and 70s Chisholm diversified into the manufacture of wire, screws, bolts, nuts, and tools. One of his several ventures was the H.P. Horse Nail Co., later American Steel & Wire Co., which first produced cut nails by the patented Huggett process, later turning to the more profitable plain wire-nails and staples. His factory was one of the largest in the world. Other businesses included the American Sheet & Boiler Co. and the Union Steel Screw Co.

Chisholm evidenced a paternalistic concern for his workers' welfare, and they deeply mourned his death. In order to fund the erection of the Chisholm monument, mill workers volunteered to contribute a day's wages toward the cost, and eventually contributions from some 6,000 employees and friends were collected. The monument was cast in Rome in 1884 and its dedication was a moving event as several hundred workers carrying shovels marched to the cemetery from the Cleveland Rolling Mills works in Newburg.

Located near the Euclid Ave. entrance of Lakeview Cemetery, the Chisholm monument consists of a noble, bronze standing figure with his hand on a rolling-mill housing. Placed on a tall granite base, Chis-

holm's carved name is framed by rolled rails, and bronze panels mounted on the base depict scenes in his mill.

The sculptor was Nicola Cantalamessa-Papotta (1831-1910), one of the many Italian stonecutters who, attracted by opportunities in the Cleveland monument business, took up residence in the neighborhood flanking the cemetery. Born in Ascoli, he enjoyed a busy career from his first successes in the mid-1850s until his death in Rome at age 79. He was trained first by artists in his native town and continued his training in Rome. His sculptures were inspired by both religious and mythological themes, and portrait and tomb commissions formed a substantial part of his oeuvre. Although he made several trips to America to participate in expositions in Phila., Chicago, and St. Louis, the artist never received many private commissions, and the Chisholm statue is one of the few that came to him in the U.S. By 1882, he had returned to Italy where his career had more success, receiving commissions for a number of large monuments in Rome and elsewhere.

B.F.

ASME LANDMARKS DISNEYLAND MONORAIL

The Disneyland monorail at Anaheim, Calif., was designated the 84th National Historic Mechanical Engineering Landmark by the American Society of Mechanical Engineers last Dec. When Disney engineers designed it in 1959, only a few monorails had begun operating, mostly on an experimental basis. The Disney (dare we say Mickey Mouse?) version demonstrated the practicality of an urban monorail system, making grand curves and ascending hills typical of those found in a city.

When Walt Disney first conceived the idea of Disneyland, he envisioned a practical monorail system. In the summer of 1957, Disney engineers adopted the design of an experimental system developed by Axel L. Wenner-Gren of the Alweg Co. in Cologne, Germany, which had been operating since 1952.

Alweg's test monorail ran on a level one-mile curve. In 1958, Disneyland and Alweg joined efforts to develop the working prototype now in Anaheim, which includes curvatures of 120-ft. radius and 7% grades. The running speed varies from 10 to 35 mph with rubber-tired wheels on a beamway that extends some 12,300 ft., nearly 2.5 miles between Tomorrowland and the Disneyland Hotel.

Monorails first appeared in the U.S. as early as 1878 in Pa., and in 1892 an electric car operated on Long Island, N.Y. The world's longest-running monorail is Germany's Schwebebahn at Wuppertal, which has operated since 1901. Its cars are suspended from an overhead rail unlike the beam-straddling Disney version.

SIA AFFAIRS

ROYALTY GIFT RECEIVED. The Society is pleased to announce receipt of the ninth royalty check (\$63.80) from sales of *Historical Archaeology: A Guide to Substantive & Theoretical Contributions*, ed. Robert L. Schuyler, 1978 (\$19.50 ppd., Baywood Publishing Co., Inc., Farmingdale NY 11735).

IA: THE JOURNAL WANTS YOU! An advertising manager is needed to boost the revenues and expand the circulation of *IA: The Journal of the SIA*. We need a person to work with the editors to solicit potential advertisers and to sell space. If you're interested, outline your ideas for a program to attract new advertisers and send them by June 1 to the SIA Publications Officer, Rm. 5020 NMAH, Wash. DC 20560.

LOCAL CHAPTERS

SOUTHERN NEW ENGLAND. The Annual SNEC Spring Tour, May 9, will be a combined visit with the Northern New England Chapter to two Deerfield River hydroelectric plants, the 1912 plant #4 at Shelburne Falls, Mass., and the 1974 Bear Swamp Pumped Storage facility in Rowe, Mass. Upcoming, date to be announced, is a bicycle tour of mills & factories along Northampton's Mill River: Northampton, Florence, Leeds, & Haydenville, Mass. Info.: Peter Stott, POB 356, Newton Highlands MA 02161 (617-332-5548).

KLEPETKO (Mont.). The spring meeting was held Mar. 27-29 in Helena, and included tours of the the Parrot Confectionery, the ASARCO lead smelter, Western Clay Manufacturing Co., and the Montana Tunnels Project in Wicks.

NEWS OF MEMBERS

Keith Sculle, Illinois State Historical Society, is the new secretary-treasurer of the Pioneer America Society, publisher of *Material Culture Studies* and the *PAS Newsletter*, both of which carry IA items from time to time (membership info. from Sculle, ISHS, Old State Capitol, Springfield IL 62701).

Richard Guy Wilson's article, "Machine-Age Iconography in the American West: The Design of Hoover Dam" (in *Pacific Historical Review* 54, Nov. 1985), received two honors in 1986: from the Pacific Coast Branch of the American Historical Assn., the Koontz Award for best article of the year; and from the Western Historical Assn., the Ray Billington Prize, for the best article in any journal. In addition, his major study, *The Machine Age in America, 1918-1941* (N.Y.: Harry N. Abrams, 1986), was selected by *The New York Times* as a Christmas Book, and by *Library Journal* as a best book—one of 46—of the year.

Brian Norden now edits the Preservation Dept. column of *Pacific RailNEWS*, a high-quality, full-color monthly devoted to the western RR world, past and present (\$25/yr, PRN, POB 6128, Glendale CA 91205). *SIA*N has high hopes that Brian will help us beef up our effort to report on West Coast IA.



PRESIDENT'S LETTER ON MEETINGS & TOURS

When I became president of the SIA in June, 1986, I was aware that the schedule of meetings was perilously short; after the Troy meeting set for this spring, there was nothing in the works. This is disturbing to the Board of Directors. It is a major problem for sponsors who are losing valuable lead time for preparation.

I set as my personal goal a working schedule of meetings through 1990, to be arranged before the end of my term in June, 1988. Long-range planning is subject to change by succeeding boards, but at least some sense of direction should be established. Here is how we stand to date:

—Fall Tour 1987, Pine Barrens of South Jersey. Three centuries of change; fishing, cedar mining, iron, glass, paper, & agriculture. Hosted by Roebling Chapter.

—Spring 1988, Annual Conf., Wheeling, W.Va. SIA Vice President Emory Kemp already has organized the basic details, facilities, and tours for the Wheeling area, including, of course, Charles Ellet's Wheeling Suspension Bridge (1871-72).

—Fall Tour 1988, Easton/Allentown, Pa. The Center for Canal History & Technology readily accepted our invitation to host the tour, which will include steel, cement, coal, canals & RRs, and the John Fritz engineering lab at Lehigh Univ.

—Spring 1989, Annual Conf., Quebec, Canada. We are negotiating with government authorities and private parties who are anxious to sponsor a tour; at present, prospects look promising.

—Fall Tour 1989. The society has a sponsor eager to host a tour of gold-mining IA at Dawson City, Yukon Territory. Would you make the trip?

—Spring 1990, Annual Conf., Phila., Pa. The Oliver Evans Chapter thinks it will be ready to host the SIA by this time. There is a wealth of IA in the region.

We have additional proposals. We also hear the murmurings; e.g., too many meetings on the East Coast, etc. Let me assure you that each of the sites above offers unique opportunities, whether they are next to each other or thousands of miles apart. However, we recognize the siren call to other localities. The major problem with variety is what I want you to think about.

Every one of us knows of at least one site that we would like to "showcase." Aside from the questions of facilities, travel costs, etc., the major problem is finding a *local group* that knows the territory, understands what IA and SIA are all about, and is willing to undertake the considerable task of local organizing. So . . . if you have a great site for an SIA meeting and tour, and you have the charisma to gather and to lead the troops, please get in touch with me. We all would love to drop in for a wee visit!

Thorwald Torgersen
President
P.O. Box 429
Hackettstown, N.J. 07840

STOP PRESS — BRIDGES IN HIGHWAY BILL

As this issue goes to press, word comes that Congress has overridden the President's veto of the Surface Transportation & Uniform Relocation Assistance Act of 1987, better known as the "Highway Bill." Of vital importance to SIA members is a small but landmark section called the "Historic Bridge Program." Several of its provisions are important enough to reproduce immediately, even though no interpretation is available. The following excerpts (taken from the House Conference Report of Mar. 17) refer to three areas: state inventories of historic bridges, reimbursable costs for historic bridge preservation, and standards for rehabilitation of historic bridges. "Historic bridge" means any bridge on or eligible for the National Register of Historic Places. Ed.

—"FINDINGS.—Congress hereby finds and declares it to be in the national interest to encourage the rehabilitation, reuse and preservation of bridges significant in American history, architecture, engineering and culture. Historic bridges are important links to our past, serve as safe and vital transportation routes in the present, and can represent significant resources for the future."

—"STATE INVENTORY.—The Secretary [of Transportation] shall require each State to complete an inventory of all bridges on and off the Federal-aid system to determine their historic significance."

—"ELIGIBILITY.—Reasonable costs associated with actions to preserve, or reduce the impact of a project under this chapter on, the historic integrity of historic bridges shall be eligible as reimbursable project costs. . . . [not] exceed the estimated cost of demolition of such bridge."

—"PRESERVATION.—Any State which proposes to demolish a historic bridge for a replacement project with funds made available to carry out this section shall first make the bridge available for donation to a State, locality, or responsible private entity if such State, locality, or responsible entity enters into an agreement to—(A) maintain the bridges and the features that give it its historic significance; and (B) assume all future legal and financial responsibility for the bridge. . . . Costs incurred by the State to preserve the historic bridge, including funds made available to the State, locality, or private entity to enable it to accept the bridge, shall be eligible as reimbursable project costs under this chapter up to an amount not to exceed the cost of demolition."

—"STUDY.—The Secretary shall make appropriate arrangements with the Transportation Research Board [TRB] of the National Academy of Sciences to carry out a study on the effects of the bridge program. . . on the preservation and rehabilitation of historic bridges. The TRB shall also develop recommendations of specific standards which shall apply only to the rehabilitation of historic bridges, and shall provide an analysis of any other factors which would serve to enhance the rehabilitation of historic bridges."

For full and accurate language, be sure to read the highway bill as passed.

CALENDAR

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

May 28-31: SIA 16th ANNUAL CONFERENCE, TROY-ALBANY AREA. Info.: Duncan Hay, N.Y. State Museum, 3097 Cultural Ed. Center ESP, Albany NY 12230 (518-473-1746):*

Sept. 6-12: Sixth Int'l Conf. of the Committee for the Conservation of the Industrial Heritage (TICCIH), Austria.

Sept. 17-20: Annual Conf., Assn. for Preservation Technology, Victoria, B.C. Theme is "Wood & Water," focusing on the Pacific Northwest. Pre-conf. training sessions Sept. 14-16. Info.: APT '87 Conf. Office, Univ. of Victoria, POB 1700, Victoria BC Canada V8W 2Y2 (604-721-8465).

Oct. 7-15: 8th Triennial General Assembly of the Int'l Council on Monuments & Sites (ICOMOS), Wash. D.C. Info.: Russell V. Keune, Director of Programs, US/ICOMOS, 1600 H St. N.W., Wash. DC 20006 (202-673-4211).

Oct. 15-19: Annual convention, Assn. of Rwy. Museums, Riverside, Calif. Info.: ARM, POB 3311, City of Industry CA 91744-0311.

Oct. 22-24: 9th Annual North American Labor History Conf., Detroit. Paper proposal deadline: June 1. Info.: Philip P. Mason, Archives of Labor & Urban Affairs, Walter P. Reuther Library, WSU, Detroit MI 48202 (313-577-4024).

Oct. 29-Nov. 1: Annual Meeting, Society for the History of Technology (SHOT), Raleigh, N.C. Program info.: Pamela E. Mack, Dept. of History, Clemson U., Clemson SC 29634-1507 (803-656-3153).

Nov. 5-7: Annual meeting, Pioneer America Society & Midwest Open Air Museums Coordinating Council, Galena, Ill. Info.: Thomas A. Campbell, Ill. Hist. Pres. Agency, Old State Capitol, Springfield IL 62701.

The *SIA Newsletter* is published four times a year 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 \$20; couple, \$25; institutions \$25; contributing, \$50; sustaining, \$100; student, \$15. 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.

Submission deadlines: Jan. 15, April 15, July 15, and Oct. 15.

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