

Four Centuries Across Four Weeks for One Book

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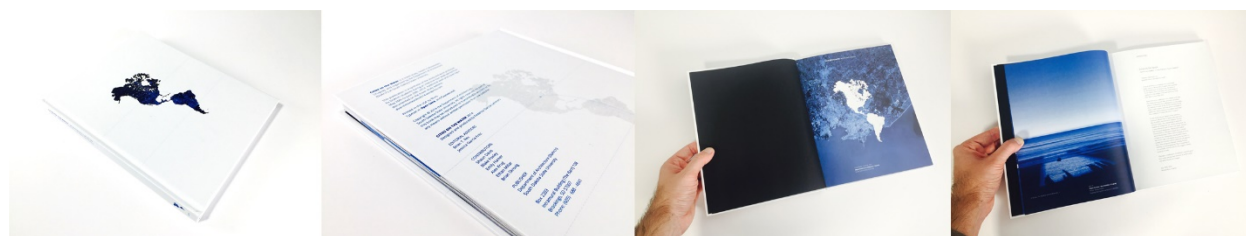


Fig. 1: Cities on the Water book, Department of Architecture (DoArch) South Dakota State University, 2014.

Montevideo, Uruguay is intrinsically tied to *El Río de la Plata* and its adjacency to the Atlantic Ocean. As an important historical port of entry into South America for European immigrants and slaves, Montevideo's urbanism is shaped by its colonial and modernist past. This history is implied by the colonial tone of the question asked in the first paragraph of this paper. The effects of this question are most evident in the study of public spaces (*Plazas*), the water's edge (*La Rambla*), and unique material practices (*Eladio Dieste*). The design of the *Cities on the Water* travel book is based on these three categories. Over the course of four weeks, students explored these categories through reading, writing, drawing, and digital imaging. These methods are the means used to answer the question: what do we bring back and how do we bring it back? This question is an essential way of linking the production of memory to the study of place. In *Cities on the Water*, the production of memory is based on the documentation of a non-linear history through the making of one book. This paper provides insight into the contents of this travel book and its pedagogical effects.

Preconditions for Travel

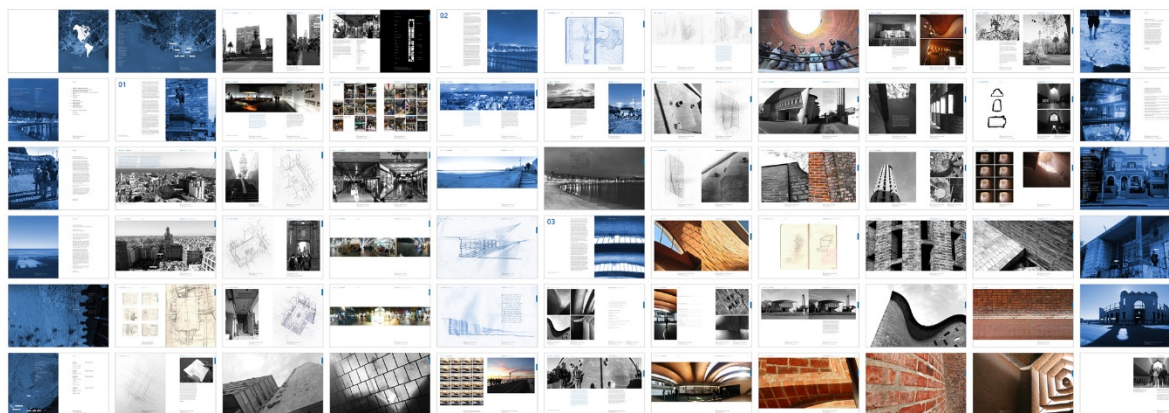


Fig. 2: Cities on the Water book spreads, Department of Architecture (DoArch) South Dakota State University, 2014.

Throughout architectural history, from Vitruvius to Alberti, from Durand's 19th century treatises to Le Corbusier's modernist utopian visions, the book has remained the most benign way to pack the most dangerous content. The legacy of the world of the Orthographer is at the center of architectural education. Orthography brought the idea of literacy into the world and formalized the linearity through

which we see the world. According to John May, the world of the Orthographer was simultaneous text and drawing (May, 2017). This is the case of the Italian Renaissance architect Leon Battista Alberti and other 'orthographic architects' who used architectural treatises as an essential means to code architecture into an intelligible set of physical conditions. The orthographic content of books has shaped and misshaped the physical environment as much as buildings. These conditions were documented, disseminated and later on reproduced through the industrial mass-production of books. Books are a fundamental precondition for the study of architecture. This is not a radical statement, but in the face of rapidly advancing virtuality it appears to be an antiquated or sentimental statement. Much has been written about the death of the book and its new place in a forgotten history. In spite of digital printing and online publishing, the book is still slow, it affords a method of indexing and recording that does not compete with the speed of a website or the immediate intimacy of a sketchbook. In order to understand the preconditions and the historical technological relationship between forms of media it is necessary to move past these speed-based incompatibilities. At their core, websites or digital platforms, owe their method of indexing and knowledge mapping to the technical legacy of the book.

In the context of *Cities on the Water*, there were countless books that students could have read and studied before, and during their travel to South America. Instead of being lost in a wide survey of architectural history books, students focused on reading one book, *Las Venas Abiertas de America Latina* (The Open Veins of Latin America). The book was written by Uruguayan writer, Eduardo Galeano in 1970 and published in 1971. It was banned throughout Latin America by many of the military dictatorships that were in power during the last quarter of the 20th century. The effect that this book had on the students is two-fold: 1. Narrating non-linear history, 2. Precise articulation of preconditions that usually happen beneath our colonial perception. *Las Venas Abiertas de America Latina* is unapologetically political, but not dogmatic – it set the tone for student travel and was a fundamental tool that made students see the political dimensions of the polis. Galeano began one of many stories about the history of the American continent and its political dimensions without pretense or trepidation:

It was the dispossessed of Latin America who, with spears and machetes, really fought against Spanish power at the dawn of the 19th century. Independence did not reward them; it betrayed the hopes of those who had shed their blood. Peace came, and with it a new era of daily misery. Landowners and businessmen increased their fortunes while poverty grew among the masses...

Public Spaces: Days 2, 3, 4, 6, 9

'Consider the city a spatial artifact, which implies a place, its process of transformation and the presence of a political and social collective that works within the history of its territory' (Urruzola, 2001).

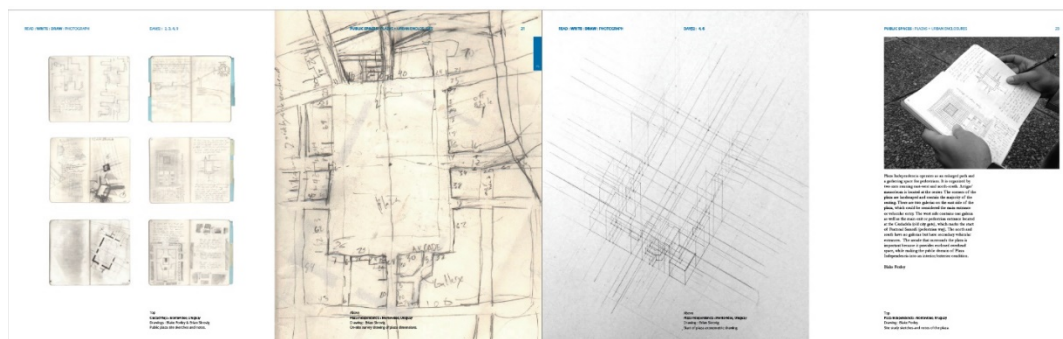


Fig. 3: *Cities on the Water* book spreads – Plaza Independencia, Drawings and Writing, 2014.

Montevideo was founded as *San Felipe y Santiago de Montevideo* on the edge of *El Río de la Plata* in 1724. As a fortified Spanish city, the establishment of Montevideo was a manifestation of the military tensions between the Spanish and Portuguese empires. In 1494 *El Tratado de Tordesillas* (Treaty of Tordesillas) was created as a means to divide the newly discovered lands of the Americas between the Spanish and Portuguese. This imaginary line positioned *El Río de la Plata* and its surrounding lands as contested political territory. This contested territory would later contribute to Uruguay's description as a hinge nation; a small place in-between two large countries, Argentina and Brazil.

In the early 16th century, the Spanish created the *Ley de Indias* (Laws of the Indies) to regulate the development of newly founded colonial cities. Through these Laws, Montevideo was constructed using the Mediterranean City model. Unlike Port Cities, which were designed with a primary public plaza at the edge of the water, Mediterranean Cities were designed with the primary public plaza as their physical center. Regardless of their physical proximity to the water, these plazas constituted the civic and political center of the city. As political changes affected the physical limits of Montevideo, 'the city center became a shifting urban condition' (Torres Corral, 2007). In Montevideo, these colonial plazas are located in *La Ciudad Vieja* (Old City). Students spent the first week of the travel study in *La Ciudad Vieja*, focusing on *Plaza Independencia* (Independence Plaza). Plaza Independencia operates as the hinge between the colonial city and the 19th century expansion of Montevideo, *La Ciudad Nueva* (New City). During the early 20th century, the expansion of the city along *Avenida 18 de Julio* saw the commercialization of modernism into ground level public spaces called galerías. Through images, drawings and notes, students documented the galerías located along *Avenida 18 de Julio*, from *Plaza Independencia* to *La Intendencia* (City Hall). In addition to plazas and galerías, students observed the range of public infrastructure in Montevideo - street markets, parks, shopping centers, churches, and universities. Public life unfolds at different speeds, in different spaces, and at different times of the day and night. These differences are an important way of parsing out the often unchoreographed nuances of public life.

Plaza Independencia operates as an enlarged path and a gathering space for pedestrians. It is organized by two axes running east-west and north-south. Artigas' mausoleum is located below ground at the center of the plaza. There are two galerías on the east side of the plaza, which could be considered the main entrance or vehicular entry. The west side contains one galería as well as the main exit or pedestrian entrance located at the Ciudadela (old city gate). This marks the start of Peatonal Sarandí (pedestrian way) and the entrance into the colonial city. The perimeter arcade turns the public domain of Plaza Independencia into an interior/exterior urban condition (Foxley, Cities on the Water, 2014).

The built environment can be reduced to an intelligible set of spaces, which are constructed, coded, and classified into a dense network of diverse urban conditions. Architects and students develop the tools for decoding the city and its architecture from the academy, and its corresponding architectural culture. Architectural culture and education serve as a cognitive device through which students can understand the configuration of an urban world overloaded with information. The knowledge of signals and urban juxtapositions (advance-retreat, good-bad, superior-inferior, old-current) shape behavior and legitimize the architect's role in the city. This apparent or implied legitimization is fundamental to the mechanisms used throughout travel study.

This changing knowledge set could be referred to as 'Academic Urbanism'. This type of urbanism is evolutionary and its capacity to adapt is critical. The changes in academic urbanism are prompted by shifts in architecture, technology, philosophy and other areas of knowledge. Cities are also affected by unexpected events occurring at the intersection between individual and collective forces, which overlap

in highly planned urban environments. This intersection is often times spontaneous and could be described as a form of 'Political Urbanism' (Danza and Fascioli, 2008). Both Academic and Political Urbanism fundamentally contribute to the way public spaces operate in Montevideo, Uruguay. In order to decode the city, students engaged in both types of urbanism.

Water's Edge: Days 6, 13, 15

'El Río de la Plata has been described in many ways: river, gulf, sunken delta, sea. It is difficult to classify because it is all of these things at once' (Torres Corral, 2007).



Fig. 4: Cities on the Water book spreads – La Rambla, Section Perspective Drawing and Image, 2014.

El Río de la Plata is an estuary formed by the confluence between el *Río Uruguay* and *Río Paraná*. This body of water creates the eastern border between Argentina and Uruguay and leads out to the Atlantic Ocean. Its ambiguous character continues to define its quality as a sublime body of water.

Montevideo was born on the water, however, the walls of its colonial fortification enclosed its citizens and turned its back on *El Río de la Plata*. It was not until the early 20th century that the city returned to the water's edge. Since its return to the coast, Montevideo's public character has been fundamentally defined by its relationship with the water's edge. This relationship is manifested in a public space called *La Rambla*. *La Rambla* is a continuous pedestrian and vehicular way that stretches 25 km along the coastline of Montevideo. During their time in Uruguay, students lived in *Pocitos*, a residential neighborhood located adjacent to *La Rambla*. This was the primary context through which they studied the water's edge. Students worked on a series of section perspective line drawings to document the edge condition between *El Río de la Plata* and Montevideo. To further this study students paired the quantitatively precise technical documentation of section perspective drawing with the qualitative precision of writing and observation.

The water and the city cut off their ties to one another with six lanes of traffic, but only for a brief moment. The beach is contained in a "u" shaped bay. It is barren except for a few runners and a couple sitting close to the water's edge on a blanket with their golden retrievers. One dog is in the water playing with the waves and barking at the ones that hit his mouth. Why they are on the beach I am not sure. The wind is picking up and the sun is hidden by the long burst of clouds. Being about six feet above the beach sitting on the stone benches that line La Rambla my ears are experiencing both traffic and the light sound of the one foot waves. If I were to jump down, the noise of the

traffic would almost disappear and I would feel no connection to the city. I think I am going to jump. (Krug, Cities on the Water, 2014).

Students travelled west and east along *El Río de la Plata*, experiencing and studying different scales of cities along the Uruguayan coastline. Their first excursion took them 185 km west of Montevideo to the city of *Colonia del Sacramento*. Located across from Buenos Aires, Argentina, Colonia was founded by the Portuguese in 1602 as a direct response to the Spanish port city of Buenos Aires. The founding of Colonia was a violation of the dividing line established by *El Tratado de Tordesillas*. This violation was a fundamental factor in the Spanish founding Montevideo farther along *El Río de la Plata* in 1724. These military and political tensions have shaped the history and physical construction of this coastal territory. Although it is now considered a benign, recreational, and commercial edge, *El Río de la Plata* and *La Rambla* will always carry the weight of the violent origins of this part of the world. The consistent presence of this material history was an essential part of students' experience during *Cities on the Water*.

Material Practices: Days 13, 20, 22, 23

'Every material has its own distinct and specific personality, and every shape imposes a different stress phenomenon. The optimum natural solution to a problem - art with no artifice - implies the merging of art, technique, ingenuity, and study' (Torroja, 1967).

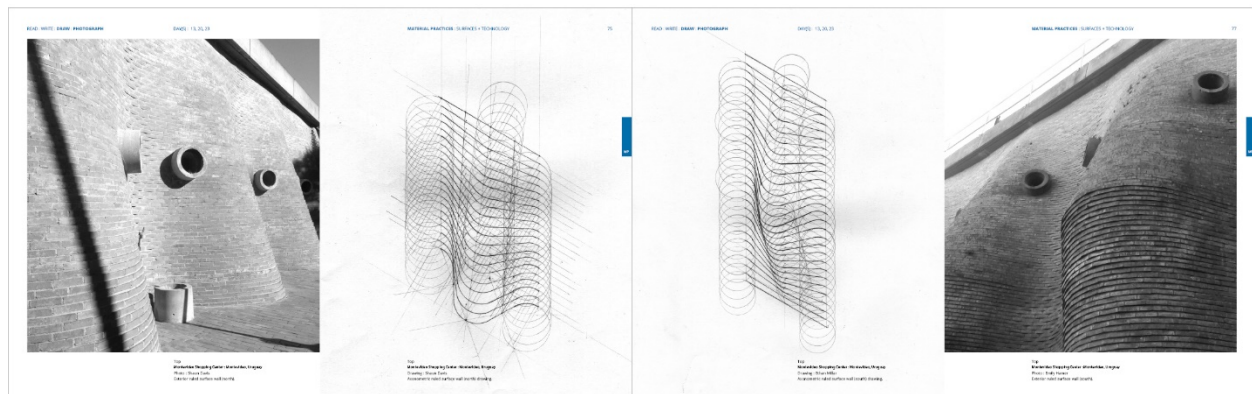


Fig. 5: Cities on the Water book spreads – Montevideo Shopping Center, Ruled Surface Drawings and Images, 2014.

The study of material practices is linked to the analysis of public spaces and coastal conditions in Uruguay. Every condition observed in the built environment is the result of a technological assembly of materials. Technology is not merely a demonstration of technique; it is a social, cultural, and political articulation of the material practices in a city's history. Instead of technology, we should refer to the evolutionary practices of technics. The study of these practices or technics is linked to place, but more importantly, such a study should reveal local methods of invention associated with that place. In Uruguay, material practices are primarily executed using wet construction methods. These wet methods are evident in both traditional and contemporary practices and made physical, primarily through masonry and site cast concrete. One of the most significant examples of wet construction is the reinforced structural brickwork of the late Uruguayan engineer Eladio Dieste.

Eladio Dieste's work began at a time when the structural implications of reinforced brickwork were not well known. His material pursuit of brick was aided by the fact that the international modernist style of the 1950's was primarily interested in the use of reinforced concrete. Without appealing to a nostalgic sense of material memory, Dieste saw brick as an economical, local, and efficient material resource. He

investigated structural and material innovations in a time before digital computation, yet his work clearly suggests and articulates the parametric relationship among surface geometry, material and structure. Dieste's work can be categorized into four areas of study and structural innovation: free standing vaults, gaussian vaults, ruled surface walls, and folded plates. These categories are not limited or dictated by building function or type. These innovations were used in warehouses, churches, shopping centers, and gymnasiums alike. Two of the four innovations – Gaussian Vaults and Ruled Surfaces – were defined by resisting gravity through form by using double curvature geometries.

Even today, architects are more at ease working with planes. Even though they may not always be the most appropriate forms. Architects choose planes as a surface to limit a space in a natural way. We have all seen buildings in which the solution for the roof, for example, struggles structurally not to go beyond the plane. The fact that a building of this kind is much easier to express graphically has a great influence. I remember when I asked a friend about Gaudi's work, he told me that he wasn't interested. His work has nothing to do with us, he told me. As a final argument, he added, I wouldn't know how to draw one of Gaudi's buildings. How can we construct a building today without ground plans, facades and cross section? This is something that was said without thinking (Dieste, 1996).

The Montevideo Shopping Center was the first enclosed commercial center in Uruguay. It was constructed from 1984-1985 during the last stages of the military dictatorship that ruled Uruguay from 1973 to 1985. Eladio Dieste's design for the Shopping Center combines Ruled Surface Walls with double-curvature Gaussian Vaults. Since its construction, the shopping center has undergone significant additions and many of its brick walls have been removed or altered. The structural qualities of these reinforced brick walls are defined by their undulating geometry. In order to understand this non-planar geometry, students constructed a series of axonometric drawings exploring the surface of these walls. Dieste's work served as a prompt for discussing the intersection between physical and digital technics, and the surfaces that can be constructed using these technics.

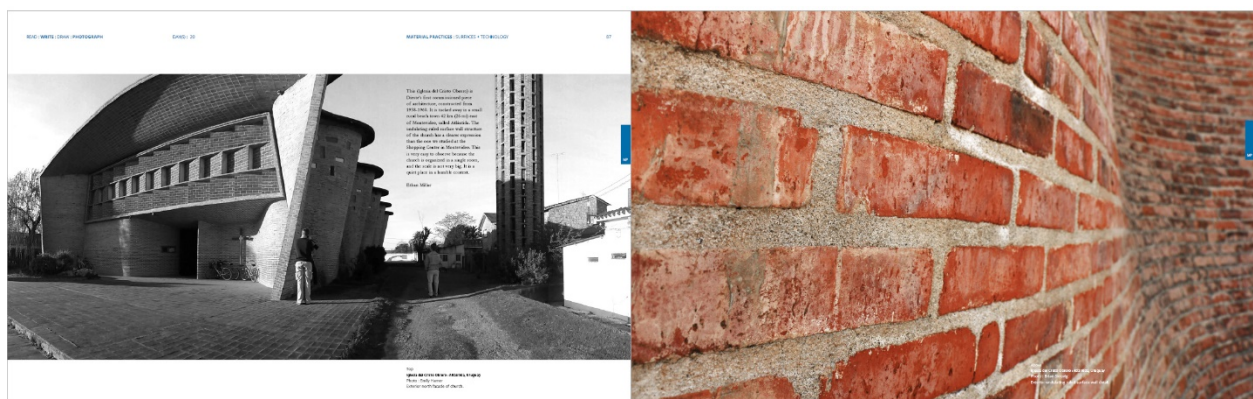


Fig. 6: Cities on the Water book spreads – La Iglesia del Cristo Obrero, Ruled surface brick wall, Images and Writing, 2014.

La Iglesia del Cristo Obrero, constructed from 1958-1960 was Dieste's first commissioned piece of public architecture. It is tucked away in Atlántida, a small rural beach town 42 km east of Montevideo. The church consists of a single room formed by the structural combination of Ruled Surface Walls and Gaussian Vaults. Every surface is brick. The only planar surfaces are a stacked set of three panels that filter light into the choir above the church entry – the floor is also flat. It is a quiet place in a humble context.

This church is not an architectural pilgrimage site or tourist attraction. After speaking with the local priest and municipality office, it is clear that the students' visit was a welcomed intrusion. During the winter months the church is only open on Wednesday and Sunday mornings. Throughout a cold winter morning in early June people arrived at the church before the start of mass. As people continued to arrive, the north facade of the church became the entry lobby and an impromptu parking area.

One last trip out of Montevideo. The destination is Durazno, a city 190 km north of Montevideo. We are going to Durazno to visit Eladio Dieste's Iglesia de San Pedro. The church is on the edge of another Plaza Independencia. Following a fire in 1967, Dieste was commissioned to re-construct the Church. Instead of demolishing the remaining elevation, Dieste kept the front of the Church and built a whole new sanctuary behind it. The entrance is open to the public. The space is dark with only light coming through an opening above the altar, the thin gap in-between the folded plate structure that encloses the nave, and the rose opening at the front facade. From inside the church you can hear cars, motor bikes, and birds. A few people come in to pray. They look like they are mostly older country workers. A young school boy comes in to say "hola" while I sit here and write. Our time in Uruguay is almost finished. (Krug, Cities on the Water, 2014).

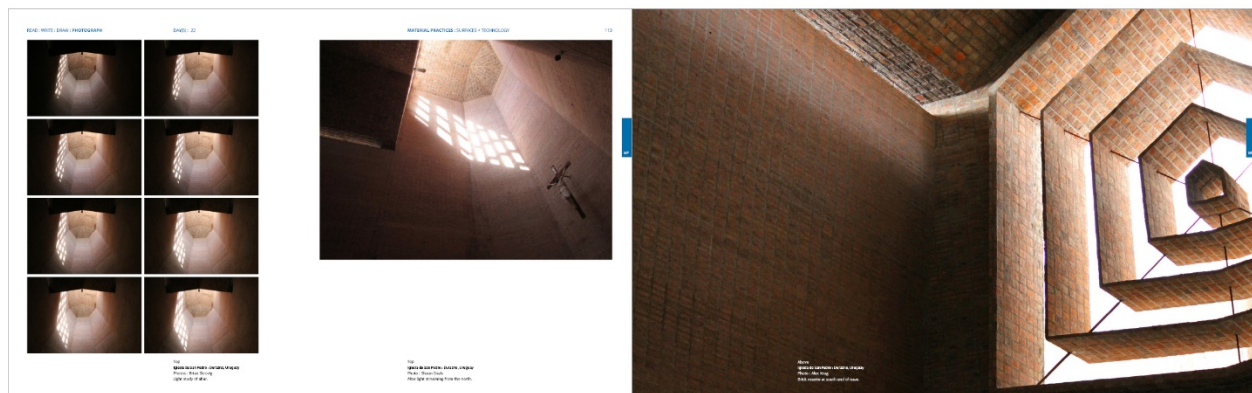


Fig. 7: Cities on the Water book spreads – La Iglesia de San Pedro, Altar light study and rose opening image, 2014.

Drawing In and On Place

Long after the 'Grand Tour' was abandoned by most, we find Le Corbusier filling 80 sketchbooks in Southern Europe in 1911 and Colin Rowe in 1962 shepherding the young Peter Eisenman around Europe in a VW. Study travel, ample time spent in an unfamiliar place meticulously studying it graphically, is an invaluable facet to our disciplinary education. Like drawing, it is something the discipline of architecture has not given up in the name of virtuality or distance education. One draws in place to best draw on place across a lifetime of practice.

The summer 2014 travel to Montevideo, Uruguay was the second international travel study in the history of the newly formed Department of Architecture at South Dakota State University. It was the first to get down to drawing a place to draw on a place. South Dakota is a small place in a sublime landscape. The urban environment that surrounds our inland school is defined by the establishment of cities along the railroad and the displacement of American Indian culture. In spite of the distance between South Dakota and Uruguay, these two places are linked as small scale urban conditions in sublime landscapes with

latent colonial legacies. One condition is inland, the other condition is coastal. This paper ends at the start of planning for the next version of Cities on the Water. The question in the upcoming version of this travel study remains the same: what do we bring back and how do we bring it back?

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