

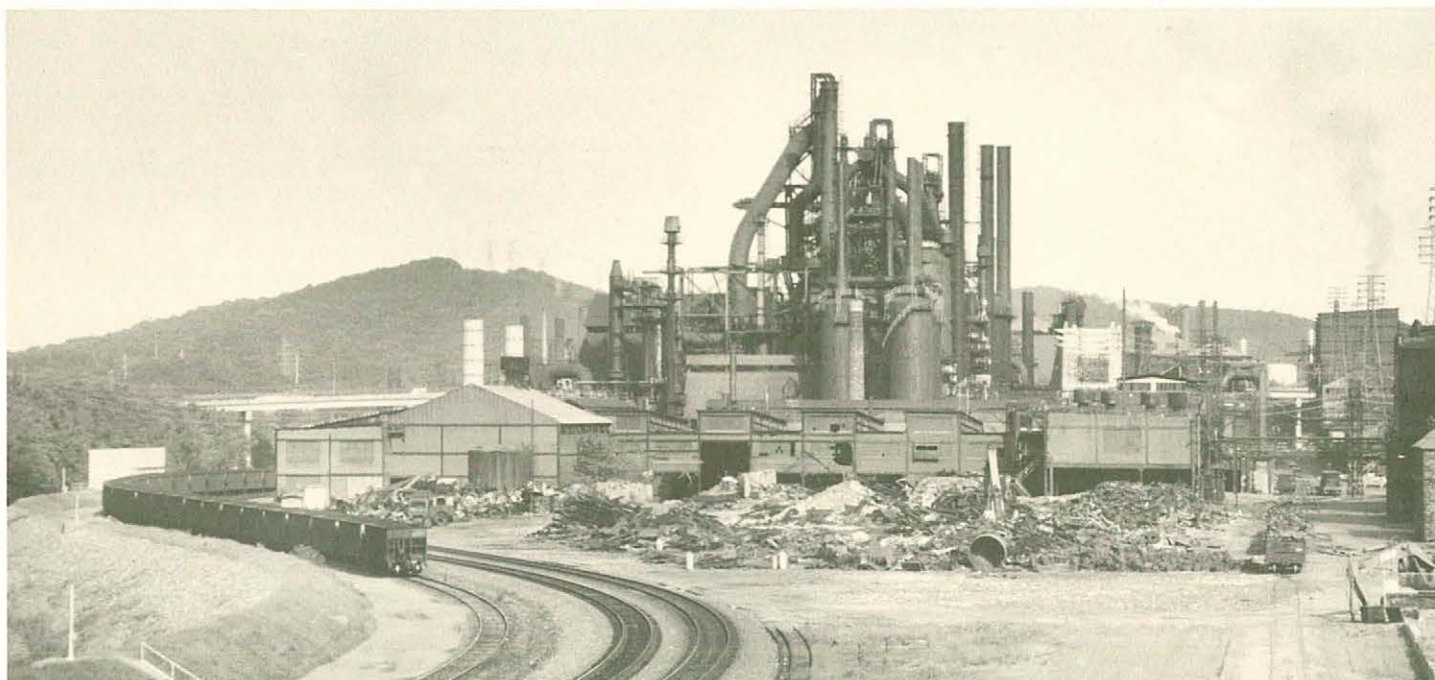
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1988 Fall Tour highlights Lehigh Valley industry



The celebrated Bethlehem Plant of Bethlehem Steel Corp. *Gregory Galer photo for SIAN.*

Touring Pennsylvania's Lehigh Valley, "Birthplace of the American Industrial Revolution," Sept. 15-18, the SIA's 1988 Fall Tour was co-sponsored by the Hugh Moore Historical Park & Museums, Inc., and the newly organized Josiah White & Erskine Hazard Chapter SIA, and HQ'd at the Hotel Easton.

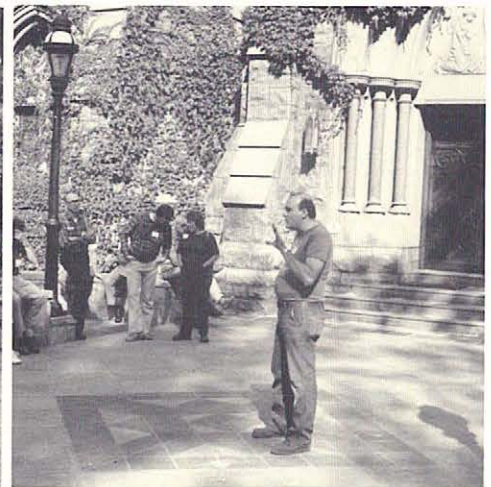
Festivities began Thursday afternoon with an "early bird" tour of **Plane No. 9 West, on N.J.'s Morris Canal**, located near Phillipsburg. Designated an ASME Landmark, it was one of 23 inclined planes on the canal linking Pa. & New York Harbor. It has been excavated and interpreted by canal historian James Lee [SIA], who showed tourers the plane's original turbine and the canal history museum located in his own home, a former planetender's house.

The Thursday evening program included a slide lecture by Donald Sayenga on Josiah White and Erskine Hazard, founders of the Lehigh Coal & Navigation Co. He explained how the construction of their Lehigh Navigation System and their early use of anthracite coal and waterpower laid the foundation for the Lehigh Valley's industrial development. Craig L. Bartholomew explained how iron master David Thomas and others turned the valley into America's greatest iron region by 1875. Lance Metz introduced the historical accomplishments of Robert H. Sayre, John Fritz, and Charles Schwab in the establishment

of the modern Bethlehem Steel Corp., which, with predecessor Bethlehem Iron Co., pioneered in the efficient production of Bessemer steel, the development of heavy forging technology, and the development of the wide-flange, structural beam and column. All this had made possible modern warships and armor, as well as high-rise structures and long-span bridges.

Friday began with a tour of the **Bethlehem Plant of Bethlehem Steel Corp.**, thanks to plant manager Andrew Futchko. The itinerary included visits to the powerhouse with its massive furnace-gas-fueled internal combustion blowing engines, structural-steel production facilities with steam-powered blooming and shaping mills, the basic oxygen process (BOP) steel furnaces, and the great forge shop containing America's largest open-die hydraulic forging press.

Following lunch in the nearby Lehigh Canal town of Freemansburg, the tour moved to Lehigh Univ's Bethlehem campus and its Fritz Engineering Lab., Packard Electrical Engineering Lab, and Packer Memorial Chapel. The **Fritz Engineering Lab.** was founded by John Fritz in 1910 as a structural engineering research center. Its reputation became international and in 1955 it was greatly enlarged, with the addition of a massive universal testing machine, today the second largest of its type in the world. The **Packard Electrical Engineering Lab.** was



*Left: Carter Litchfield [SIA] describes the 1765 linseed oil mill at Bethlehem, Pa.
Above: Fall Tour organizer Lance Metz [SIA] lectures outside Packer Chapel on the Lehigh Univ. campus.
Gregory Galer photos for SIAN.*

founded in 1929 by Lehigh alumnus and industrialist James Ward Packard, developer of the Packard automobile. The original 1899 auto is enshrined in the lab's lobby. **Packer Memorial Chapel** was erected in 1887 as a memorial to the univ.'s founder, industrialist and railroad magnate Asa Packer.

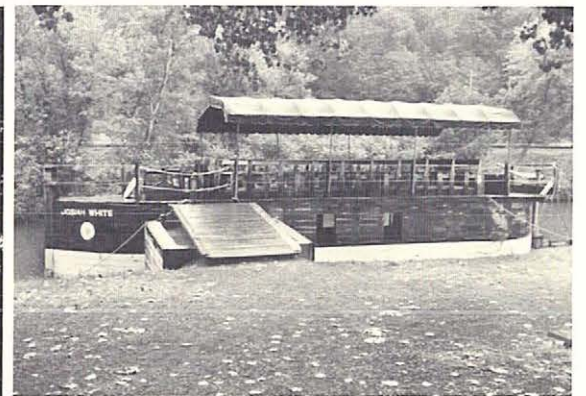
A bus tour of Bethlehem's "Old Fountain Hill" mansion district was next. Named for a medicinal spring and health resort, Fountain Hill became the home of many of the city's entrepreneurs. Surviving residences include those of Garrett & Robert P. Linderman (later the home of Charles M. Schwab), Warren Wilbur, William H. Sayre, Robert H. Sayre, and Elisha P. Wilbur—all prominent in either the Lehigh Valley Railroad, Bethlehem Steel (or Iron), or Lehigh Univ.

Next was the restored 1752 **Moravian waterworks**, now part of Historic Bethlehem, Inc. and an ASME Landmark. The Moravians founded Bethlehem in 1741 as a communal religious settlement and their waterworks was the earliest mechanically powered delivery system

in America. Then the bus drove on to Allentown, passing en route the monumental home of Eugene G. Grace, second president of the modern Bethlehem Steel.

The evening banquet in Allentown's Hamilton Plaza Hotel included remarks by Kurt D. Zwinkl, Director of Community & Public Relations for Merchants Bank and also Chairman of the Pa. Historical & Museum Commission. Following dinner, a special reception was held in the **Raymond E. Holland Collection of Automotive Art**, established in 1981 to preserve paintings and sculpture relating to the early history of gasoline-powered vehicles from 1885 to the eve of World War I.

Saturday was devoted to Easton sites and began with the Pa. Process Plant of **Cooper Industries, Inc.**, manufacturers of gas compressors. Next stop was **Bushkill Park**, an amusement park from the city's street-car era, where tourers viewed and rode a magnificent 1904 carousel, specially operated post-season for the occasion. The remainder of the



Above: The mule-drawn, passenger carrying canal boat Josiah White, which provided canal rides on Saturday at Hugh Moore Park.

Left: Canal view from the deck of the Josiah White.

Jim Nicholson photos for SIAN.



Left top: The roll stands inside the restored and operating Haines Roller Mill in Cetronia.

Left bottom: A Burr arch truss covered bridge viewed during tour.

Above: The remaining 1892-93 Schoefer kilns of the Coplay Cement Co.'s plant, now the focal point of the David O. Saylor Cement Museum.

Jim Nicholson photos for SIAN.

day was spent visiting **Hugh Moore Park**, including a ride on the mule-drawn passenger-carrying canal boat *Josiah White*, a visit to the restored Lockett's House Museum, and a special lecture on canal history at the museum by senior interpreter Richard Ellis.

Saturday activities ended with a screening of historic films of the Chesapeake & Ohio and Lehigh & Delaware canals, including the only known footage of towpath canals in full operation—all from the Hugh Moore collections. Former L&H boatman, Capt. Howard Swope, talked on canal folklife.

Allentown was the focus of Sunday's tours. First was the city's **Little Lehigh Parkway**, an urban park established during the 1930s to protect the watershed of Allentown's water supply that now preserves intact many farming and early industrial structures. Next was a stop at the **Mack Truck Museum** in the nearby town of Macungie. The collections include trucks, fire engines, and buses representing the first half century of Mack Truck Corp., and housed in an adaptively reused 1924 commercial garage. Following Mack came **Lock Ridge Furnace Park** for a picnic and tour by the Lehigh County Historical Society, park administrators. Lock Ridge Furnace was an anthracite-fueled, merchant-pig operation that produced iron for the Thomas Iron Co. from 1868 to 1921. It was the last furnace complex designed by David

Thomas, founder of the anthracite iron industry in America. The site's stabilized and interpreted ruins are the most complete remains in the U.S. of an anthracite-fueled furnace complex.

Final Sunday sites were **Haines Mill**, a restored, waterpowered roller flour-mill, and the **David O. Saylor Cement Museum** in the borough of Coplay. It is America's only museum dedicated to the cement industry and is named for the pioneering Lehigh Valley industrialist who was the first to develop a process in the U.S. for producing Portland cement. The museum is built around the remaining 1892-93 Schoefer kilns of the Coplay Cement Co.'s early plant. Both the mill and museum are administered by the Lehigh County Historical Society.

All Fall Tour registrants received a packet including *The Anthracite Iron Industry of the Lehigh Valley* by Craig Bartholomew, Lance Metz, and Ann Bartholomew, and *Capt. Sherman's Guide to the Hugh Moore Park*, by Metz. Special thanks go to Fall Tour committee chair Lance Metz, along with Thorwald Torgersen, Craig Bartholomew, Donald Sayenga, John Fielding, Donald Young, Steven Humphrey, Ann Bartholomew, and Emory Kemp. Additional Hugh Moore staff, along with staff from participating industries and historical societies, providing guide and interpretive services.

A.B. & L.M.



Scenes from the visit to Bushkill Park, a 1920s-era, streetcar-suburb amusement park.

Left: IAers take a whirl on the great carousel, which was put into special off-season operation for the SIA tour.

Right: A surviving car from lost amusement ride ends its days pushing up daisies. Is this adaptive reuse or what?

Jim Nicholson photos for SIAN.



The Life & Times of Robert M. Vogel, Ret.

On May 31, 1988, Robert M. Vogel retired from his post as Curator, Div. of Engineering & Industry, National Museum of American History, Smithsonian Institution. This special section of SIAN is a tribute to Robert in thanks for a lifetime of service to industrial archeology and the SIA.

In 1987 the National Trust for Historic Preservation presented an Honor Award to RMV. The nomination text summarizes his many contributions.

This nomination is not for simply one specific project but for an entire career in service to historic preservation—the career of Robert M. Vogel, Curator of the Division of Mechanical & Civil Engineering at the Smithsonian Institution's National Museum of American History. Not merely content to collect, publish, and organize exhibits—duties that he has performed brilliantly with his major exhibitions on the American Centennial the Brooklyn Bridge—Robert M. Vogel has greatly expanded the definition of “curator.” He has graciously and generously used his influential platform at the nation's preeminent American history museum to spark interest in the understanding, recording, and conservation of the country's industrial and technological heritage in so many different ways that he is widely regarded as the “Father of American Industrial Archeology.”

The following is a greatly abstracted list of Mr. Vogel's many accomplishments:

Pioneer Industrial Preservationist.

In the late 1960s, when many preservationists still regarded old mills, canals, bridges, and other residue of the Industrial Revolution as eyesores rather than assets, Robert M. Vogel pioneered the field-recording techniques that have become the standard prerequisites for documenting and preserving historic industrial sites. His “New England Textile Mill Survey” (1968) and “Mohawk Hudson Area Survey” (1969) have become classics by which all other industrial archeological surveys are measured. Mr. Vogel has also been directly instrumental (not only through his work with the Smithsonian but in his exemplary service as chair of the Maryland National Register review committee) in saving some of the nation's most important industrial and technological landmarks. From the Bollman Truss Bridge (1869) in Savage, Maryland, to the Delaware Aqueduct (1847) in Lackawaxen, Pennsylvania, future generations will be able to witness the great achievements of 19th-century American technology due to the far-reaching influence of this one man.

Mentor of Mentors. As a result of his early teaching at Columbia University with Charles E. Peterson and James Marston Fitch and the hundreds of seminars, lectures, and field trips, and institutes he has conducted around the country, Robert M. Vogel is credited by many of the nation's prominent preservationists as having had a seminal impact on their careers. His inspiration is mirrored in the work of the many preservation programs that his pupils have gone on to direct—from the Historic American Engineering Record and the preservation graduate

programs at Boston University, the University of Vermont, and Columbia University, to the Design Arts Program of the National Endowment for the Arts. Appreciation for his role as mentor is evident in the glowing praise accorded Robert in the prefaces of the works of leading preservation authors and scholars, including photographer David Plowden, author David McCullough, and British historian of technology Kenneth Hudson.

Founder of HAER and SIA. Robert M. Vogel was a key figure in the establishment of the now internationally renowned Historic American Engineering Record (HAER) in 1969 to document, record, and encourage the preservation of the nation's technological past. Then in 1971 he convened a gathering of leading industrial archeologists at the Smithsonian to found the Society for Industrial Archeology (SIA). Over

the next 16 years, through its large and committed membership, excellent *Newsletter* (which Robert dynamically edited for over a decade), field trips, conferences, films, high-school curricula, and other activities, the SIA has kindled broad-scale public interest in saving the industrial past.

A few hundred words is hardly enough to encapsulate the accomplishments of this extraordinary curator and preservationist. This year [1987] marks Robert M. Vogel's thirtieth anniversary at the Smithsonian, making this a most appropriate time for the National Trust to honor the outstanding career of this distinguished and visionary Washingtonian.

ROBERT M. VOGEL, IN HIS OWN WRITE:

Asked to put together a personal IA chronology for SIAN, RMV returned the following:

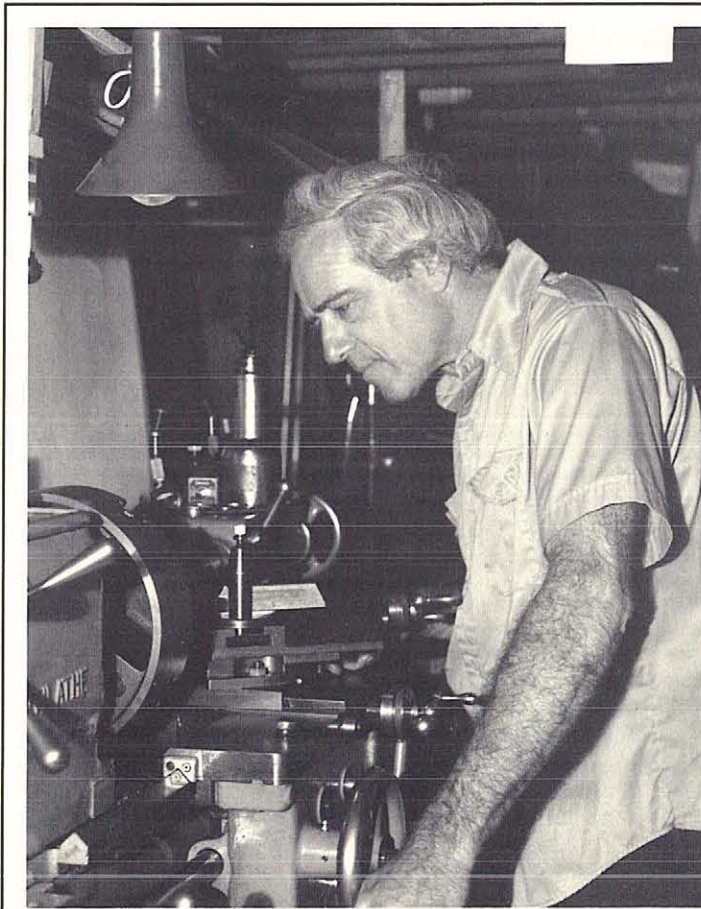
1930, Oct. 23: Born, NYC at Women's & Children's hospital (since demolished).

1932: Was moved to Phila. by parents when the Old Man got his first job, teaching English at small school.

c1938 & on: First awareness of the mechanical world—rapidly expanding concern with watches, buildings in work, vehicles, building systems & cess pools (seen as very scary—what if you fell in??), gas lights on local streets, electrified lines of the Reading RR nearby, reservoirs & pumping stations, &c.

1941: Family's move to Baltimore. Near-sudden interest—obsession—with street cars inspired by Balto's far-flung system operated with large stable of period rolling stock, the most interesting of all. Much hanging around car barns, loops, sub-stations, and riding of the network. Heavy price paid in schoolwork dept.; family heavily despairing of boy's future; predicts failure. Probably correct.

c1943: Gradual shift from urban transit as focus of obsession to RRs. Family no more pleased, perhaps less as the rideable net now considerably expanded and now old enough to travel on own. Frequent



Robert M. Vogel, at his 12½" x 30" Cincinnati Lathe & Tool Co. "Traytop" engine lathe (1953), at RMV's new enterprise, the Gothic Engineering & Machine Works, located at 4628 49th St. NW, Wash. DC 20016. Photo by Jet Lowe for HAER & SIAN.

visitation to nearby Wash. D.C. to (1) go to Smithsonian (prefiguring); (2) observe train movements at very busy Union Station. (As carried small Brownie camera on these occasions, once stopped & questioned by RR police fearful of Axis spies intent on stealing secrets of the American RRs. Quickly released as apparently harmless.)

c1945: With puberty and approach of driving age obsession began shift to automobiles, principally pre-1930. RRs not entirely abandoned; visualized an interdisciplinary project whereby first car would be retrofitted as locomotive with air brakes, single headlight, whistle, &c. (Never effected; probably just as well.)

1948: Curiously, managed to graduate from high school. In senior year, in a flash of inspiration in an art-appreciation class, thought that it would be best if I were to be an architect. Well, that's settled.

Entered Antioch, which even more curiously, would have me. Selected because of the work-study program, which sounded like a good idea. That close, it seemed also a good idea if I designed a rotary-valve-engined car to run at Indianapolis one year soon. Never got off the drawing board. Just as well.

Coop jobs at local architect's office; architectural model builder, Jersey City. All good and interesting experience.

1951: Antioch having no architectural program, transferred to Univ. of Michigan, School of Architecture & Design. Good place but far too big and impersonal. Bauhaus, Mies, & FLW very much in and expected to be emulated in all design matters. Found flat and stark and boring. Design projects tended toward the Victorian, which didn't go down well with faculty. (So what did they know? Now Bauhaus is out & Victorian is in. Hah.)

1952, Summer: Worked in lumber camp & mill, Idaho. Whole place run by steam; main saw driven by large, elderly Corliss engine. Very few local houses electrified. Entertainment by Edison cylinder phonographs; water raised by hand pump at kitchen sink; principal currency at company store was silver dollars. Heavenly place; time warp.

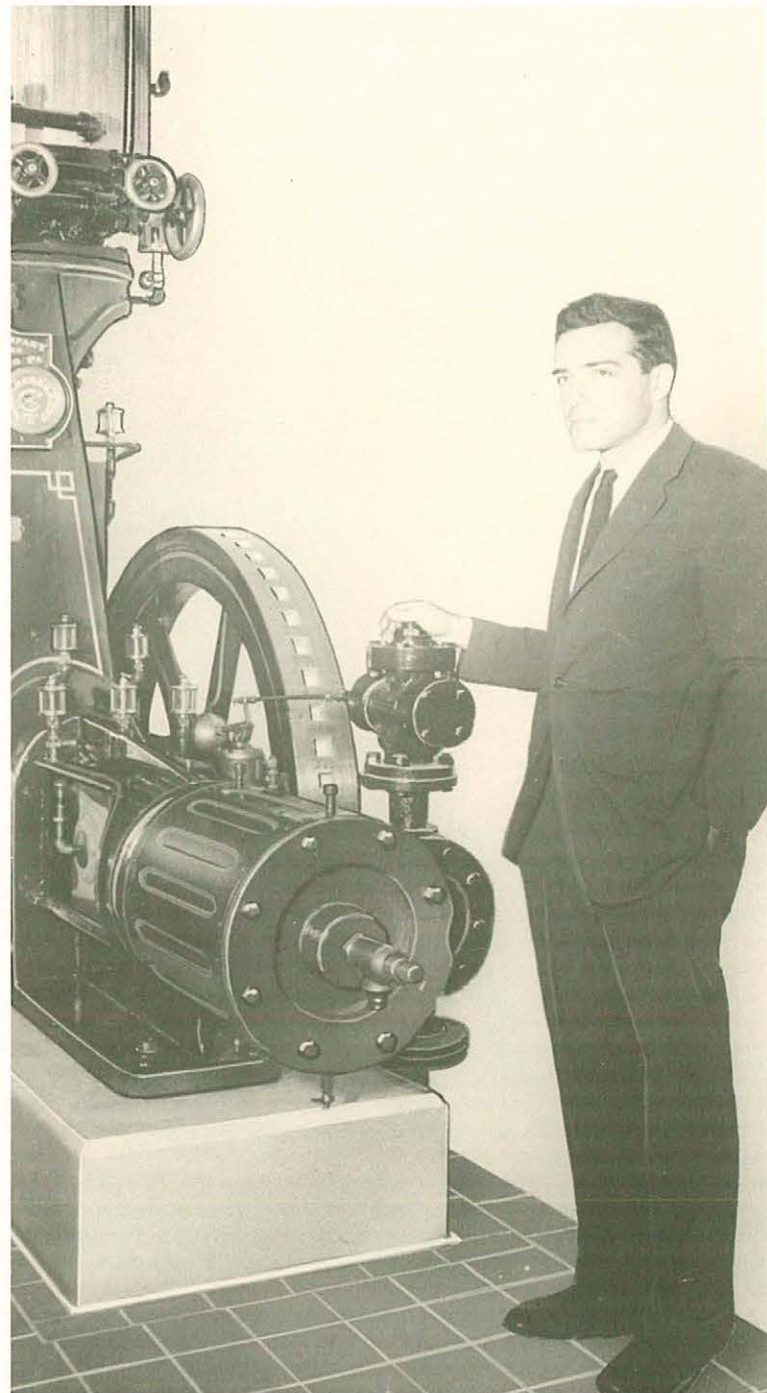
1954: Final year at Univ. of Mich.—architecture perhaps paling a bit. Too much Bauhaus & FLW, too soon forgotten the 19th-C. term papers tending toward factory prime movers, early Edison lighting systems, misc. 19th-C technology. Discovered Charles T. Porter's *Engineering Reminiscences* in library and freaked out. The path becoming clearer. Frequent trips to Ford Museum, Dearborn. Tried for a summer job but regretfully, no opening. Wanted to get my hands on those engines, &c.

Graduation nonetheless. Principal feature of small bank that was final design project: massive hydraulic elevator patterned after Otis design of c1895. Jury uncertain how to react. Their problem, I reckoned, not mine.

1954-56: U.S. Army as draftee; mercifully posted to Fort Belvoir, Corps of Engineers' center. In construction battalion designed various useful structures; painted signs; was battalion photographer. Not a bad time: post Korea, pre-Viet Nam.

1956-57: Believing that perhaps Henry Kaiser had the right idea, reckoned to become a big contractor. Worked for Balto. developer building cheap row houses. A smarmy business, it turned out; dishonorable; boring. Too Now. In another flash realized that a museum would be just the thing. Wrote to Smithsonian offering one with a solid appreciation of the technological past. Appropriation just then in hand for a new Museum of History & Technology; lots of hiring. Taken on a junior curator of heavy machinery and civil engineering. Seemed just right. Time of ferment, funding, new concepts, hope—a golden era.

1957 on: More of the same, mostly. Assembled new halls of Power Machinery & Civil Engineering, collected some nice things, wrote just a little, mostly had a good time.



In Sept. 1964, RMV posed with this typical Frick Co. ammonia refrigeration compressor, which had been donated to what was then the Museum of History & Technology. Frick wanted the photo for their corporate publication. *Frick Co. photo.*

1964: Kenneth Hudson over for a visit and spoke the gospel of Industrial Archeology. It all seemed so right. Joined the movement in an act of devout conversion. With others of like mind conducted measuring and recording surveys over next few years.

1967-69: Took part in experimental summer-long recording surveys of industrial structures in New York & New England, leading to organization of HAER as sister of HABS.

1971: With conceivers P. Rivard and T. Sande, called together a gang of people thought to be involved with affairs related to IA, for discussions of "mutual advantage." Therefrom was formed the SIA, and there's been no looking back.

1988: Enough being enough, retired.

RMV, this is your life . . .

CHESTER LIEBS, *Professor, Historic Preservation Program, University of Vermont, and former SIA president.*

I believe that Robert Vogel is a great man. I have many fond memories of Robert—enough to fill several editions of *SIAN*. Here are a few personal vignettes of memorable moments:

The Great Voice. Robert is well known for his distinctive voice. Most people's first introduction to "the sound of Robert" came after dialing up the Smithsonian's Division of Mechanical and Civil Engineering. The phone would ring twice and then a deep voice would boom out "RRRRRobert Vogel!"

During the SIA's First Annual Conference in New York City, the power and authority of "the Vogel voice" was duly tested. Some vagrants had begun to heckle RMV while he was showing a gathering of members the old IRT City Hall subway station. Suddenly that great voice ricocheted through the Guastavino vaulting, "we've had about enough of that!" His detractors went scurrying for the street.

Group Photos. No IA outing with RMV was complete until he had gathered everyone for the ritualistic group photo. Since he rarely carried a tripod, he was forced to conjure up a suitable place on which to set his camera, cock the timer, trip the shutter release, and then run full tilt to melt into the group to wait for the camera to click a reassuring "all clear." An old trash can, flat rock, or even a car hood, covered by a rag for a leveling shim, would often be pressed into service as a surrogate photographer.

I remember once hearing Robert bark at a group of us exploring the west portal of the Hoosac Tunnel to "line up across the tracks gang, its group shot time!" Failing to find a makeshift tripod, and anxious that a train might barrel out of the tunnel at any moment to everyone's detriment, he deftly crouched down and balanced the camera on one of the rails, producing what was probably the most unusual and compelling group shot of his career.

U-turns. Many years ago, before switching to Volvos, Robert drove about IAing in an ancient VW bus. If you happened to be riding with him in the city when he spotted a parking space on the opposite side of a busy street, you would soon be amazed at his ability to execute a precision U-turn in the face of oncoming traffic.



Left: RMV with the c1850 Faber steam engine at the National Museum of American History in 1980. David Weitzman photo.

Right: During the National Park Service-Smithsonian field survey in 1966, RMV visited the Dudley Shuttle Works, Wilkinsonville, Mass. At right is [the late] Howard Pellatt, proprietor. Photo courtesy Laurence F. Gross.



RMV with legendary VW bus at Lippit Mill, R.I., during 1967 New England Textile Mill Survey. Photo courtesy Smithsonian Inst.

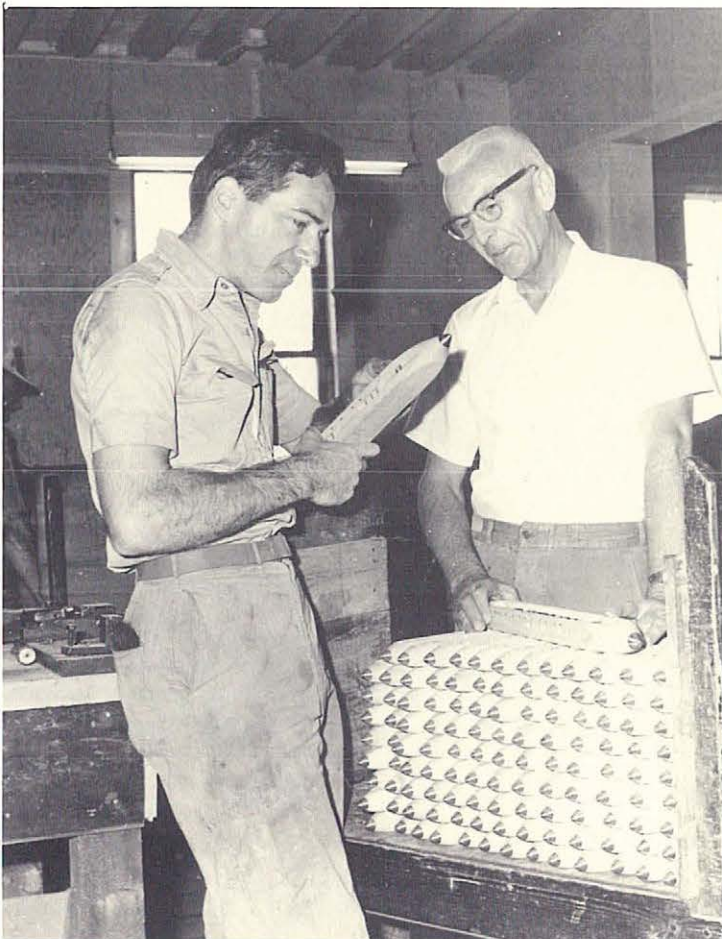
PATRICK M. MALONE, *Director, Slater Mill Historic Site, and Senior Lecturer, Brown University.*

Robert Vogel has been one hell of a big help in my career, and he has done more for industrial archeology in the country than anyone else. He is the guy I end up calling for information just before a lecture or paper presentation. There is always something that I have failed to look up or some piece of historical technology that I can't understand. I call him at the last minute and as soon as I hear his amazing voice, more appropriate for a radio or TV personality than for a scholarly curator, I know that I am saved. He is like an uncanny data base, able to pull out the obscure fact I want or to provide details on the machine that has baffled me.

Robert can describe how something works over a phone better than anyone on earth. He recently saved me from the horror of facing an audience of fire buffs without really understanding how the steam fire-engines at the Great Boston Fire actually pumped water. Robert, of course, had all the knowledge one could expect from the head of the Boston Fire Department in 1872, or perhaps from an Amoskeag engine designer. In addition, Robert could visualize the particular diagram I was studying and could discuss it over the phone.

I also have a rather humorous reminiscence. I remember that we woke Robert up one night during the 1979 SIA Annual Conference in Columbus, Georgia. Robert had exercised much better judgment than many of us and had gone to bed early. I had gone out "on the town," and had accidentally run a rented car into one of Columbus's restored buildings. While we were in the motel parking lot removing the historic bricks from the door of the Avis vehicle, the biggest of my companions loudly urged that we should next drive the car into the swimming pool, above which Robert was staying.

Even I realized that this treatment of the product of a Detroit assembly line was an extreme idea. However, my big, boisterous friend is not someone with whom it is safe to argue. (I wouldn't dare identify him, but he's taller than Thorwald, slimmer than Ed Rutsch, and was the first winner of the Norton Prize.) I was praying for intervention from above, when like a voice from another world, a loud and authoritative command for silence, came down from Robert's room. We all left the scene meekly, and the swimming pool was spared an assault by automobile.



VANCE PACKARD, *Director, Drake Well Museum.*

Robert Vogel has always been one of the foremost proponents of the theory that ignorance runs rampant in the South. Once when the SIA was in Wilmington, a number of us were standing around looking at the Wilmington & Western's steam locomotive. I asked whether the little steam turbine-generator that powered the lights on the engine could have been original equipment. Robert immediately responded that it wasn't likely since the engine had come from a southern railroad and as far as he knew they still lighted the way at night with a bonfire on a flatcar pushed before the engine.

THEODORE ANTON SANDE, *Executive Director, Western Reserve Historical Society, and former SIA president.*

Here are two vignettes on Robert Vogel. The first has to do with the *SIA Newsletter*. When the Society was formed, Robert, at everyone's urging, agreed to be the *Newsletter's* editor, on condition that the entire board serve as an editorial review committee. This arrangement worked fine and we all had a lot of fun with it. Robert prepared the galley and sent copies out under a covering note that, as I recall, usually gave us two to three days to call in comments to Room 5020. The note was usually hastily typed on the stationery of some defunct manufacturing firm and always ended: "All the Best, Rob't." I think it was largely due to his style and infectious enthusiasm for IA that the *Newsletter* was an instant success and that the Society got off to such a good start.

There was one idiosyncrasy, however, that was not received with equal joy by all the readership, and that was Robert's penchant for abbreviations. This led one irate reader to write a classic letter to the editor railing against this usage—and doing so entirely in abbreviations! This letter was reprinted in an early issue of the *Newsletter*.

The second story highlights Robert's remarkable thirst for what he perceives to be healthful beverages. I have never met anyone else who can get so excited over a non-alcoholic drink as Robert. The two brands that seemed to receive his highest acclaim, when spotted in the course of an IA tour, were "Celray" (the spelling may be off) and "Moxie." The former, I gather, is a peculiar concoction made of celery and assorted vegetables; the latter is created, I'm told, from ingredients dredged from the depths of a swamp in central Maine. Since the SIA now seems to enjoy its own coffee mugs, and other paraphernalia, I wonder if it would not be timely, and in the spirit of this commemoration of Robert's achievements, to consider having these distinctive elixirs designated "RMV's Official SIA Tour Tonics." Perhaps the manufacturers would agree to add to their labels, "By Appointment to the Society for Industrial Archeology."

This has all been on the light side, but I do want to add that if it were not for Robert's pioneering efforts in the 1960s, and his dedication to SIA throughout the 1970s and 1980s as the Society has developed, there would not be the significant industrial archeological movement that we have in the United States today.

HELENA WRIGHT, *Curator, Division of Graphic Arts, National Museum of American History, Smithsonian Institution, and former SIA president.*

Twenty years ago this July, fresh out of college, I began my first job at Merrimack Valley Textile Museum (now the Museum of American Textile History). One of my first days on the job, I made the acquaintance of Robert M. Vogel, then leading the second summer's work of the New England Textile Mill Survey (NETMS). During NETMS, a field-recording project that operated during the summers of 1967 and 1968, teams of students measured, drew, and photographed prime examples of surviving textile mills in Massachusetts, New Hampshire, and Rhode Island, sites previously identified by Vogel and others.

Sound familiar? NETMS was the progenitor of HAER, the project that proved HAER could and should come into being. Robert was the prime mover behind it all: having traveled through New England since boyhood, he had developed an appreciation for its extensive industrial remains. Building on his Smithsonian experience, together with like-minded colleagues at the National Park Service, he worked out the pattern of summer field-work programs that continued as the Hudson-



RMV and Eric DeLony mark for preservation parts of a truss built by Wendell Bollman in Carroll County, Md. It is Oct. 1977. Photo courtesy Smithsonian Inst.

Mohawk Area survey in 1969 and became an important component of HAER.

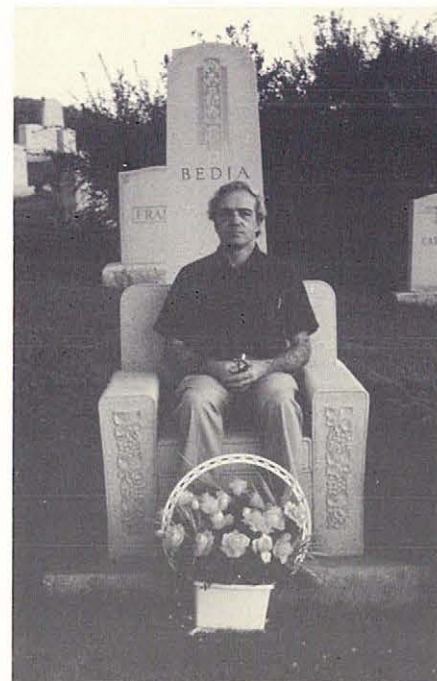
Having Robert on the scene benefited both the Textile Museum and the wider field of industrial history. His enthusiastic and comprehensive collecting habits enriched its collections and inspired future directions of collection development. He saw the merit of many things left behind in mill attics that have since become important sources for researchers. He taught us to appreciate stereographs and other documentary evidence then going begging in junk shops for a quarter. His approach was holistic, and his professional expertise in architecture and engineering led us to look beyond the manufacture of textiles to the water and steam power that made the industry possible, as well as the factory buildings and housing that comprised the communities involved. He saw the bigger picture, a systems approach, that has had important consequences for the development of other industrial museums and indeed for the whole discipline of industrial archeology.

ERIC N. DELONY, *Chief, Historic American Engineering Record, National Park Service.*

The somber, gray granite textile mills of Fall River, Massachusetts, is where I first encountered Robert Vogel. "Encountered" is an apt word because Robert (or Mr. Vogel, as we then called him) was a bundle of enthusiasm and energy as he bounded from floor to floor, up stairs two steps at a time, recording the structure of these remarkable mill buildings. The occasion was the New England Textile Mill Survey II, field-headquartered on the top floor of the old Bristol Community College, which formerly was one of New England's major textile schools. The Survey was to prepare a permanent record of New England's textile industry.

I was 23 years old, just graduated from Ohio State, and was east of the Hudson for the first time. Robert was 38, a curator of mechanical and civil engineering at the Smithsonian, and bigger than life. There were five of us on the team: David Bouse from Nebraska, Denis Jacobs from Kansas, Mel Rotsch from Texas, Peter Conrad from Connecticut, photographer Jack Boucher, and me. Robert was project director. The team was cosponsored by the Merrimack Valley Textile Museum, the Smithsonian Institution, and the Historic American Buildings Survey (HABS).

The highlight of the summer was when Mr. Vogel came to town to review the work of the team. We would pile into his Volkswagen bus, lay in a supply of soft drinks, snacks, and candy, and take an afternoon to explore several mills that were additional candidates for recording. I will never forget the weekend I volunteered to record the Hopkinton Mill with Mr. Vogel. It was a simple, wood-frame, one-story mill that had been converted into a dairy barn, and it contrasted markedly with the granite monoliths of Fall River. Not only was it an opportunity to spend the day working with him, but I also was introduced to "quadrangular treasure," Moxie, and Yoo-Hoo. No sooner had we set off in the VW bus when Robert handed me a four-ring, legal-size binder



RMV, in the Chair. *Left:* Yes, it's an elevator, in the elevator museum at Budapest, Hungary, 1987. *Helena Wright photo.*

Center: Posing as the ambivalent Elias Brewer, builder of this 1902 Boston residential elevator, which was collected for the NMAH. *Jet Lowe photo for HAER.*

Right: Contemplating IA in granite at Barre, Vt., during the 1982 IA Institute. *Photo courtesy Helena Wright.*

with 7.5 minute USGS quadrangles of the area, cut in halves, with the request to follow our route to the mill on the maps. Moxie, a soft drink unique to New England, and Yoo-Hoo, a chocolate concoction that was a favorite of Mr. Vogel's, quenched our thirst during that day.

One other detail is worth telling about the summer because it reveals Robert's style in working with potential industrial archeologists. A major anxiety for us as student summer workers was housing. Robert eliminated much of that for us by finding a large, three-story, Edwardian residence, not five blocks from the house in which Lizzy Borden axed her parents. It was a magnificent, comfortable house, vacated by the owners for the summer, and large enough to accommodate two small families and two single men for the cost of utilities. We lucked out through Mr. Vogel's extra efforts to provide for his young employees and saved most of our government salaries for the next year's school expenses.

The summer of '68 was over much too soon and I returned to Ohio for the winter to practice architecture and save money for graduate school. One of the conditions of accepting a job with the architectural firm in Columbus was that I would be leaving the next June for another HABS/HAER team. When spring arrived I remember specifically requesting that I work on a team headed by Mr. Vogel. His 1969 project was the pilot survey for the newly established Historic American Engineering Record. The team was headquartered in Troy, New York, at Rensselaer Polytechnic Institute. We documented a variety of engineering and industrial sites in the Mohawk-Hudson/Albany Capital area of New York. Robert continued to be involved with HAER projects during its formative years, and I have consulted with him on projects ever since. Never once did he fail to provide the vast resources of the Smithsonian or his sound, practical advice on the conduct of recording projects.

Inspiration and mentor/leader/friend is what Robert Vogel means to me and a whole generation of industrial archeologists fortunate enough to have come into contact with him through the HAER programs, SIA, or the Smithsonian. I might still be practicing architecture in Ohio had I not encountered him or the HABS/HAER program in Fall River in 1968. He provided not only the prototype for HAER work, but, more importantly, he was the role model for project leader. Robert's first rule of order—keeping the HAER mission artifact-oriented and site specific—has always been the formula for success; diverging from the “nuts & bolts” approach has always spelled disaster for HAER. Robert's second rule of order is to take care of your team and they will take care

of you. I have never known him not to share openly and generously his vast knowledge or the great resources at his disposal, if you were genuinely sincere about your subject. On the other hand, you did not want to be on the wrong side of Robert. His criticism is devastating, should he think you are self-serving.

EMORY L. KEMP, *Professor, History of Science & Technology, West Virginia University, and current SIA president.*

It is difficult to imagine the suite of rooms designated 5020 at the National Museum of American History without Robert Vogel. A rolltop desk and swivel chair placed solidly in the middle of the cabinets bulging with archival material and a clutter of industrial-archeological artifacts are all silent witness to Robert's long tenure as Curator of the Division of Mechanical and Civil Engineering, recently renamed Engineering and Industry.

During the past quarter-century I have frequently visited Room 5020, always to receive a warm welcome and free access to the most important archive of civil and mechanical engineering in the country. The same generous hospitality was extended to all serious scholars wishing to peruse his archives. While the holdings are a rich resource for historians of technology, Robert himself is a fount of detailed information on an amazing range of subjects. It is little wonder that he is acknowledged in so many publications.

In 1971, while spending a week at the NMAH, Robert invited me to a meeting on industrial archeology. A lively debate ensued on whether an interest group concerned with industrial archeology should be formed as part of the field of historical archeology, or whether this group should strike out on its own. A bold decision was made on that day, October 16, to form a new society called SIA.

It was vintage Vogel, characterized by enthusiasm and commitment on the one hand, and a deep concern for detail and the insistence on high quality on the other. Not content with just founding a new group, we also determined its name, complete with the spelling of archeology without an “ae” diphthong, a variant spelling of which I was unaware until this meeting. Under his aegis, the SIA headquarters was established in his division at the Smithsonian, where it remains today. Thus it is difficult to imagine the SIA and its many activities apart from Robert Vogel's steadfast support, in all phases of its work. He richly deserves our heart-felt thanks for all he has done for the Society.

NOTES & QUERIES

THE BALTIMORE PUBLIC WORKS MUSEUM [SIA institutional member] is reformatting and enlarging its newsletter to include updates on public works history projects nationwide. The revamping is in line with the museum's ambitious development plan expanding its physical plant and program offerings. Send press releases and announcements to Nancy Fenton, Curator, BPWM, 701 Eastern Ave., Balt. MD 21202 (301-396-5565).

MONEY'S STILL AVAILABLE and there's no deadline for applications for travel-support grants at the Walter P. Reuther Archives of Labor & Urban Affairs, Wayne State Univ., Detroit. Funded by the Henry J. Kaiser Family Foundation of Menlo Park, Calif., the program awards grants of up to \$700 to cover travel and expenses related to research at the Archives, and is intended primarily for doctoral candidates and junior faculty. The Archives' holdings include the papers of nine major unions, worker and social reform organizations, women's and black history, radical movements, and civil rights. Info.: Dir. Philip P. Mason, Archives of Labor & Urban Affairs, WSU, Detroit MI 48202 (313-577-4024).

GREAT STEAM ENGINE INVENTORY. Formed only two years ago, the Stationary Engine Society has just released a major publication: the first edition of its *Inventory of Stationary & Marine Steam Engines in the U.S. & Canada*. The Society, which is largely the special obsession of founder Roger L. Robertson [SIA], began its survey with steam engine inventory records from the Historic American Engineering Record [HAER] assembled by Robert L. Johnson [SIA], provided by Eric DeLony [SIA], augmented by the files of William D. Sawyer [SIA], Brad Smith, and the Greenfield Village and Henry Ford Museum collections [SIA institutional members]. The net result, as published, includes some 800 extant steam engines located in 50 states and provinces. The data was computerized and is printed out under the following headings: state/province; city; site/organization; address; builder; layout (a code indicating horizontal, vertical or inclined; number of cylinders; and single expansion, compound, or uniflow); bore/stroke; valves; flywheel diameter. The compilers welcome additions and corrections for future editions. For a copy of the inventory, send \$3 to Roger L. Robertson, Sec'y, SES, 3706 Emily St., Kensington MD 20895. SES membership is \$10.

NEW NATIONAL REGISTER BULLETIN. The National Park Service announces that draft copies of the new NR Bulletin 38, "Traditional Cultural Properties: Guidelines for Evaluation," are being circulated for public comment. This bulletin addresses the process of nominating properties that possess traditional but often continuing lifeways of a community and might include locations associated with Native American beliefs or urban neighborhoods that have been home to particular ethnic or cultural groups, such as workers' neighborhoods. For copies contact Bruce Noble (413), National Register, National Park Service, POB 37127, Wash. DC 20013-7127 (202-343-9559).

ROCKINGHAM WARE QUERY. "For a doctoral dissertation in American Civ. at the Univ. of Penn., I am seeking information about excavations of 19th- and early 20th-C pottery sites that include Rockingham wares in the ceramic assemblage. Rockingham ware is a generic name for yellow or buff-bodied earthenware or stoneware glazed with a brown, often mottled, glaze. Produced in both utilitarian and decorative forms, the ware usually was press-molded, but occasionally was wheel-thrown. It is also known as Rockingham glazed yellowware or 'Bennington,' and could appear as such in artifact inventories. I have also found it to be subsumed under the term 'yellowware' in some site reports, although not in reports of excavations of pottery sites. Information about other types of industrial sites at which Rockingham was recovered also would be greatly appreciated. Photocopies of the site-report title and pages mentioning Rockingham would be most helpful." Contact Jane Perkins Clancy, 437 Colebrook Lane, Bryn Mawr PA 19010 (215-525-0667)."

HAGLEY FELLOWSHIPS. The Hagley Museum & Library [SIA institutional member] has announced a series of fellowships for 1989-90. **Advanced Research Fellowships**, funded by the Natl. Endowment for the Humanities and the Andrew W. Mellon Foundation, support independent study in Hagley's fields of interest at its Center for the History of Business, Technology & Society. Fellowships are offered for six to twelve months' work with a maximum stipend of \$27,500. These are restricted to individuals pursuing advanced research; awards will not be made to degree candidates or to persons seeking support for work leading to a degree. Endowment guidelines specify that applicants must be American citizens or have been resident in the U.S. for three years immediately preceding the term of fellowship. Applications must be received by Feb. 15, 1989; awards will be announced by April 1.

Dissertation Fellowships in support of doctoral work in the topical fields of Hagley's research and collecting interests: business, economic, and technological history in their social contexts. Up to two *regional fellowships* with stipends in the amount of \$12,500 will be offered to doctoral candidates studying at universities in N.J., Md., eastern Pa., and Wash. D.C. Recipients must take part in Center programs. An additional *residential dissertation fellowship*, with a stipend of \$13,500, will be offered to applicants from any university anywhere. Recipients must demonstrate the strong pertinence of Hagley's collections to the dissertation topic, spend nine to twelve months in residence, and take part in center programs. Applications must be received by Feb. 15, 1989; awards will be announced by April 1.

Grants-in-Aid also are offered for calendar 1989. These grants support short-term (two to eight weeks) research in Hagley's imprint, manuscript, pictorial, and artifact collections. They are available to both degree candidates and advanced scholars. Applications will be accepted through the year. Awards in 1989 will not exceed \$750 per month of study.

For info. on all programs, contact Executive Administrator, Center for Hist. of Business, Tech & Soc., Hagley Museum & Library, POB 3630, Wilmington DE 19807 (302-658-2400).

CALL FOR ARTICLES. *Design Issues* is a journal of design history, theory, and criticism founded in 1984 at the Univ. of Illinois at Chicago. It seeks articles on a wide range of issues related to design. Of particular interest are articles that can contribute to a debate about the past and present nature of design and can help to develop design's theoretical and critical foundations. Articles should be no more than 20 typed, double-spaced pages of text, and may be in languages other than English, with an English abstract. Accepted articles will be translated by the journal. Proposals for articles also are welcome. Info.: Bonnie Osborn, *Design Issues*, School of Art & Design, Univ. of Ill. at Chicago, POB 4348, Chicago IL 60680 (312-996-3337).

ARCHITECTURAL HISTORY & HISTORICAL ARCHEOLOGY FIELD SCHOOLS. Old Sturbridge Village (OSV) will hold its first annual Summer Field School in Architectural History June 26 to Aug. 11. The program, focusing on buildings of the late 18th and early 19th C in rural central Mass., will feature intensive instruction and experience in architectural documentation techniques, measuring and drawing buildings, architectural photography, and a thorough introduction to documentary research. Guest lecturers will present current methodology in the study of architecture and New England history. The school will be held in conjunction with the 11th annual OSV Summer Field School in Historical Archeology. The second season of archeological excavation at the house and shop site of the early 19th-C cabinet-maker/housewright James Clark of West Brookfield, Mass., will be complemented by the documentation of buildings in West Brookfield and the surrounding towns, several of which were erected by Clark. Students in both field schools will have many opportunities to interact with their counterparts and will be encouraged to explore and integrate the methods and findings of the other group. Negotiations are underway with Clark Univ., Worcester, to grant both undergraduate and graduate course credits to participants. Application deadline is May 1 and enrollment is limited to 20 students. Info.: Myron O. Stachiw or Nora Pat Small, Research Dept., OSV, 1 Old Sturbridge Village Rd., Sturbridge MA 01566 (508-347-3362).

SITES & STRUCTURES



The "Derby locomotive" running at the Shore Line Trolley Museum, East Haven, Conn., May 28, 1988. John R. Stevens photo.

Dear Editor:

The Spring issue of *SIAN* (Supplement p. 3) had a note about an article of mine that appeared in No. 157 of *Railroad History*, on the World's first electric freight locomotive.

On May 28, the locomotive was run on the track of the Shore Line Trolley Museum at East Haven, Conn., to celebrate the centennial of its first use in May 1888. It was powered by its original Van Depoele traction motor, which had been re-wound and otherwise fully restored to operating condition.

The "Derby locomotive" was the first electric locomotive that was built, and successfully used, for the commercial haulage of freight. It is the ancestor of all electric and diesel-electric locomotives. It bears the same relationship to 20th-C railway technology that the Wright brothers biplane does to powered flight.

1988 is the centennial year of the arrival of the electric railway at a state of practicality. The pivotal date is considered May 4, 1888, when the Richmond (Va.) Union Passenger Railway was to be finally in full operation and the equipment was accepted by the owner from the Sprague Electric Railway and Motor Co. At the beginning of 1881, half of the electric railways in use in the United States and Canada had been equipped by the Van Depoele Electric Manufacturing Co. The Sprague Co. only had one small line in operation at St. Joseph, Mo., and had commenced work on the Richmond installation.

Not much notice has been taken of the electric railway centennial. I hope that you can refer to it. Incidentally, the "Derby locomotive" is the oldest "trolley car."

JOHN R. STEVENS
Greenlawn, N.Y.

John R. Stevens [*SIA*] is the author of *The Derby Horse Railway & the World's First Electric Freight Locomotive* (Glendale, Ca.: Interurban Press). Ed.

LINCOLN HWY SEGMENT ON NR. A 4,580-ft. segment of the original Lincoln Highway in Nebraska was added to the National Register of Historic Places. Now part of Douglas Co. Rd. 120 east of Elkhorn, the NR part also includes a steel Pratt pony-truss. Regraded and improved in 1920 with brick pavers covering a sand and concrete base, the road is believed to be the only rural section of the Lincoln Highway in Neb. that retains its early materials and character. It dates to the original Omaha to Elkhorn road, envisioned in 1913 by the Lincoln Highway Assn. as the transcontinental road linking Times Square in New York City with San Francisco Bay. By 1925 the Lincoln Highway was U.S. 30, and by the 1930s the Omaha-Elkhorn route had been bypassed. Info.: Neb. SHPO, Neb. State Hist. Soc., 1500 R St., POB 82554, Lincoln NE 68501 (402-471-4787).

NEW LOGGING MUSEUM PLANNED. The Mountain State Railroad & Logging Historical Assn. is working to establish the W.Va. Museum of Logging History & Technology at the Cass Scenic RR in Cass, W.Va. The site now includes a logging RR with operating geared locomotives, the Mower Lumber Mill, and a company town undergoing restoration. Along with funds and donations, the assn. seeks photos, tools, machinery, and other items related to the logging industry. Info.: W.Va. Museum of Logging Hist. & Tech, 3101 Auburn Rd., Huntington WV 25704 (304-456-4852).

Locomotive & Railway Preservation

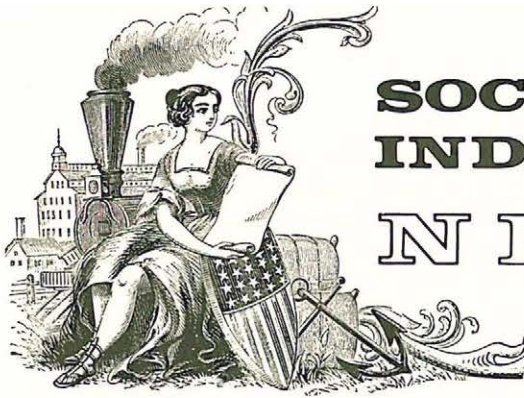
MINING ARCHIVES. The S.D. School of Mines & Technology in Rapid City received a grant of \$52,402 from the Natl. Historical Publications & Records Commn. to establish an archives program, establish control and provide access to the Black Hills Mining Industrial Archives Collections, and to prepare finding aids to the collections.

"MICHIGAN'S LIGHTHOUSES" BROCHURE AVAILABLE. The 18x22-in., full-color brochure features photos and historic info. about 14 of the 104 lighthouses along Mich.'s coastline. Unfolded, one side becomes a poster displaying the Skillagalee (Ile Aux Falets) Light of Waugoshance Island and a map outlining the general location of all 104 lights. For a free copy, write MDOT's Public Info. Office, POB 30050, Lansing, MI 48909. A.H.F.

FIRE ENDS MINN. WATER-POWER ERA. Minnesota's water-powered flour-milling era ended in November 1988, with a tragic fire that destroyed the 1890 Stockton Roller Mills [NR]. Located near Winona in the southeastern corner of the state, the Stockton mill was a modest three-story, wood-frame structure that still ran its original equipment with power from two Leffel turbines. It was the last mill in Minnesota, once the nation's milling capital, to produce flour on a regular, commercial basis using only water power. It was designed to house two systems, a buckwheat mill — the longtime speciality — and a complete, gradual-reduction, roller flour-mill. For the last decade the Stockton operation had struggled mightily to produce a profit by selling, at various times, buckwheat, spring-wheat, and whole-wheat flours, as well as pancake mixes. Competing against giant milling outfits for shelf space in supermarkets proved enormously difficult, but milling continued to the end. Now it is gone forever. The original equipment lost in the blaze included the roller-mill stands, along with reels and purifiers in their 19th-C wood housings finished like fine furniture.

CONTRIBUTORS TO THIS ISSUE

Ann Bartholomew & Lance Metz, Hugh Moore Historical Park & Museums, Inc.; Eric N. DeLony, HAER; Aarne H. Frobom, Lansing, Mich.; Emory L. Kemp, West Virginia Univ.; Robert Kapsch & Jet Lowe, Historic American Engineering Record; Chester Liebs, Univ. of Vt.; Patrick M. Malone, Slater Mill Historic Site; Vance Packard, Drake Well Museum; Theodore Anton Sande, Western Reserve Historical Society; Helena Wright, NMAH, Smithsonian; and especially Robert M. Vogel, Ret. With thanks.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 17 NO. 3

FALL 1988

Compiled by John M. Wickre, Minnesota Historical Society

GENERAL SUBJECTS

Andrew Abbott, **The System of Professions: An Essay on the Division of Expert Labor**. Univ. of Chicago Pr. (Chicago IL), 1988? 456p. \$50/20 pap. England, France and America, 19th-20th C.

Caroline Arscott, 2 essays: "The Partial View: The Visual Representation of the Early 19th-C. Industrial City" and "Without Distinction of Party: The Polytechnic Exhibitions in Leeds, 1839-1845". In Janet Wolff and John Seed, eds., *The Culture of Capital: Art, Power, and the 19th-C. Middle Class*. Manchester Univ. Pr. (Manchester, England), 1988. 243p. \$60. Individual essays listed in *Amer. Historical Rev.* 93, Oct. 1988, p1157-8.

Donald B. Ball and Philip J. Diblasi, eds., **Proceedings of the Symposium on Ohio Valley Urban & Historic Archaeology, Vol. 1**. Univ. of Louisville (KY), Archaeological Survey, 1983. 183p. illus. \$12 pap. Incl. German-Amer. community of Pleasant Bottom, Adams Co., Ohio (lime works, blacksmith shop, joinery, brickyard, pottery, c.1790s); and urban archaeology in Cincinnati, Ohio (Queensgate II project) and Detroit, Mich. (Cadillac Square). Rev.: *Historical Archaeology* 22, No. 1, 1988, p107-10.

Wiebe E. Bijker et al., eds., **The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology**. MIT Pr. (Cambridge MA), 1987. 415p. \$35. Individual essays listed in *Amer. Historical Rev.* 93, Oct. 1988, p1155.

Jo Blatti, ed., **Past Meets Present: Essays About Historic Interpretation and Public Audiences**. Smithsonian Institution (Wash. DC), 1987. 180p. illus. \$20/12 pap. Rev.: *J. of Amer. History* 75, June 1988, p232-3.

Karl M. Brousek, **Die Grossindustrie Böhmens 1848-1918**. R. Oldenbourg (Munich), 1987. 223p. DM98. Industrialization in Bohemia; fine source of data; little analysis. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1364-5.

F. K. Clar and H. Strauss, "100 atm Piston Engine Installation with 2x6000 HP Output." Orig. pub. in *Zeitschrift des Vereines deutscher Ingenieure* 79, 1935, p487-93. English translation by G. A. Kilander. \$5. Descr. of probably the most advanced reciprocating steam engine ever built; operated at Philip Carey plant (Lockland, Ohio), 1930-1986. (Avail.; E.F.C. Somerscales, Rensselaer Polytechnic Inst., Troy NY 12180-3590 or F.H. Beberdick 11222 St. Lawrence Ave., Chicago IL 60628.)

Daniel J. Elazar, et al., **Cities of the Prairies Revisited: The Closing of the Metropolitan Frontier**. Univ. of Neb. Pr. (Lincoln), 1986. 299p. \$25. Urban geog. of mid-size cities in Ill., with Minn. (Duluth) and Col. (Pueblo) for comparison; 1961-1976. Proposes 4 frontiers, incl. "urban-industrial," with later types distinguished by changes in technology. Rev.: *J. of Amer. History* 75, June 1988, p230-31.

Anselm Faust, **Arbeitsmarktpolitik im deutschen Kaiserreich: Arbeitsvermittlung, Arbeitsbeschaffung, und Arbeitslosenunterstützung 1890-1918**. Franz Steiner (Stuttgart), 1986. 346p. DM78. Jobless benefits in Germany. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1354-5.

Leon Fink et al., "The New Labor History. . ." Essay, 5 comments and a reply in *J. of Amer. History* 75, June 1988, p115-61. Incl. Knights of Labor; "poststructural dynamic."

"Florida History in Periodicals." Bibliog. in *Florida Historical Q.* 67, July 1988, p69-78. Incl. some IA, esp. transport (East Coast canal, Kissimmee River dredging, St. Johns River steamboats, and Annette Gibson Way, 1930s aviatrix), to say nothing of John P. Wiley, "Have You Hugged a Manatee Today?" (waterways, warm water from power plants?).

The Geographical Review 78, Jan. 1988, includes articles on the flood hazard in Kansas City since 1880, incl. RR and other industrial use of the flood plain (p1-19) and on Colonial port cities in India (Madras, Bombay and Calcutta), 17th-C. to present (p32-47).

François Gipouloux, **Les Cents Fleurs à l'Usine: Agitation ouvrière et crise du modèle soviétique en Chine 1956-1957**. Ecole des Hautes Etudes en Sciences Sociales (Paris), 1986. 379p. 280 fr. Chinese workers subjected to brutal Soviet-style industrialization. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1381-2.

Michael Goldfield, **The Decline of Organized Labor in the U.S.** Univ. of Chicago Pr. (Chicago IL), 1987. 309p. \$26. 1950s-present. Rev.: *J. of Amer. History* 75, June 1988, p319-20.

Brian Greenberg, **Worker and Community: Response to Industrialization in a 19th-C. American City, Albany, N.Y., 1850-1884**. State Univ. of N.Y. Pr. (Albany), 1986. 236p. \$35/13 pap. Rev.: *Labor History* 29, Winter 1988, p93-4. Incl. fight against prison contract labor.

Laurence F. Gross [SIA]. "Lobstering and the Maine Coast' at the Maine Maritime Museum." Exhibit review in *Technology and Culture* 29, Oct. 1988, p904-8.

Michael F. Hamm, ed., **The City in Late Imperial Russia**. Ind. Univ. Pr. (Bloomington), Ind.-Mich. Series in Russian and East European Studies, 1986. 381p. maps, photos, bibliog. \$? 8 cities, c.1860-1917: Moscow and St. Petersburg (industrial centers), Odessa and Riga (ports), Kiev (processing of agricultural products), Tiflis ("transit trade"), Baku (oil production), and Warsaw; with RRs, although integral, treated "only summarily." Rev.: *J. of Social Hist.* 22, Fall 1988, p171-2.

Daniel R. Headrick, **The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940**. Oxford Univ. Pr. (NY), 1988. 416p. maps. \$33/12 pap.

Historical Archaeology is the twice-yearly journal of the Society for Historical Archaeology (membership, \$30/yr., includes journal and quarterly newsletter: Pleasant Hill, CA 94523-1033). Latest issue, Vol. 22, No. 1, 1988, includes articles having info on glass bead mfg. in Amsterdam, Netherlands, c.1597-1806 (p67-75); production of "Colono-Ware" pottery in 17th-C. Spanish Florida (p76-82); imported clay tobacco pipe trade in Va., c.1650-1700, with some terra-cotta tobacco pipes mfd. locally (p83-97).

Maths Isaacson and Lars Magnusson, **Proto-Industrialisation in Scandinavia: Craft Skills in the Industrial Revolution**. Berg (Leamington Spa, U.K.), 1987. (Avail.: St. Martin's, NY). 151p. \$30.

Hartmut Kaeble, **Industrialisation and Social Inequality in 19th-C. Europe**. Translated by Bruce Little. St. Martin's (NY), 1986. 216p. \$? Esp. England, France, and Germany. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1319-20.

Hartmut Kaeble, **Auf dem Weg zu einer europäischen Gesellschaft: Eine Sozialgeschichte Westeuropas 1880-1980**. (Arbeitsbücher: Sozialgeschichte und soziale Bewegung.) C. H. Beck (Munich, Germany), 1987. 194p. DM32. West European social history, incl. industrialization, labor. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1320.

Hermann Kellenbenz, "Frederic C. Lane." In *J. of European Economic Hist.* 17, Spring 1988, p159-84. Biog. of Lane (1900-1984), historian of Medieval and Renaissance European economic history, esp. Venice, incl. ship-building and merchant shipping.

Labor History 29 (p295-405), Summer 1988, is a memorial issue devoted to Herbert G. Gutman (d.1985), historian of the American working class in the age of industrialization. Bibliog. (p400-05) of articles, reviews and books, 1959-1986, includes works on iron, oil industry, and railroad workers, coal miners, black seamen, blacks and slavery.

A. T. Lane, **Solidarity or Survival? Amer. Labor & European Immigrants, 1830-1924**. Greenwood (Westport CT), 1987. 243p. \$35. Restrictionist immigration policies; skilled vs. unskilled labor; incl. United Mine Workers, Iron & Steel Workers. Rev.: *J. of Amer. History* 75, June 1988, p252-3.

Catharina Lis, **Social Change and the Labouring Poor: Antwerp, 1770-1860**. Yale Univ. Pr. (New Haven, CT), 1987? 247p. \$20. Belgium; increasing impoverishment as skilled craft work in silk gave way by 1800 to factory and cottage labor in the lace, cotton, and mixed textile industries, as well as large enterprises outside the guild system; work which was in turn replaced by largely unskilled casual labor on the docks by 1850. Rev.: *Amer. Historical Rev.* 93, Dec. 1988, p1347-8.

William H. Mulligan, Jr., **A Historical Dictionary of American Industrial Language**. Greenwood Pr. (Westport CT), 1988? \$55.

New Yorkers at Work: Oral Histories of Life, Labor, and Industry. Audio cassettes produced by the Robert F. Wagner Labor Archives (Tamiment Inst. Library, NY Univ., New York, NY 10012), 1981, 1986. 4 1-hr. cassettes (8 1/2-hour shows), study guides, teacher's manual. Incl. building trades, longshoremen. Based on 150 1- to 2-hour interviews avail. for use at the Archives. Rev.: *Oral Hist. Rev.* 16, Spring 1988, p203-5.

David E. Nye, "The Workers Museum in Copenhagen." Exhibit review in *Technology and Culture* 29, Oct. 1988, p909-12.

Anthony Patrick O'Brien, "Factory Size, Economies of Scale, and the Great Merger Wave of 1898-1902." In *J. of Economic History* 48, Sept. 1988, p639-49. Concludes that the size of the average factory grew more rapidly in the 1870s and 1880s than during any time through the 1920s, indicating that economies of scale were not an important motive for the 1898-1902 mergers.

Rosemary Palmer [SIA], **A Century of Good Living: North St. Paul**. North St. Paul Centennial Commission (North St. Paul MN 55109), 1988. 291p, illus., index. \$18.87. Industrial suburb of St. Paul, incl. transport, mfg. of iron and wood (furniture, pianos, caskets).

E. Royston Pike, **Human Documents of the Industrial Revolution in Britain**. Unwin Hyman (Winchester MA), 1988 reissue of 19?? orig. 368p. \$18 pap.

Robert L. Schuyler, "Archaeological Remains, Documents, and Anthropology: A Call for a New Culture History." In *Historical Archaeology* 22, No. 1, 1988, p36-42. Suggests that "'historic ethnography,' based equally on archaeology and written sources, is the future natural sphere for archaeological investigation of the modern world. . . ."

Steve J. Stern, "Feudalism, Capitalism and the [Immanuel Wallerstein] World-System in the Perspective of Latin America and the Caribbean." In *Amer. Historical Rev.* 93, Oct. 1988, p829-72. Discusses labor policy in silver mining in Peru and plantation sugar production in the Caribbean, 1500s-1700s. Rejoinder by Wallerstein, p873-85; reply by Stern, p886-97.

Sharon Stichter, **Migrant Laborers**. Cambridge Univ. Pr. (NY), 1985. 230p. \$30/11 pap. Industrial labor S. of the Sahara. Rev.: *Amer. Historical Rev.* 93, Oct. 1988, p1096.

Robert R. Swartout, Jr., "Kwangtung to Big Sky: The Chinese in Montana, 1864-1900." In *Montana, The Magazine of Western History* 38, Winter 1988, p42-53. Incl. RR work and mining, esp. in Butte.

Technology and Culture 29, Oct. 1988, focuses on labor history, incl. an article by guest editor Philip Scranton, "None-Too-Porous Boundaries: Labor History and the History of Technology" (p722-43) and a research note by Geoffrey Tweedale, "Days at the Factories: A Tour of Victorian Industry with The Penny Magazine" (p888-902, incl. engravings of English factory scenes, 1841-44).

Albert E. Ward, comp. & ed., **Forgotten Places & Things**. Center for Anthropological Studies (Albuquerque NM), Contrib. to Anthro. Studies, No. 3, 1983. 370p, illus. \$24 pap. Papers from the 13th Ann. Meeting of the Soc. for Historical Archaeology, Albuquerque, 1980; incl. mining towns, logging and railroad camps. Rev.: *Historical Archaeology* 22, No. 1, 1988, p107.

Robert H. Zieger, "Labor and the State in Modern America: The Archival Trail." In *J. of Amer. History* 75, June 1988, p184-96. Incl. federal archives (e.g., WWI-era U.S. Commission on Industrial Relations and Natl. War Labor Board; industry histories in NRA [Natl. Recovery Admin.] records, 1930s; U.S. Army G-2 and FBI files) and specialized labor archives.

IA OF THE FUTURE

McGraw-Hill Yearbook of Science and Technology 1988. McGraw-Hill Book Co. (NY), 1987 [1989 edition due out c.Dec. 1988?]. 518p, illus., index. \$? Encyclopedia yearbooks have not always received much credit as scholarly sources, but persons interested in IA might want to take a look at the yearbooks produced by the staff of the **McGraw-Hill Encyclopedia of Science and Technology**. The 1988 version includes 1- to 8-p. articles on recent advances in adhesive bonding, sodium/sulfur and zinc/bromine storage batteries, computer-integrated mfg., silicon micromechanics and micromachining, the electric utility industry, food engineering and mfg., the printing industry (incl. inks and flexography), magnetic suspension and levitation for transport, plasma reactors for melting refractory materials, nondestructive testing, water-jet ship propulsion systems, and underground mining.

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