The Swiss Tradition of Bridge Design
(deck stiffened arches)

Themes
Swiss context for establishing excellence in bridge innovation
History, ETH Zurich, Culmann, Ritter, Maillart, Amman, ...
Ritter’s research, teaching, and role in Maillart’s arches
Maillart’s constructional evolution of the deck-stiffened arch
deck vs. arch, curved roads, approaches, details (railings)
U.S. arches vs. Maillart’s arches and optimal design
Maillart’s deck-stiffened arches as Structural Art
Simply for review...
What are methods for providing stiffness to suspension bridges?
Discuss the scientific reasons behind Maillart’s design choices. Discuss the aesthetic implications of these choices.
The Deck Stiffened Arch

**Scientific:** Stiffness from the deck leads to a slender arch

**Social:** Economical bridge solutions in primarily rural areas

**Symbolic:** Some of the most slender arches ever constructed, possible only because of Maillart’s engineering creativity