Scarcity and Tradition in Hydrological Structures

Agency of Water within Turkish Architectural Nation Building

This project seeks to trace innovations in hydrological structures within the Turkey and their connection to cultural legacy within the construction of a architecture, cities, and landscapes.

As a water stressed country, hydrological development has been a matter of cultural identity for Turkey for the past 4000 years. The invention and deployment of water infrastructural systems date back to the II[nd] Millennium BCE, in the form of dams, irrigation channels, and cisterns. Advancing over millennium to include larger distance conveyance, storage, and distribution systems, these innovations in water infrastructure have made it possible for multiple empires to be established and re-appropriate architectural vernacular in their own cultural expression. Haggai Sophia's programmatic exchanges are an iconic example of the tumultuous relationship of a nation's changing identity through architecture, yet out of necessity the infrastructure of water stands aside from this pattern of re-appropriation. Hydrological structures are a place where Turkey's historical cultural identities can be seen working together towards a common goal instead of attempting to erase the legacy of the past. This research proposes to position water infrastructure as the primary agent in the development of the Turkish built environments and landscapes through exploring the spatial effects of hydrological infrastructures. Through four main typological study zones, the Source, the Local, the Regional and the Access Point, this research will investigate the implications of the technical details of each structure in parallel with the cultural iconography of the era it was built.

Following the gravity driven flow and disbursement of water through the country, this research is organized around a transect from the central mountains of the Cappadocia, through the mineral valleys of Denzil and along the coastal cities of the Mediterranean Sea ending at the intersection of Europe and Asia in Istanbul. This research will interrogate the technical detailing of water infrastructural systems while also observing the cultural uses of water within daily society. Structures like the Water Tunnels of the Guvercinlink Valley *(Fig. e)*, Bodrum Cisterns *(Fig. b)*, Bozdoğan Kemeri Aqueduct *(Fig. c)*, and the Sebil of Ahmed III *(Fig. l)* will be analyzed both for its capacity to contain and transport water as well as the placement and architectural expression of each structure in its ability to nation build. In turn the output water sources will also be considered. Seljuk, Hamman *(Fig. h & Fig. i)* and Sebil *(Fig. d)* were public spaces constructed into the urban fabric as both mediators to public health as well as a fundamental organizational structure for public space.

While documenting these hydrological structures through photography and sketching, this project aims to result in a series of collaged cartographic representations which combine both the observation of the system and the cultural practices collapsing the differing scales into an exhibition of large format drawings in an attempt to convey the layered histories of the hydrological system. By framing this system as both part and whole within the same image, it becomes possible to identify a unified nation that will continues to be innovated upon.

Itinerary: ***60 Days***

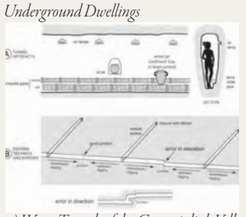
Central Anatolia	***18 days***
1) Kayseri	5 days
2) Goreme	7 days
3) Konya	5 days
Aegean Region	***20 days***
4) Demzir	5 days
5) Kayaköy	5 Days
6) Ephesus	2 Days
7) Izmir	8 days
Marmara Region	***22 Days***
8) Bursa	7 days
9) Istanbul	15 days

Preliminary Budget: ***10,000***

Air Fare	1500$
Lodging (80$ avg/day)	4800$
Food (35$ avg /day)	2100$
Internal Transportation	600$
Attraction Fees	500$
Contingency and Miscellaneous	500$

Source of Hydrological Infrastructure

a) Çalış township of Avanos, Underground Dwellings



e) Water Tunnels of the Guvercinlink Valley

i) Pammukale Mineral Springs

Localized Scale Infrastructure

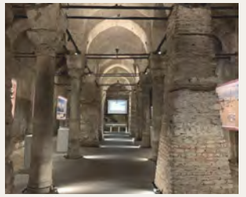
b) Bodrum Ottoman Cistern

f) Antalya Seljuk Cistern

j) Kayakoy Lycinian Cistern

Regional Scale Infrastructure

c) Bozdoğan Kemeri Aqueduct



g) Nakilbent Cistern

k) Bassilica Cistern

Hydrological Access Points

d) Sebil of Abdulhamit the I

h) Eski Kaplica

l) Sebil of Abhmed the III