SOCIETY FOR INDUSTRIAL ARCHEOLOGY 4TH ANNUAL CONFERENCE

25 - 28 APRIL 1975

ABSTRACTS

1 STUDY OF A NORTH CAROLINA GOLD MINING COMMUNITY: 1840-1915

Brent D. Glass, *North Carolina Division of Archives and History, Historic Sites Section*

Mining, according to Lewis Mumford, was the primary agent of the Industrial Revolution. The mining industry set into motion a pattern of capital formation and industrial innovation. It also represented a clear departure from the concerns and attitudes of agriculture. Above all, the pursuit of mineral wealth was fueled by a belief in progress.

In one of North Carolina's gold mining districts, Gold Hill, the belief in progress and the development of mining were modified by several factors. Mining never became an all-consuming enterprise at Gold Hill for reasons that suggest both the character of North Carolinians and the nature of the industry itself.

In the antebellum period, many progressive spokesmen welcomed mining as an antidote to a series of economic and social problems. Just as strong, however, were voices of dissent suggesting that mining for gold was immoral and improper. This argument was inspired by an attachment to an agricultural tradition. In the mining district itself, mining and farming were never distinct occupations.

The application of mining technology mirrored the social dimension at Gold Hill. Mining did, indeed, foster technological development. Yet the miners at Gold Hill were criticized for their unwillingness to try new techniques. Late in the nineteenth century, giant stamp mills replaced the more primitive amalgamating machinery. The stamp mill represented the apex of technology in its power, its capacity, and its level of sophistication. Nevertheless, the more primitive forms of milling and amalgamation survived at Gold Hill. Through oral history and industrial archeology, information reflecting this subsistence technology is being retrieved.

2 SEATTLE'S GAS WORKS PARK

Richard Haag, *Richard Haag Associates*

The 20.5-acre point on Lake Union was cleared in 1906 to construct a plant to manufacture illuminating gas from coal--later converted to crude oil. Import of natural gas in the 1950's made the plant obsolete. In 1970, Richard Haag, landscape architect, was commissioned to prepare park plans. After analyzing the planning determinants, he decided the gas generator towers were "sacred" to the site for historic, esthetic, symbolic, and utilitarian values.

The site was a poisoned layer cake of industrial afterbirth and resisted becoming a conventional park. In the face of heavy opposition, a campaign was launched to preserve the unique industrial structures and to "recycle" the site into an urban, intensely used, pleasure ground to celebrate the emerging recreation energies and to direct these into creativeness. The whole question of "junk esthetics" became a political issue, but after many public presentations the people's level of consciousness was expanded, and in 1972 the Seattle City Council unanimously approved the Richard Haag Master Plan. Conversion construction is underway and the park will be dedicated this summer.

3 THE SIA BIBLIOGRAPHY IN INDUSTRIAL ARCHEOLOGY

Susan Griswold Blandy, *Troy, New York*

With the approval of the SIA Board of Directors, professional librarians Barbara Abrash and Susan Blandy have embarked on preparing THE Bibliography of American and Canadian Industrial Archeology. Hopefully, it will be published first as a work-in-progress in the new SIA journal, for which it will solicit entries and critical annotations. Eventually, three major tools are planned:

1. An IA resources handbook, dealing with organizations, societies, associations, institutions; museums, libraries, archival collections; publications; related source materials; and accession to primary materials.

2. A bibliographic file, continuously updated and revised, from which could be prepared new editions of the handbook, readers in IA, and bibliographies specialized by topic or geographic area.

3. A network file of people and organizations involved in IA, with access into the network by name, activity and specific fields of interest, and geographic area.

Parts 2 and 3 would be primarily supportive resources available at the request of people involved in IA.

The cooperation of SIA members in compiling the bibliography and offering comments is appreciated. The primary problem at the moment is one of access to the numerous special magazines and newsletters in which material is published. Forms have been prepared for members to report their publications (in whatever stage of "print") and their activities, expertise, and special areas of enthusiasm.

4 EARLY 19th-CENTURY OIL MILL TECHNOLOGY: ASIA vs. EUROPE vs. AMERICA

Carter Litchfield, *Rutgers University*

The extraction of vegetable oils from rapeseed, linseed, and other oilseeds has been an important technology in most civilizations. This paper presents a comparative study of the equipment and processes used in typical oil mills of Asia, Europe, and America at the beginning of the nineteenth century.

Oil mill operations can be divided into five basic processes: seed drying, crushing, roasting, pressing, and oil refining. Specific processes and equipment used for each of these steps have been studied from the following sources. Ōkura provides detailed descriptions and illustrations of Japanese oil mills in his book *Seiyū roku: On Oil Manufacturing* (1836), now available in English translation. Two early nineteenth-century oil mills at Arnhem and Groenlo in the Netherlands have been visited and photographed. Documentation on the Bethlehem, Pa. oil mill operated during this same period has been studied to obtain information on the American technology.

Comparison shows remarkable similarities in the oil mill processes used in all three countries, no doubt dictated by the basic physical properties of oilseeds. However, the mill equipment used in Japan differed somewhat from that of Europe and America, particularly in the greater use of hand labor rather than mechanical power.

5 THE LIGHTHOUSES OF THE CHESAPEAKE--A VISUAL CONSIDERATION

Robert de Gast, *Baltimore, Maryland*

Mr. de Gast, accomplished photographer and author, will combine a short talk with his slide presentation of lighthouses. He will concentrate on the screwpile lighthouses in Chesapeake Bay.

6 THE ELLICOTT CITY STATION: ITS RESTORATION & ARCHEOLOGICAL INVESTIGATION

Andrew M. Cascio, *Historic Ellicott City*

In 1827, a group of Baltimore businessmen decided to build a railroad from Baltimore to Ellicott Mills, some 13 miles, to compete with the Chesapeake & Ohio Canal Company, then the chief purveyor of freight from the coast inland. They engaged the services of the engineering firm of Briggs & Stabler to design and survey the roadbed along the banks of the Patapsco River.

Among the structures eventually erected at Ellicott Mills were the Terminus Station, erected *ca.* 1830 and used continuously until 1972; the Oliver Viaduct, built *ca.* 1829, which spans the Tiber River and Main Street (Frederick Road); the fifty-foot diameter turntable, built *ca.* 1840 south of the Terminus Station; and the Freight Building, constructed *ca.* 1885, south of the Terminus Station and turntable.

Today, the original Terminus Station, Freight Building, and turntable are in the process of preservation under the direction of Historic Ellicott City, Inc., Howard County, and Pasa Engineers and Consultants. The future use of the project will be a railroad museum.

7 HISTORIC AMERICAN ENGINEERING RECORD PROJECTS: 1975

Eric N. De Lony, *H A E R*

Summer '75 appears to be one of the busiest and most interesting summers HAER has anticipated in its six years of existence. Surveys are tentatively planned to document the historic industrial and engineering works of Long Island, New York and the State of Delaware; the Croton Aqueduct system north of New York City; the antebellum shop and terminal facilities of the Central Georgia Railroad in Savannah; the transportation/power canals of Lowell, Mass. and Augusta, Ga.; and the Luckenbach Mill in Historic Bethlehem, Pa.

Also, the HAER Emergency Recording Unit will be documenting a variety of resources in imminent danger of demolition, including the Thames Shipyard Steam-Powered Marine Railway in New London, Conn.; the Bogardus Fire Watch Tower in Mt. Morris Park, Harlem, N.Y.; the oldest identified iron truss bridge in the U.S., near Hamden, N.J.; and the oldest urban railroad station in Baltimore, Md.

8 A BEAM ENGINE AND SUGAR MILL OF 1818 ... IN HAITI

Cornelius Van S. Roosevelt, *Washington, D.C.*

Photographs document the existence in Haiti of a stationary beam steam engine and boiler built in 1818 in Liverpool, together with contemporary cane-crushing rolls. It is almost complete and in excellent condition. An effort to preserve it should be made before imminent completion of the first steel mill in Haiti provides a customer for scrap iron.

9 WORKING PLACES

John Karol, *Producer*

A 24-minute documentary slidefilm for the Society for Industrial Archeology to encourage the preservation of our industrial heritage through the adaptive reuse of obsolete industrial buildings and remains. The social and economic benefits are established by businessmen, teachers, developers, architects, city officials, and construction workers. Production was made possible by grants from the National Endowment for the Arts and Educational Facilities Laboratories. Upon completion of the film, the Eva Gebhard-Gourgaud Foundation has given the Society for Industrial Archeology a grant for the purpose of acquiring special projection equipment to be used for public showings of WORKING PLACES.

10 HISTORIC ENGINEERING IN FLORIDA

J. Paul Hartman, *Florida Technological University*

This paper summarizes some of the results of an initial inventory of historic engineering works conducted during 1973. The inventory was supported by the Historic American Engineering Record and the College of Engineering of Florida Technological University.

Florida's engineering and industrial history has centered primarily around its natural wealth and climate. Early needs for transportation were met by rivers, canals, and trails, and forts supplied military and civilian protection. The Castillo de San Marcos at St. Augustine, the oldest existing fort on the North American continent, is an excellent example of late seventeenth-century military engineering and construction.

During the early 1800's, natural resources continued to be dominant, specifically cotton, salt, sugar, and forest products. After acquisition by the United States in 1821, and during the territorial period from 1821 to 1845, the original lighthouses in the Keys were built and lighthouse construction was then to continue through the nineteenth century.

After the Civil War, major engineering achievements were associated with the railroad developments of the Flagler and Plant systems. Perhaps the zenith of Florida railroad construction was the completion of the Overseas Railroad to Key West in 1912. During this same period came the advent of phosphate mining, the firm roots of the cigar industry in Ybor City, and further industrial and transportation growth in Pensacola and Jacksonville.

Between World Wars I and II, the railroad and highway networks expanded to meet the developing tourist and resource trade of the 1920's. The citrus industry, which was almost completely wiped out prior to World War I, underwent a rapid growth at this time, primarily owing to technological achievements in the canning and processing industries. Although some of the earliest attempts at drainage and flood control date from the 1800's, concerted efforts were made in the 1920's and 1930's, many of which are still in use today. The forest products industry was to undergo a transformation from primary production of naval stores products to that of pulpwood. Rapid growth in Florida since World War II makes it imperative that the early record be obtained accurately. This inventory is hopefully a start in that direction.

11 RESTORATION WORK IN PROGRESS ON THE CHAMBLY CANAL, QUEBEC

Sandra Gillis and William D. Naftel, *National Historic Parks and Sites Branch, Parks Canada*

The Chambly Canal was built by the government of Lower Canada (Quebec) between 1831 and 1843 to bypass a series of rapids in the Richelieu River between St. Jean and Chambly, P. Q. Since its completion in 1843, the 12-mile canal (consisting of a guard lock at St. Jean and eight lift-locks at Chambly overcoming a fall of 74 feet) has been in continuous operation. During this time, it has been administered by various government agencies, most recently by Parks Canada.

Within the last year, Parks Canada has adopted the policy of restoring at least the eight locks at Chambly to their appearance at various time periods in the nineteenth and early twentieth centuries. At that time, structural, social, economic, and oral histories of the canal were begun by the National Historic Parks and Sites Branch of Parks Canada.

Stabilization and restoration of the east wall of lock 8 (to its appearance after its reconstruction in the 1880's) was begun last winter. Cursory engineering examinations have been made on other locks. Despite much mutilation of some of the structures and replacement with concrete, these on-site examinations, with available documentary information, provide the necessary information for the reconstruction of the locks over the next five to ten years.

12 THE PHILADELPHIA GAS WORKS' POINT BREEZE WORKS

David G. Orr, *University of Pennsylvania*, and Herbert W. Levy, *Abraham Levy, Architect*

Philadelphia has long been an acknowledged leader in the development of the illuminating gas industry in America, often in direct competition with London. Unfortunately, nothing has survived of its first plant for the production of gas, which was located at 23rd and Market Streets. The Point Breeze Works (built 1851-54) represented the first major expansion of the Philadelphia gas works and still possesses several key buildings of the plant.

The Motor House at Point Breeze (100 X 30 feet) is by far the most significant element of the original Passyunk Avenue works to survive. Built of gray stone, its Gothic cosmetic treatment closely matched the other original buildings of the complex. The tripartite plan division of the Motor House consisted of a large central space for three gas motors and a six-sided office space on either side. Its one-storey plan changed (possibly in 1862) to two stories to provide additional office space. During the late nineteenth century, this second floor was utilized as an experimental laboratory. Today, although the building remains in reasonably good condition, it serves chiefly as a storage facility. Hopefully, the structure will soon be returned to fulltime duty as an administrative center.

This building has just been measured and recorded by the Historic American Engineering Record. As a direct result of this survey, the Philadelphia Gas Works has donated to the American Civilization Department and the University Museum of the University of Pennsylvania a large collection of documentary and artifactual materials, including several thousand glass plate negatives illustrating all aspects of the gas industry in Philadelphia from the 1890's to the 1930's.

13 THE 19th-CENTURY WATER SUPPLY SYSTEM OF BALTIMORE

Louis F. Gorr, *Fairfax County (Virginia) Park Authority*

The City of Baltimore was among several major American cities to provide a public water supply in the nineteenth century. The planning and construction of the first municipally owned water utility in Baltimore is a case study in the conflict of political expediency and professional civil engineering. An archeological survey undertaken by the author reveals numerous remnants of the system built between 1858 and 1862. These remnants provide tangible evidence of nineteenth-century water works practice. They also document a major public utility undertaken as a self-fulfilling prophecy rather than as the result of professional engineering recommendations. The utility was, as revealed by both archival and archeological evidence, obsolete upon completion and was replaced within a decade.

Published by the Society for Industrial Archeology
Room 5020 National Museum of History & Technology Smithsonian Institution Washington, DC 20560