

Antoni Gaudí's Influence on the Contemporary Architecture of Barcelona and Bilbao

Summer Session 2020 (Online Zoom)

Instructor: Matthew Schlieb

Lecture 3 (2020.06.04): Estereostàtic

leitmotif:

Catenary Curve: Study of gravitational form in nature, inspired by traditional methods of Escaleristas determining the natural curve profile for arches and vaults supporting the cantilevering Catalan staircases, by hanging a chain freely from two ends under the forces of gravity acting evenly along the arc to a state of equilibrium at rest, then inverting to transfer forces in tension into compression for brickwork, so lines of thrust will be internalized within the catenary form constructed.

manifesto:

Estereostàtic: (Stereostàtic) equilibrated forces within bodies at rest; a modeling machine for calculating gravitational forces within a structure to intuit the natural state of optimal inclination and direction for supports in three dimensional space; Architectural Form and Structural Engineering unified as one, loading forces coincide within profile of building form; **empirical, hyperconnected, inverted tensiles tied to gravitational forces made visible, maintaining proxemic pairing.**

Space must be apprehended holistically in the manner of angels who think in three dimensions. Ordinary man can only act on a plane of two dimensions, as with the flat sectional calculations of Graphic Statics on paper. Nature is not made of straight lines regularly spaced, it is complex, studied with multidimensional physical models.

parti pris:

Inclined Props: Asymmetrical loads concentrated on a point resulting in lateral thrusts internalized by inclining props without division between lateral and vertical loads, toward Architectural Synthesis where distinction between supporting and supported elements dissolve; inspired by the anatomic form studies of human skeletal bones as levers and props, animated in movement, plasticity, coming to life in the sculptures of the Sagrada Família Nativity Façade.

architecture:

Casa Calvet (chair & stair), Antoni Gaudí (1898-1900) Carrer de Casp, 48, 08010 Barcelona, Spain.

Vizcaya bridge, Alberto Palacio (1893) Plaza Puente, 8BIS, 48930 Getxo, Bizkaia, Spain.

Jingkieng Nongriat, indigenous Khasi people (circa 1430) Nongriat, East Khasi Hills, Meghalaya 793112, India.

Estereostàtic model, Antoni Gaudí (1898-1908) Carrer Claudi Güell, 08690 La Colònia Güell, Barcelona, Spain.

Colònia Güell Crypt, Antoni Gaudí (1908-14) Carrer Claudi Güell, 08690 La Colònia Güell, Barcelona, Spain.

Park Güell (colonnade viaduct), Antoni Gaudí (1900-03) Carrer d'Olot, 08024 Barcelona, Spain.

Sagrada Família (bell towers & columns), Antoni Gaudí (1901-14, 1922) Carrer de Mallorca, 401, 08013 Barcelona, Spain.

Pasarela Zubizuri, Santiago Calatrava (1997) Zubizuri, 48001 Bilbao, BI, Spain.

Bilbao Airport, Santiago Calatrava (2000) Aeropuerto de Bilbao, 48180 Loiu, BI, Spain.

Diagonal ZeroZero, Enric Massip-Bosch (2011) Plaça d'Ernest Lluch i Martin, 5, 08019 Barcelona, Spain.

Emmanuel Episcopal Church, Henry Hobson Richardson (1886) 957 W North Ave, Pittsburgh, PA 15233.

Traces of Memory (Mattress Factory installation), Chiharu Shiota (2013) 500 Sampsonia Way, Pittsburgh, PA 15212.

Lecture images/videos: <http://finalmove.com/gaudis-influence-on-contemporary-architecture-estereostatic/>

bibliography:

The Artistic Vision and Religion of Gaudí, Francesc Pujols (Quaderns Crema, Barcelona, 1927 Spanish)

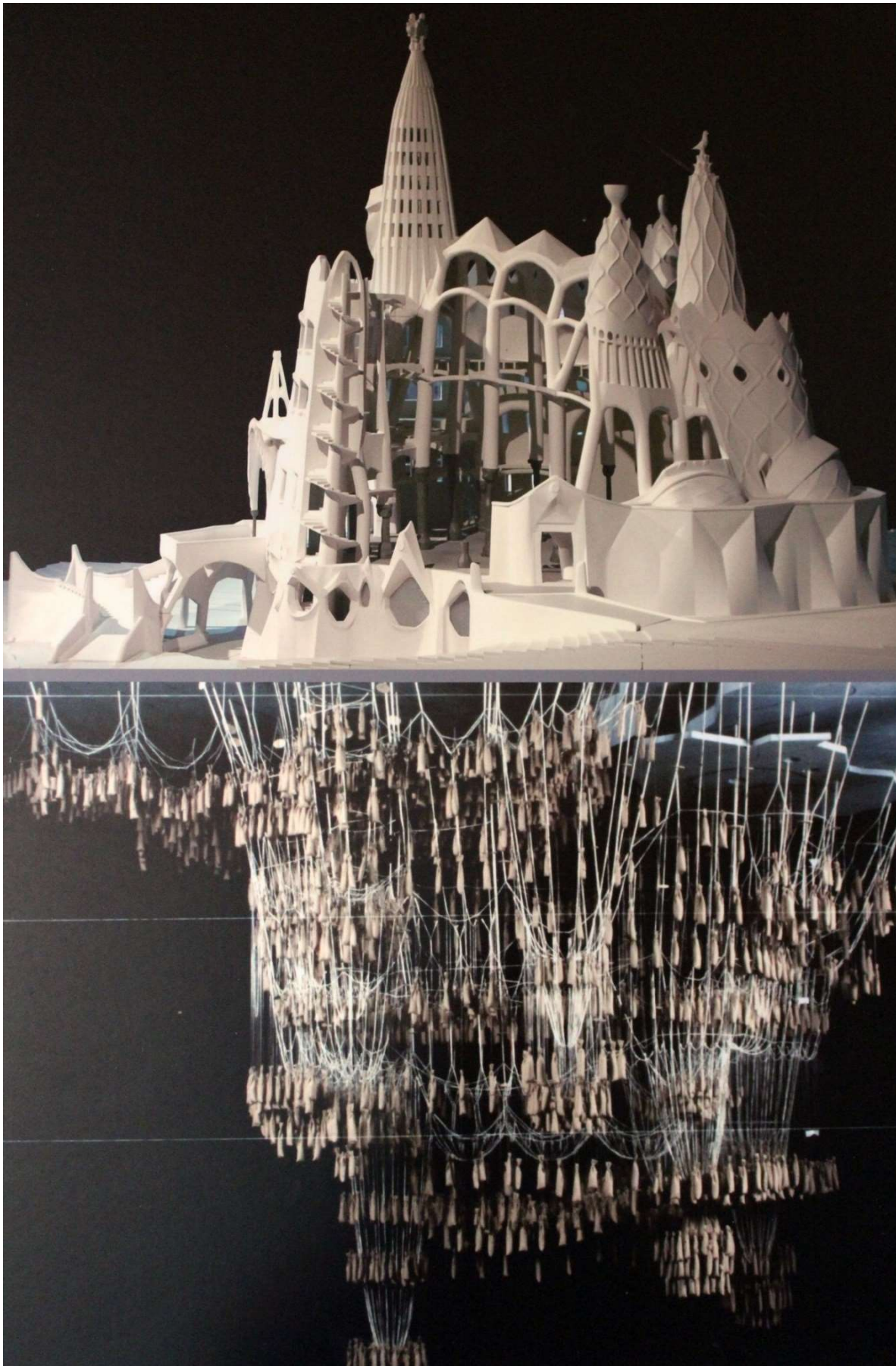
Gaudí, Josep F. Ràfols and Francisco Folguera (Editorial Canosa, Barcelona, 1928 Spanish)

Gaudí, Juan Bassegoda (Publicaciones Espanolas, Madrid, 1971)

Antonio Gaudí: Master Architect, Juan Bassegoda Nonell (Abbeville Press Publishers, New York, 2000)

La Colònia Güell, Miquel Domènech and Antonio Funes (Triangle Postals, Barcelona, 2003)

Park Güell: Gaudí's Utopia, Josep M. Carandell (Triangle Postals, Barcelona, 2014)



Lead shot filled canvas bags tied to strings in tension of the Estereostàtic model (1898-1908) to shape Colònia Güell Crypt.

<http://www.schluebarchitecture.com/lectures/2020/pitt/GaudiInfluences/Estereostatic/>