

Ensaios com Modelos Reduzidos

Breve Incursão Histórica

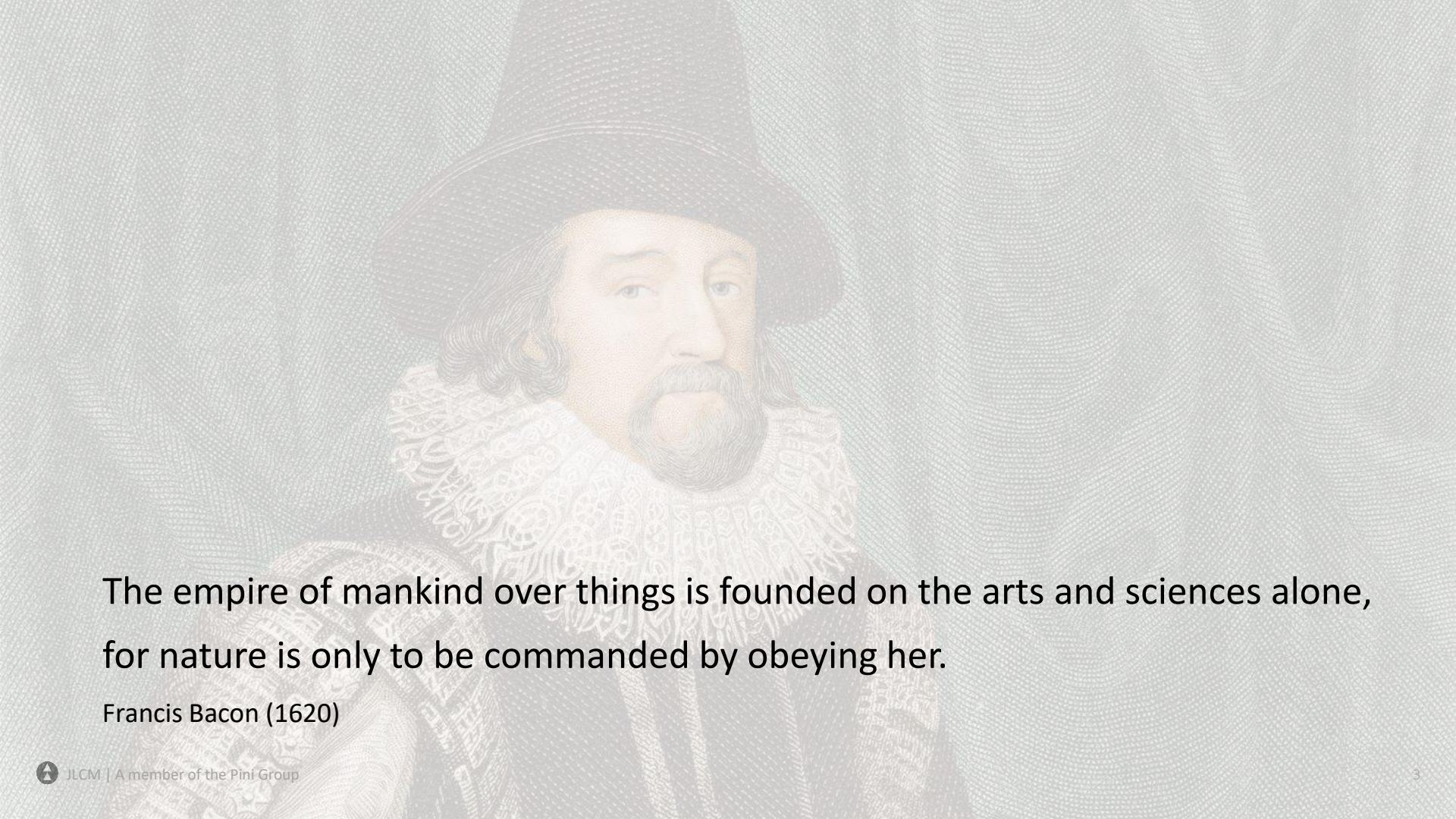
Ponte Pedonal sobre o rio Pavia em Viseu

Concursos Recentes em Portugal

Conclusões

Modelos Reduzidos: Breve Incursão Histórica



A portrait of Francis Bacon, an English philosopher, lawyer, statesman, and scientist. He is depicted from the chest up, wearing a dark, high-crowned hat and a white, ruffled collar. He has a full, dark beard and mustache. The background is a textured, light-colored fabric.

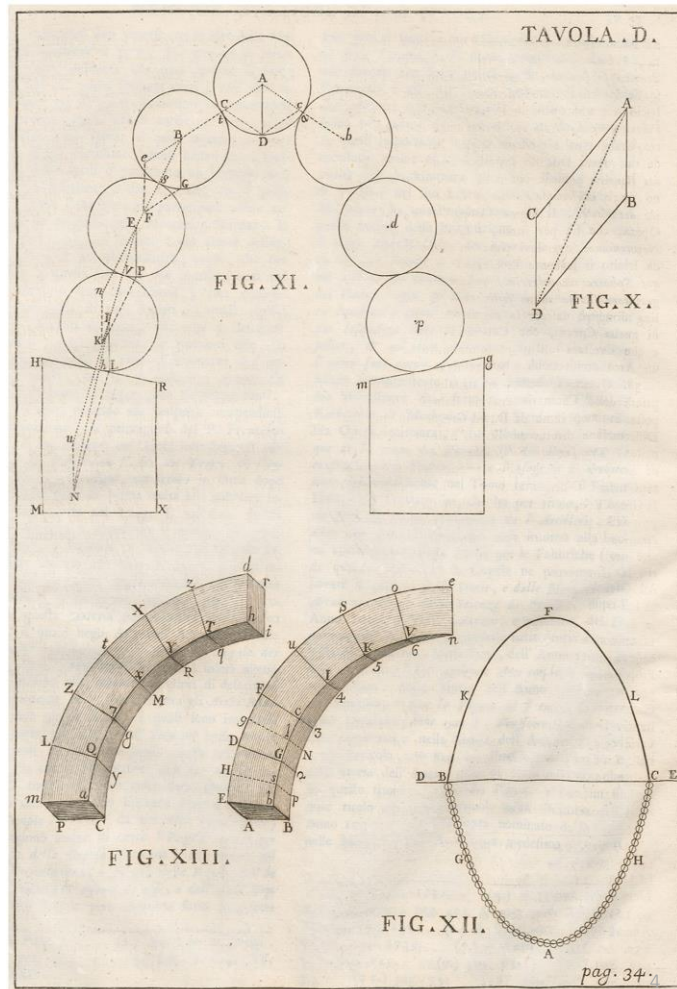
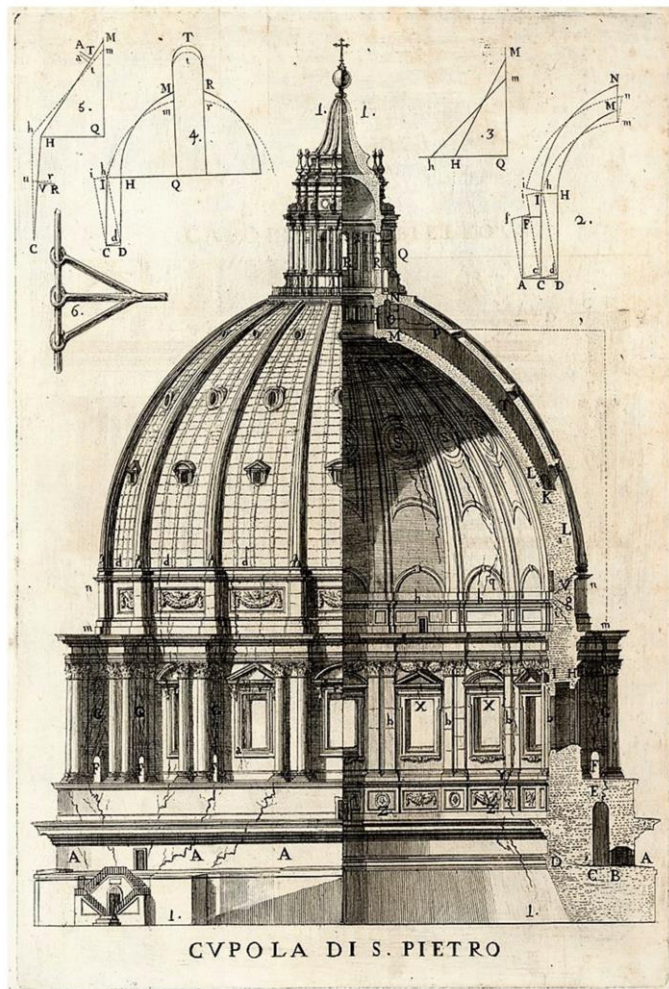
The empire of mankind over things is founded on the arts and sciences alone,
for nature is only to be commanded by obeying her.

Francis Bacon (1620)

Giovanni Poleni

Cúpula de São Pedro

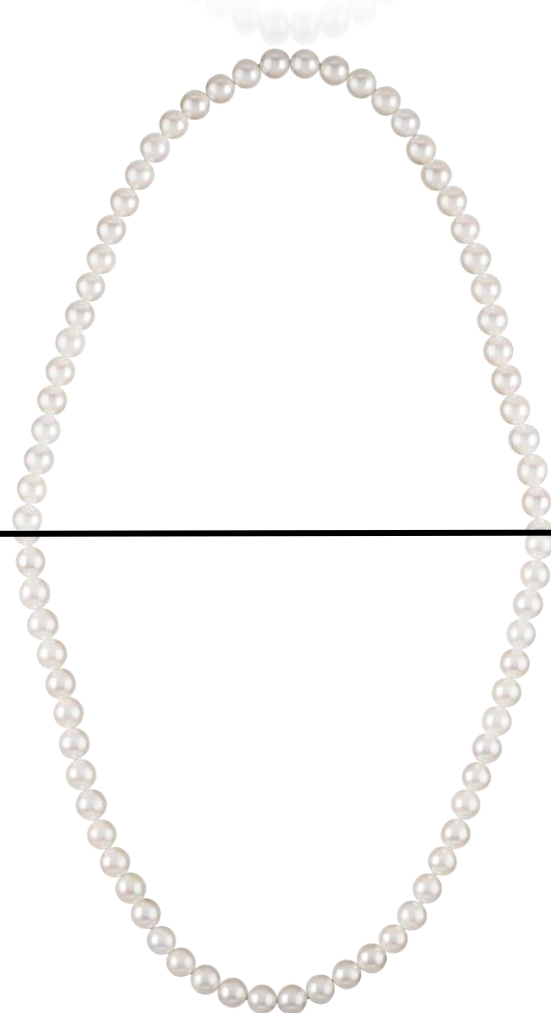
Memorie storiche Della
Gran Cupola del Tempio
Vaticano (1748)



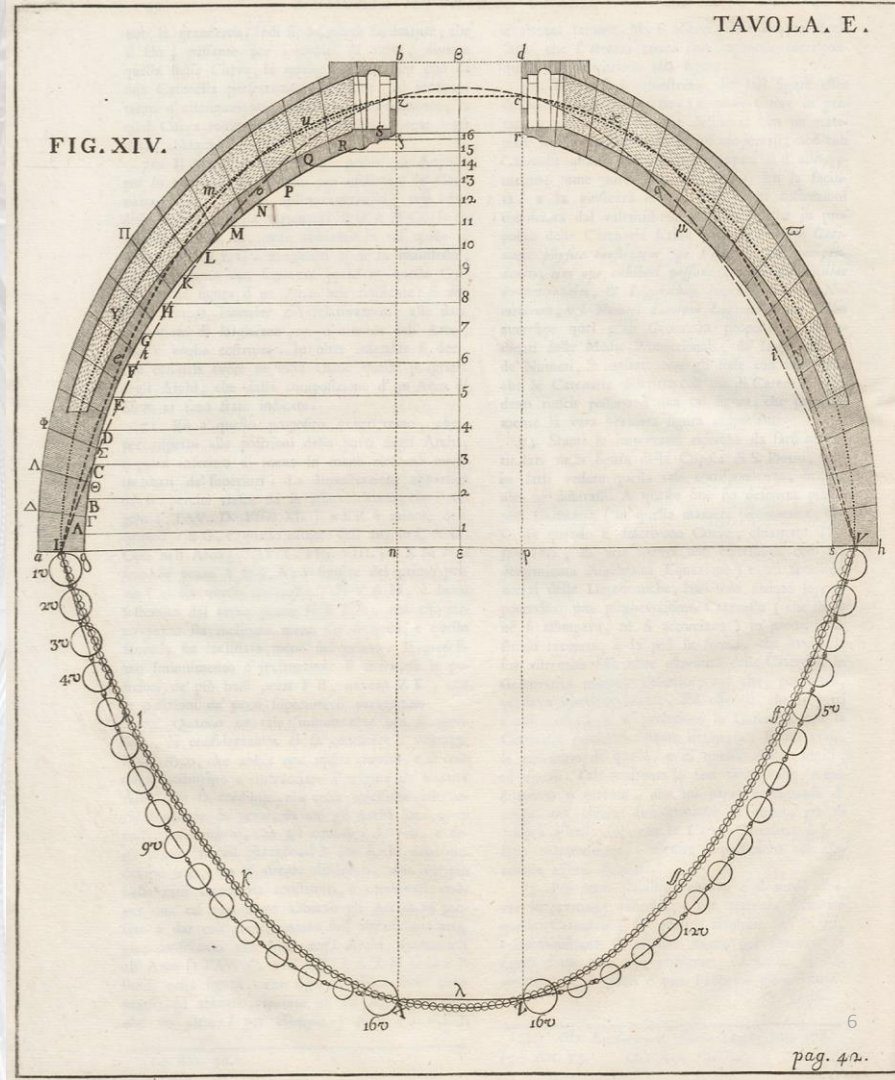
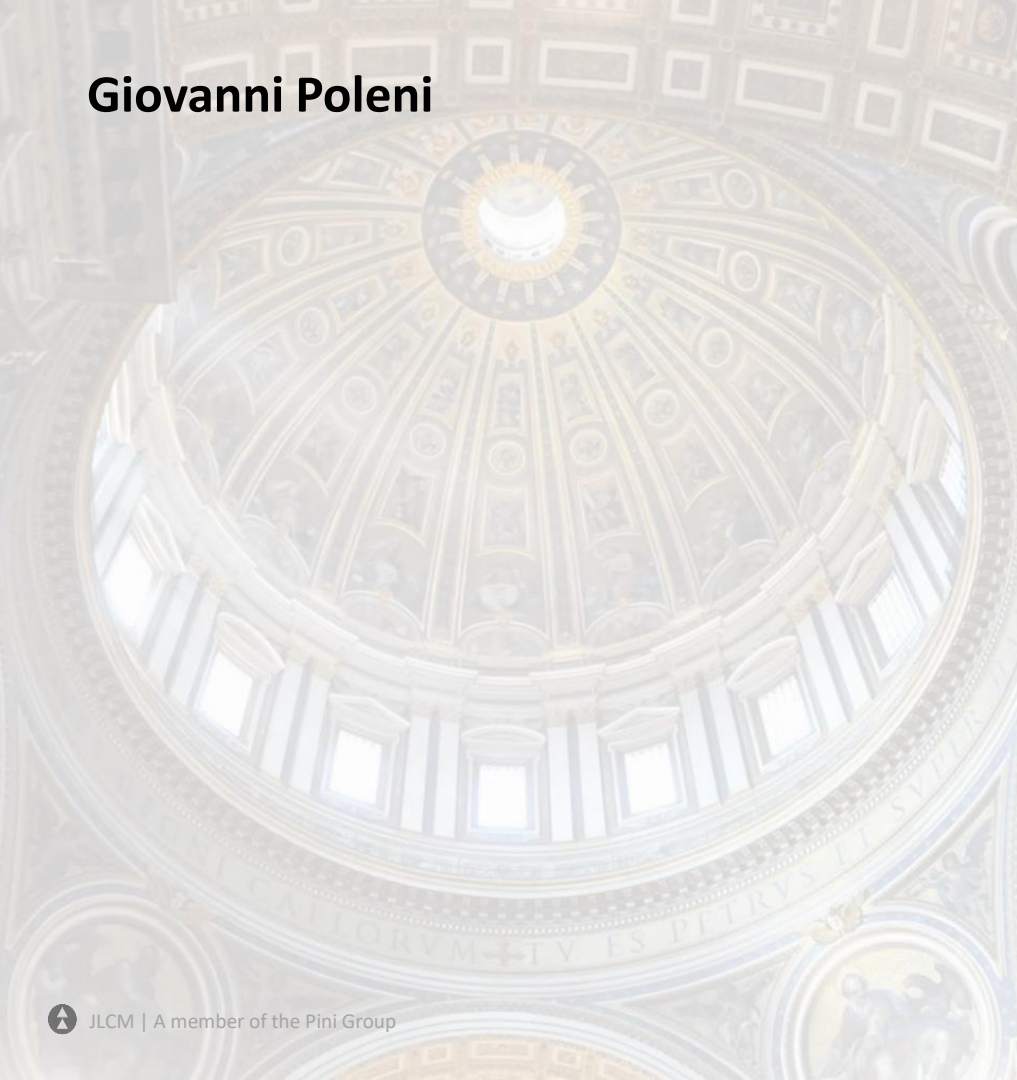
Giovanni Poleni

Princípio da Inversão

funicular \leftrightarrow antifunicular



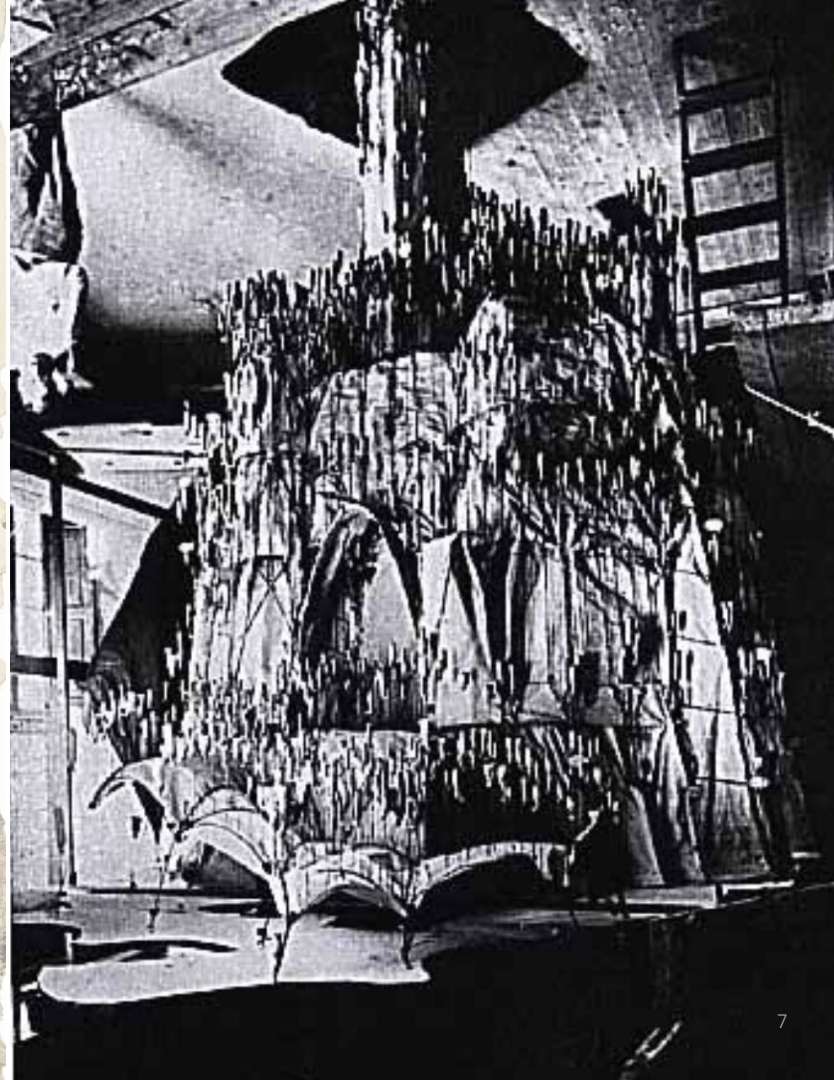
Giovanni Poleni



Antoni Gaudí

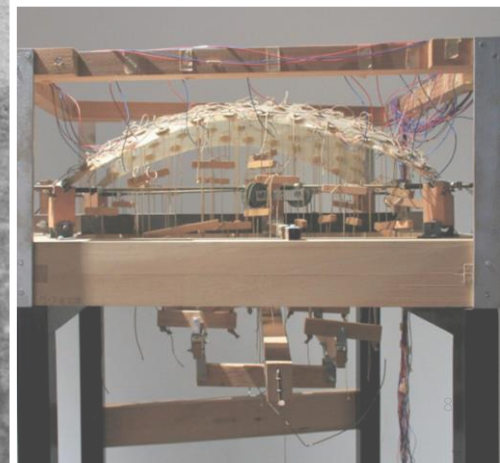
Igreja da Colonia Güell

Modelo funicular (1898-1904)



Heinz Isler

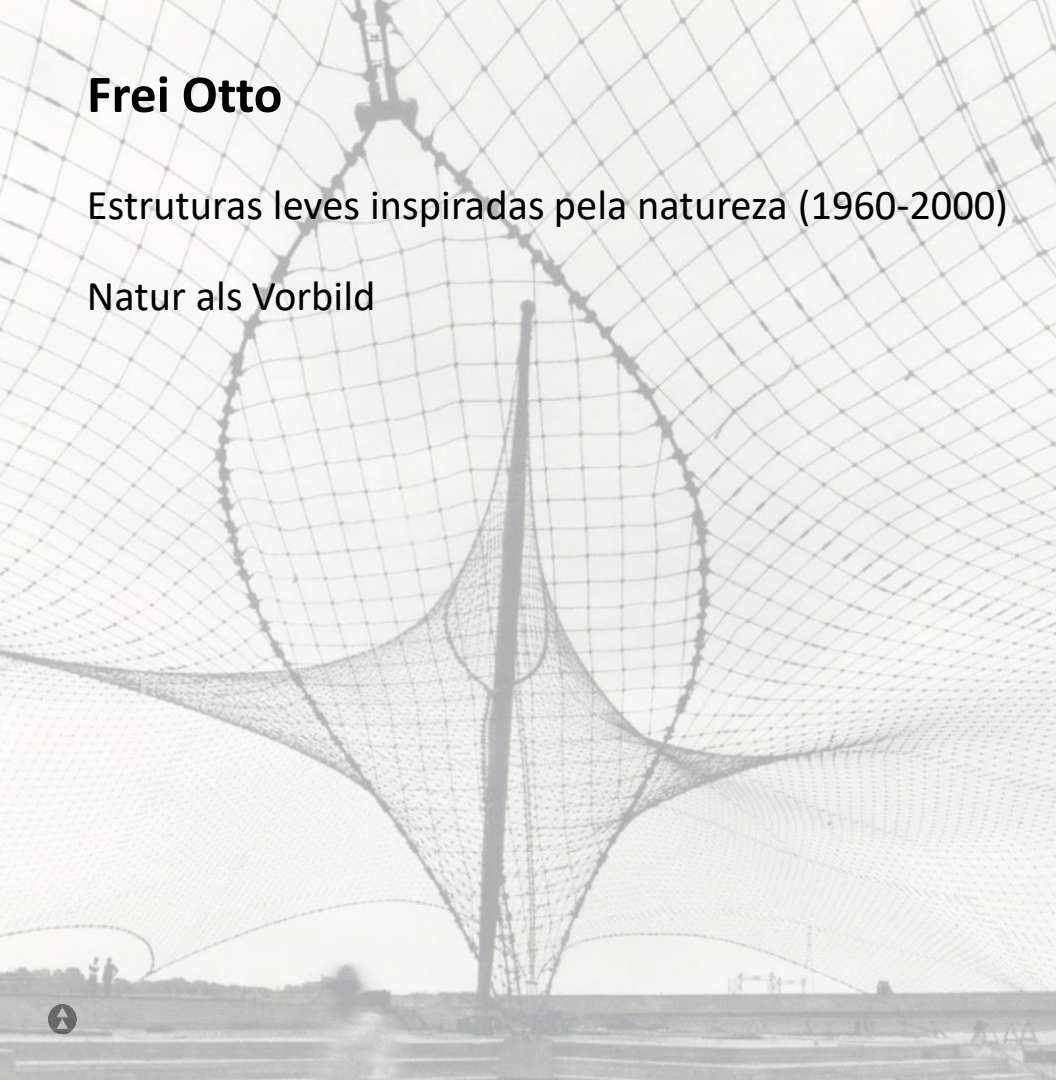
Cascas de betão armado (1960-1980)



Frei Otto

Estruturas leves inspiradas pela natureza (1960-2000)

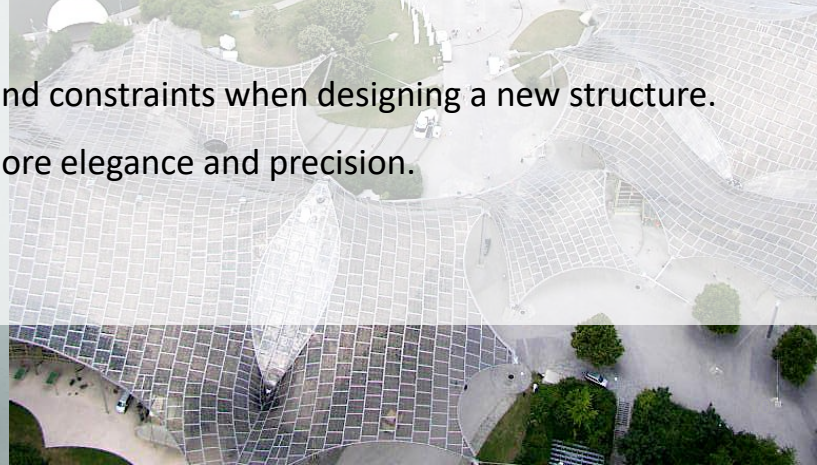
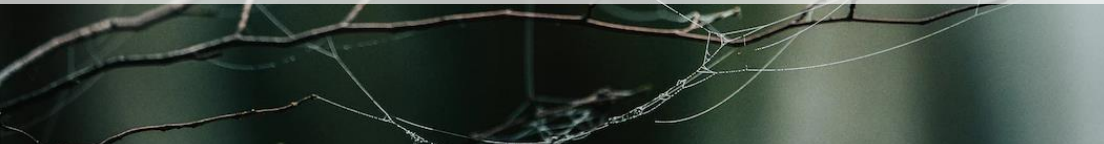
Natur als Vorbild





The spider and the structural engineer share similar requirements and constraints when designing a new structure. The spider is using the techniques of the engineer but with much more elegance and precision.

Peter Rice (1994)



Ponte Pedonal sobre o rio Pavia



Ponte Pedonal sobre o rio Pavia (2004)

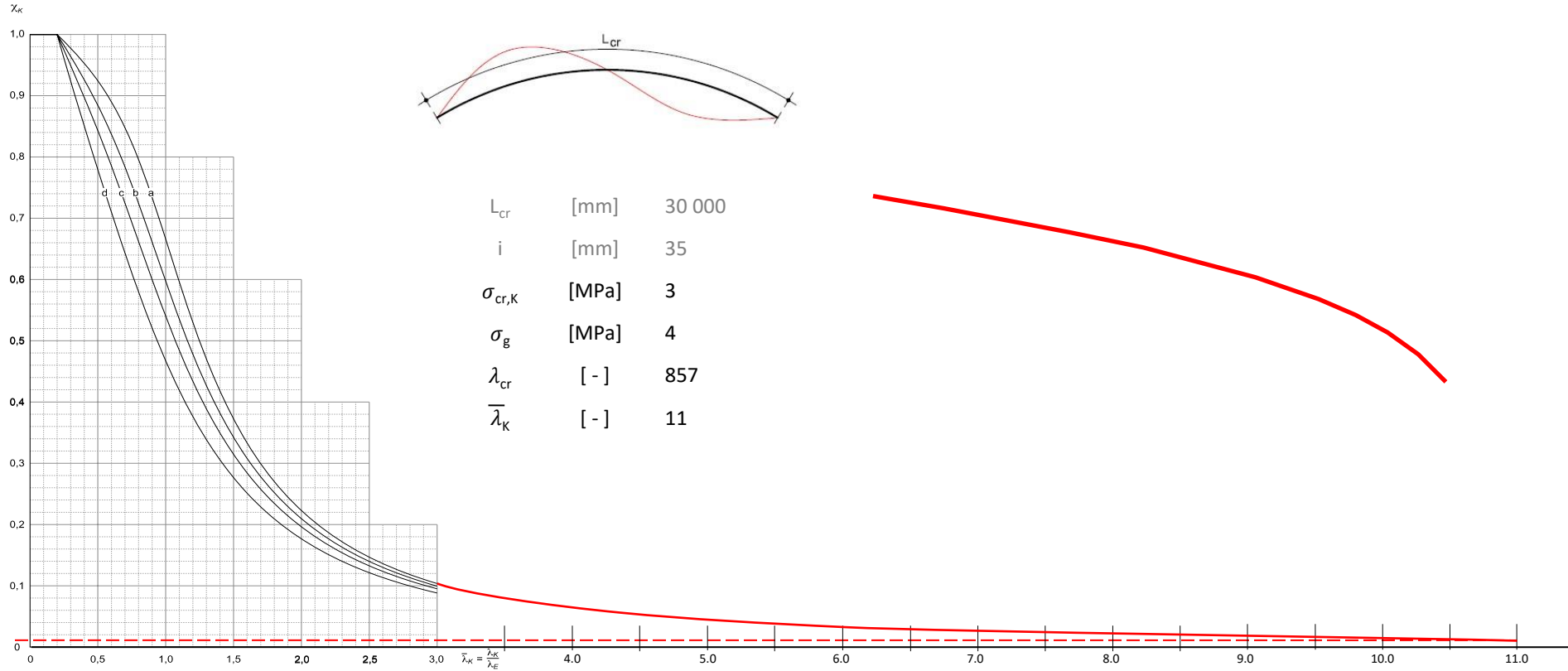


Barra S355 diâmetro 140 mm

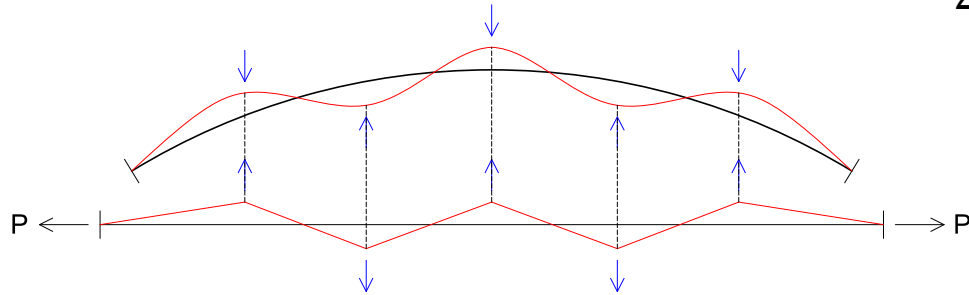
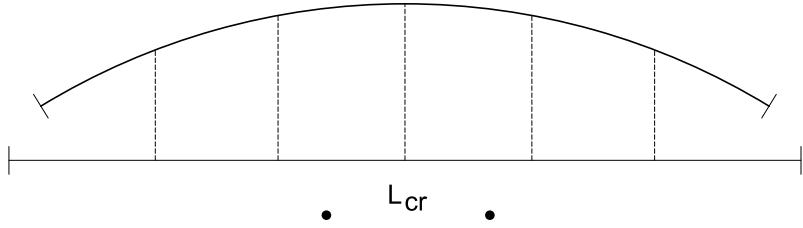


30 m

Encurvadura



Redução do comprimento crítico σ_{cr}



2



Ensaio com modelo reduzido











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Travessia do Guadiana entre Alcoutim e Sanlúcar (2022)

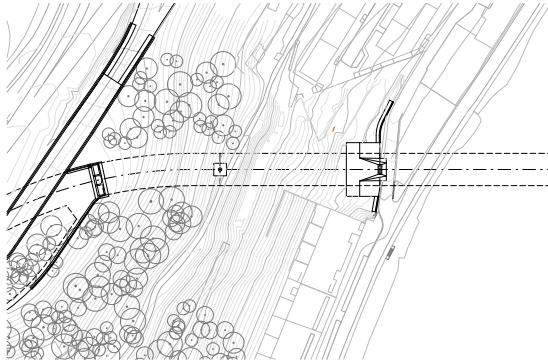
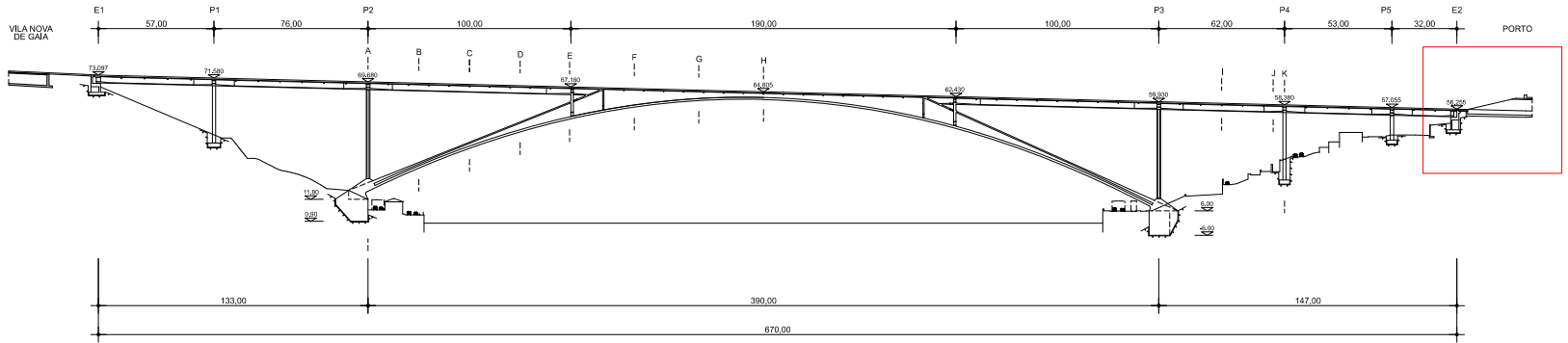


Ponte D. António Francisco dos Santos (2022)



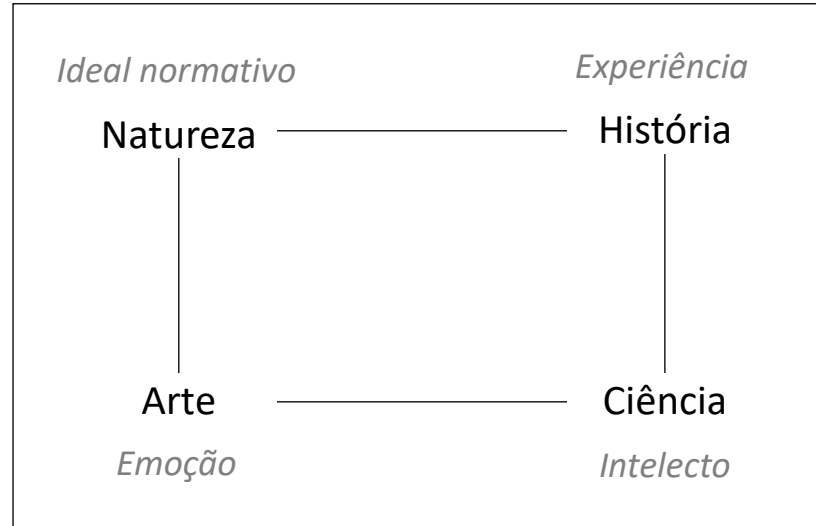
Travessia do Douro entre Campo Alegre e Candal (2021)



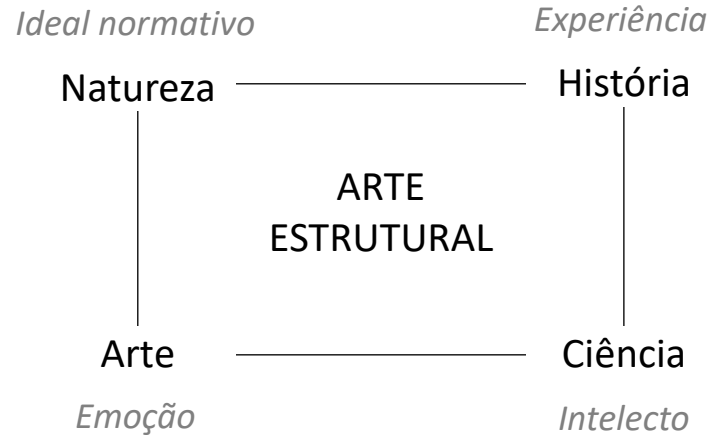


Modelos Reduzidos e Concepção Estrutural





modelos reduzidos



ARTE
ESTRUTURAL

OBRIGADO