

# New Bridge Forms: Maillart and Menn

The hollow box arch after Salginatobel

Early Menn bridges and the influence of Maillart

Long span arches of Christian Menn

prestressing and deck-stiffening

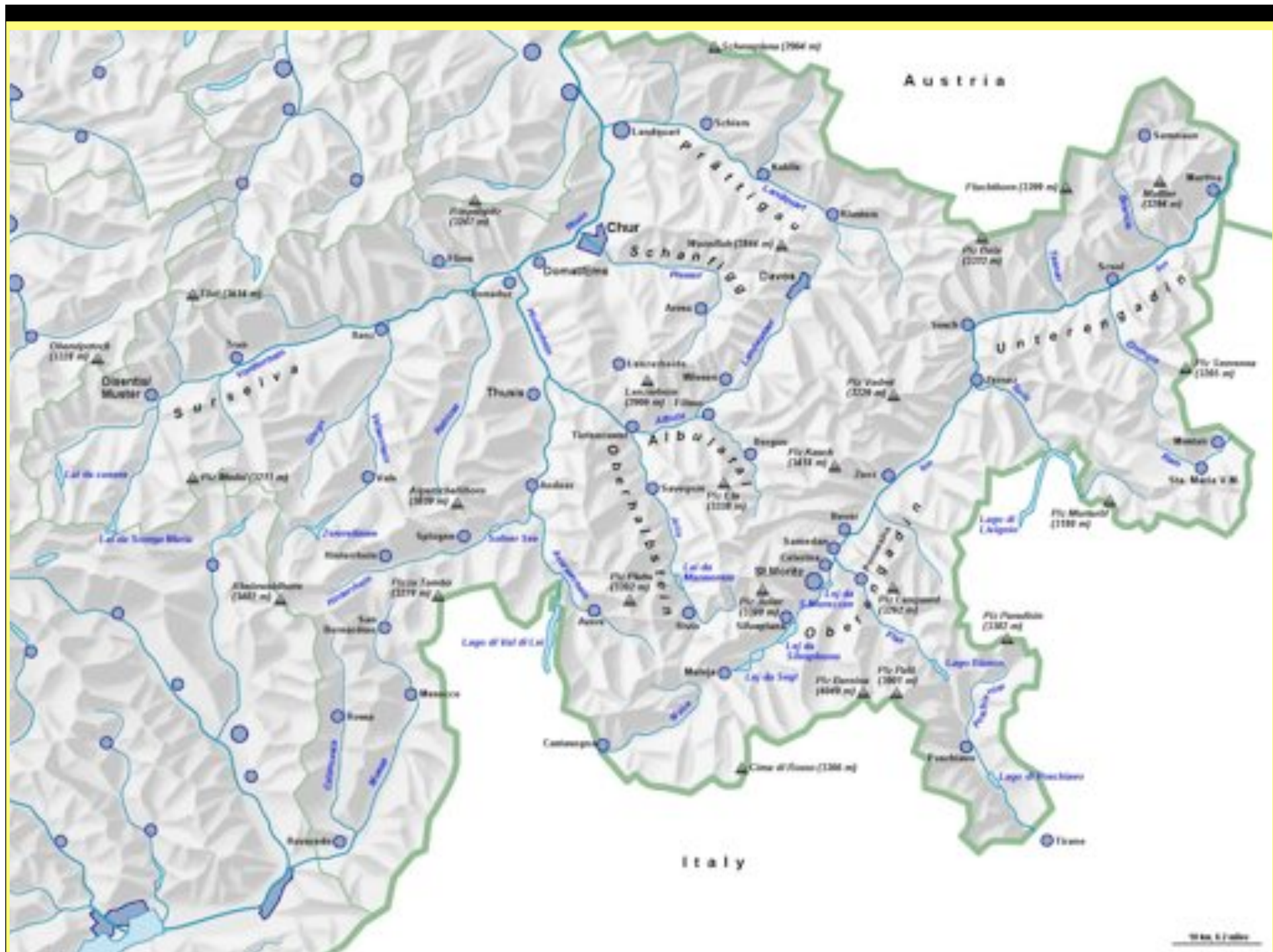
Menn and the long span, prestressed, hollow box girder

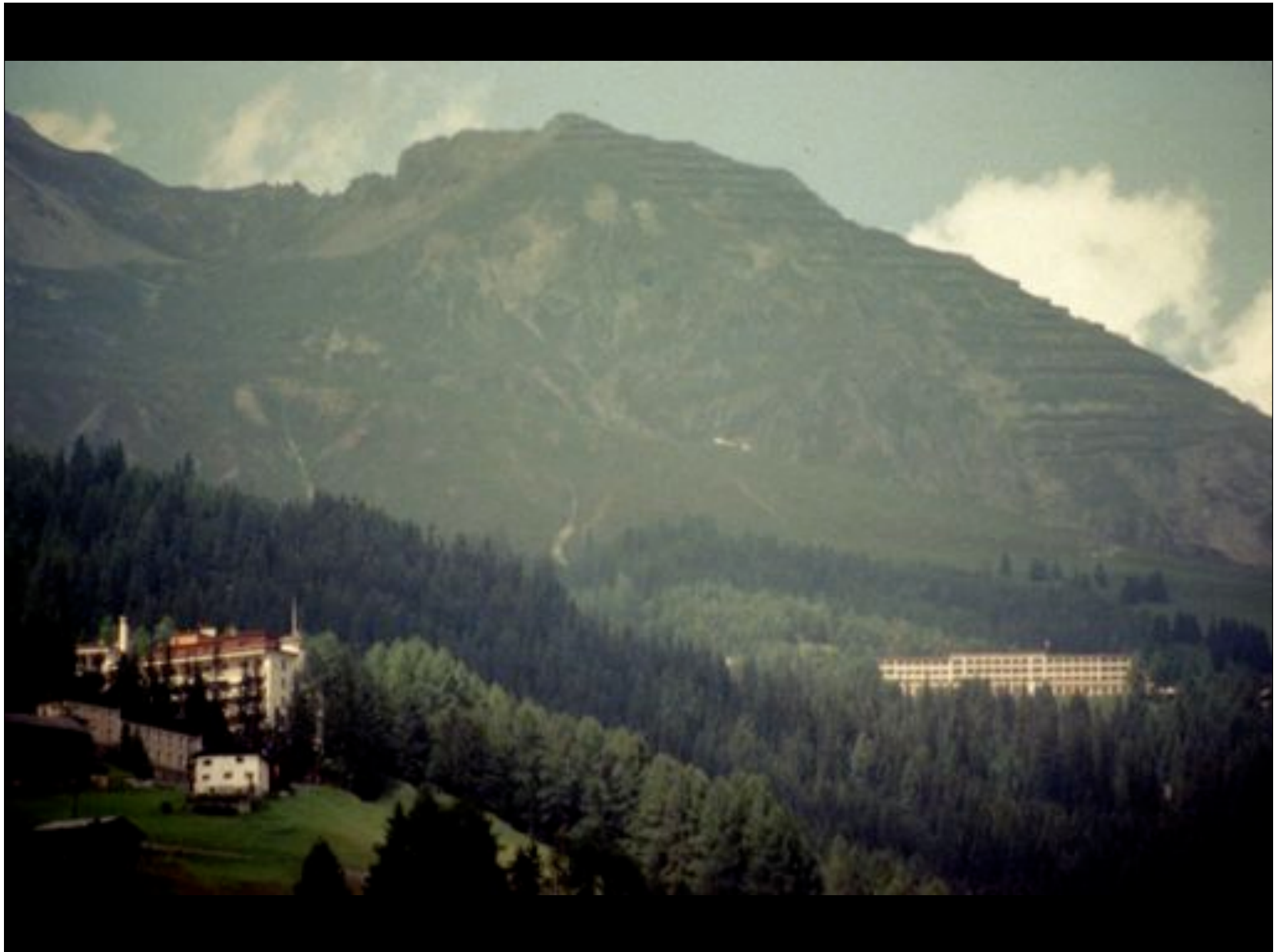
The Ganter Bridge, a new form

Menn's cable-stayed bridges















DESIGN OF NOV. 20, 1927



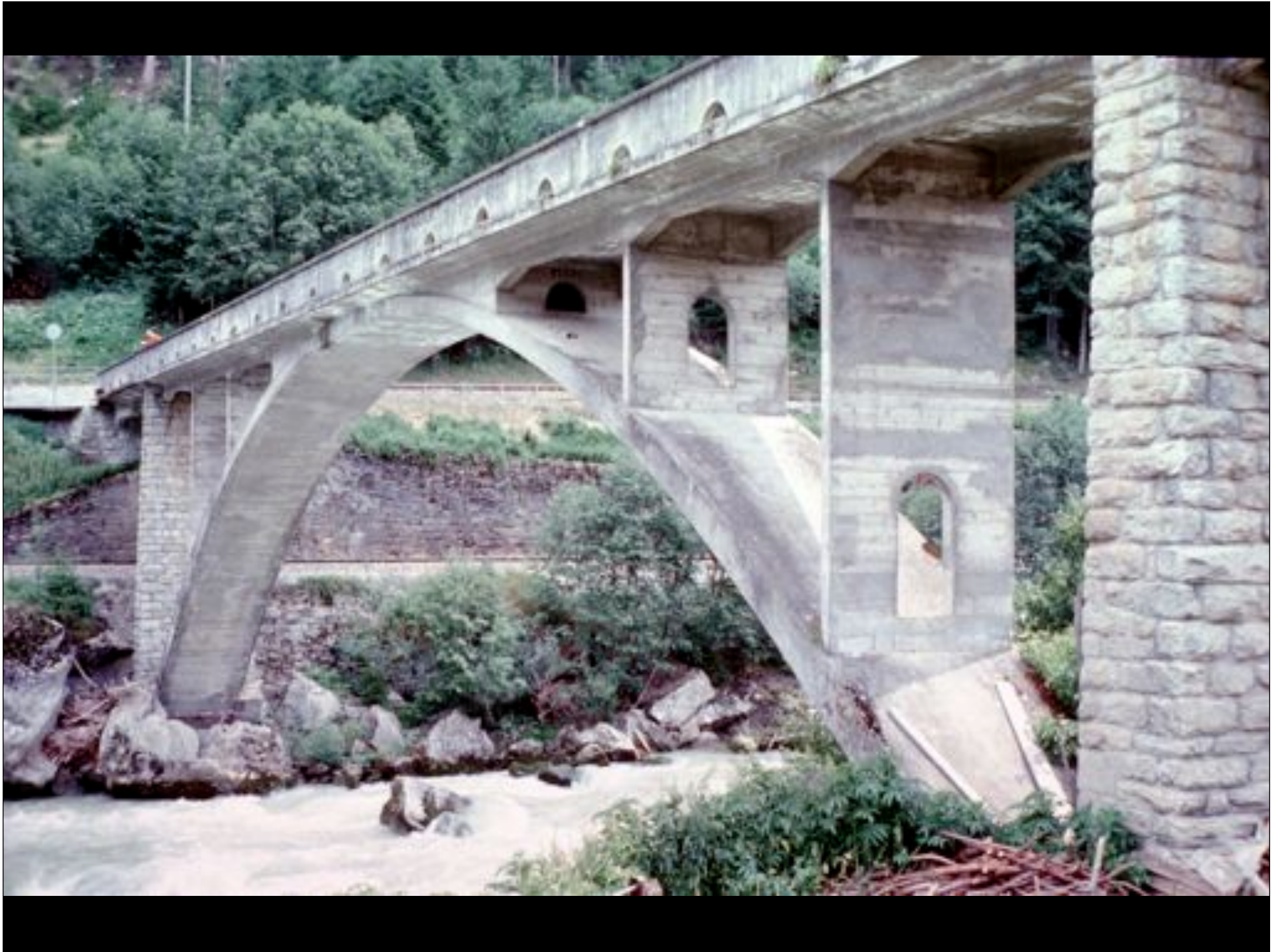
DESIGN OF DEC. 6, 1927



DESIGN OF JAN. 31, 1928

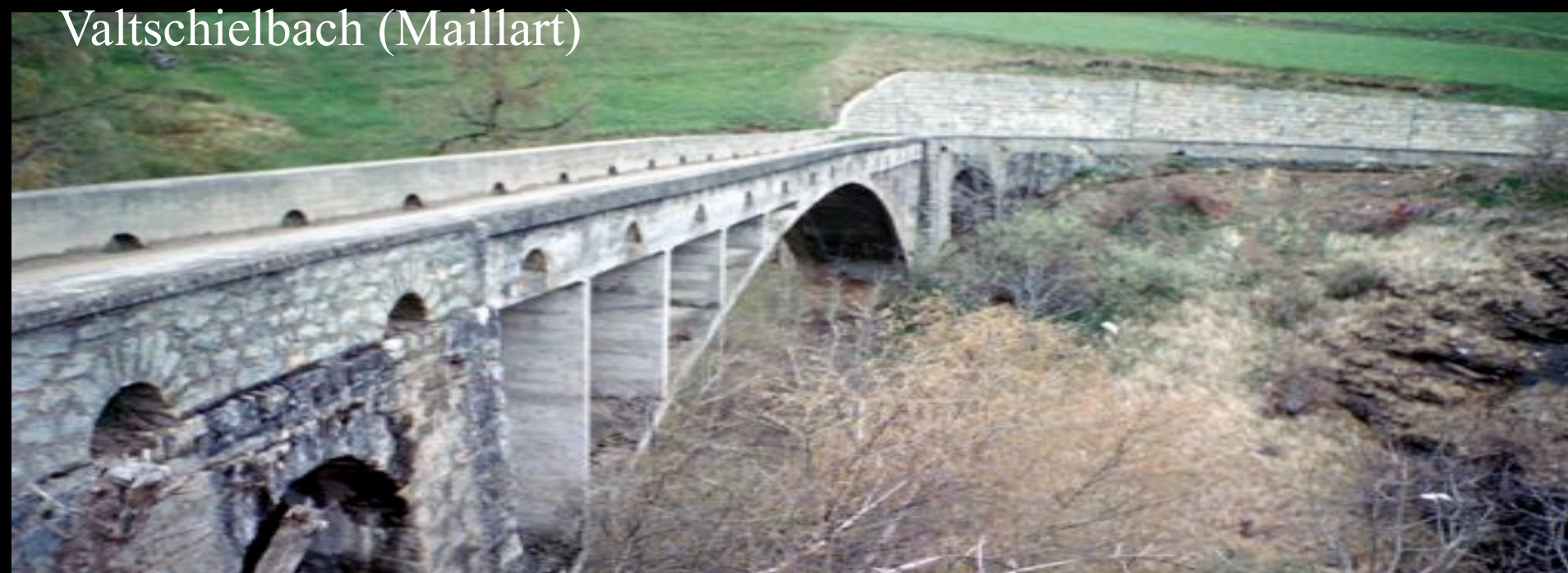
NEW TAVANASA BRIDGE







New Tavanasa (Not Maillart)



Valtschielbach (Maillart)



1928



1933







Vessy 1936



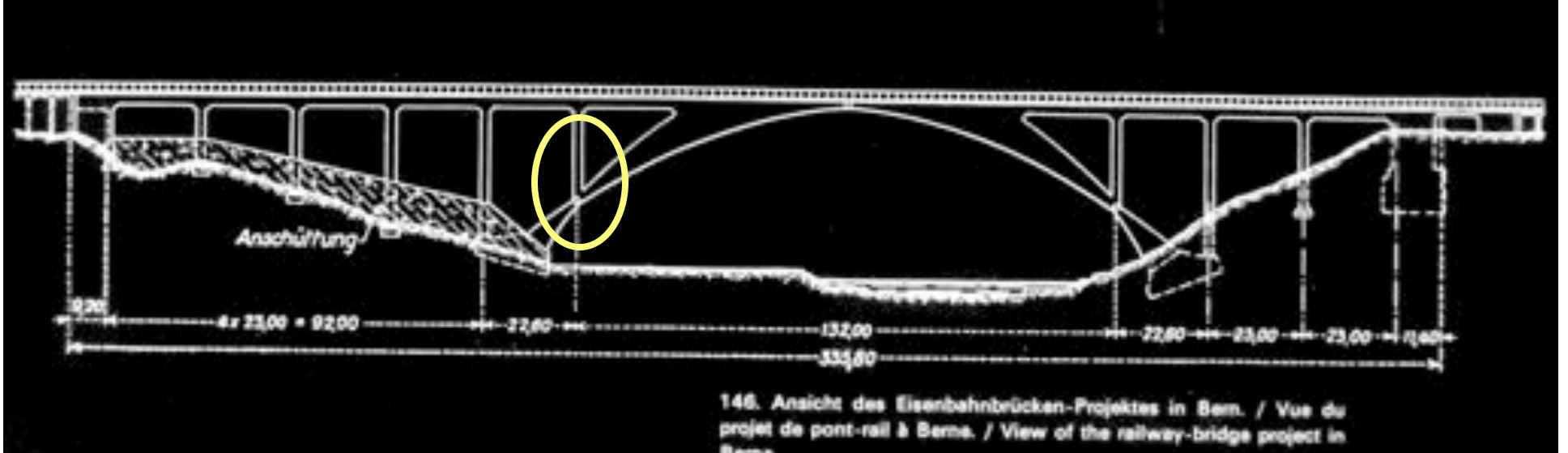
146. Ansicht des Eisenbahnbrücken-Projektes in Bern. / Vue du projet de pont-rail à Berna. / View of the railway-bridge project in Berna.





1940



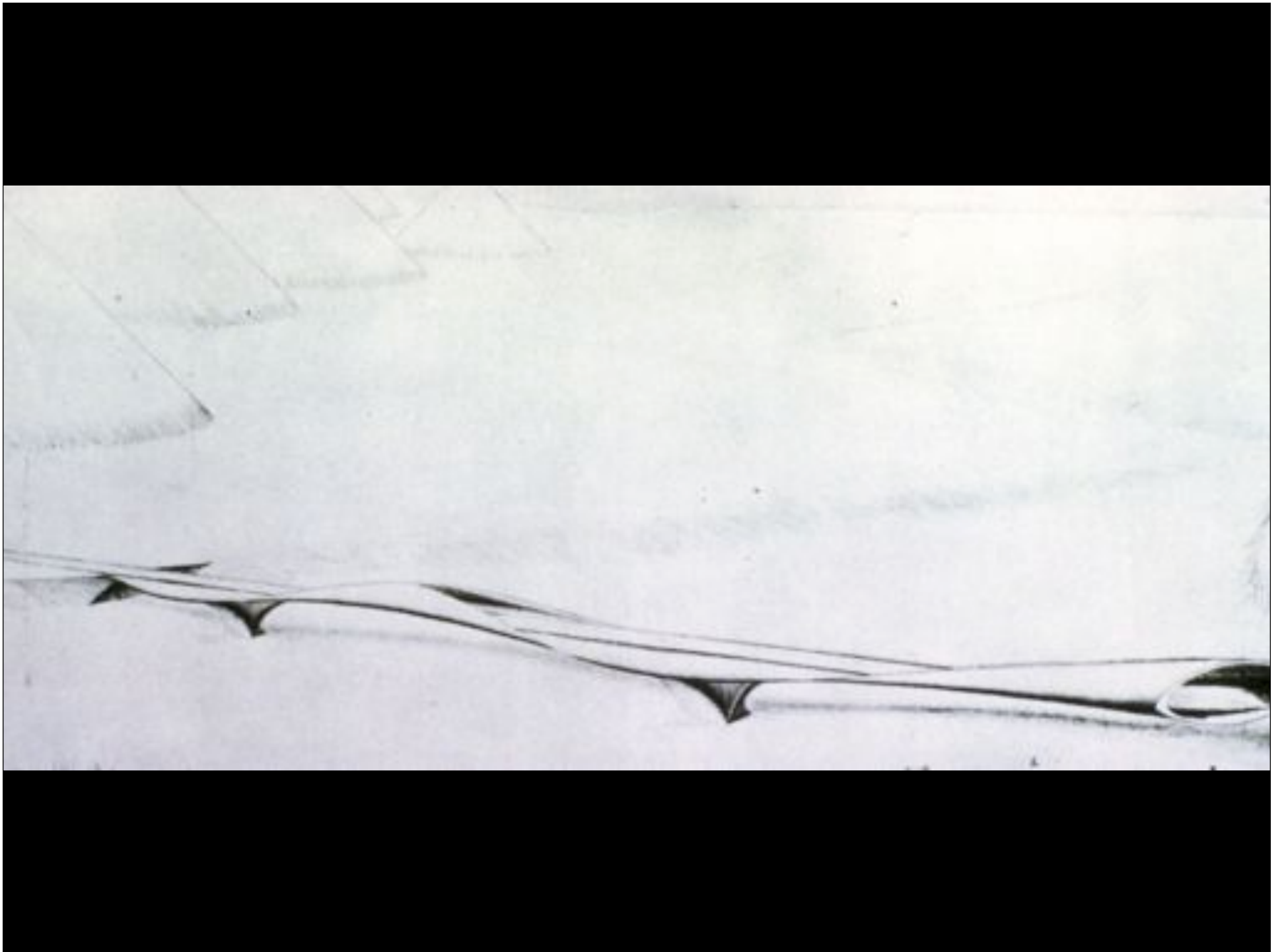




1940



1940



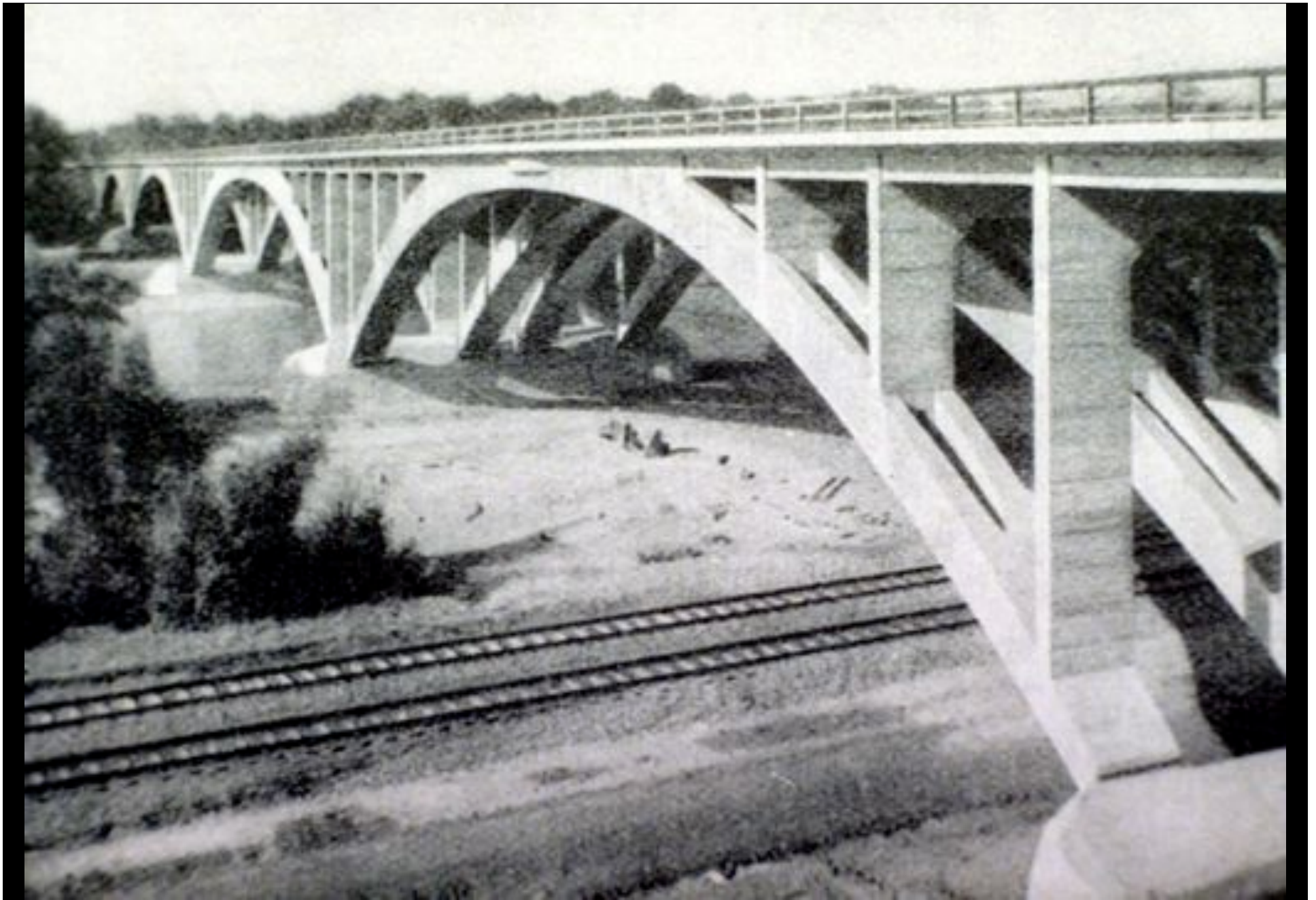


Vessy 1936

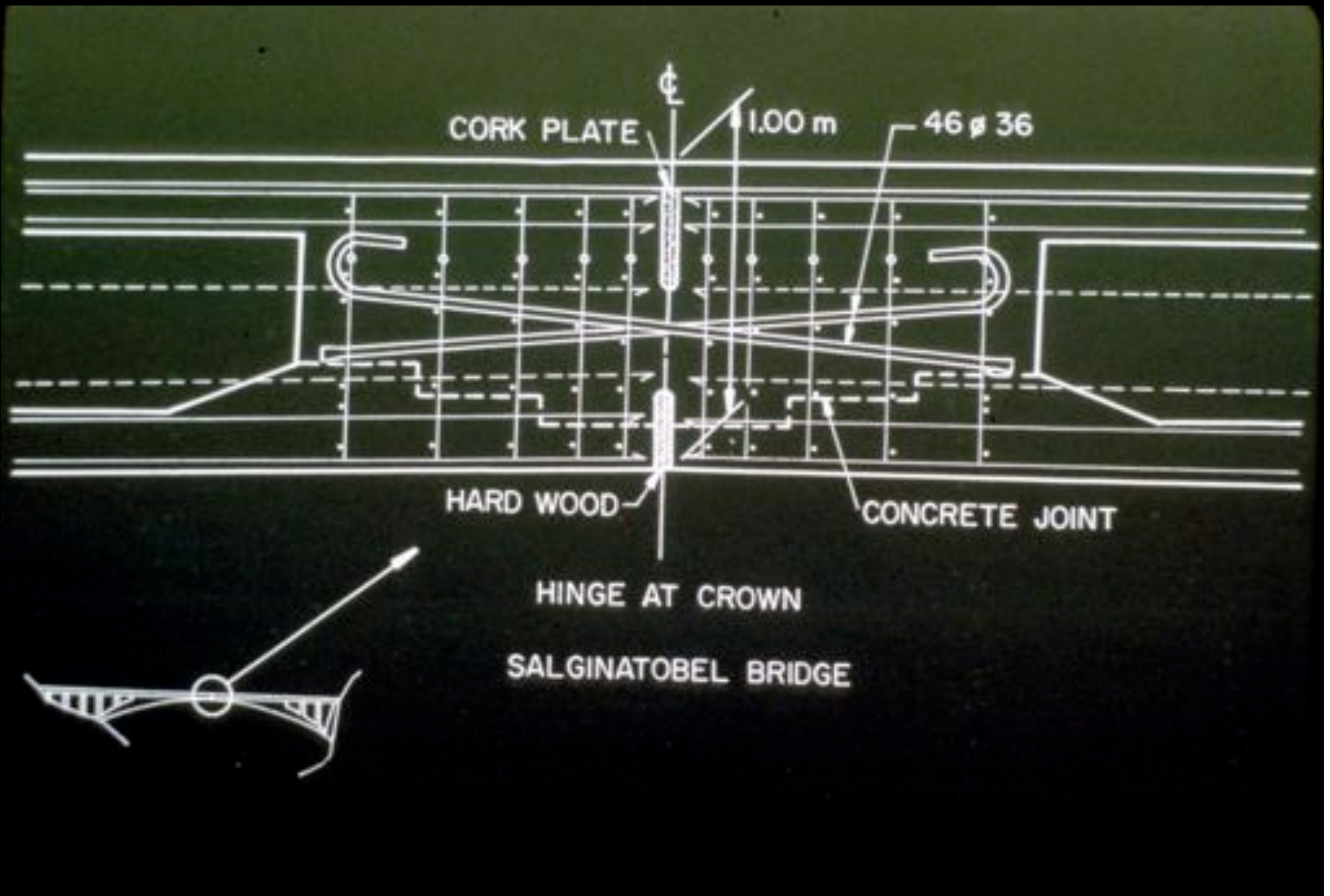


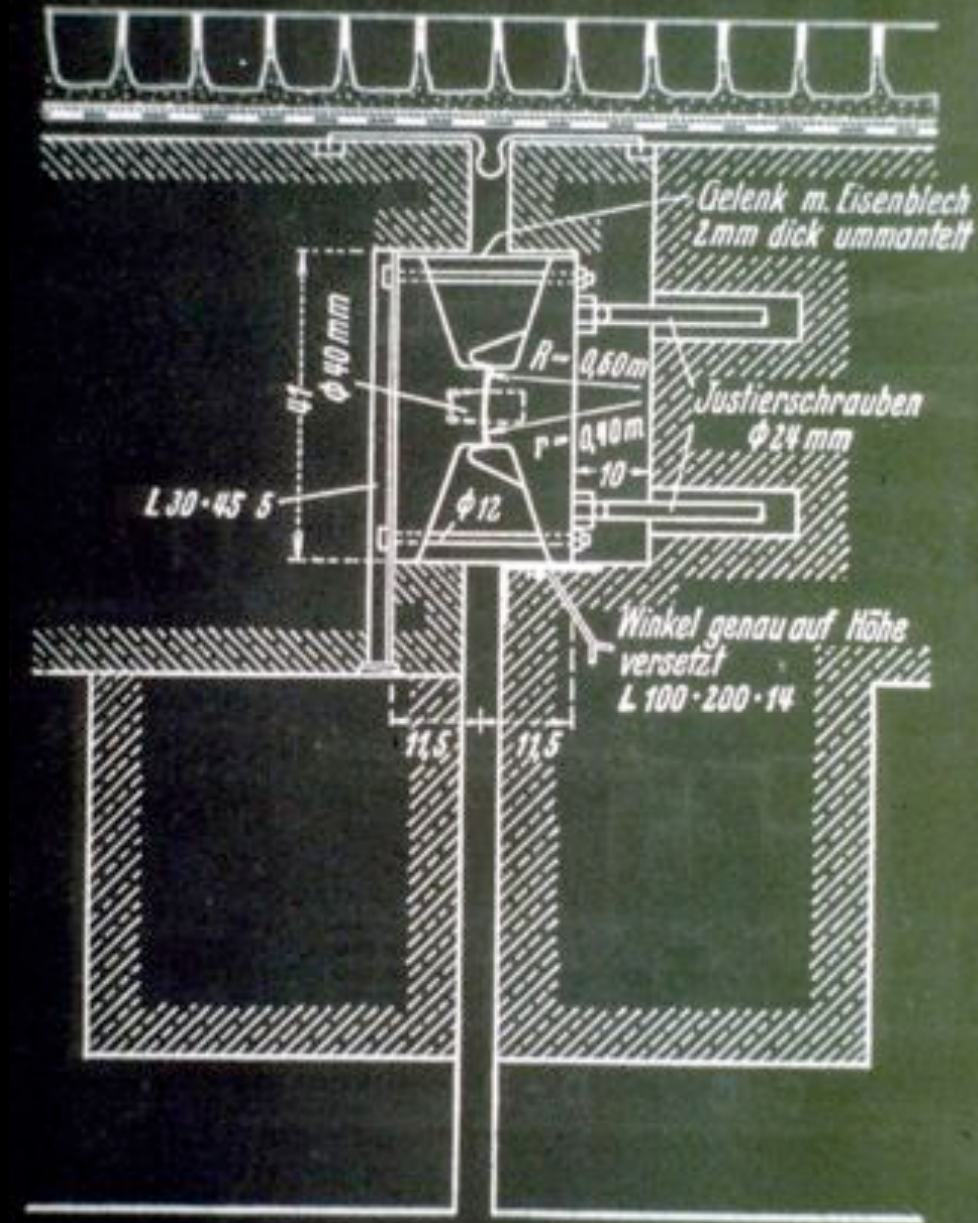
Vessy 1936



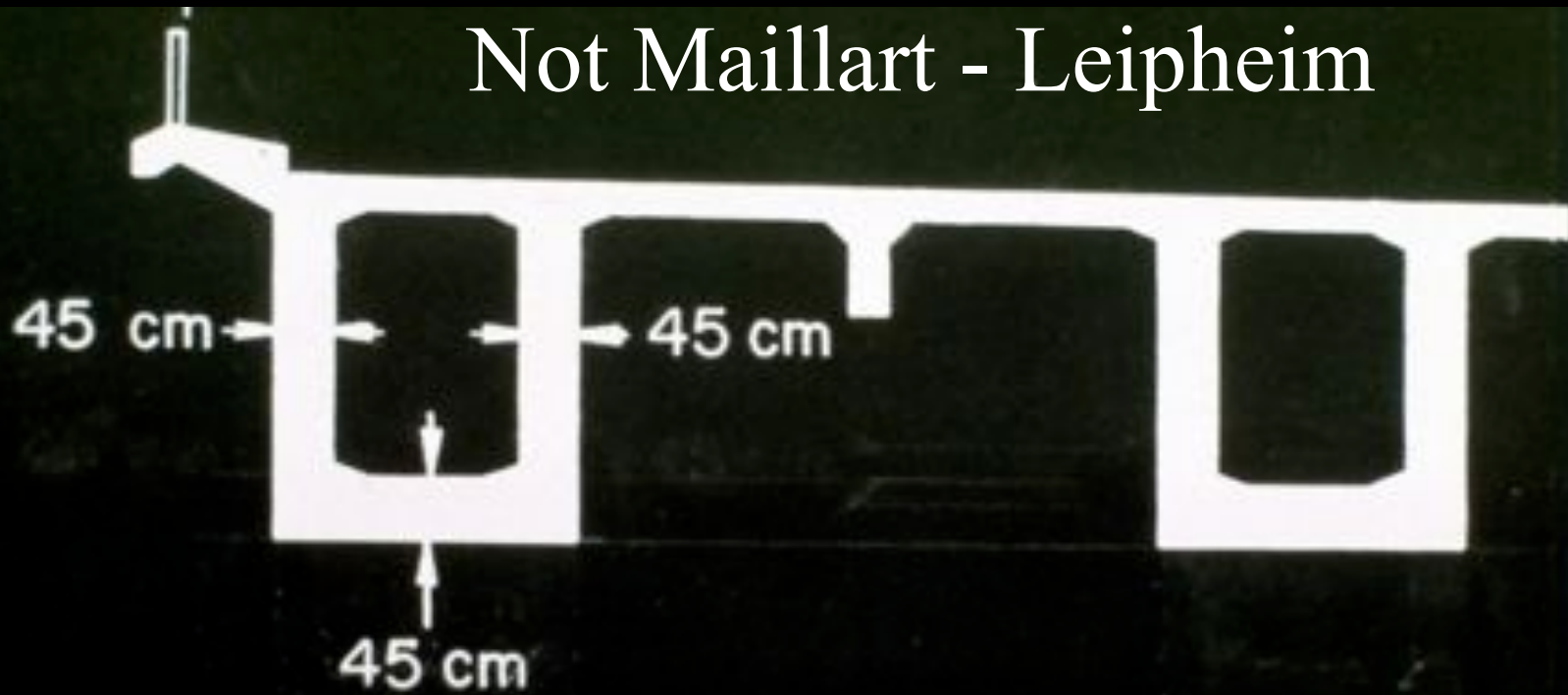


Leipheim 1937



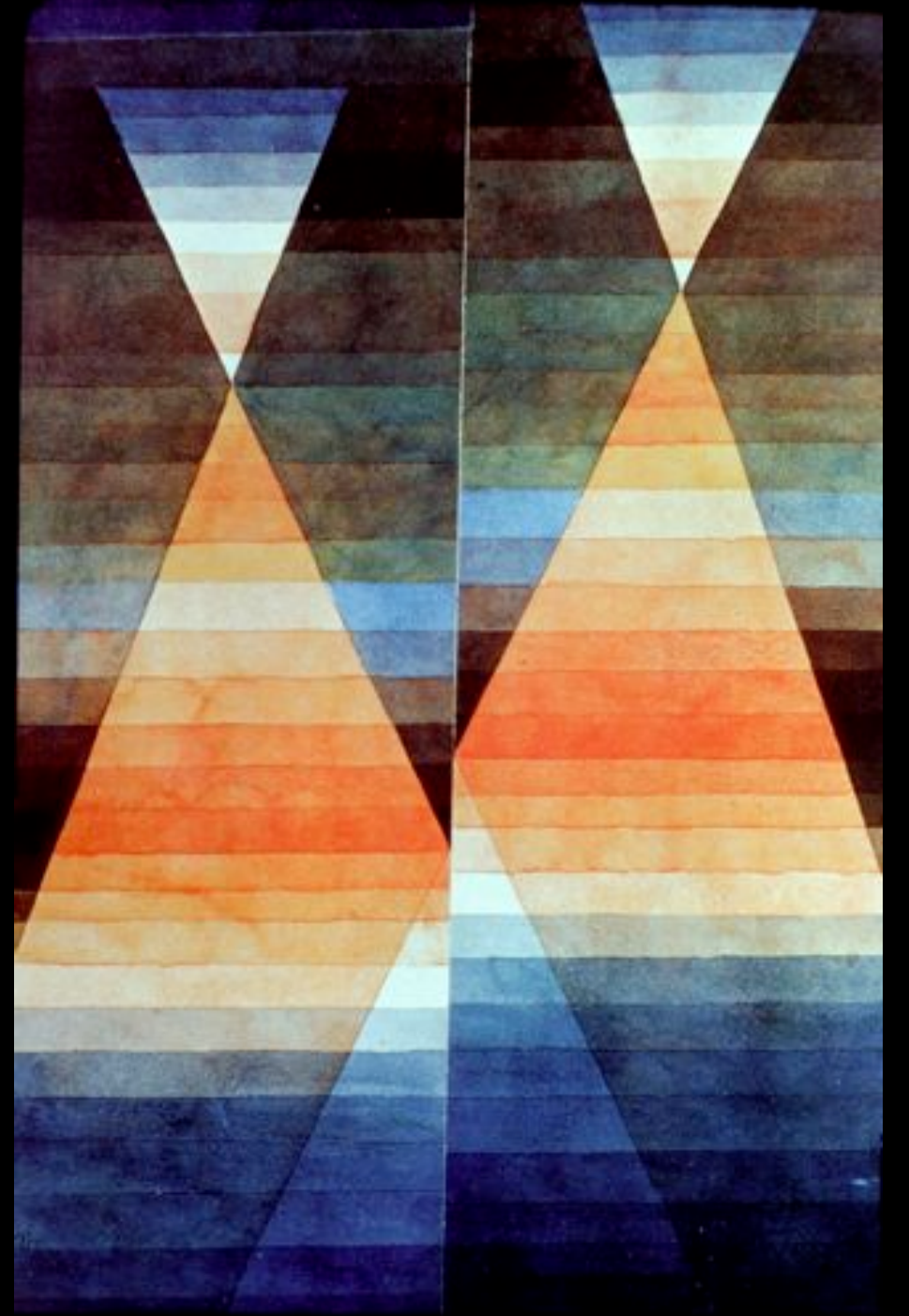


Not Maillart - Leipheim



Maillart - Vessy



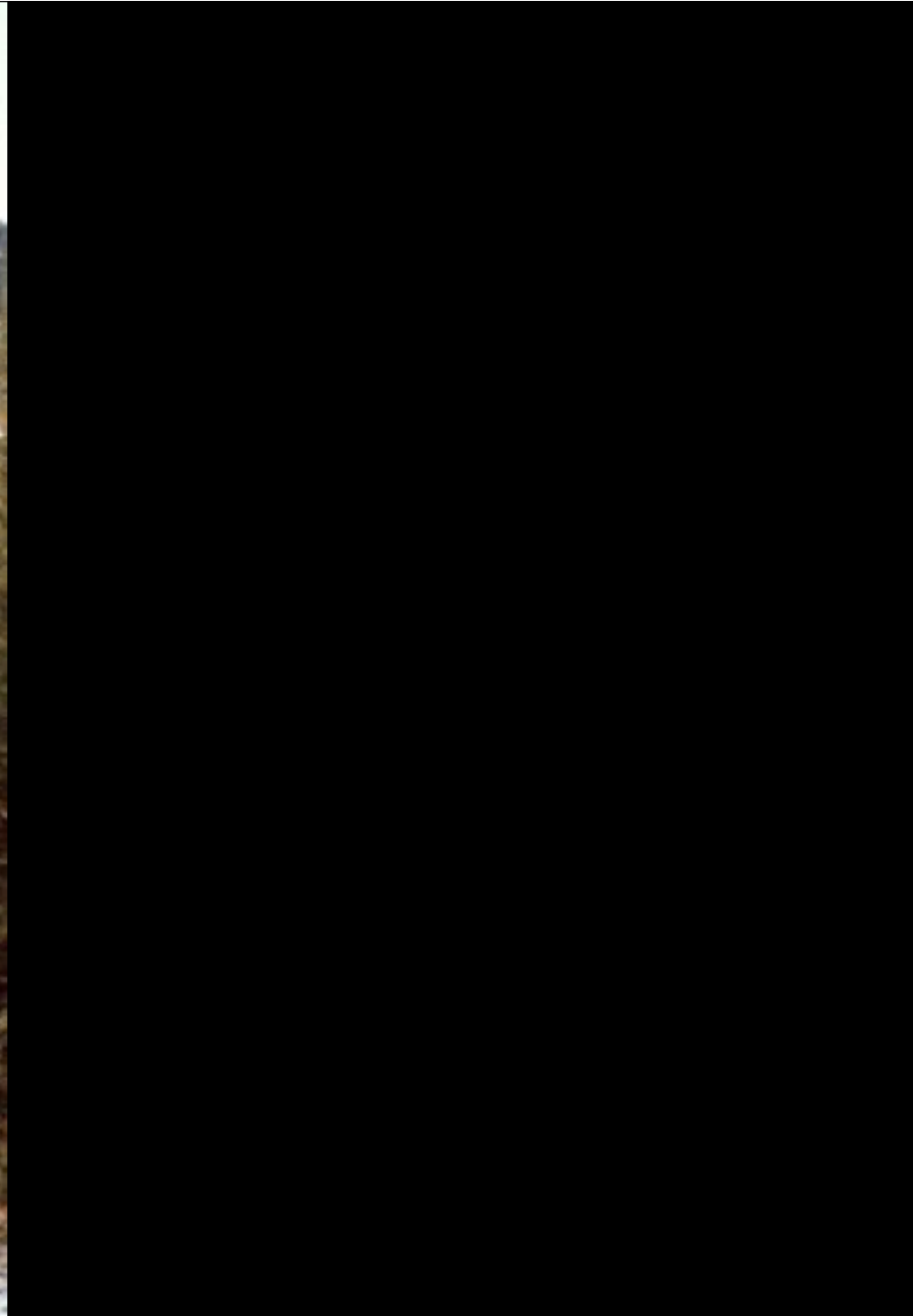






Pierre Lardy  
1903-1958

# Maillart - Salginatobel





**Maillart - Salginatobel**



**Menn**





Maillart – Klosters



Menn - Crot

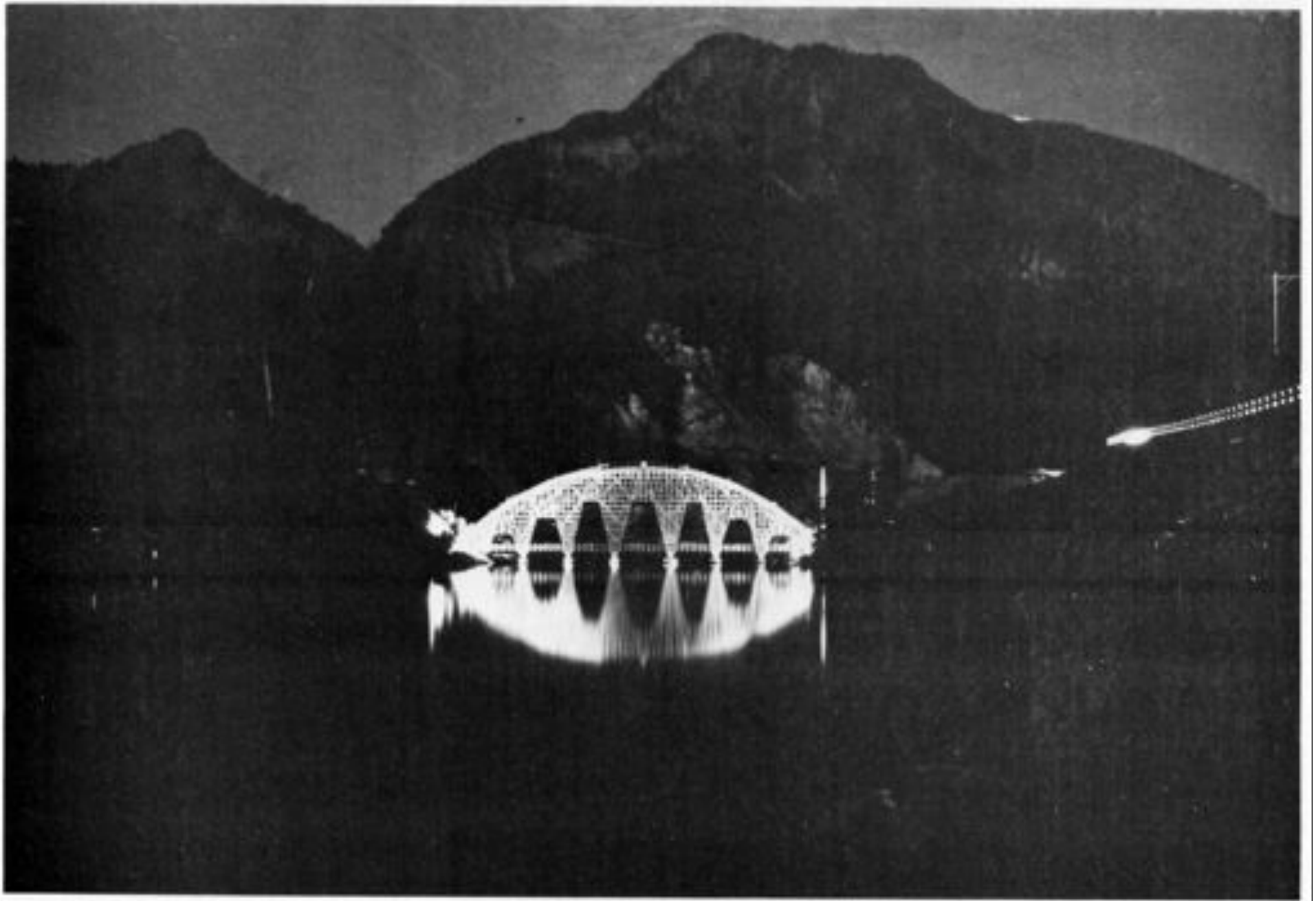






Christian Menn  
1927 -  
(atop Valtschielbach!)









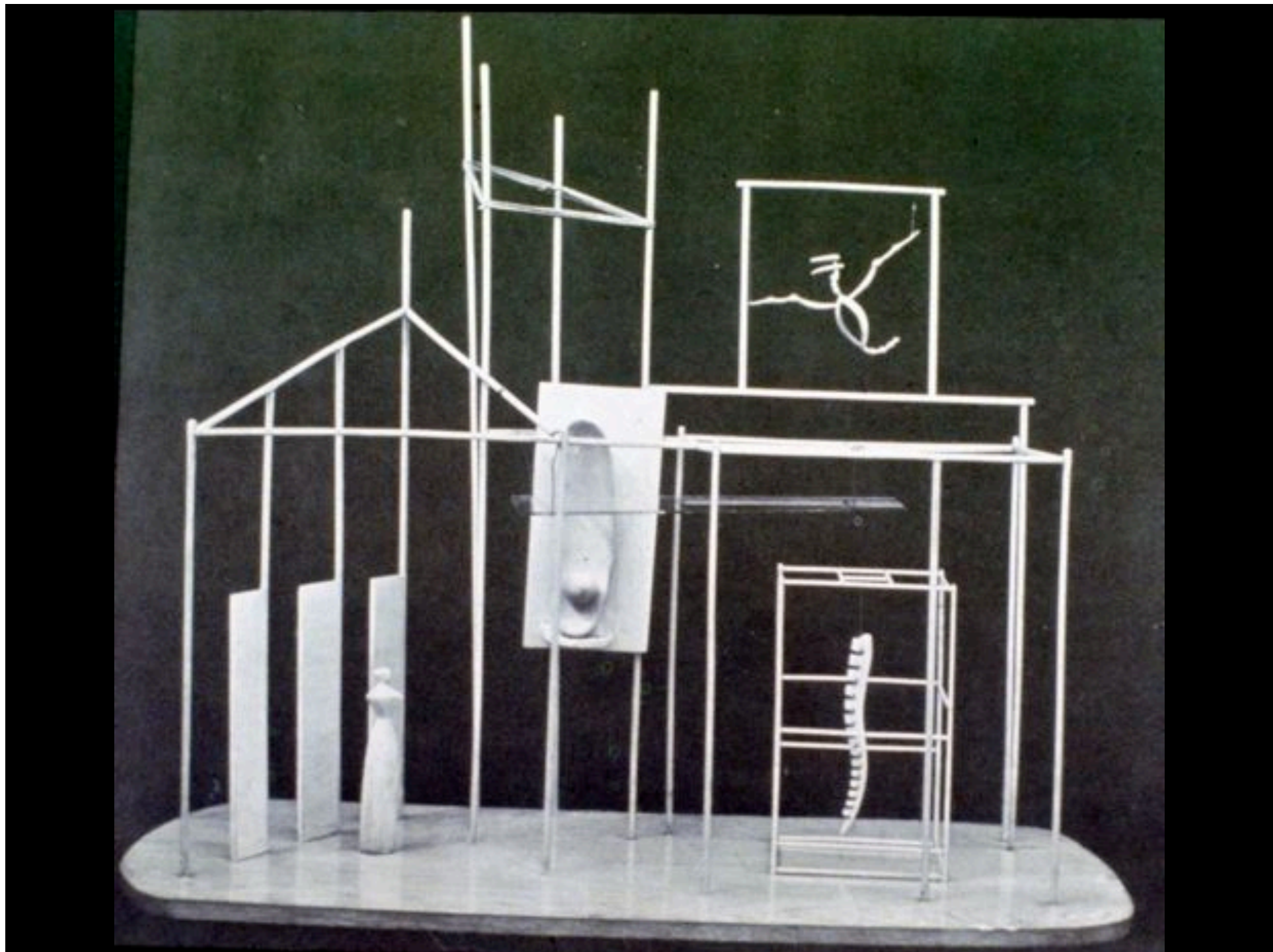
Reichenau 1964 - 98 meters















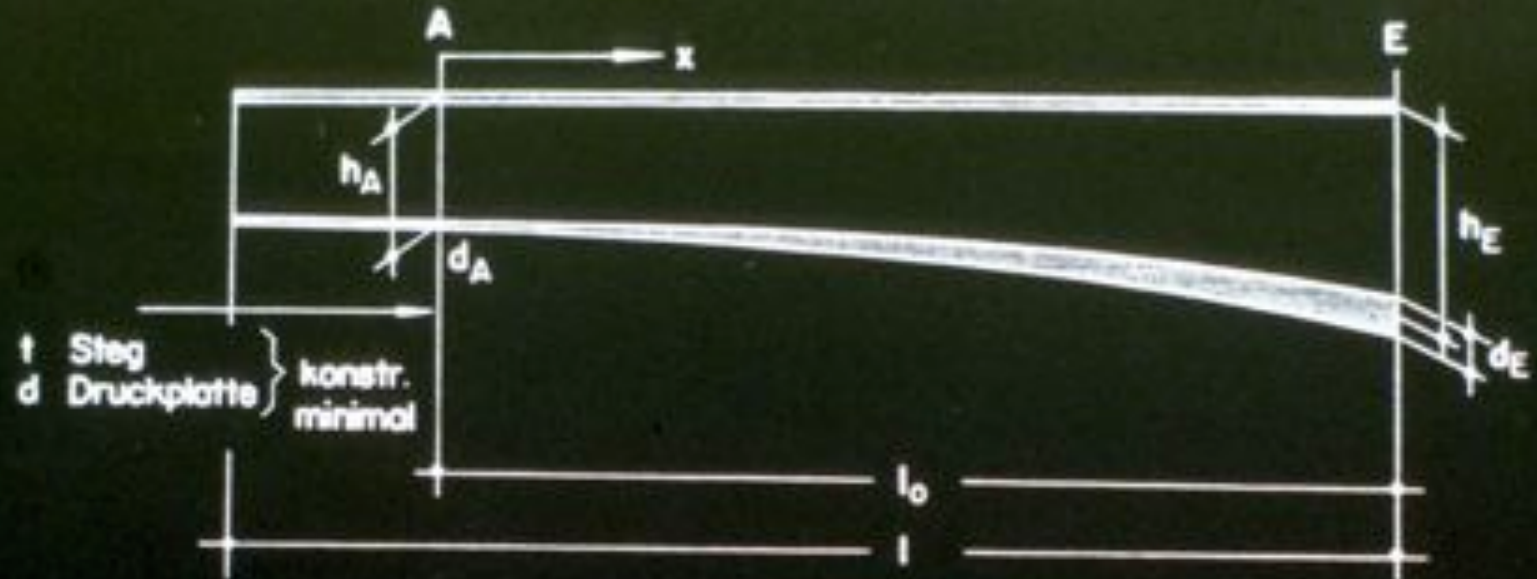
care to criticize?

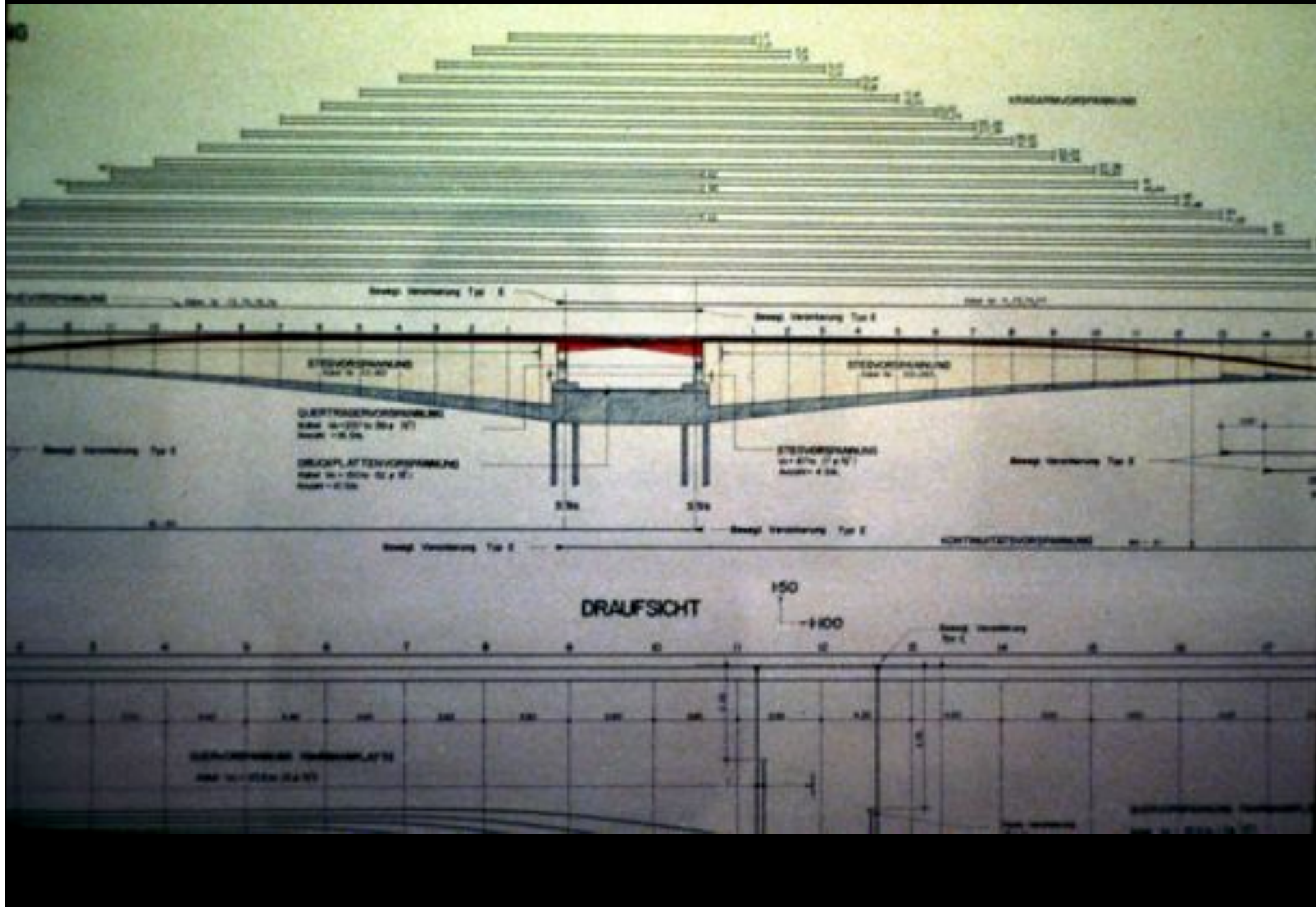


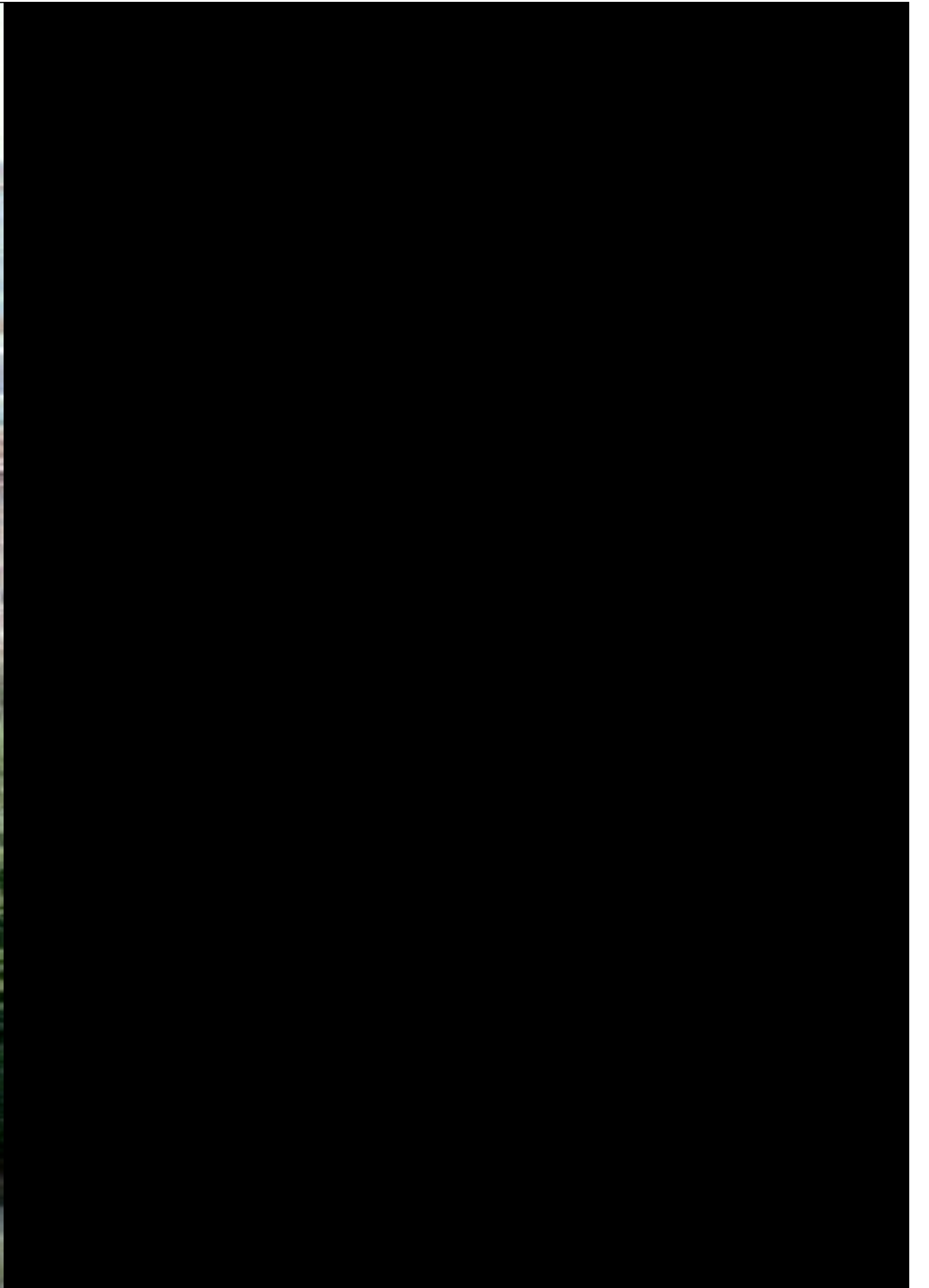


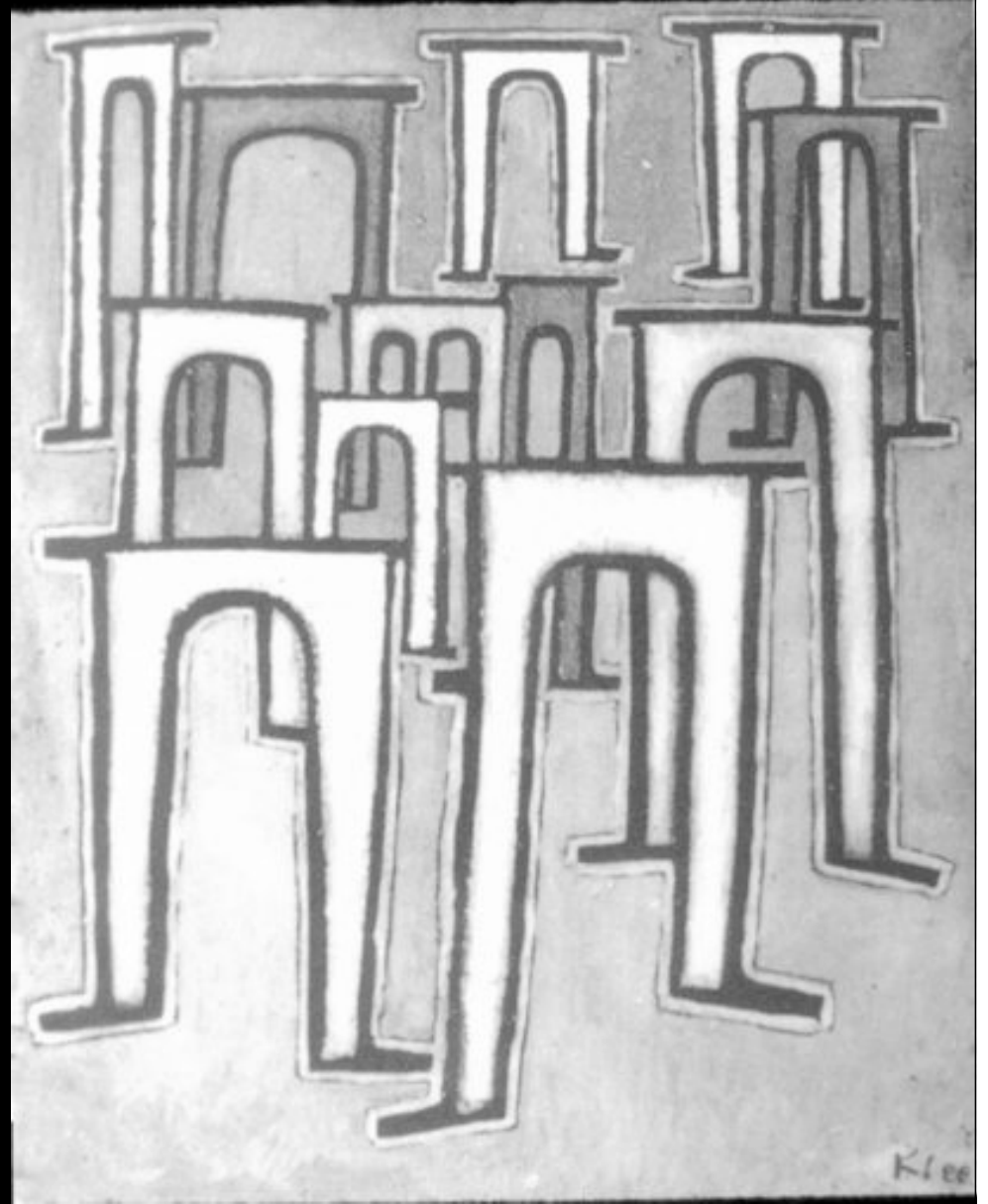
Felsenau 1970









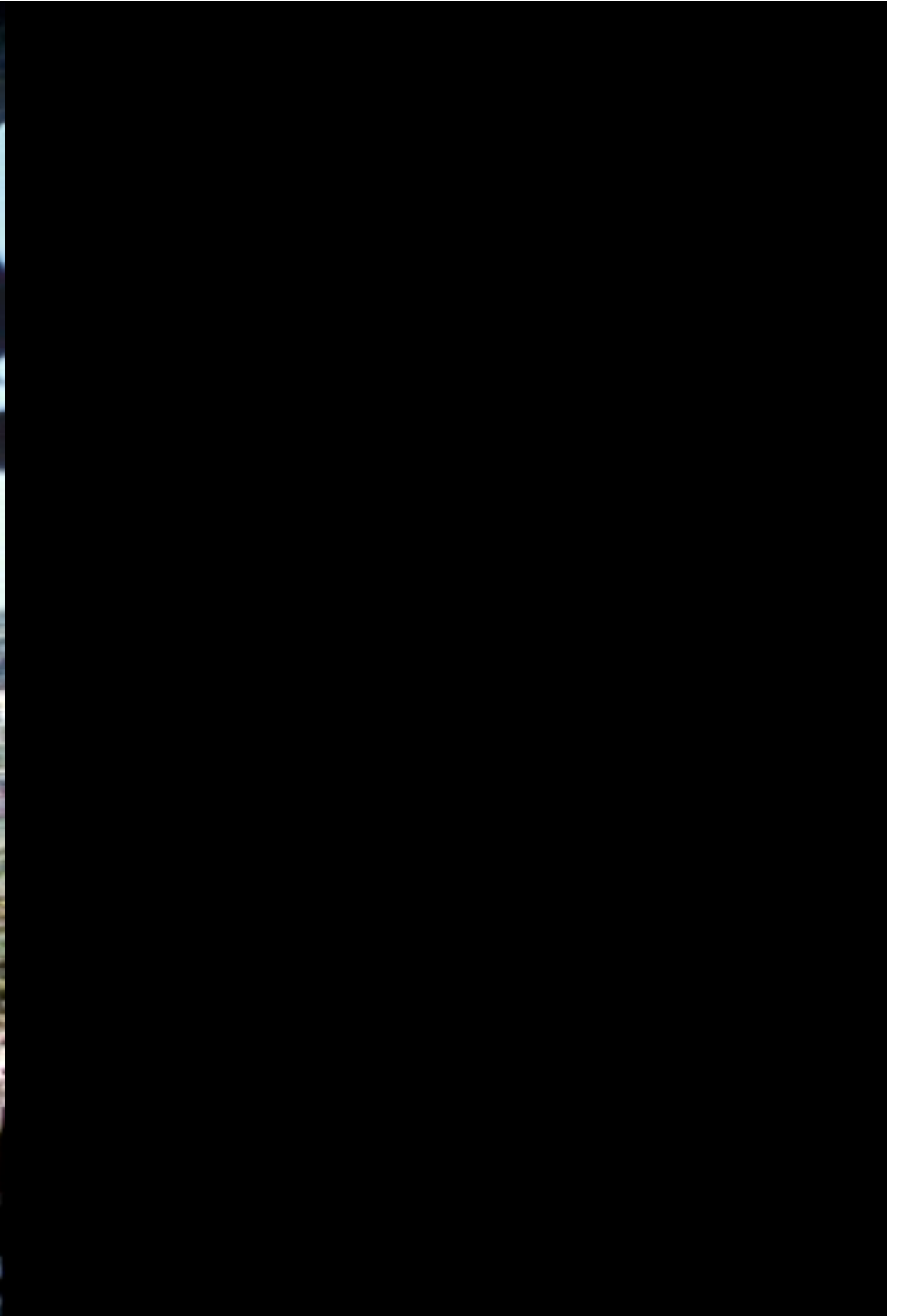




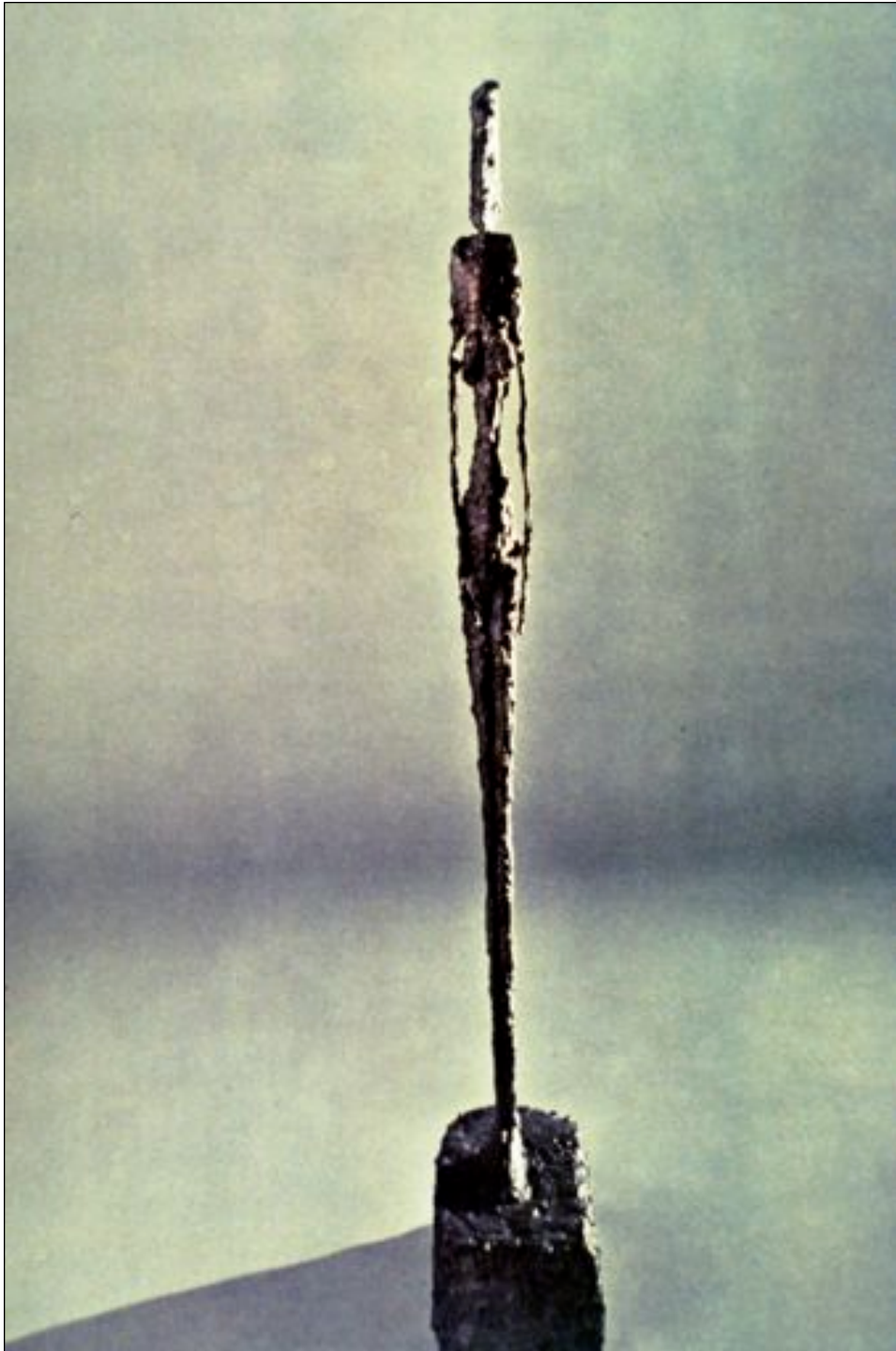


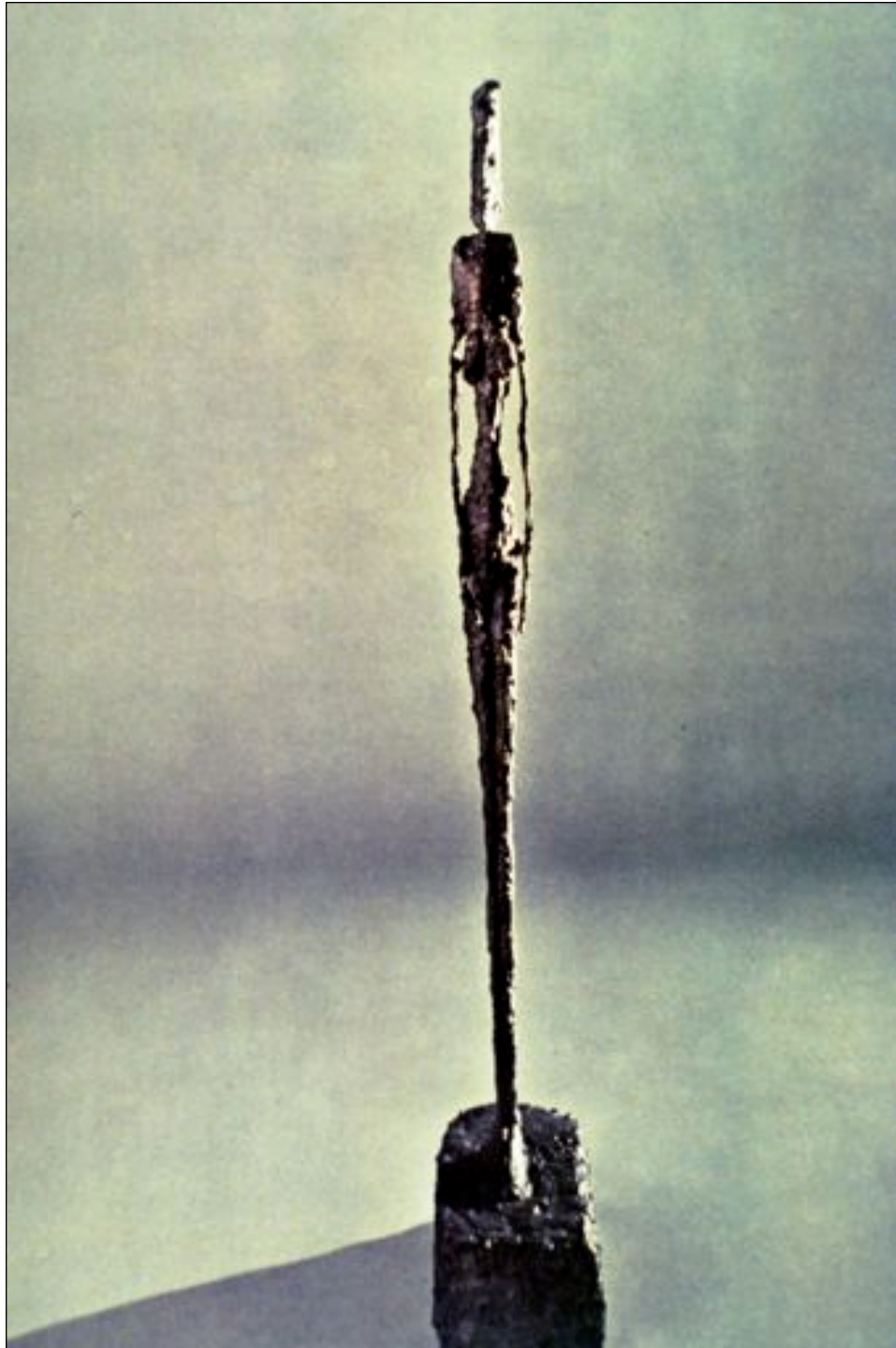








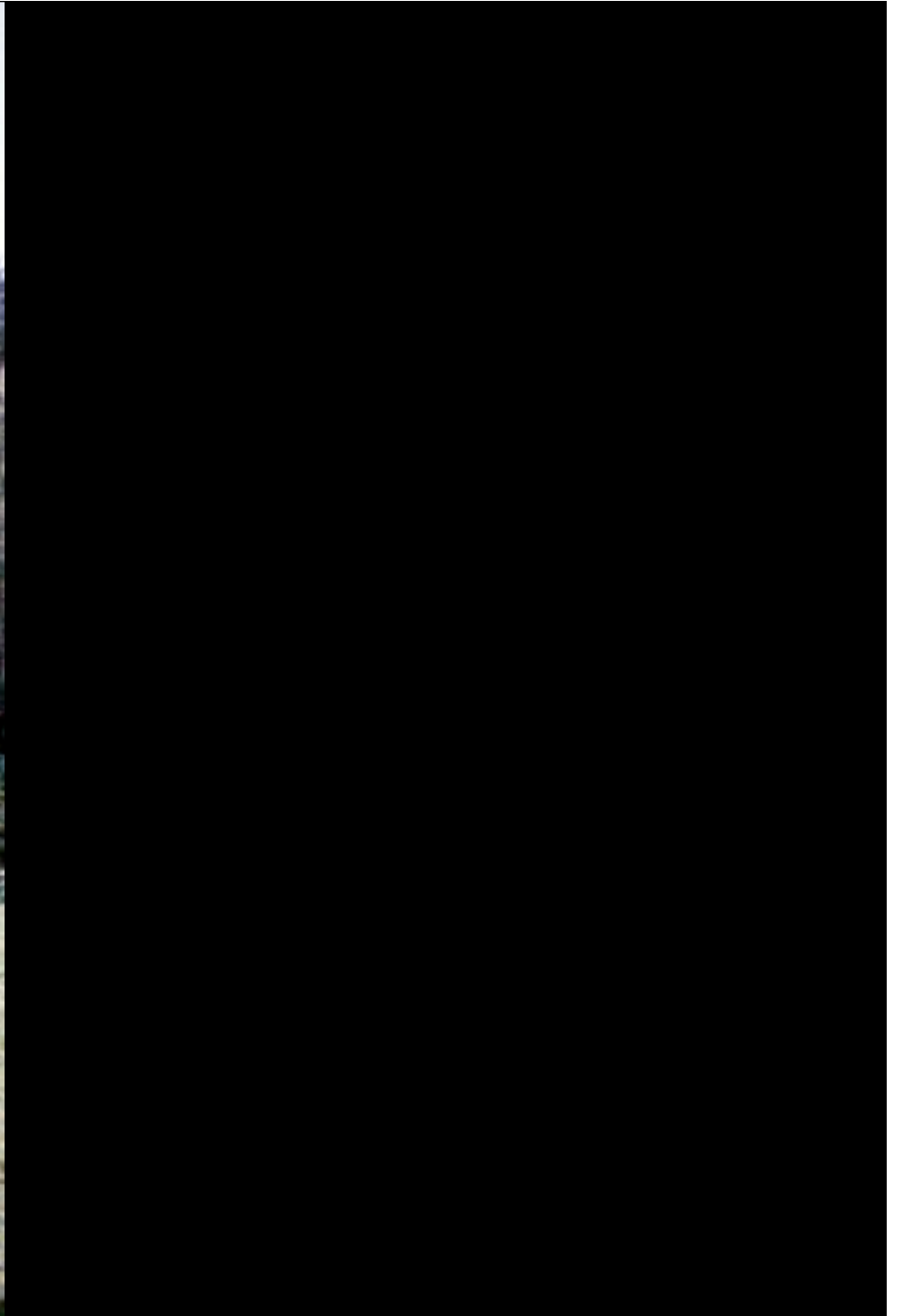






Ganter 1980





























Salginatobel

Menn's continuing evolution  
in cable-stayed forms  
1980's-2000's





Sunniberg - photo from Structurae.de J. Mathis





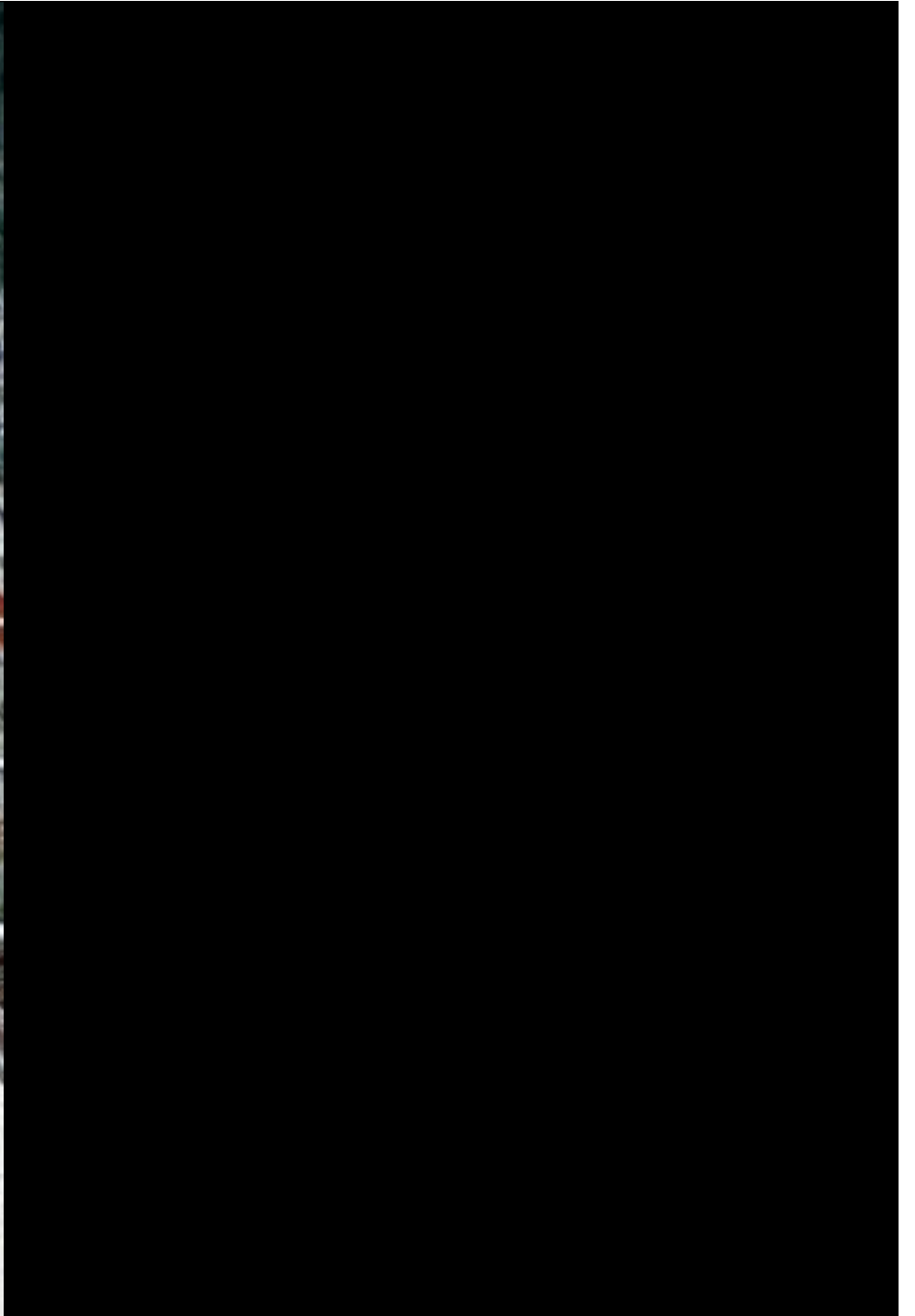






La ingeniería es siempre creativa, porque  
si no lo es, no es ingeniería

-Leonardo Fernández Troyano







# Final Project

- To be done in pairs, self-selected
- Important dates:
  - Tuesday April 7th: Groups finalized
  - Thursday April 9th: Peer editing of thesis/outline
  - Tuesday April 14th: Bibliography/outline/search results due
  - April 28/30: Project conferences
  - Week 14/15: Project presentations
  - Last day of classes: Paper due.



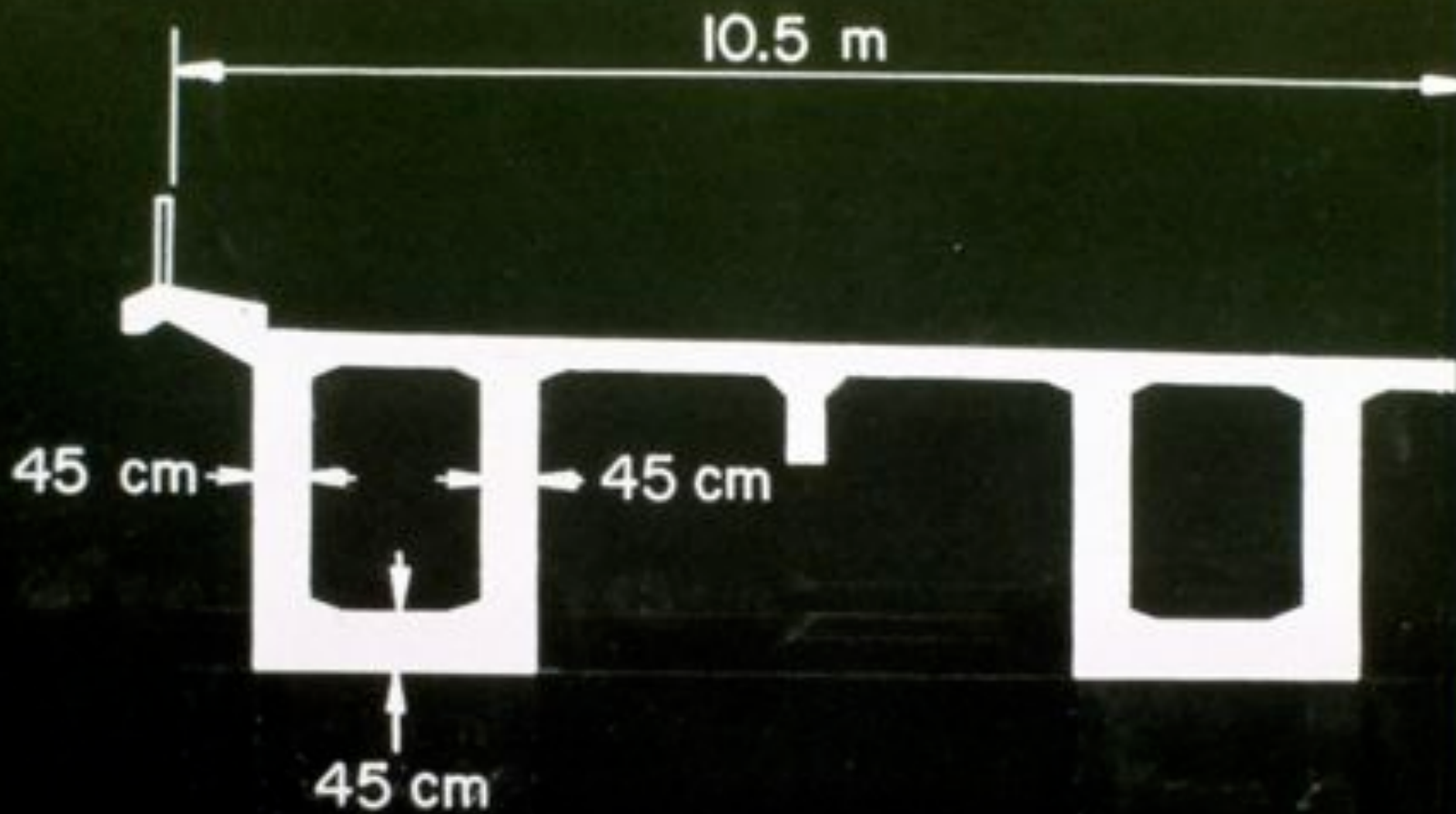
photo from [Structurae.de](http://Structurae.de) J. Mathis







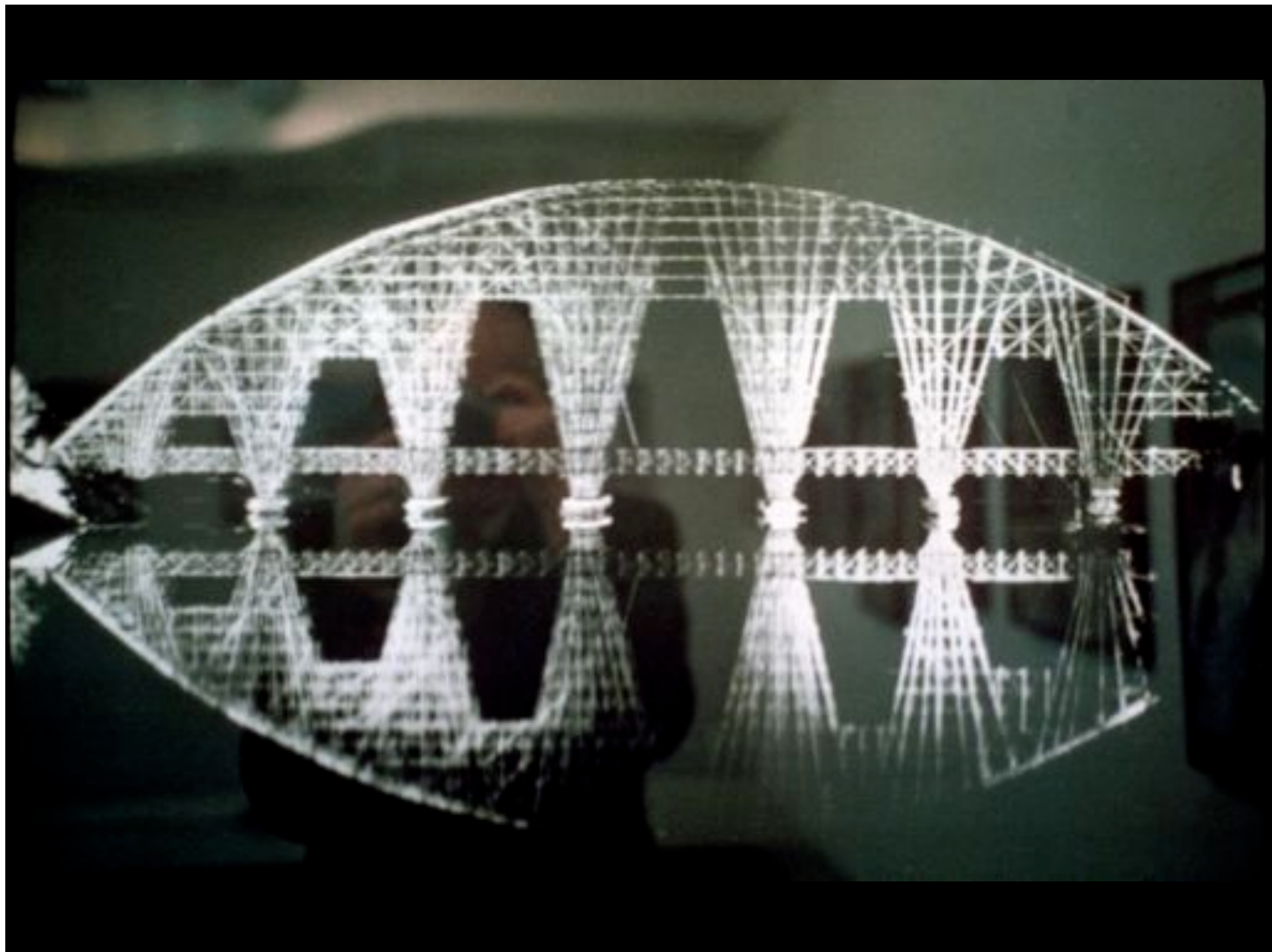
Midterm Survey Response Summary Discussions Organize around specific topics and use images Too much focus on the engineer vs. the architect More discussion! Calculations Mixed reviews on whether more time is needed Not always clear what/why we are calculating Questions sometimes not worded clearly (5) It seems that the formulas are just given right at the end of class with little or no explanation (3) Too much explanation, making the HW into busywork General Prof. Arwade's personal opinion seems too strong and blocks open discussion Aesthetics are judged from a one-sided perspective. Anything other would be incorrect. Why are we not being told the S's and E's anymore? Provide a glossary of bridge and building vocabulary. More diagrams to explain the forces Should go over concepts behind calculation assignments in class, before we see the pictures Would like to see fewer structures and spend more time with each one Not clear why the lectures are presented in the order they are Lectures very fast! Hard to take notes It would be nice to make more use of calculations during MT lecture



QUARTER SPAN  
DANUBE BRIDGE



QUARTER SPAN



Special Lecture

Four Towers: The Story of the Redevelopment of Times Square

Eli Gottlieb, Associate, Thornton-Tomasetti Engineers

Tuesday, 4:00-4:50, Maryland 110