

First Annual Conference
SOCIETY FOR INDUSTRIAL ARCHEOLOGY
COOPER UNION
NEW YORK CITY
APRIL 8-9, 1972

ABSTRACTS*

MORNING SESSION Chairman: Chester H. Liebs

1. Theodore Z. Penn Old Sturbridge Village The
Adjustable Wrench--1831-41: Its Meaning in Industrial Archeology.

The adjustable, or screw-wrench, as it was called in the first half of the nineteenth 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 presentation will be an illustrated scholarly paper detailing the most significant changes in adjustable wrench design that occurred between 1831 and 184. Although the major styles will be mentioned, the paper will concentrate on the innovations evolved in that decade in Springfield, Massachusetts. I would also like to include information on the methods of manufacturing wrenches if time permits

2. Harley J. McKee, FAIA University of Syracuse Original
Bridges on the National Road in Eastern Ohio.

The National Road was completed between Wheeling and Zanesville in 1929. About a dozen arched sandstone bridges, including several with S-curved approaches, remain in their original state, by-passed by highway construction of the 1930s, 50s and 60s. About thirty feet wide, 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 will be based upon a recently completed project conducted by the Water Resources Center at Texas Tech University in cooperation with the Historic American Engineering Record Program of the National Park Service which traced the development of water supply and irrigation technology in the American Southwest. It will describe the important technological developments related to water supply

Some of the abstracts have been abridged to facilitate transcription and duplication.

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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 Coronado 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. The paper presents 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. This was supplemented by written documents including the original contract, location of an original photograph and professional card together with other information on Lemuel Chenoweth, builder of the structure. The engineering significance of this bridge and the influence of covered bridge systems on later iron and steel truss bridges will also be 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 Ironworks (Saugus, Mass.) as a model, the evolving anthropological orientation of each discipline will be examined, and more importantly, the convergence of the disciplines precipitated by this evolution.

AFTERNOON SESSION Chairman: Ted Sande

1. John G. Waite New York State Historic Trust

19th Century Stove Foundries in Troy 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.

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Part I will deal with the development of Troy as a center for the manufacturing of stoves as well as other products of the foundries (architectural iron, railroad car wheels, etc.).

Part II will deal with the physical remains of these foundries and the problems of and opportunities for preserving them. This part will deal with the specialized building types developed for the stove industry.

Both sections will be illustrated.

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 their branches were made navigable, from which work a wide variety of navigation structures has survived. Sites of especial interest in the technology of canals include the flight of five stone locks through 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 Potomack Canal at Great Falls; and the two-lock staircase on Goose Creek near the Potomac. Less spectacular but of equal interest are the wing dams on the Appamattox and remnants of flash locks on the Willis's River and remnants of early wooden locks on the Rivanna. At the present time much effort is 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, NY to Susquehanna, PA.

This presentation is based on information gathered during the 1971 Historic American Engineering Record's survey of the Erie Railroad. It will begin by tracing the history and evolution of what was one of the most difficult feats of rail-road engineering of its time: the completion of the Erie from Deposit, NY to Susquehanna, PA in 1848. Major attention will be paid to the history and physical evolution of the large railroad shops (ca. 1864), and massive brick railway station-dining hall-hotel (ca. 1865), which still stand in Susquehanna. Possibilities for the preservation of these structures will also be considered.

4. John Young Urban Deadline Architects

Industrial Archeology in the Redevelopment of Paterson, NJ.

Subject of the Presentation -- The Great Falls Project, located in Paterson, New Jersey. This project aims at preserving and revitalizing an area of Paterson -through the preservation and improved utilization of approximately 60 historic industrial-buildings, 40 acres of open space along the Passaic River and around the Great Falls, and a system of hydraulic works associated with the structures and the river. The area has been designated in the National Register of Historic Places as the Great Falls/S. U. M. [Society for Useful Manufactures] Historic District, the basis of the designation being that the district includes a distinguished collection of works of industrial architecture and engineering which represents the range and changes in these types of structures during the period 1793-1912.

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Information to be Presented -- A brief description of the project, its origi-

nation, the people involved in it, the work done to date, and the type and date of some of the structures, followed by a slide presentation showing some of the structures, the open space, and hydraulic works. Closing 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, NJ.

Farmers along the Clove Valley in Montague, NJ exploited a limestone ridge during the nineteenth century via wood-burning lime kuns 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 kuns. My report contains elements of the labor stratification of the society as affected by this expanded home craft industry in an agrarian region. Reminiscences from the last known lime burner concerning techniques of operation are included.

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 will trace the development of the Fairbanks Scale Works, and the impact which this industry has had on St, Johnsbury, Vermont. Emphasis will be placed 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, This spring, 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. This presentation will further point out the need for increased preservation of industrial sites, the importance of proper documentation, and the necessity of an SIA. The presentation will end on a hopefully positive note with related examples of IA preservation currently taking place in Vermont.