



Architectural Ceramics in the 21st Century

Brian Molanphy reviews the conference held in Boston

Left: **Trinity Church Rectory**. 1880. Boston, Massachusetts, US. Henry Hobson Richardson, architect.

Right: **Hotel Victoria**. 1886. Boston. John Faxon, architect.

Above photos by Brian Molanphy.

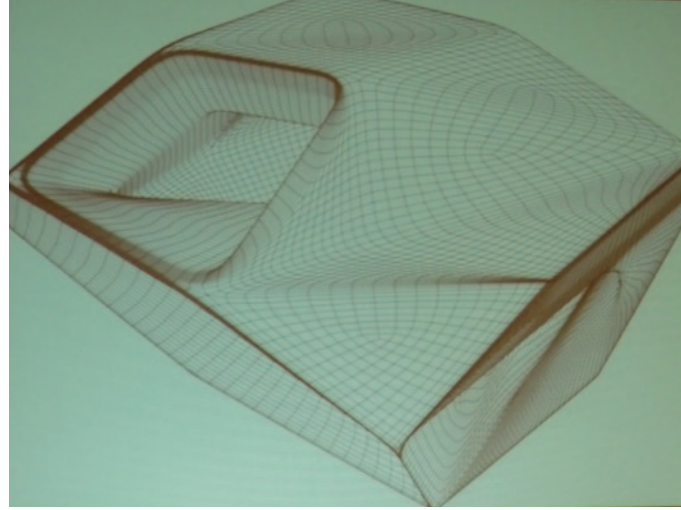
Objects that represent fullness in fact stand for doubt and in the place of doubt. Buildings, our architecture, our cities, our massive collections of statements of certainty and fullness stand in the place of the deepest and greatest loss. So the entire economy of an object with an inner beauty and an inner strength and an inner force (this thought or desire we have for an object to carry this) is premised on a deep and unending sense of unfathomable loss. ~ Mark Wigley, Former Dean of the Graduate School of Architecture, Planning and Preservation at Columbia University.

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WIGLEY SPOKE IN THE AFTERMATH OF HURRICANE SANDY, WHICH destroyed, among other things, a lot of art. His words came to mind during Architectural Ceramics in the 21st Century, a conference in March 2014 co-sponsored by the Massachusetts Institute of Technology (MIT) and the Boston Society of Architects (BSA). In more than 40 papers, the presenters often raised questions about the memorialisation of loss and the prevention of loss through the use of ceramics in architecture as well as the prevention of the loss of those ceramics. Tony Herbert, Honorary Research Fellow at the University of Birmingham, questioned the matter by citing Karl Marx: “the tradition of all past generations weighs like an alp upon the brain of the living.” In the interest of giving identity to a place, Herbert asked the audience to “apply the burden with care”. After all, he noted more lightheartedly, Humpty Dumpty is the patron saint of ceramics conservators.

John Fidler, an architect specialising in preservation technology, pointed out that ancient architectural ceramics, largely unglazed, were always covered with tempera, limewash, or oil, offering some measure of protection. The Ishtar Gate, Babylon, 580BCE, however, with its polychrome glazes, was frequently cited as a starting point in the history of architectural ceramics. Then followed Islamic tilework, a “crucible of the development of ceramic processes” according to Herbert.

In several instances the speakers separated architectural ceramics from brick, which may be puzzling to ceramists. For many conservators



Left: *IMAX Theatre*. 1998. Potsdammer Platz, Berlin Germany.
Renzo Piano, architect. Photo by Agrob Buchtal GmbH.

Right: *Drawing for the Expo 2010 Austrian Pavilion*. Shanghai, Peoples Republic of China. del Campo Manninger Architects.
Photo by Brian Molanphy, © del Campo Manninger Architects.

in attendance, architectural ceramics indicates largely non-structural or semi-structural terracotta elements in European architecture since the Renaissance. Boston's historic architecture reflects this preference. Many industry representatives meanwhile were promoting all types of ceramics, especially rainscreens, to the audience primarily composed of architects. Giorgio Timellini, Director of the Italian Ceramic Center and Professor at the University of Bologna, described the most remarkable of these: 3m x 1.5m porcelain tiles that are flexible and 3mm thick.

John Ochsendorf, MIT Professor and one of the organisers of the conference, led the most extensive discussion of structural ceramics which concerned the tile vaults of Raphael Guastavino Sr (1842–1908) and Jr (1872–1950). Based on traditional Catalan vaults – and in the opinion of Guastavino's critics, there is no substantial difference – Guastavino's shell vaults were selected for the construction of the Boston Public Library (BPL), 1898, a signature project for the Guastavino Company that led to many commissions. The vaults, about four tiles thick, exceeded the architect's load requirement (550 pounds) and met the library's fireproof requirement. The conference concluded with an excellent tour of the BPL. MIT did not succeed in its recent attempt to make a demonstration vault with as shallow a curve as Guastavino's. There are thousands of Guastavino vaults in the US, including the City Hall subway station, New York, 1904, which has been closed for the past 60 years. Why not reopen the spectacular station as a transit museum or a ceramics museum? Ochsendorf asked.

Comparisons of historic and current examples were opportunities to revisit the past through preservation, rehabilitation, or re-creation. As part of the recent renovation of its Islamic art collection, the Metropolitan Museum of Art in New York commissioned Arabesque, based in Fez, to create the Patty Cadby Birch Court, which includes historic material, such as marble columns from Granada and new material, such as *zellij* mosaics. Artisans chip brightly coloured, gloss-glazed square tiles into a variety of tiny geometric shapes that they lay in patterns determined by the constraints of the site. Peter Lu, post-doctoral researcher at Harvard, applied a framework of Penrose tiling to eastern medieval Islamic tiling to show that these

About his Seinajoki Town Hall, Finland, 1958–1962, clad in blue tubular Arabia tile, Alvar Aalto said, “My tile should be like the best coffee cups.”



Chickens. 1906. Pennsylvania State Capitol Building, Harrisburg, US. The Moravian Pottery & Tile Works produced about 400 floor tile mosaics that are installed in the building. Photo courtesy of the Bucks County Historical Society.

designers understood the geometry of complex quasi-crystalline patterns some five centuries before Western scientists.

Comparisons across time were also opportunities to contrast past and present. Alexis Harrison, a Senior Designer at Arup, a global engineering firm headquartered in London, described an essential change: "While the principles of forming clay construction materials have changed little over centuries, the construction techniques for ceramic façades have altered considerably, from fired clay as a structural (or at least self-supporting) material, to one that now provides a ceramic 'armour' to slender structures deeply padded with insulation." A rainscreen of ceramic tiles, impermeable to moisture but permeable to air, was the common example at the conference. The IRCAM extension of the Centre Pompidou, Paris, Renzo Piano, 1990, is an early example while the Fairchild Building at Columbia University, 1977, Mitchell-Giurgola Architects, is its precedent.

Back-to-back presentations from the Moravian Pottery & Tile Works, Pennsylvania and Agrob Buchtal, Germany yielded the most striking contrast. The Moravian Pottery & Tile Works makes tiles by hand today the way that Henry Chapman Mercer (1856–1930), its founder, did, inspired by the Arts and Crafts movement, including encaustic (inlaid clay decoration) techniques. Mercer sometimes used multiple firing techniques in a single installation to further diversify the individual tiles. Adam Zayas, Head Ceramist, noted the aesthetic appeal, due in part to warped tiles, of the slightly undulating Pennsylvania State Capitol Building floor. Gerard Plank of Agrob Buchtal spoke about the ceramic tile cladding for the Berlin IMAX Theater, 1998, another Renzo Piano project. Agrob Buchtal exploited pyroplasticity to precisely warp

the tiles to clad the apparently perfectly spherical theatre. Shortly after the theatre's completion, the company began offering 'HT' tiles for rainscreens. Photocatalysis in its HT tiles over such a large surface has a positive hygienic impact, according to Agrob Buchtal. "The catalyst titanium dioxide baked onto the glaze effects a reaction between light, oxygen and air humidity. . . HT decomposes the exhaust fumes created by industry and cars. Scientific analyses prove that a Hydrotect facade surface of 1000m² cleans the air as effectively as 70 medium-sized deciduous trees."

Mike Ashworth of the London Underground said that his employer owes its global prestige not just to its age and durability but also to the consistent use of ceramics for surfaces and signage throughout its architecture.

Several presentations that included One Eagle Place in London, part of an urban renewal scheme, showed that many different parties come together for such projects. Among them were an architect, Eric Parry; an artist, Richard Deacon; a fabricator, Niehls Dietrich; a manufacturer, Shaws of Darwen; Arup; and a decal manufacturer in Stoke-on-Trent.

The Sydney Opera House, 1973, Jørn Utzon, whose tile cladding was so important to its architect, often appeared in conference presentation images as a seminal building of our era. More recently, the tile cladding of the Expo 2010 Austrian Pavilion, Shanghai, del Campo Manninger Architects, was so important that critic Marie-Ange Brayer stated, "del Campo and Manninger jointly introduced their idea that space is defined by the quality of materials and not only defined by a plan defined upstream."

Harvard Professor Martin Bechthold directs a robotics lab that may be useful to architects and designers seeking a rapid but customisable middle ground between handmade and industrial products like a European manufactory. The lab's experiments (on display in Gallery 224 of the Ceramics Program at Harvard at the time of the conference) show that robotics is successful as intermittent intervention in production rather than replacement for existing technology. "Nothing can replace the actual handling of the material," said Bechthold.

Architect David Fixler gave one of the most well-rounded and far-reaching papers, claiming, "Ceramics is the essence of *homo faber*." With the use of architectural stone ranging from structure to envelope and with the changing uses of glass, "Ceramics forms the third leg of this material tripod." Fixler's selected architects demonstrated a special care for their use of ceramics. About his Seinajoki Town Hall, Finland, 1958–1962, clad in blue tubular Arabia tile, Alvar Aalto said, "My tile should be like the best coffee cups."

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Brian Molanphy is Assistant Professor of Art at Southern Methodist University in Dallas. He is currently combining pottery, architecture, and Proust in ceramics on the Baltic and Mediterranean coasts.