This issue comes to you at a time that will barely remind you of our one-day event in New York on October 29th, titled, Inventions: The Roles of Disaster and Industrialization in Construction History. If it is not too late you can sign up at our website www.constructionhistorysociety.org

We want to add a new section to the website that publicizes books written by our members. There will be a separate request sent out soon, but this is an advance notice to send to chs@coa.gatech.edu titles, names, dates, etc. of any book you have written that you would like us to list. While we are on the subject of books, if you come across any recent publications including articles, that will be of interest to the membership, please advise us and we will carry the reference in future newsletters.

You should have received copies of the new Society brochure designed for us by students at Auburn University under the guidance of Linda Ruth. It came with a request to pass one on to anyone likely to show an interest in membership. I hope you have done so.

I have been notified that, out of over 60 abstracts submitted for the 4th International Construction History Congress from the US, 23 were accepted. This means we should have a good contingent at that event next year.

With best wishes for pleasant holiday season from Atefe and me.

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CHSA NewsLetter

Contents

ARCHITECT AND CONTRACTOR IN 19TH CENTURY CHICAGO.............. 2
HOW DID THEY BUILD THE DOME OF THE BALTIMORE CATHEDRAL?... 4
CHSA FALL EVENT, NEW YORK.................................................. 6
NOTICES ...................................................................................... 7
WHO WE ARE ........................................................................... 8

Thanks to our institutional and corporate members

* Associated General Contractors of America
* Auburn University
* Canadian Centre for Architecture
* ConstellationCenter
* Construction Management Association of America
* Georgia Institute of Technology
* Hoover Treated Wood Products, Inc.
* Levine Construction Company
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* The Pepper Companies
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ROOTS OF THE ARCHITECT AND THE CONTRACTOR IN 19TH CENTURY CHICAGO

This article deals with the beginnings of architectural and general contracting practice in the mid to late 19th century in Chicago.

It has been said that “a good architect can improve the looks of an old house merely by discussing the cost of a new one”. A contractor has at times been defined as a “gambler who never gets to shuffle, cut or deal the deck”.

In the mid to late 1800’s architects were considered the master builders; they were either craftsmen (carpenters or masons) and in some cases were actually educated in schools offering architectural instruction. Some were engineers schooled at colleges or universities offering degrees in Civil or Military engineering.

John Mills Van Osdell (1811-1891) is generally considered to be Chicago’s first architect. As a young man, he was a carpenter. He arrived in Chicago from New York in 1841. Van Osdell said “in the winter of 1844, when builders were their own architects, some leading builders proposed to me that I open an architects office, pledging themselves not to make any drawings or construct any buildings of importance without a plan. With this promise, I undertook to do so and opened an office on Clark Street”.

According to Van Osdell no one had ever used an architect in Chicago and it was difficult to convince the owners of the necessity of such a branch of the building business. As the practice of architecture and building developed in Chicago after the fire of 1871, other important figures came into prominence: Burnham, Root, Holabird, Sullivan, and William Le Baron Jenney (1832-1907), who became one of the early leaders in the development of the “skyscraper”, and is considered the father of the skyscraper.

Jenney came from Massachusetts and was educated as a civil engineer and architect. He practiced this profession in the army during the Civil War. Later he taught architecture at the University of Michigan. Jenney designed the Home Insurance Building, completed in 1885, which is famous for having some of the loads carried on a structural frame rather than on masonry bearing walls. Jenney’s Manhattan Building, built in 1890, is a true skeleton frame, but with wrought iron beams and girders and cast iron columns.
In the latter part of the 19th century men like Van Os- dell and Jenney would develop plans, calculate loads and design the components of the building with the cooperation of specialty fabricators and craftsmen. They would estimate the costs, procure bids from material suppliers and trades contractors, and also award contracts, superintend and coordinate the work. They would perform these services for a fee, usually a percentage of the cost of the work. All contracts would be directly between the owner and contractor/supplier.

As buildings became more complex, the single contract system of work became more pronounced due to the foresight of George A. Fuller (1851-1900). Like Jenney, he was also from Massachusetts and was trained as an architect in his uncle’s office. George A. Fuller was considered the first “General Contractor” during the building of the Chicago Opera House in 1885, because he undertook the project in a single contract on a cost plus fee basis, according to Henry Ericsson, a mason contractor and general contractor of that era.

Fuller went on to become the largest building contractor of his age, building many of the major buildings in Chicago and New York.

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CHSA Tag Line

In order to better define what our Society is all about, the management committee decided that we need a sub-text to be carried with Construction History Society of America whenever it appears. There is some confusion internally and externally on what Construction History represents and, in some respects, we have aided and abetted this anomaly by deciding not to craft a precise definition, but to allow this new field of enquiry to define itself as our membership and scholarship develops.

Back to the tag line, we are seeking suggestions on some good wording. Here are two lines to start you thinking:

- Representing all interested in the history of design, engineering and construction in America.
- A Society dedicated to examining the history of the creation of the built environment.

Please send us your suggestions at chs@coa.gatech.edu

Thomas Viaduct

Some of you will remember the article which James Dilts wrote in our July 2010 newsletter on the 175th anniversary of the design and building of this viaduct which carries the B & O Railroad over the Patapsco River in Maryland. He has drawn our attention to an intriguing 3 D animation of its construction which can be found at http://www.patapscoheritagegreenway.org/
HOW DID THEY BUILD THE DOME OF THE BALTIMORE CATHEDRAL?

Benjamin Henry Latrobe’s Basilica of the Assumption, one of the great Neo-classical buildings of the world, is Baltimore’s finest single work of architecture, the only building in the city listed in the International Dictionary of Architecture. Historically important as the first Roman Catholic cathedral in America, it is also structurally significant: the earliest church in the United States to be completely vaulted and domed in masonry. While the Cathedral, as it is often referred to locally, is discussed in most architectural histories, little has been written about the construction of its major feature, the dome, even in Talbot Hamlin’s Pulitzer prize-winning biography of the architect.

Hamlin did say that Latrobe’s intention to vault the church entirely in masonry “at the time was a daring decision.” Latrobe had designed and seen built a previous masonry dome, at Philadelphia’s Bank of Pennsylvania (1800). In 1817, he actually had two masonry domes under construction in Baltimore, the Cathedral and his Merchant’s Exchange. But the Cathedral dome was the largest. When it was completed the following year (the church opened in 1821), it was the largest masonry dome in America: 65 feet in diameter, standing 78 feet above the floor, roughly the height of a seven-story building.

In everything but size, the Baltimore Cathedral dome closely resembles that of the Pantheon in Rome. Both are built of brick and concrete, with coffers that grow smaller as they ascend toward the oculus. Hadrian’s Pantheon dome, 128 AD, is 142 feet in diameter, one of the largest masonry domes in the world. But for its time and place, the dome of the Baltimore Cathedral was a major feat of construction.

How did they build it? Here, some “imaginative reconstruction” (historian Richard Cobb’s term) may be in order, the written record in this case being quite sketchy. In the summer of 1817, Latrobe sent working drawings for the dome and his instructions for building it to the superintendent of construction, James Hayden. He told Hayden to erect scaffolding at the church crossing and suggested a way to do it.

Atop the scaffold poles, the carpenters were to build a circular platform. Working from this, the masons should raise a circular brick drum 12 feet high and three feet thick. (Below the drum were four curved sets of heavy piers connected by deep segmental arches; therefore, pendentives were unnecessary.) Latrobe wanted the mortar mixed aloft in large square pans, with the water sent up by hose from a small, steam-operated fire engine. He had ordered 100 barrels of Roman cement for the Cathedral.

Cathedral exterior master - Courtesy of Ian Jackson, recent graduate of the Maryland Institute College of Art

The carpenters could then erect the timber framework of arched ribs, braced by a skewback, to hold up the masonry dome. Latrobe’s instructions at this point grow vague. Hayden may have built the timber ribs on the ground and raised them by shears (a rudimentary crane), supporting them at the top with a central column of scaffolding.
With rows of boards (lagging) laid on horizontally to span the spaces between the ribs, the masons could then go to work on the exterior, building up the courses of brick, working around and over the forms for the coffers. Each course of masonry in a dome becomes self-supporting when the last brick or stone is placed, or “keyed” and the mortar sets. Ring by ring, they built the dome up to the 22-foot diameter oculus. In October 1818, about 60 people, including Archbishop John Carroll, climbed to the top and “with some ceremony and a great deal of punch,” said Latrobe, placed the last bricks. Then they gave three cheers that resounded over the city.

An outer timber (Delorme) dome, covered with copper, was built over the masonry one. Following a $32 million restoration in 2006 that reopened the oculus, both of these domes are now visible from the interior of the church.

James D. Dilts
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AIA NC CONSTRUCTION HISTORY SESSION

In September CHSA members Lee Gray, Meghan Elliot and Don Friedman participated in a panel presentation at the AIA North Carolina Annual Meeting in Raleigh, NC. This panel followed the model established last year by Lee, Meghan, and Tom Leslie at the AIA Iowa and AIA Minnesota Annual meetings in which a brief introduction and overview of CHSA was followed by presentations that highlighted the important role of construction history in understanding and potentially solving contemporary problems. AIA annual meetings offer a good venue for these types of activities, as they provide opportunities to speak to architects as well as other professionals who are also giving presentations or who are displaying architectural products and services. Most AIA annual meeting planners issue calls for presenters and/or panels and are, in fact, anxious to assemble a diverse set of educational opportunities for their members. Session calls are typically found on AIA Chapter web sites and most meetings provide some level of financial support to session participants (this can vary from a fixed per diem to full reimbursement for travel and accommodation expenses). CHSA members are encouraged to consider these venues as outreach/recruiting opportunities and may contact Lee, Meghan, Don or Tom for further information about their experiences.

chs@coa.gatech.edu
INVENTIONS: THE ROLES OF DISASTER AND INDUSTRIALIZATION IN CONSTRUCTION HISTORY
PRESENTED BY THE CONSTRUCTION HISTORY SOCIETY OF AMERICA

DATE                        SATURDAY, OCTOBER 29, 2011, 8.30 AM TO 4.30 PM

LOCATION                   THE GENERAL SOCIETY OF MECHANICS AND TRADESMEN
                                        20 WEST 44TH STREET, NEW YORK NY

FEE                         $50 FOR APT NE MEMBERS
                                      $40 FOR CHSA MEMBERS
                                      $75 FOR NON-MEMBERS
                                      $20 FOR STUDENTS

Objectives: Inventions over the last two centuries have driven vast changes in building design and construction. New inventions and innovation of existing ideas, in turn, have been driven by response to disasters, inventions in tools and materials, and a changing labor force.

Program: Morning            Registration
                                      Keynote: “The Silicon Valley of the 19th Century”
                                      Roundtable: Disasters and Construction History
Mid-day                    Lunch (provided)
Afternoon                  Roundtable: Industrialization and Construction History

For further information, please visit http://www.constructionhistorysociety.org/events.php
Welcome New Members

- Sharon Darling, St. Charles, IL
- Edelmiro Escamilla, Texas A&M University, College Station, TX
- Jeremy Kargon, Morgan State University, Baltimore, MD
- Claudia Kavenagh, Building Conservation Associations, Inc. and Columbia University GSAPP, New York, NY
- Michael O’Brien, Texas A&M University, Bryan, TX
- Matthew Stuart, Pennoni Associates, Philadelphia, PA

Now known as The International Society for the History of Engineering and Technology it has gone through a make-over recently and is actively seeking new members. Founded in 1920 in Great Britain it addresses a wide variety of fields and publishes a well-respected Journal. Nearly every issue includes an article of interest to construction historians. For example Volume 81 Number 1 (2011) carried a piece on James Brindley’s activities on American canals. Next year is the tercentenary of Thomas Newcomen’s first steam engine. www.newcomen.com

Sanitary Sewer History

The variety of organizations addressing one field or another of construction history continues to amaze. We all know the usual suspects – SAH, APT, PWHS, etc, but who knew there was a website devoted to the history of sanitary sewers? Go to www.sewerhistory.org to check it out.

Construction History in the Americas - Special Issue of Construction History Call for Papers

With the founding of the Construction History Society of America and the global scope of the triennial International Congresses on Construction History, the discipline of Construction History is enjoying its broadest audience yet. To recognize this wider audience and to support the discipline’s growth in North and South America, Construction History is dedicating a future issue, probably in 2012, to the Americas. We seek a broad range of papers that will reflect the breadth of interest and topics currently active. Papers that explore previously under-studied examples, or that expand the geography of the Americas beyond the United States are particularly welcome. Topics may include materials, design, management, engineering, or pure construction. Submittals will be required to conform to the style guide of the Journal. A separate request will be sent out soon. In the meantime contact Thomas Leslie at tleslie@iastate.edu or to chs@coa.gatech.edu. with any questions.

CHSA Annual General Meeting

As in previous years this will be organized as a telephonic meeting for a suitable date in early December – watch for an e-mail with a date, time, agenda and nominations for the management committee.
WHO WE ARE

The Society is dedicated to the study of the history and evolution of all aspects of the built environment—its creation, maintenance and management. It is a forum for scholars and professionals in the field to share, meet and exchange ideas and research.

Membership is open to a wide range of construction related disciplines involved in the planning, development, design and construction of buildings and engineering infrastructure, in addition to those concerned with their operation and preservation.

Members share a passion for examining how our existing structures were planned, designed and built, with the purpose of using this knowledge to better preserve what we have and to guide us in determining future directions.

The US branch of the Construction History Society is a distinct entity catering to the historical studies and interests of its members here in America. Membership in the US branch includes full benefits in CHS at large, including receipt of the Society’s Journal and newsletter and links to scholars in the field worldwide.

CORRESPONDING SOCIETIES

Historical Construction Equipment Association, www.hcea.net

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THIS IS YOUR NEWSLETTER AND THE ONLY VEHICLE WE HAVE TO KEEP IN TOUCH WITH ONE ANOTHER. SO PLEASE USE THIS TO LET US KNOW:

* your interests in construction history, your current research, précis of recent lectures, etc.
* books, texts & articles that your fellow readers should know about
* names and e-addresses of colleagues and friends that we can include on our mailing list
* if you are willing to write a brief article for us.