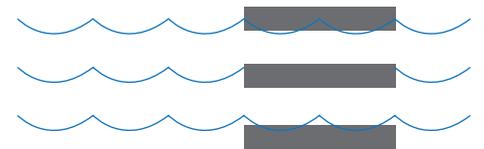


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NARRATIVES OF DEVELOPMENT ON WATER

AIA SEATTLE
EMERGING PROFESSIONALS
TRAVEL SCHOLARSHIP 2013

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P R O P O S A L

In my personal life as well as my academic career, I have developed a fascination with water. As a competitive rower since high school, I have developed a perspective of each of the communities in which I have lived based off a perspective from water. In my academic experience, I have pursued the study of water systems through hydrology as well as design issues presented by waterfront sites and highly altered hydrological systems. Naturally, I have found my way to Seattle, this city surrounded by water, where I hope to further expand my understanding of water and its relationship to the built environment.

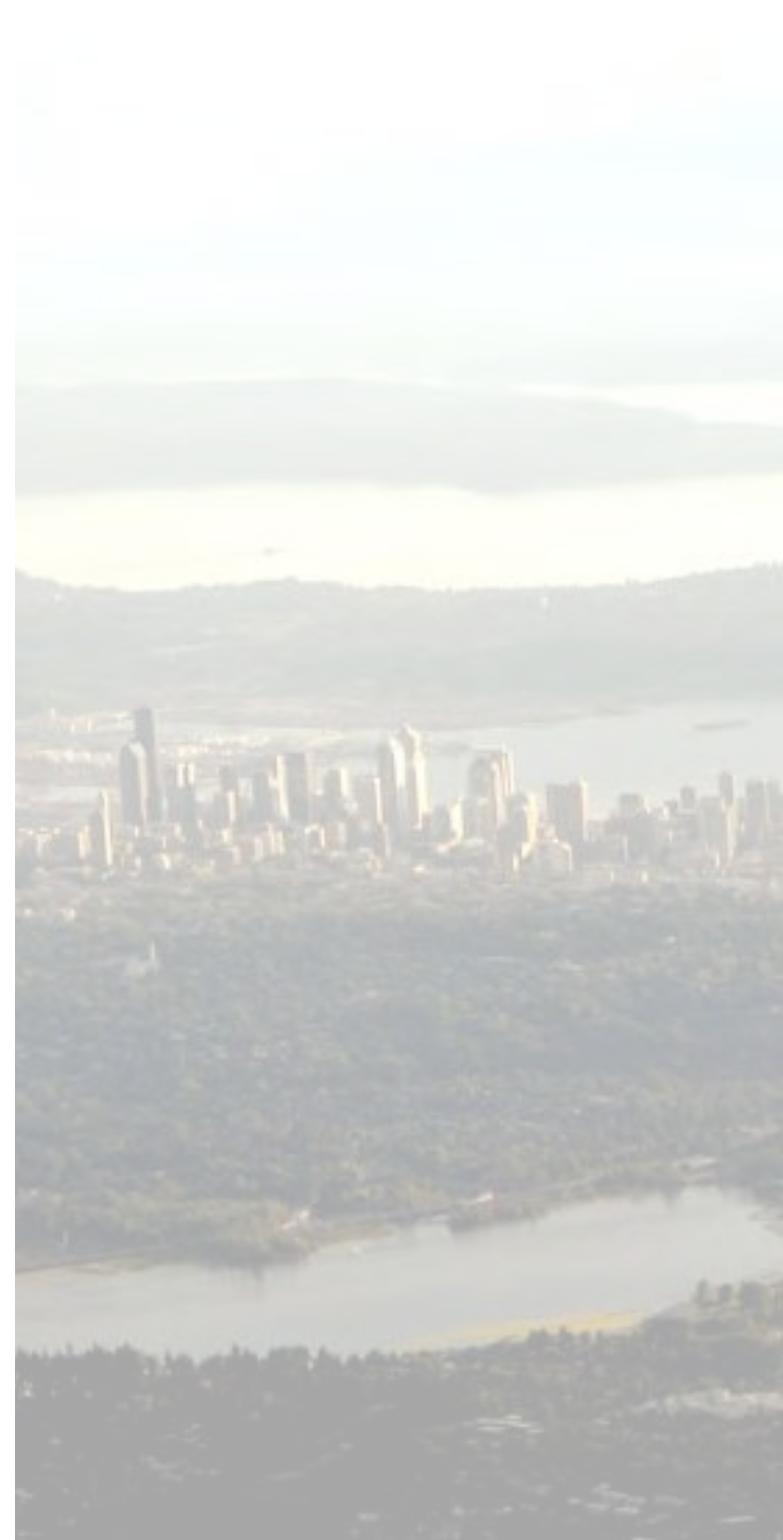
Through this travel grant, I propose to investigate three conditions of urban and architectural development in close proximity to water: **float, fill and flood**. In succession, these conditions provide a narrative of the challenges presented by the combination of the liquid properties of water and the stable land requirements for urban life. Floating occurs in early development as a tentative and reverent response to the liquid properties of water. Fill is the act of hubris that seeks to make stable and productive land out of water and in doing so, forces massive intervention into hydrologic systems. Flood is the inevitable reaction to fill, as water attempts to reclaim the created land. In developed cities extensively shaped by water, the narrative overlays on top of itself as these cities grown and change.

Seattle is a city surrounded by water. It is shaped by Puget Sound, large freshwater lakes, the Duwamish River, and numerous tributaries. Seattle also follows the narrative of float, fill, flood. Shipping, fishing and logging formed the early life blood of the region, and watercraft as well as floating buildings and infrastructure have been iconic ways of life in Seattle since the city's founding. Massive fill has expanded large swathes of the city's area facilitating a more stable relationship with Elliot Bay and the Duwamish Estuary and connection between Seattle's lakes, but required engineered solutions with massive hydrological and ecological impact. While flooding has not been a widespread problem in much of Seattle, the aging of coastal infrastructure and the challenge of rising sea level will present numerous challenges in coming years.

To further understand the challenges and opportunities of floating, filling and flooding, I propose traveling to three sites:

Inle Lake, Myanmar Mexico City, Mexico Venice, Italy

Each of these sites presents a narrative of floating, filling and flooding, and a wide variety of cultural and built responses to life on water. Each of these sites is a case study in both success and failure in the pursuit of life on water. Through an understanding of the historic development of these sites and their current conditions, I hope to be able to bring insight to future developments on and near Seattle's waterways.



SITE: INLE LAKE, MYANMAR

While settlements around the edges of the 45 square miles of Inle Lake have existed for hundreds of years, they have developed and expanded quickly in the past century. Four small cities and numerous small villages now inhabit the edges of the 45 sq. mile lake. The region's monsoon climate causes seasonal depth changes of up to five feet in the mostly shallow lake, and most buildings along the water's edge are primarily built on stilts to accommodate the seasonal changes in water level.



Floating agricultural operations, introduced in the 1960's have spread into the lake, and combined with deforestation in the surrounding areas causing increased runoff, have resulted in a decrease in open water area of 70%, sedimentation and pollution of the lake causing health, environmental and logistical concerns.

Despite the challenges, life on Inle Lake continues to revolve around and celebrate water. Transportation between towns is primarily by boat and commerce is facilitated by a floating market that rotates daily between towns. Religious life is also focused on the lake. Ceremonies travel by water between towns and attract pilgrims from around the region.



SITE: MEXICO CITY, MEXICO

Mexico City, the world's third largest city, sits on the site of what once was the Aztec island city of Tenochtitlan. With the exception of a few remnants, the lake where Tenochtitlan was sited, Lake Texcoco, no longer exists. Starting with the chinampas, artificial agricultural islands of soil anchored by trees in the pre-European city, drainage and fill projects from the colonial period to the twentieth century allowed for the development of the sprawling metropolis that Mexico City is today. The remnants of the once extensive lake exist only in one area just outside of the city in Xochimilco. Here the remaining canals and chinampas are protected as a UNESCO world heritage site and as part of a national park that includes the 1968 Olympic rowing venue.



Built upon the soft clay that once was the lake's bottom, and with extensively tapped ground water, the city faces major subsidence problems as well as flooding. Heavy rains during the summer months annually test the city's drainage abilities. Drainage systems are constantly being tilted by the sinking city, sometimes to the point where flow is reversed creating the need to constantly rethink drainage processes. The most recent solution being the Eastern Drainage Tunnel, a 23 foot wide tunnel that empties the city's wastewater 39 miles away.



SITE: VENICE, ITALY

Formed from a collection of marshy islands in the Venetian Lagoon, the city of Venice has been connected to its waterways since its founding. A powerful trading center throughout the Middle Ages, the city's location and numerous canals make it a hub of floating transportation and shipping. With most buildings sitting on wood pile foundations the city expanded from the initial marshy islands to the cluster of islets separated by a maze of canals that now make up the city. Flooding has been an issue in Venice since the city's founding, and continues to be a major area of concern as recent extensive floods have shown. However, regular tidal flooding is a part of Venice and has been incorporated and sometimes celebrated as a part of the unique way of life of Venice. MOSE, the largest infrastructure project in Italy is currently under construction with (delayed) completion planned for 2014. The controversial system of floating gates will be able to isolate the Venetian lagoon from the Adriatic Sea theoretically protecting the city from the annual Acqua Alta as well as more frequent floods forecast in climate change predictions. While MOSE would protect the city from water damage, it could drastically alter the lagoon's ecology and the city's relationship to the annual floods.



PHOTO SOURCES

(by page, and in order of appearance)

proposal

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site: inle lake

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