Maryland Report

6th Biennial Meeting - May 2018

Hosted by the Department of Architecture, Planning and Preservation, the CHSA 6th Biennial welcomed 78 members to the University of Maryland, College Park. Thank you to Brian Kelly and his staff for their assistance and support. Additional sponsors included AGC of America, Clark Construction Group, and Whiting Turner. AGC of America funded an event celebrating their Centennial anniversary, with Ken Durr presenting a keynote and Sean Lewis, Sarah Wermiel and William Reifsteck serving on the panel. Keynotes Carl Lounsbury and Thomas Boothby and tours to Arlington National Cemetery, National Cathedral and Union Station rounded out the events. AIA credits / HSW were offered to members through AIA Potomac Valley with support from Brian Kelly of UMD.

All CHSA members invited!
Tuesday, Sept 18, 2018
12 pm EST / 11 am CST / 10 am MST / 9 am PST
MARK YOUR CALENDAR!
JOIN US FOR A MEMBER PHONE MEETING!
send agenda items to Melaniefeerst@gmail.com

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Thanks 6th Biennial Meeting Sponsors!

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Construction History; Vol. 33, No 1, 2018

TOURS

Thanks for attending our 6th Biennial!

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STATE OF THE ORGANIZATION
Construction History Society of America

Your New CHSA Leadership
Chair Peter Hilger, University of Minnesota
Vice Chair Benjamin Ibarra Sevilla, University of Texas
Brian Bowen, Treasurer

Management Committee
Susan Schur, Technology and Conservation
Tyler Sprague, University of Washington
Marci Uihlein, University of Illinois at Urbana - Champaign
Benjamin Hays, University of Virginia
Rachel Will, Wiss, Janney, Elstner Associates, Inc.
Zach Rice, Zach Watson Rice Architect and Historic Building Consultants, NY, NY
Marisa Gomez Nordyke, University of Wisconsin, Madison

CHSA’s Management Committee welcomes new student member Marisa Gomez Nordyke from University of Wisconsin for a 3 year term. Marisa is a PhD candidate in the Buildings – Landscapes – Cultures program in the Department of Art History at the University of Wisconsin, Madison. She received her Masters at the University of Texas, Austin and has presented papers at CHSA as far back as 2014. Her research centers on prefabricated housing of the 1930-60s. Marisa has served on the conference planning committees for both the Society of the Architectural Historians and the Vernacular Architecture Forum. She is very excited to join CHSA’s management committee and looks forward to sharing her ideas on how the organization might recruit more graduate students, drive participation in its conferences, and engage with neighboring disciplines.

Upcoming Initiatives - Look for More Information Soon!

- New CHSA printed publication in the planning stages!
- Collaborative meeting partnerships being explored for our 2019 Meeting and beyond...
- Working to increase CHSA social media presence, developing a searchable member directory, Bibliography search, Field Notes Column, Mentorship opportunities for students.
- Exploring contacts with Construction History organizations in Canada, Central and South America
- Pecha Kucha: 20 images x 20 seconds (Lighting Talks) event during our next meeting

Members - Please Submit Newsworthy Items to melaniefeerst@gmail.com

CHSA Awards

At the 6th Biennial, Jeff Beard presented two service awards:

2018 Marcus Vitruvius Pollio Award to Benjamin Ibarra Sevilla, University of Texas

2018 George A. Fuller Award to Tyler Sprague, University of Washington

Help Us Grow!
Membership Numbers

Individual: 87
Corporate / Institutional: 15
Student: 12
Supporting: 15
Members: 129
Why Study Construction History?
Jeffrey L. Beard, Chair Emeritus, CHSA
Drexel University

Let’s Briefly Explore Two Questions...
Why Study Construction History?
And Why Have an Organization for Construction History?

For many years, many of us have attended conferences that are for a single discipline, by a single discipline and about a single discipline. In academic settings, each of these disciplines is organized by faculties...and there are typically four faculties at middle-sized and larger universities....those of natural sciences, humanities, social sciences and what I will term practical professions. Each of these faculties has a markedly different way of conducting experiments, of doing research, of framing research questions, of applying methodologies, and of discovering new knowledge. One faculty does not always fully respect the research of another faculty, and certainly anyone who has undergone the tenure process knows that there is a hierarchy of journals (how they are viewed and rated); and that books and god forbid – trade press articles --- are well down in the pecking order.

As a result of the rigidity of some of these academic fiefdoms, an intrepid few have honestly attempted multi-disciplinary and trans-disciplinary studies, research efforts and combined programs. You are to be commended for your Sisyphean dedication.

For over a decade, enthusiasts for Construction History – both in the US and abroad – have tried to embrace this multi-disciplinary culture. Why? Because we have arrived at the realization that anything in the built and natural environment must be viewed from multiple perspectives: such as a bridge over an Andirondack stream, which functions to carry highway traffic, but it is also related directly to the cold running brook below filled with brown speckled trout; or a soaring 19th century train station that is declared obsolete, but encloses space that is ideal for public display of art and sculpture, so that it changes function internally, while outside it remains the center of the neighborhood skyline, with continuity of mass, form, aesthetic and symbolism.

Thank you Jeff Beard for your service as Chair of CHSA for the last three years.

Jeff’s accomplishments as Chair include his expert oversight on the following events and projects:

Membership Task Force: Charged with reviewing membership categories and dues as compared to similar non-profits, this subcommittee recommended adjustments to the existing membership categories, dues and benefits, and developed plans to expand membership and programming to generate new revenue.

6th Biennial Meeting – 2018: Headed by Brian Bowen and held at the University of Maryland College Park, seventy-eight members gathered this past June to hear presentations in ten themed sessions with a special panel discussion and keynote celebrating the AGC’s Centennial.

Members’ Meeting – 2017: Construction History on the Frontier was held at the University of Washington at Seattle in July, headed by Tyler Sprague of the College of Built Environments, with a special event We Built Seattle.

5th Biennial Meeting – 2016: Eighty-three CHSA members gathered at the University of Texas at Austin for our 5th Biennial Meeting Knowledge Exchange and Building Technology Transfer in May 2016, conceived by Benjamin Ibarra Sevilla.

Updated Marketing Brochure: a new trifold with a refined mission statement was designed and mailed to current members, and to former members with an invitation to renew their membership and attend our conference.

Google Ads awarded CHSA a nonprofit grant which includes up to $329 per day in free click advertising through common search engines for a total of over $12,000 in free ads.

A new initiative, the Research Repository, was introduced on our website in 2017. A comprehensive list of books, syllabi, videos and podcasts, and selected research presentations in this growing database helps advance the discipline of Construction History.
Why Study Construction History? (continued)

An open and multi-disciplinary of themes – as we find in construction history – celebrates physical spaces and social cultures as well as metaphorical and symbolic relationships. When we combine technologies, materials and iconographies with transition and evolution of people situated in these environments, it enriches us and allows us to have deeper understandings, and it humbles us when we try to assimilate all that has come before.

So why study history?

Professor Gerald Schlabach of the University of St. Thomas remonstrates us ... that we must maintain our memory, or lose our humanity, because

- Events do have multiple causes,
- Societies are always a mix of good and bad, and
- Change depends on continuity of thought and action.

In truth, conflicting explanations of historical events and developments abound, which gives us – whether we are amateur or professional historians, political historians or public historians, historians of a single structure or craft or profession, or generalist historians - the mission of finding out how the focus of our investigations fit within a fearlessly truthful rendering of this fascinating record of human triumph and tragedy. Our secondary mission is to show how history matters: by linking it to contemporary politics, economics, the environment and to society.

We, as construction historians, can discern truth from falsehood, such as testing Leonardo Da Vinci’s design of a masonry load bearing arch bridge over the Bosphorus at the Golden Horn near Istanbul that people said could not be built. Studies at the University of Bath in the 1950s and a recent study by a graduate civil engineering student at Princeton University both showed that the design was feasible structurally, although it may have been nearly impossible to execute the process of construction due to winds and currents in the waterway.

And if we construction historians can gain more certainty rather than languishing in doubt, as Vassar Professor Andrew Tallon has done at the Cathedral at Notre Dame in Paris, in proving that the flying buttresses were built at the same time as the great nave and not added later, making them the first of their type and scale, and also show that the west towers were leaning outward due to consolidation of soils, and the masons discovered this and compensated for the tilt with slight accretions in stone on the exposed side.

In sum, if we can chronicle what happened, why it happened and what a difference it made, we will have done our jobs.

That’s why we are engaged in construction history, and why we are members of CHSA. Our peers help to challenge us, to chide us, to encourage us --- good naturedly, of course! – as colleagues and friends

So show others that it is OK to be ambidextrous, it’s OK to celebrate diversity; it’s OK to leap across the chasms between disciplines and faculties. And you can show you mean it by sending your dues in – each and every year – to our wonderful organization - CHSA!

Thank you.

Jeffrey L. Beard

CALL FOR SYLLABI

To all faculty who teach a construction history class or incorporate a construction history learning module in your history, design, architectural or engineering class, you are invited to submit a .pdf of your teaching syllabi to the CHSA Research Repository to help further our collective knowledge.

Please email: melaniefeerst@gmail.com

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INDIVIDUAL MEMBERS

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Travelogue / Research Article

Backsteingotik (Brick Gothic) Architecture in the Baltic Region of Germany: Some Observations from a Recent Study Tour

Sara E. Wermiel, PhD

Before attending the 6ICCH in Brussels in July, I spent a couple weeks traveling in northeast Germany to see Backsteingotik (brick Gothic) architecture. Buildings in this style are found throughout northern Europe, notably in cities that had been part of the Hanseatic League. The style flourished in the period when Hanse merchants made their cities prosperous, mainly from the 13th to 16th centuries. Many of the Backsteingotik buildings are enormous, yet they are built of brick. What follows is a brief overview of style and observations about some of the Backsteingotik buildings in the cities I visited (from west to east: Lübeck, Wismar, Stralsund, Neubrandenburg, and Burg Stargard).

The German term Backstein (literally, baked stone) is an old word for brick that is still used in northeast Germany. Brick as a building material (as opposed to roof or floor tiles) disappeared after Roman times in northern Europe and was reintroduced there in the 12th century. It gained ground as a building material because of a lack of building stone in the region. At first, it was a prestigious material. Early Romanesque churches with rubble stone walls were rebuilt or modified with brick, once it became available. Eventually brick became a commodity and was used for all sorts of buildings: e.g., churches, castles, monasteries, city halls, hospitals, city gates, and houses. Importantly, brick was exposed on the exterior, except in places where render was used for color-contrast.

Backsteingotik churches began to be built somewhat later than, and, with respect to form, were influenced by, the stone Gothic churches in France. The French churches featured elaborately carved stone portals, tracery, crockets, and statuary. How to decorate brick buildings? The solution was to shape the brick, usually in molds before firing. Clay was formed into architectural shapes and also in figured blocks and even statuary. Other methods of decoration involved color, including bands of black glazed brick, red brick applied over white render, and, less commonly, light-colored stone elements. But even when decorated, the buildings give the impression of plainness and massiveness, with large expanses of red brick and legible shapes like rectangles, cylinders, and polygons. They create a sublime effect.

Two interesting building typologies of the Middle Ages in this region are hall-house (Dielenhaus) and city halls. The hall-house was a merchant’s combined business and living space. The typical hall-house in Lübeck, Stralsund, and Wismar (where lots were narrow and deep) had gable ends facing the street. Inside, the principal floor was an open, two-story-high space where goods were received, sold, and handled; the floors above, in the steep roof, were used for storage. An ell at the back of building was the living space. Often, stepped-gables concealed the peaked roof. Some of these houses survive and, amazingly, even some interiors. In Stralsund, there are three examples one can visit.

Backstein Dielenhäuser (brick hall-houses), Lübeck, Germany. (Photo: Wermiel)
Backsteingotik Architecture (continued)

The impressive city halls of Lübeck and Stralsund have high, rectangular façades of brick that extend beyond and between gable roofs, screening the roof lines. With its tall screens of open arches and narrow turrets, set on the large market square, Stralsund’s City Hall is striking.

The Backsteingotik buildings in the cities I visited are now valued for their historic importance and have been, or are being, restored and exhibited as principal attractions. They have become the symbols of the cities. It was interesting to see that they are being interpreted from a construction history perspective. For example, at the ruin of St. Mary’s Church (Marienkirche) in Wismar, where only the tower of the monumental building survives, there is an excellent presentation on the construction of the church, which includes a film, display of fragments and historic notebooks, and even a live demonstration showing how shaped bricks were made.

Backsteingotik buildings can be found in many cities in the region. However, much as been lost, and there has been much reconstruction of historic buildings. Lübeck, Wismar, and Stralsund are listed UNESCO World Heritage Sites because they are well-preserved examples of medieval town development. Neubrandenburg, in contrast, was heavily damaged in WWII and most of its medieval fabric is gone. Its principal church was reconstructed incorporating what remained of

Sara E. Wermiel is an independent scholar, historic preservation consultant, and teacher. Her specialties are the history of nineteenth-century American technology, industrialization, and urbanization. She has written several books and many articles on the main subjects of her research: structural fire protection and the development of new materials and assemblies for constructing buildings in the nineteenth century.

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http://chsamembership.wildapricot.org

(continued next page)
The Curious Case of the Nyatapola Temple
Vishal Joshi

On April 25th, 2015 a massive earthquake struck Nepal measuring almost 7.8 on the Richter scale. Thirty-eight heritage buildings collapsed; 157 were partially damaged out of the 195 surveyed monuments. While the initial reaction was to concentrate on destroyed monuments and reasons for their collapse, architects, engineers, and preservationists quickly changed their focus to the structures that had survived.

The Nyatapola Temple in the Bhaktapur Durbar Square, constructed in 1702 CE, is one of them. This five-tiered temple survived not one, but three major historic earthquakes of 1833, 1934, and the recent 2015. The question now arises as to why this five-tiered Dega temple survived, while others with their same size and configuration didn’t stand a chance? To understand the structural seismic resilience we will investigate the history of this temple and two recent structural analyses reports on the temple carried out after the 2015 earthquake.

This temple, located on the northern side of the Taumadhi Square, was built by King Bhupatindra Malla. The Chronicles of the Kings of Bhaktapur records that Lord Bhairava in his newly built three storied Bhairava Temple caused much trouble to the people of the city. In order to pacify him, the King decided that a glorious and more powerful temple be built in front of Bhairava’s Temple, and this temple (continued next page)

Backsteingotik Architecture (continued)

the bombed building (it opened as a concert venue in 2001). For planning my trip, the website of the European Route of Brick Gothic was helpful; but recently, this website has disappeared. Still, information on the route for cities in Germany can be found on other websites, e.g.: http://www.germany.travel/en/leisure-and-recreation/scenic-routes/european-route-of-brick-gothic.html

Treptow Gate (ca 1400), Neubrandenburg, Germany: outer gate, with decorative brick over white render in blind arches. (Photo: Wermiel)

Docent demonstrates how shaped bricks were made, part of an exhibition at Marienkirche, Wismar, Germany. (Photo: Wermiel)
Nyatapola Temple (continued)

was dedicated to Isvari or Siddhi Lakshmi to whom Bhairava had to respect.

The chronicle records that the construction of the temple began with the digging of a deep rectangular hole where the foundation of the temple was laid. The plinth of the temple was built above it and adorned with images of lions, elephants, and victorious fighters to make the temple more powerful. The temple was made in such a way that it was taller and higher than the neighboring temple of Bhairava. (Fig.2)

The chronicles end with an interesting anecdote: it records that at the moment when the pinnacle was placed on the temple to mark its completion, a farmer planted rice seedlings in his farm. Later, when the time arrived to uproot the plant, the farmer could not do so. The stem of the plant broke, but the roots were still in the ground. The farmer had to finally take a mattock and forcibly uproot the seedling. The chronicle then concludes that the temple was completed at a very auspicious moment that guaranteed it stability.

A construction manuscript of the temple exists which records the day-to-day construction activities and states that the work on the foundation took seven days while the building itself was built in eighty-eight days. This seems rather difficult to believe. However, it should be noted that the Nyatapola, which means five-stories, is one of the tallest temples in the Kathmandu Valley, and the only one named for its architectural form rather than the deity residing in the temple.

The temple is a typical Dega style temple, timber frame with brick masonry infill, built in the traditional 18th century Newari style. The five-tiered plinth is much taller than the plinths of other Dega temples found in the Kathmandu Valley. The total height being 9m (30ft), each tier of the plinth is almost 1.8m (6ft). The superstructure begins above the plinth; here temple is square in plan measuring 3.4m (10ft) x 3.4m (10ft) at the first floor. The walls of the first floor are perforated with doors on all the faces. The first floor also has a peristyle which defines the circumambulation path. The thickness of the brick walls with mud mortar is 1.45m (4.5ft) at the base, and the wall thickness reduces as the temple rises higher. There are no internal floors above the first floor. Wooden beams at every level along the perimeter of the wall allow for the change in wall thickness and load transfer, and penetrate the walls to support the roof structure.

The total height of the temple is approximately 33m (100ft). After the earthquake, two non-destructive structural analyses were carried out for the Nyatapola temple after the earthquake using laser scanning, photogrammetry, and georadar. The reports were both limited to the first floor and the exterior, as access to the interiors and upper levels was limited due to its religious significance.

The first report concluded that severe cracks greater than 3cm width were recorded along the first story. Grout loss was also noticed; in addition, the top tier had rotated 3.82 degrees in a clockwise direction and the north wall was severely damaged. The second report concluded that in the georadar scans vertical wooden elements were located within the walls of the first story, but their continuity in the upper floors could not be confirmed. The five tiered plinth was sur-
Nyatapola Temple (continued)

veyed, and it was concluded that it was built of regular building materials – brick masonry with mud mortar facing and infilled with dry stacked bricks. It should be noted that the first report focused on the conditions analysis, while the primary objective of the second report was to investigate and unravel the traditional building technology which was hidden behind the masonry.

In a quick visual assessment of the temple during my visit with the KVPT’s structural engineer we noticed that the plinth beam was constructed from one continuous piece of wood rather than being smaller pieces put together. The wooden columns rested on the wooden beams and there is no differential material expansion. This may have also contributed to its survival and was confirmed by the engineer.

Vishal Joshi is a Preservation Architect currently working with the New York based Architectural Preservation Studio; having six years of work experience with projects spanning India, Nepal, Uganda and the US. He has a masters in Historic Preservation from the University of Texas at Austin and a bachelors in Architecture from Kamla Raheja Vidyanidhi of the University of Mumbai. As a part of his work and thesis research he has been actively involved with the Kathmandu Valley Preservation Trust’s (KVPT) ongoing rebuilding and restoration post the 2015 Gorkha earthquake in Nepal. His thesis research won the 2017 US/ICOMOS Murtagh-Graham prize. The article in the newsletter is an excerpt from of his research for the Association of Preservation Technology’s (APT’s) Martin Weaver Scholarship that Vishal won in 2016.
New Publications

“The Lost Half of Andean Architecture: 18th Century Building Traditions and Environmental Use at Chinchero, Peru,”

Stella Nair
(with Sonia Archila and Christine Hastorf)
Latin American Antiquity 29, no. 2 (June 2018): 222-238.

Stella Nair is an Associate Professor, Indigenous Arts of the Americas, Department of Art History at the University of California at Los Angeles.

6ICCH Report by Brian Bowen

The 6ICCH was a week long conference held at the Palace of the Academies (early 19thC) in Brussels from July 9 – 13th, 2018. Over 300 research abstracts were submitted and 160 papers were presented, discussing a broad range of topics related to Construction History. There were one or two new subjects – such as a series of papers on maintenance. The American delegation (about 15-20) matched those from the UK and France throughout. More women submitted, presented and attended than in past International Congresses. MORE INFO ON ORDERING PROCEEDINGS TO FOLLOW

Keynote speakers were Thomas Coomans (Belgium), Tullia Iori (Italy), Robert Thorne (UK) and Werner Lorenz (Germany). Tours explored various sites in and around Brussels, including Bruges, Antwerp and Liege, in subjects ranging from materials (timber, iron/steel, pre-cast concrete) to craftsmanship, contractor archives, and towers.

A new International Federation of Construction Historians was proposed, formed from the eight societies active in Construction History.

Tom Leslie will be nominated as the CHSA representative. (Motion to approve by the CHSA Management Committee)

7ICCH
Lisbon, Portugal
2021

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Please send current research articles, books, opportunities, or travelogue pieces for future Newsletters

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