SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

SUPPLEMENTARY ISSUE Nº TWO

May 1972

The 1972 Conference NYC

It began in the chill winds and petulant flurries of a late spring snow storm, in lower Manhattan on Saturday morning, April 8th, and ended in the warm glow of a Sunday afternoon sun at Hoboken, New Jersey some thirty hours later. In between, SIA was transformed from an abstract legal document, a codification of aspirations, into a living force.

In the heart of the Cast-Iron District

Saturday

The morning saw nearly one hundred of us bustling about Cooper Union's Great Hall and the surrounding corridors, performing the ritual acts of registration; meeting old friends, greeting new acquaintances and enjoying coffee and donuts (courtesy of the Edward Rutschs). Charles Tremer, interim President, convened the brief business meeting at 9:30 a.m. The new officers and Directors were elected and the meeting was then turned over to Ted Sande, our first President. After ratification of the Constitution and dues schedule, (approved with the addition of a student-member category at $5/year), Sande welcomed those assembled and thanked the Cooper Union for allowing us to hold our first conference in the historic Great Hall. He then outlined the major efforts for the coming year: increasing membership, developing communications, and encouraging the preservation of threatened industrial monuments. By 10 o'clock, on schedule, we were ready for the first paper of the Morning Session, chaired by Chester Liebs (See abstracts, below).

For most of us, luncheon meant a visit to McSorley's Ale House where we delighted in shop talk with colleagues and banter with the establishment's old regulars (a helpful lot who gladly explained the ritual of obtaining beer from the bar as cheaply as possible--order two drafts at a time).

Refreshed, we returned to the Great Hall for the afternoon where, following some useful comments on fund raising by Paul Rivard, Ted Sande chaired a session in which the papers focused on the preservation of industrial monuments. The wide-ranging scope that the term "monument" has for the industrial archeologist was evident in the varied topics discussed. Through Ed Rutsch's initiative, a block of reservations for dinner had been made at the renowned Lüchow's nearby and the day's formalities closed with a substantial number of the conferees moving there for food, drink and more good talk.

Sunday

At 10 sharp, on an astonishingly bright and clear morning, about fifty hardy souls assembled before the main entrance of Cooper Union. The air was still and cold but the sun

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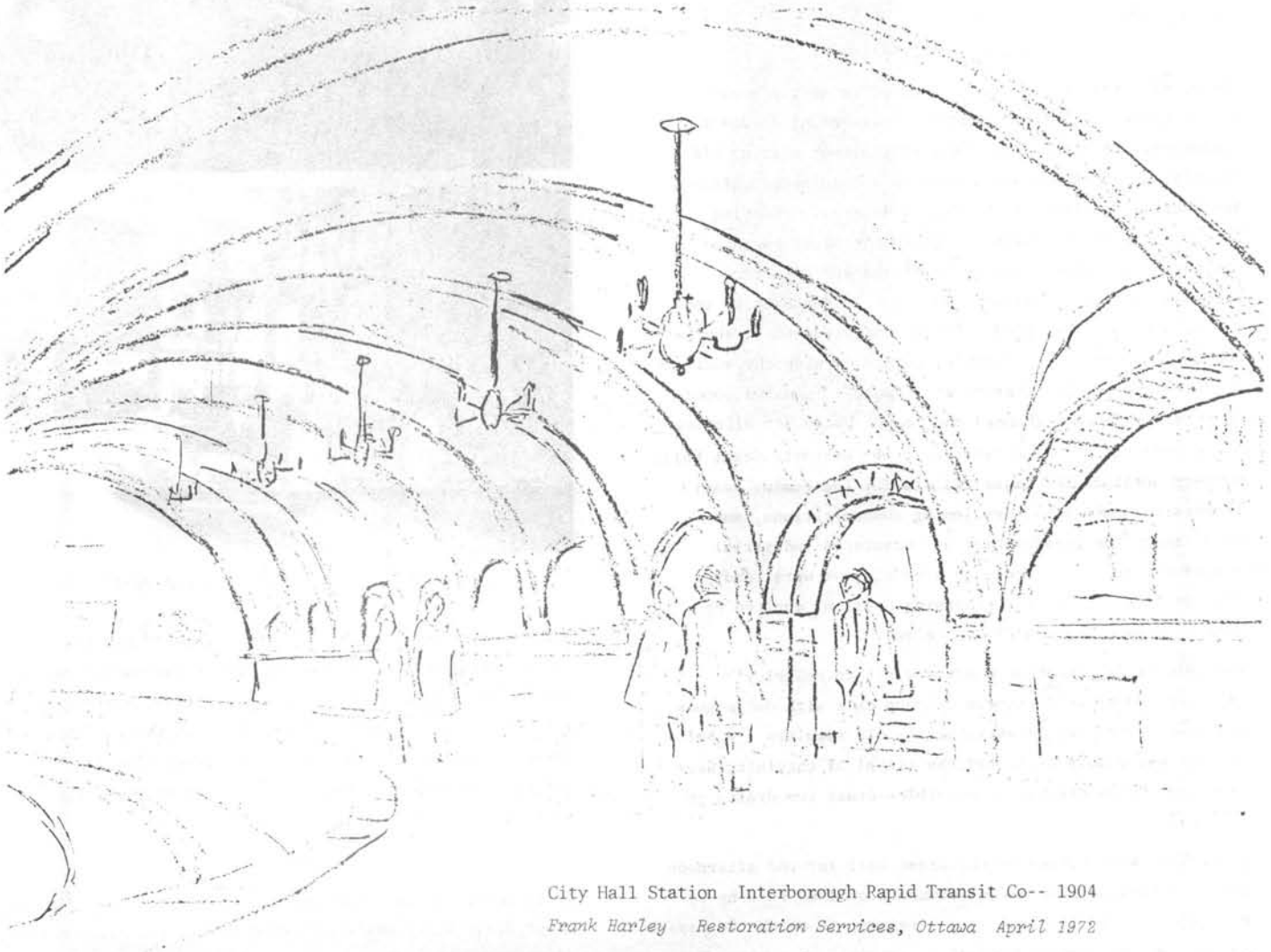
promised warmth as the day proceeded--a promise it fulfilled--as Margot Gayle, Chairman of the Friends of Cast Iron Architecture, briefed us on what we were about to see. (Our progress was delayed a moment as the peripatetic Board of Directors held its first business meeting for the pleasurable purpose of formally appointing Robert Vogel Editor). Then we were off, accompanied by Geoffrey Hellman of the New Yorker (see May Newsletter); a babbling, camera-laden, neck-craning collection that, swelled at times by curious (take it either way) "street people," weaved and bobbed south from Astor Place through the deserted streets, stopping, now, to examine an obscure detail or, again, standing back to look at a particularly fine facade, in this largest concentration of cast-iron-front buildings in the world. All the while we were held together by a constant stream of facts and anecdotes from the indefatigable Mrs Gayle. Under her wing, we moved at a brisk pace, and more than an hour later spilled into City Hall Plaza at the base of Cass Gilbert's magnificent Woolworth Building (1913). A rousing cheer expressed our appreciation to Mrs Gayle.

Margot Gayle casting iron before the conferees, Sunday morning.

Our next stop was the old City Hall "Loop" Station of 1904 that has been closed to the public since 1945. Through the good offices of the NYC Transit Authority's Public Information Officer, special train arrangements were made to get us there, and back to the nearby Brooklyn Bridge Station. The City Hall Station is noted for its handsome Guastavino tile ceiling vaults. In the quiet of the abandoned platform, the train that brought us having returned to the main line, the low, broad vaulting reminded one of Eisenstein's ominously beautiful settings for his film classic Ivan the Terrible.



City Hall Station Interborough Rapid Transit Co-- 1904

Frank Harley Restoration Services, Ottawa April 1972

Up from underground, we moved on to the adjacent promenade of Brooklyn Bridge. From mid-span we gazed back over lower Manhattan, squinted through the wood boards of the walkway at the icy waters of the East River far below and tried as best we could to absorb the experience of being for a moment enveloped by this marvelous expression of 19th-century engineering and, inextricably bound up with it, the courage and perseverance of the Roeblings.

The planned elevated trip over the Manhattan Bridge back to Manhattan having been scrubbed, the suggestion by several of the local members that we stop instead at the nascent South Street Seaport was accepted and the group made its way there through the decaying fish market area around Fulton Street. The Seaport, in time expecting to recreate certain elements of the bustling 19thC East River port along South Street, at present has a number of interesting vessels tied up at its piers, notably the recently decommissioned Alexander Hamilton (Baltimore 1924), the last of the once-celebrated fleet of the Hudson River Day Line. This superbly handsome side-wheeler had been in excursion service until last fall, making daily trips in season between New York and Poughkeepsie, hauling large crowds through what is widely regarded as the most beautiful stretch of river scenery in America. The Hamilton's doom, ironically, was not at the customary hand of economic obsolescence, but rather because the vast amounts of wood in her superstructure were viewed by the Coast Guard as too great a fire hazard in an excursion boat. At South Street she will in time be converted into a floating restaurant--an ignominious use but better than the cutter's torch. Unfortunately access was not permitted, so we could not view her magnificant inclined, triple-expansion engine, visible through a well in the main deck. Those of us who had had the good fortune to ride the Alexander Hamilton in the past especially were saddened to see her thus, at the end of her real career. R.I.P. Another vessel at the Seaport, of particular industrial-archeological interest, was the legendary Ambrose Lightship, which for many years served off Sandy Hook, now replaced by an automatic light.

The group, reduced by fatigue and hunger to about 30 "true believers," then made its way by foot and PATH (better known formerly as the Hudson & Manhattan) tubes to the Hoboken rail-ferry terminal, built by the DL&W in 1906 to handle the vast New Jersey-Manhattan commuter traffic, where we were met by C R Wallace, Erie-Lackawanna Assistant Trainmaster. This remarkably well-informed gentleman assembled us first in a car of the E-L's latest rolling stock, known as "push-pull" trains. Designed expressly for commuter service, the trains consist of a single conventional diesel locomotive on the head end, a number of regular cars, usually a bar car (popular on the evening outbound trips, we were informed), and on the tail end, a "cab" car, containing at its rear a full set of locomotive controls, electrically connected to the locomotive itself. The train can thus lay over at night on a siding at the end of the run, and without the locomotive having to run around the train, make the morning inbound trip driven from the cab car.

There followed a complete examination of the striking copper-clad structure, the last survivor of the great Hudson River rail and ferry terminals in New Jersey, those of the Central RR of NJ, Pennsylvania, NY Central and Erie railroads having all since departed. The stub-end rail portion of the terminal was the first to be protected by Bush type umbrella sheds, as opposed to the classical Victorian vaulted train shed. Other than the tracks themselves, built right to the bulkhead line, the entire terminal was erected over the river, founded on pilings topped by a concrete mat. With the exception of the 200-foot clock tower, removed some time ago, all is essentially as built. Gone are the milling crowds of commuters, thronging through the huge passages from the trains to the once waiting ferrys, and the entire building wears an aura of sadness and neglect. It was a model facility in its time, serving with efficiency for more than half a century.

Its ultimate disposition is, as is so often the case today with great railroad passenger structures, a problem for the Erie-Lackawanna. The bulk of the space is entirely useless--offices occupy a small portion of the upper floor --for the rail platforms and the PATH entrance are immediately adjacent, so that the great flow of passengers today doesn't enter the terminal proper at all.

The tour's last stop was what had been the roof garden of the terminal's restaurant, for many years one of the finest and most fashionable in the area, from which point we were treated, on a day of unbelievable clarity and brilliance, to a view of New York and the Harbor that fittingly climaxed an exhausting but rewarding IA adventure. Troy in '73!

SYNOPSES OF CONFERENCE PAPERS

Morning Session

1. THEODORE Z. PENN — *Old Sturbridge Village*

The Adjustable Wrench--1831-1841: Its Meaning in Industrial Archeology

The adjustable, or screw-wrench, as it was called in the first half of the 19th century, evolved into its modern form in the decade of the 1830s to meet the needs of the machinists and mechanics working in that era. Along with the hammer and file, it became one of the basic tools of the metal-working trade and, in its later nineteenth century form, is one of the most commonly surviving industrial artifacts.

The most significant changes in adjustable wrench design that occurred between 1831 and 1841, and the major styles were described, with emphasis on the innovations evolved in that decade in Springfield, Massachusetts.

2. HARLEY J. MC KEE, FAIA — *University of Syracuse*

Original Bridges on the National Road in Eastern Ohio

The National Road was completed between Wheeling and Zanesville in 1829. Professor McKee told of his search for the dozen or so arched sandstone bridges, including several with S-curved approaches, in their original state, that were by-passed by highway construction of the 1930s, 50s, and 60s. About thirty feet wide, the single segmental-arches span ten to forty feet. A three-arch bridge remains at Wheeling Creek. Typical stonework was pick-dressed with chiseled trim. Voussoirs either have bevel joints or alternate units project. Courses are generally regular. Walls are battered and buttressed. In spite of frost action the excellence of the original masonry has preserved these bridges in relatively good condition.

3. CLIFF H. KEHO — *Texas Tech University*

Development of Water Supply & Irrigation Technology in the American Southwest

This paper was based upon a recently completed project conducted by the Water Resources Center at Texas Tech University in cooperation with the Historic American Engineering Record of the National Park Service, which traced the development of water supply and irrigation technology in the American Southwest. Professor Keho described the important technological developments related to water supply and irrigation which occurred during three early time periods: Prehistoric, Spanish, and Anglo-American. The Hohokam Indians were irrigating in the Salt River Valley of Arizona between 700 and 1400 A.D. and Corronado found irrigation systems in operation at the time of his explorations in Northern New Mexico in 1541. The Spanish missionaries brought water supply technology with them from Valencia and established large community systems in the San Antonio area in the early 1700s. Anglo-American water supply systems developed from individuals or community efforts into larger corporative and federal projects. The Newlands Act of 1902, which created the U. S. Reclamation Service, established the construction of water supply systems as a national goal and, thus, directly encouraged technological innovation in this area. Advances in design methods and construction techniques identified with these early engineering works contributed significantly to the development of the Southwest.

4. EMORY L. KEMP — *West Virginia University*

A Study of the Barrackville Covered Bridge

The Barrackville Bridge is the only major covered bridge in West Virginia that supports its vehicle loading on a 146 foot span with essentially no modern reinforcement. Professor Kemp presented details of an industrial-archeological study of the bridge conducted by students and faculty of the Department of Civil Engineering, West Virginia University. The study resulted in a set of drawings and photographs of the bridge, supplemented by written documents including the original contract. An original photograph, a professional card, and other information on Lemuel Chenoweth, builder of the structure, was located. The engineering significance of this bridge and the influence of covered bridge systems on later iron and steel truss bridges was also discussed.

5. CHARLES W. TREMER — *Muhlenberg College*

The Convergence of Industrial History & The "New" Archeology: A Theoretical Model

The recent emergence of the new processual archeology points toward an ultimate convergence of the now related but distinctly separate areas of industrial history and archeology. In that both disciplines are expanding their theoretical base in the direction of an anthropologically-oriented interpretation of the original material, (e.g. the industrial historian examining the effect of a particular technological advance in a larger societal context, while the archeologist examines the implications of a particular site in the larger processual context) thus a common ground of theoretical orientation is expanding between the two disciplines.

Using the Saugus (MA) Ironworks as a model, the evolving anthropological orientation of each discipline was examined by Dr. Tremer, and more importantly, the convergence of the disciplines precipitated by this evolution.

Afternoon Session

1. JOHN G. WAITE — *New York State Historic Trust*

19th Century Stove Foundries in Troy, New York, and Their Preservation

Stoves were first cast in Troy shortly after the War of 1812, and manufacture continued until the 1930s. During the 1860s and 1870s, Troy was one of the world's leading stove manufacturing areas. Mr. Waite dealt first with the development of Troy as a center for the manufacturing of stoves as well as other foundry products (architectural iron, railroad car wheels, etc.), and then with the physical remains of these foundries and the problems of and opportunities for preserving them, particularly the specialized building types developed for the stove industry.

2. WILLIAM E. TROUT III — *American Canal Society*

Virginia's 19th Century Inland Navigation

During the 19th century over 1000 miles of Virginia's major rivers and branches were made navigible, from which work a wide variety of structures has survived. Sites of especial interest in canal technology include the flight of five stone locks in downtown Richmond; the unfinished Marshall canal-tunnel; the early four-lock staircase for batteaux on the Appamattox; the locks and deep solid-rock cut of the Potowmack Canal at Great Falls; and the two-lock staircase on Goose Creek near the Potomac. Of nearly equal interest are the wing dams on the Appamattox and remnants of flash locks on the Willis's River. Dr. Trout spoke of the effort being made by Virginians to incorporate the best canal works into parks and scenic rivers, thereby insuring their preservation while generating badly needed open space.

3. CHARLES A. PARROTT III — *Historic American Engineering Record*

The Erie Railroad from Deposit, New York to Susquehanna, Pennsylvania

This paper was based on the 1971 Historic American Engineering Record's survey of the Erie. Mr. Parrott traced the history and evolution of one of the most difficult feats of railroad engineering of its time: construction of the Erie from Deposit to Susquehanna in 1848. He spoke of the history and physical evolution of the Erie's large shops (c1864), and brick station/dining hall/hotel (c1865), which still stand in Susquehanna, and of the possibilities for the preservation of these structures.

4. JOHN YOUNG — *Urban Deadline Architects*

Industrial Archeology in the Redevelopment of Paterson, New Jersey

The Great Falls Project, Paterson, New Jersey, aims at preserving and revitalizing an area of Paterson through the improved utilization of some 60 early industrial buildings, 40 acres of open space along the Passaic and around the Great Falls, and a system of hydraulic canals. The area is on the National Register, as the Great Falls/S.U.M. (Society for Useful Manufactures) Historic District, the basis for designation being the distinguished collection of industrial architecture and engineering representing the range and changes in these types of structures from 1973 to 1912. Mr. Young described the project, its origination, and the work done to date, closing with comments on current problems and a request for assistance in dealing with them.

5. EDWARD S. RUTSCH — *Fairleigh Dickinson University*

Wood-Burning Lime Kilns in the Clove Valley, Montague, New Jersey

Farmers along the Clove Valley in Montague, NJ exploited a limestone ridge during the 19th century via wood-burning lime kilns of a single-batch type. These kilns are located away from the quarries across a wet meadow to be near their fuel source. Marginal farmers supplied this fuel and day laborers operated the kilns. Professor Rutsch described the labor stratification of the society as affected by this expanded home craft industry in an agrarian region, and included reminiscences of operating techniques from the last known lime burner.

6. CHESTER H. LIEBS — *Vermont Division of Historic Sites*

The Fairbanks Scale Works, St. Johnsbury, Vermont: The Loss of Another Significant Industrial Landmark

This slide presentation traced the development of the E. & T. Fairbanks Scale Works, and the impact which this industry has had on St. Johnsbury, Vermont. Mr. Liebs' chief emphasis was on the HAER-surveyed Two-Story, Two-Aisle, Arch-Reinforced Timber Lattice Truss Bridge which had become derelict along with the rest of the factory complex when the company moved to new surburban quarters in the mid 1960s. On March 21, 1972, a large portion of the old works, including the bridge, was completely destroyed by fire. A National Register form for the structure had been submitted to Washington just the day before. Mr. Liebs pointed out the need for increased preservation of industrial sites, the importance of proper documentation, and the necessity of an SIA, ending on a positive note by describing related examples of IA preservation currently taking place in Vermont.

OPENING ADDRESS BY PRESIDENT SANDE

On behalf of the Board of Directors, I welcome each and every one of you to this, the First Annual Conference of the Society for Industrial Archeology. I know that I speak for all in saying how grateful we are to the Cooper Union for permitting us the use of the historic Great Hall. Writing about art, in 1841, Ralph Waldo Emerson said:

> Beauty will not come at the call of a legislature, nor will it repeat in England or America its history in Greece. It will come, as always, unannounced, and spring up between the feet of brave and earnest men. It is in vain that we look for genius to reiterate its miracles in the old arts; it is its instinct to find beauty . . . in new and necessary facts, in the fields and roadside, in the shop and mill.

Something of this spirit we feel today as we meet in Peter Cooper's remarkably innovative building.

During the coming year, we will strengthen our organization by increasing membership, developing the communications framework, and marshalling our resources in support of threatened industrial monuments.

In membership, we are a unique society. To my knowledge, we are the only group whose concern for our industrial heritage stresses both interdisciplinary cooperation and the international essence of industrial activity. These qualities are evident in the very composition of your Board of Directors, which contains representatives from the fields of: anthropology, archeology, architectural history, history of technology, and historic preservation. Although each of these separate disciplines has its own professional organization, we alone bring all of them together in a mutual attempt to understand the nature of the industrial past.

Of our internationalism, it is with pleasure that I cite your Vice President, John Corby, of the National Museum of Science and Technology at Ottawa, as a most fitting representative. As we grow, we look forward, in the near future, to welcoming many more from Canada and other lands; joining us in this stimulating cooperative venture.

The Newsletter is the principal means we have for communication. It is intended to be so, at least for the present. Through it we are able to keep up-to-date on current research, recent publications, and relevant preservation matters. We are indeed fortunate in having as Editor Robert Vogel, whose energy and competence are unmatched. But the Newsletter's success really depends upon all of us. We must come out of the woodwork (ironwork is perhaps a more accurate simile) and say what we are doing! That's the fundamental point of our publication and certainly one of the primary objectives of our Society.

Finally, a word about preservation. It seems that any group whose concerns encompass structures of any sort, be they 18th-century Georgian houses or 19th-century bridges, must inevitably devote much of its time and talent to their preservation. This is clearly the case today in the United States, where--until quite recently at least--monies have been all too readily available to support even the most misguided renewal programs of both public and private enterprise in the name of progress. SIA is no exception to this claim upon its resources. In fact, our task will frequently be unusually difficult (and it's never an easy one) due to the negative effect that many industries have had upon their surroundings. We must be especially vigorous, then, in working to retain the significant monuments of our industrial civilization, wherever they may be.

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1972-73 Officers & Directors of the Society for Industrial Archeology

President-- TED SANDE. Graduate student and Teaching Fellow, School of Fine Arts, Univ PA; (from Sept 1972) on faculty, Williams College (see May Newsletter). Regis Acht MA, RI, (NCARB); AIA Comm on Historic Resources. BArch RI School of Des; MArch Yale Univ; PhD cand Univ PA. Born New London, CT 1933.

Vice President-- R JOHN CORBY. Curator of Industrial Technology, Natl Museum of Science & Technology, Ottawa. BSc (econ) Univ London. Born Kingston, Surrey, Engl, 1922.

Secretary-- RICHARD M CANDEE. Researcher in Architecture, Old Sturbridge Village, Sturbridge, MA. BA Oberlin Coll; MA Cooperstown Grad Prog; MA Univ PA; PhD cand Univ PA. Born Plainfield, NJ 1942.

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Editor-- ROBERT M VOGEL. Curator, Divn of Mechanical & Civil Engrng, Natl Museum of Hist & Technology, Smithsonian Inst. ASME History & Heritage Comm; MD Governor's Consult Comm for the Natl Register (Indus Sites). BArch Univ MI. Born NYC 1930.

Director (to 1975)-- RICHARD L DEILY. Exec Director, Inst for Iron & Steel Studies; Editor-Publ, Iron Bloom. BA (mining & geol) Lehigh Univ. Born Catasauqua, PA 1913.

Director (to 1974)-- CHESTER H LIEBS. Supervisor, VT Divn of Historic Sites. Proj Historian for HAER Survey of Erie RR. BA City Coll NY; MA cand Columbia Univ. Born St Albans, NY 1945.

Director (to 1975)-- PAUL E RIVARD. Director, Old Slater Mill Museum, Pawtucket, RI. RI State Repr, Amer Assn of Museums. BA Univ ME; MA Cooperstown Grad Prog. Born Sanford, ME 1943.

Director (to 1973)-- EDWARD S RUTSCH. Asst Prof, Anthropology, Fairleigh Dickinson Univ. Pres, Metropolitan Area Archeological Survey; Editor, NJ Archeological Assn Bulletin. BSc George Washington Univ; MA (anthro) NY Univ; PhD cand (Amer studies) Univ PA. Born Teaneck, NJ 1936.

Director (to 1973)-- CHARLES W TREMER. Archeologist, Dept of Sociology & Anthropology, Muhlenberg Coll. Park Archeologist, Minute Man Natl Historical Park, Concord, MA; excavation at Allegheny Portage Ry Natl Historic Park. BA, MA Temple Univ. Born Philadelphia 1935.

Director (to 1974)-- JOHN G WAITE. Senior Historical Architect, NY State Historic Trust. Bd of Dirs, Hudson-Mohawk Indus Gateway. BSc, BArch RPI; MArch Columbia Univ. Born Troy, NY 1942.

In Appreciation

The success of the Conference was due in large part to the kind assistance and cooperation of many from within and without the Society. SIA should like to express its gratitude to Theodore Conrad; George Eastland, Mgr of Public Relations, Erie-Lackawanna Ry Co; Mrs Margot Gayle, Chrmn, Friends of Cast Iron Architecture; C H Gronquist, Steinman, Boynton, Gronquist & London; Donald W Harold, Public Information Officer, NYC Transit Auth; Miss R Carole Huberman, Historian, Historic Amer Engineering Record; Gerald Marks, Chrmn, Graphics Dept, The Cooper Union; Danny A Morris, Museum Specialist, Divn of Mech & Civil Engineering, Smithsonian Instn; Prentis Rogers, Jr, Motor Instructor, NYC Transit Auth; Manuel L Ruderman, Pres, Errich Packaging Machine Divn, Errich Intl Corp; Mrs D B Steinman; Peter S Vogt, Guggenheim Prods, Inc; C R Wallace, Asst Trainmaster, Erie-Lackawanna Ry Co; Miss Jean Weiland, Admin Asst, The Cooper Union; John F White, Pres, The Cooper Union; and Miss Pamela Winchester, Graphics Dept, The Cooper Union.