

## Lecture 5 – Decorative Innovations in Ornament



**Welcome** to Final lecture within Guastavino Structural Tile Vaulting in Pittsburgh.



Thank you for taking class. Intended as a **survey of local Guastavino landmarks**, in the syllabus is a **map for a self-guided tour** of 8 structural tile vaulting examples, along with **listing of all the buildings covered in lectures, architects, dates**, etc.



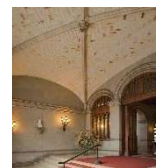
After arriving in U.S. (**1881**) and failed **tenement housing project** in N.Y.C. (**1883**), Guastavino Sr. **contacted editors of a new magazine, Decorators and Furnishers, to make drawings of furniture and interior decoration in Spanish Renaissance style.** Seeking eye-catching pages, accepted his exciting sketches, regular contributor. Noticed by an architect, asked to **submit design for new building of Progress Club of New York City (**1883**), won the competition and commission. First big break.**



Following introduction to **Charles McKim (**1889**)**, architect **Boston Public Library** (McKim, Mead, White, 1889-1895), given **contract fireproof structural tile vaults, first use of exposed tiles as finish material, ornamented by decorative patterns.**

**Feb. 1894**, a General Contractor defaulted on payment to Guastavino for one of his tile vault works. Unable to make payment on bank loans borrowed to pay for the costs on the job, forced to **declare bankruptcy.**

Decorative exterior loggia vaults



**Guastavino Sr.** retreated to the Black Mountains, NC, to work on **Vanderbilt estate** (Biltmore; Richard Morris Hunt; Asheville, North Carolina; 1894) and to **avoid embarrassing questions about the business.** **Jr. assumed New York office.**

By **1898**, work often slowed to standstill, by **problems with tile manufacturers** controlling kiln temperatures, **affecting color and quality of glaze tiles**. Many reject tiles, not matching sample tiles used in designing, many projects using multiple color tiles. **Tiles delivered in time to finish jobs was constant problem.**

Over **winter of 1898**, **Rafael Jr.** left for the Black Mountains, NC, to build a kiln with his father, to experiment with making their own custom tiles. However, far from the Northeast, where most projects located, **lacked reliable transportation.**



**Blodgett** (accountant) suggested creating a **tile factory in Woburn, Massachusetts**. In **1900**, **began manufacturing in an old wooden church**, **controlling the entire process from extraction of clay to construction of vaulting**. **Standardized 1"x6"x12"**



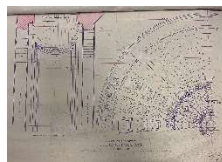
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**City Hall Subway Station** (**George Heins & Christopher La Farge**; NYC; **1903**)  
**decorative glazed tiles, variety of sizes & experimental colors**

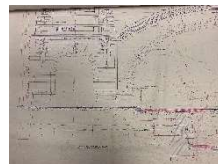


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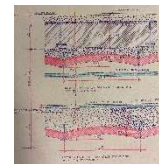


**The Union Station** (**D.H. Burnham**, Pgh, June 4, **1900**) Cab-Stand dome made of **enameled terra cotta** with ornamental **iron and glass circular oculus** ceiling light.

Layered brick basement floor system  
Brick arch and tile vault floor system



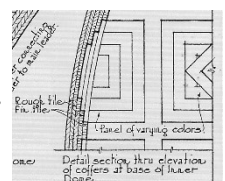
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**Methods known by other architects**, but **Burnham not associated with Guastavino.**

Arches of granite with terra cotta castings, brick & steel, **costly materials.**

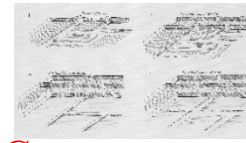
Guastavino developed **layered tile system of coffering**, **dimensional relief.**



## 1905 Staged Tile Layers: 'mature' system:

3:25

1. **Plaster of Paris layer (fast) set** without formwork
2. Upper/**Outer layer (staggered joints) set in Portland Cement** mortar bed
3. Under/**Lower layer of Finished 'Decorative' Tile** (staggered joints) set in Portland Cement mortar bed
4. **Raised mortar joints** of Portland Cement to finish



**Porter Hall** (early raised mortar; Henry Hornbostel; Pittsburgh; 1905-07)



**Guastavino Sr.** occasionally made trips back to NY, **Madison Sq. Garden** to visit architect friend **Stanford White**.

But less trips after June 25, 1906 when White **was shot** on rooftop, by Pittsburgh millionaire playboy **Harry Thaw**, over his wife **Evelyn Nesbit**, showgirl, silent film actress, who he claimed White ruined through his womanizing.



Retreated to wilderness of N.C., began work on **Basilica of St. Lawrence** (Asheville, North Carolina; 1907), twin towers with small domes atop, in the **Spanish Colonial style**, but crowning feature was **58ft. x 82ft. elliptical dome**, construction donated and supervised daily by Guastavino. No wood or steel, all **floors, ceiling, and stairs of tile vaulting, one of most extensive examples.**



**Guastavino Jr.** builds larger manufacturing plant, **La Ceramica** (Woburn 1906-07)

**Guastavino Sr. died Feb. 1, 1908**, crypt of unfinished **St. Lawrence church.**

Rafael Jr. went to Asheville to complete Main Altar & **Chapel of Our Lady** (decorative shrine; **Rafael Guastavino Jr.**; Asheville, North Carolina; 1908)

**sophistication of tile production**







**Cathedral of St. John the Divine** (long span dome; Rafael Guastavino Jr.; Morningside Heights, New York; **George Heins & Christopher La Farge, 1909**) Mason crews working on site bet there would be a fatal collapse with Rafael Jr.'s proposal for a movable centering rig attached to each days freshly laid tiles (Plaster of Paris setting up within hours, layered with Portland Cement for early strength). Rafael Jr. had built smaller domes, mastering graphic statics, felt he could design any size dome.



Developed 'nervous prostration' too much stress from work. Began calling on **Elsie Seidel**, daughter of the owner of boarding house he was staying in Brooklyn. Sundays strolling Prospect Park, candle light dinners at Delmonico's restaurant, private box at theater. Took her top of St. John's dome under construction, peek down through opening.

With business thriving from success of St. John dome, took trip to Mexico (1910?) (Progreso, Vera Cruz, Puebla, Oaxaca, Mitla, Mexico City, Guadalajara, San Luis Potosi, El Paso) over slower winter season, to study historic masonry domes.



**Catedral de Puebla** (dome, colorful tile; Manuel Tolsá; Puebla, Mexico; 1575)



**Christmas 1911** in Paris, Egypt (antique glazed tiles), Italy, Spain (Valencia).

**Basilica de la Virgen de los Desamparados** (elliptical dome; Juan Gilaberto Jofré; Valencia, Spain; 1667) Visited Valencia and Madrid tile factories.

Letter from Elsie, "To see Rome in limited time is the biggest proposition in the world. We are five days behind schedule and anxious to catch up, but there is so much to see and we would hate to miss anything."

"We were booked for the maiden trip of the Titanic, but we see... that she has made her maiden trip earlier than expected and is already at sea. However, since her schedule calls for her to return in time, we will expect to depart on her as planned from Cherbourg. ...It's just as well we are missing the maiden voyage because the special tips expected would have busted us entirely. As it is, I will arrive looking like a tramp as I am seeing my Spring Paris outfit fade in the distance with our diminishing funds."



**Grand Central Terminal Oyster Bar** (decorative tile; Warren & Wetmore; Midtown, New York; **1912**) **single tile, dynamic by reflectivity & multiple vaults**  
As result of loud space, begins **experiments on acoustical tile, in Woburn factory.**



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**stylized pinwheel**

**Vanderbilt Hotel Della Robbia Room** (relief tile; Whitney Warren & Charles Wetmore; Murray Hill, N.Y.; **1912**) **custom dimensional shapes & imprint patterns**



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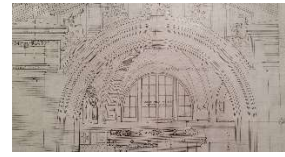
**Doherty Hall** (**relief soffit & frieze**; Henry Hornbostel; Pittsburgh; **1908-09**)



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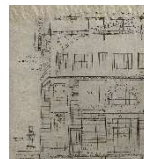
**Machinery Hall / Hamerschlag Hall** (**fully dimensional**; Hornbostel; Pgh; **1913**)



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**Baker Hall** (**perfected raised mortar**; Henry Hornbostel; Pittsburgh; **1913**)

**Layered arches and vaults, creating dimensional depth, without terra cotta relief.**



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**Margaret Morrison Carnegie College** (**terracotta cornices**; Hornbostel; **1914**)



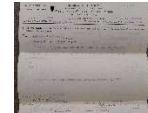
**U.S. Bureau of Mines / Hamburg Hall** (**wood soffit**; Hornbostel; **1916**)



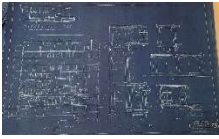
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tapered pie shapes +2



**Pittsburgh City-County Building** (loggia vaults with stone ribs; Henry Hornbostel; Pgh; **1916**)



+1



**University Club** (loggia vault; Henry Hornbostel; Pittsburgh; **1922**) demolished



**Pennsylvania Station** (steel truss vaults; Charles McKim; Midtown, NY; **1910**)  
1963 demolished (lasted 50 years) to make room for Madison Sq. Gardens.

Vincent Scully (arch.hist.): "One entered the city like a god. One scuttles in now like a rat." Catalyst for architectural preservation movement in United States.



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**Western Theological Seminary** (Thos. Hannah, Pgh., **1915**)

Community College of Allegheny County (West Hall) renovations covered vaults.



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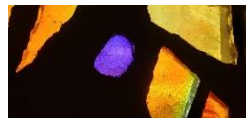
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unmaintained deterioration

**B'Nai Israel Synagogue** (portico vaults with decorative metal, mosaics, glass; Hornbostel, Sharove & Friedman; Pgh; **1924**) sukkah: branches, gaps, canvas



+5



**Jean-Jacques Duval** mosaic glass renovation (1960s)



**Pavellons Güell 'Dragon Gate & Stables'** (broken mosaic; Antoni Gaudí; Barcelona, Spain; **1884-87**) Trencadís Mosaics





+8



**Allegheny County Courthouse** (H.H.Richardson **1888**; Akoustolith bsmt vaults; Stanley L. Roush **1924-28**)



+3



1st 1836

2nd 1849

33ft. hgt.

**Grant's Hill / The Hump** (Planning for 3rd **Hump Cut began 1909, Final Cut 1913**)

**Named: British Major Grant** defeated by **French/Indians** defending the Hill in 1758.

At Forbes Ave., N up Grant (Frick bldg.1902 across Allgh.Court, Union Truss1915)

**\$3.3M cost**, "but... **travel was simplified** for all concerned, horses, trolleys and

vehicles and pedestrians." Earth and stone from Hump **filled in Pather Hollow**

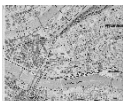
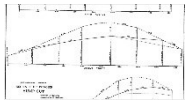
(St. Pierre's Ravine), becoming Schenley Plaza, Frick Fine Arts Bldg./Library atop.



**Guas.Vaults/Domes** from **Valencia 1382** > 11K yrs. to **Mounds of Ohio River?**

**Theory: @forks for high-ground temp. wild rice camps** (sewing, tying, gathering)

Mon. Warf flooding > **natural riverbanks, wetland habitats: what has been lost?**



1981 Co. Soil Survey

Rainsboro Complex (silt dep.)



temp. birch-bark, rush-matt.

perm. ash-bark wigwams

**Native Mound Site** (**palimpsest dome**; Early Archaic Culture; Monongahela fork in the Ohio River; circa **9,000 BC**) **erasure is homogeneity / loss of diversity / entropy**



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**muting / numbing senses**

**County Office Building** (**Akoustolith tile**; Stanley L. Roush; Pittsburgh; **1930**)



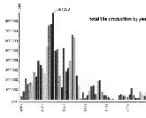
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**no documentation**

**Shadyside Presbyterian Church** (**mosaic tile**; Wilson Eyre & McIlvaine; Pittsburgh; **1938**)



4:30

**1915** was **peak production** for Guastavino's tile factory (891,293 tiles), demand started falling as public building **construction slowed by WWI (1914-1918)**.

Guastavino rigged up pottery turntable and kerosene kiln in shop room of his garage, turning out ordinary **burned clay pieces, then experimenting with glazes**. Eventually **imitating antique Persian glazed tiles**, so fine they were later exhibited at Metropolitan Museum of Art, NY. **Pittsburgh still has a few examples:**



+5



**Bell Telephone Company** (**nuanced glazes**; James T. Windrim; Pittsburgh; **1931**)



**Strawberry Way street mural** (OPA Office For Public Art, Pgh., 2022.06.06)



+9



**Allegheny General Hospital** (**reflective glazes**; Edward York & Philip Sawyer; Pittsburgh; **1929-31**)



+1



**U.S. Post Office and Courthouse** (gold leaf glazes; Trowbridge & Livingston; Pgh; **1931-34**) **We live in an age (post 9/11) when architecture appreciation is lost**. So, I thank you for your interest in this material and for participating in this class. Because **without visceral architecture, we stand to lose our sensitivity, humanity.**

4:40

Bonus:

Ceramicist **Shari Bennett**: **dimensional tiles & Villa Vuoto vessel / mosaics**