Cultivating A Landscape;
A Bridge
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A Bridge

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a bridge bridges: we build bridges so that we may overcome a perceived break in the continuity of our movement and wonder. the bridge intercedes in order to make a way towards something; beyond a limit, river, border, or mountain. it physically connects that which is perceived as separated.

what is special about a bridge are the many relationships that are illuminated and created by the finished work. towards this end, the architect manipulates the bridge’s form and space to render the prevailing relationships of a bridge and its landscape. he works to cultivate the landscape in order to unite the disparate entities present, just as the bridge unites one place with another through precise and thoughtful compositions. he frames views to capture the beauty of the form he makes, the water it crosses, the earth it springs from and the sky it marvels at. the architect gives us eyes to see the landscape as it ought to be seen.
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architecture is born out of our dreams and desire, not necessity. realizing these inner notions in physical means is the struggle of the architect. good architecture satisfies beyond the senses and intellect and reaches the spirit; a place within us where only an extravagant feeling can dwell. this is the aspiration of the architect.

“"The Architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit; by forms and shapes he affects our senses to an acute degree, and provokes plastic emotions; by the relationships which he creates he wakes in us profound echoes, he gives us the measure of an order which we feel to be in accordance with that of our world, he determines the various movements of our heart and of our understanding; it is then that we experience the sense of beauty.” (corbuseri)
where does a bridge begin?

reflection of bridge in water
a pair of steel arches incline towards each other and meet at their crown

transverse section at mid-span
The tied arch, a steel cable connects each end of the arch in order to eliminate the longitudinal thrust developed at each base. The steel arches are pinned at both ends to allow for movement under stress. This closed structural system only delivers vertical forces to the sculpted concrete pylons on which it rests.
views of arch-tie
views of arch-tie cable connection
arch-tie sag
lines perpendicular to each point of the arc divide it into 48 segments. Made of steel plates, these segments are welded together to form the arch.
translation of upright arc segments back into transverse elevation
10 degree rotation of upright arc segments
translation of inclined arc segments into longitudinal elevation and plan an arch is formed
elevation of deck rise
plan of deck curvature
plan of western ledge curvature
aqueduct of segovia, spain
pont du gard, france
the arch was envisioned due to its structural nobility and the richness of its form. the arch is not merely a relic of classical antiquity, but a structural principle that embodies our will to refine our craft and our love of making. the romans mastered the arch in compression, but today we have a better ability to build in tension. adapting the classic arch to our modern time, the tied-arch harmonizes compression and tension. but all bridges resolve these forces; they all subdue the earth so that we may traverse it, but only the arch triumphs over the earth.

the resilience and reverence of the roman arches throughout the world are a testament to the magnificence of the form. the arch magnifies the richness of the place where it springs into life.
site section & views of foundation
views of arch spring point
the hanger connections above and below are highlighted to reveal the proper form of the bridge. Form and structure are united.
progression of sections, from approach to mid-span
the deck marks the horizon from the bridge

sketch of horizon from spring point
sketch of horizon from midspan-approach
the bridge presents the landscape

section, plan & perspective from ledge
the bridge conquers nature. though temporal, it asserts itself over the irregularities of the earth, whether man-made or natural. however, the relationship between the bridge and the earth is not characterized entirely by dominion; the bridge is first asked to conquer, then like all just and good conquests, to ultimately unite and cultivate. we make the landscape integral to the way we live.
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model case study

bach de roda bridge
santiago calatrava
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