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Vorlesung am ILEK im Rahmen der Vorslesungsreihe am Donnerstag 21.09.2023, 18:00 h.

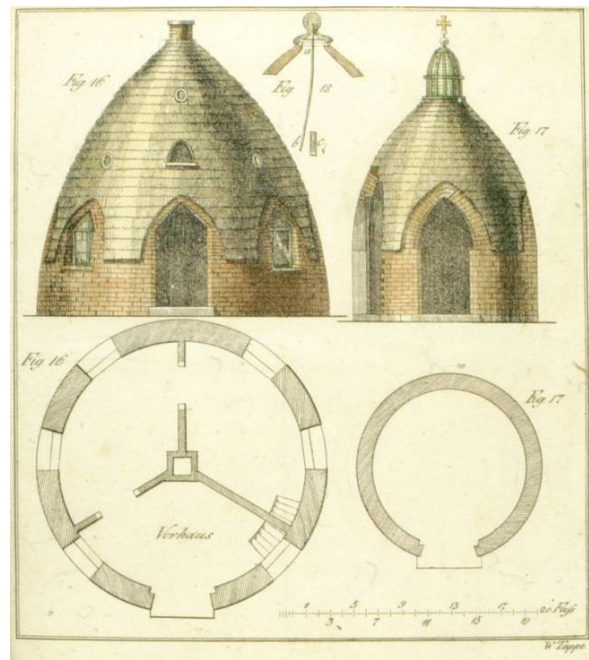
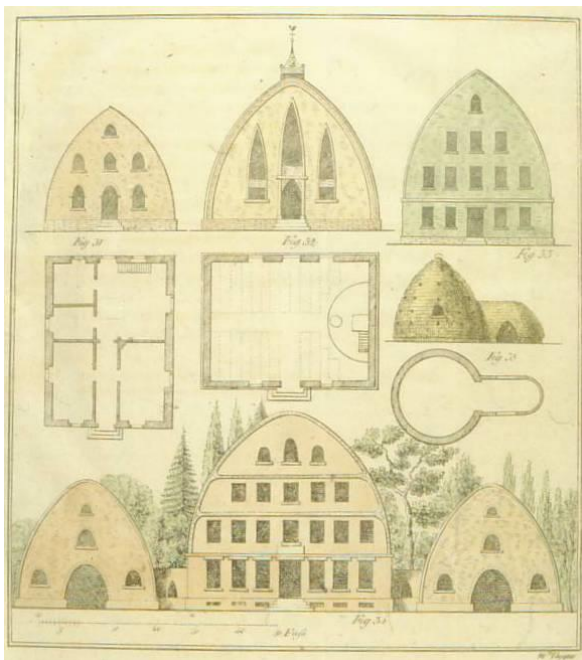
Titel: Methodological aspects of historic hanging models in comparison with the work of Antoni Gaudí and Eladio Dieste

Vortragender: Prof. Dr.-Ing. Jos Tomlow

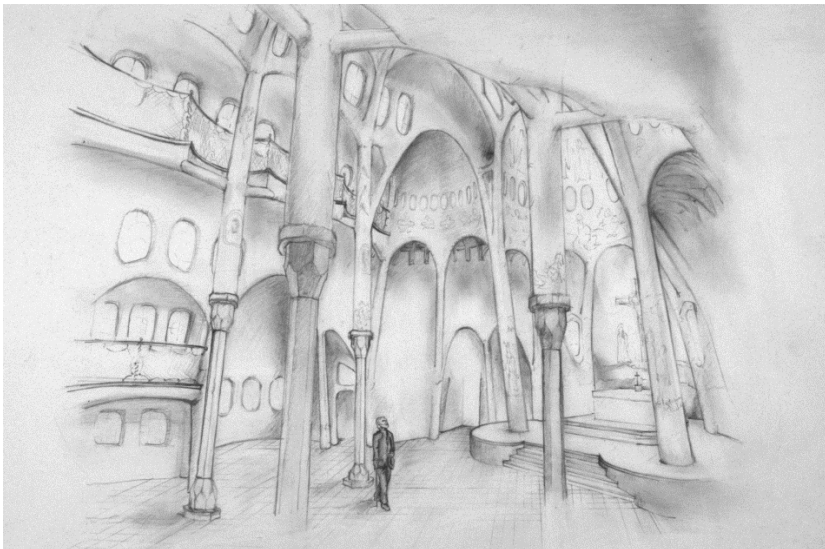
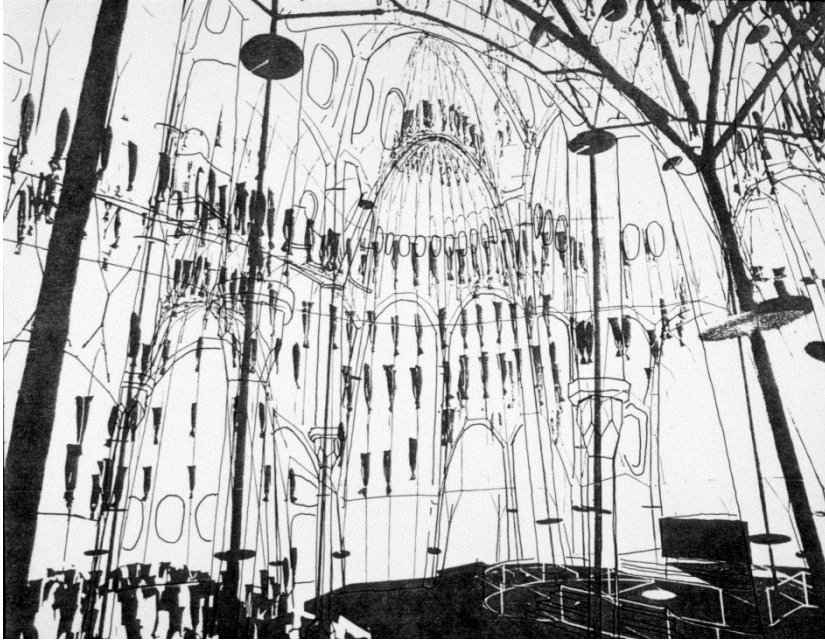
Sprache: English

Since the reconstruction of Gaudí's hanging model (Rainer Graefe, Frei Otto, Jos Tomlow, Arnold Walz), with the Gaudí research Group Delft at the IL in Stuttgart, 1983, structural Form finding has found a culmination point/moment of static theory: Colonia Güell Church near Barcelona around 1900. Earlier and later interesting samples exist of applications of the reversion of the catenary (chain line) as a way to generate an optimized arch shape. The contribution of a range of individuals, including Wilhelm Tappe, Carl-Anton Henschel, Heinrich Hübsch, Gaudí & Jujol, and Frei Otto, often in relation to commercial or sociological innovative visions, also sustainability, are presented.

The second part of the lecture tells the story how Eladio Dieste's invention of Cerámica Armada, (brick shells), took place in the year 1947, in Casa Berlingieri, a house design by Antonio Bonet Castellanas at the Rio Plata atlantic shore. In a historical introduction, vault and shell shapes are compared with the vast amount of shells by Dieste and his firm. Form-finding methods by Dieste, started with the catenary shape, which he later fused with complex gaussian geometry. They evolve in an architecture of organic shapes. His *opus magna*, the Cristo Obrero church in L'Atlántida, became a World Heritage site in 2021. From a sustainable view point of view, Dieste's vaults of hollow bricks with a pre stressed cement layer on top, are lighter than reinforced concrete shells of similar span. Repair after long years – partially necessary - were done with regional technology. Dieste always tried to avoid the use of North-American expensive technology, inventing his own machinery. Source: Eladio Dieste, der Ingenieur aus Uruguay, der uns die Ziegelschale vorführte, by Jos Tomlow, Pre-print, Hochschule Zittau/Görlitz 2017.



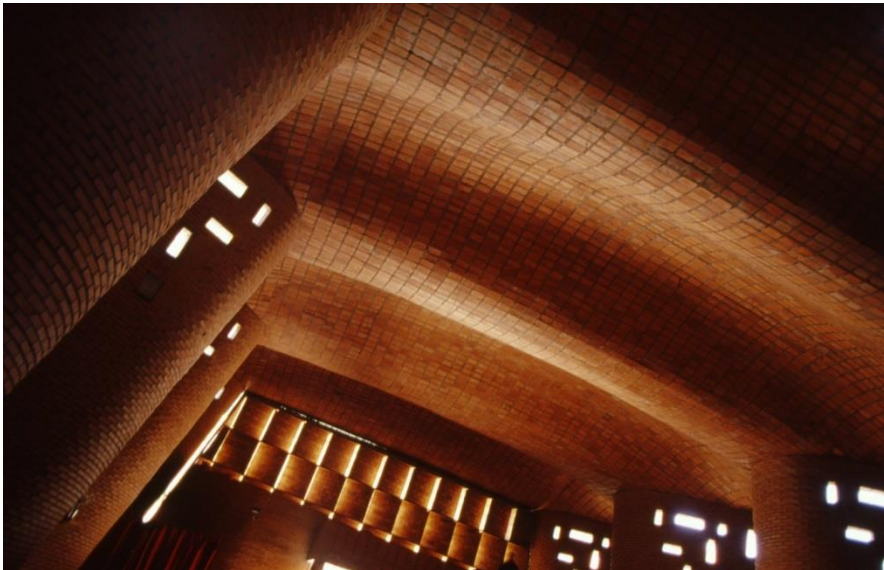
Wilhelm Tappes Kettenlinie nachahmende Bauformen (um 1820) (Archiv Jos Tomlow)



Antoni Gaudí, Vergleich Rekonstruktion Hängemodell 1982 (Rainer Graefe, Frei Otto, Jos Tomlow, Arnold Walz) – Umzeichnung und auf dem Kopf gedreht – mit Rekonstruktion der Kirche von Colonia Güell. („Das Modell“, Stuttgart 1989)



Josep-Maria Jujol. Kirche Santuari de Montserrat im katalanischen Montferri, 1925-ca. 1930, Fertigstellung 1999 durch Joan Bassegoda Nonell, Josep-Maria Jané Coca, Josep-Maria Jané Casas, Jos Tomlow. (Fotos Jos Tomlow)



Eladio Dieste, Kirche Sagrada Familia, Madrid, 1998. (*Fotos Jos Tomlow*)