



EMERGING PROFESSIONAL TRAVEL SCHOLARSHIP 2018  
AIA Seattle Laura Bartunek





## RAIN

topic of investigation

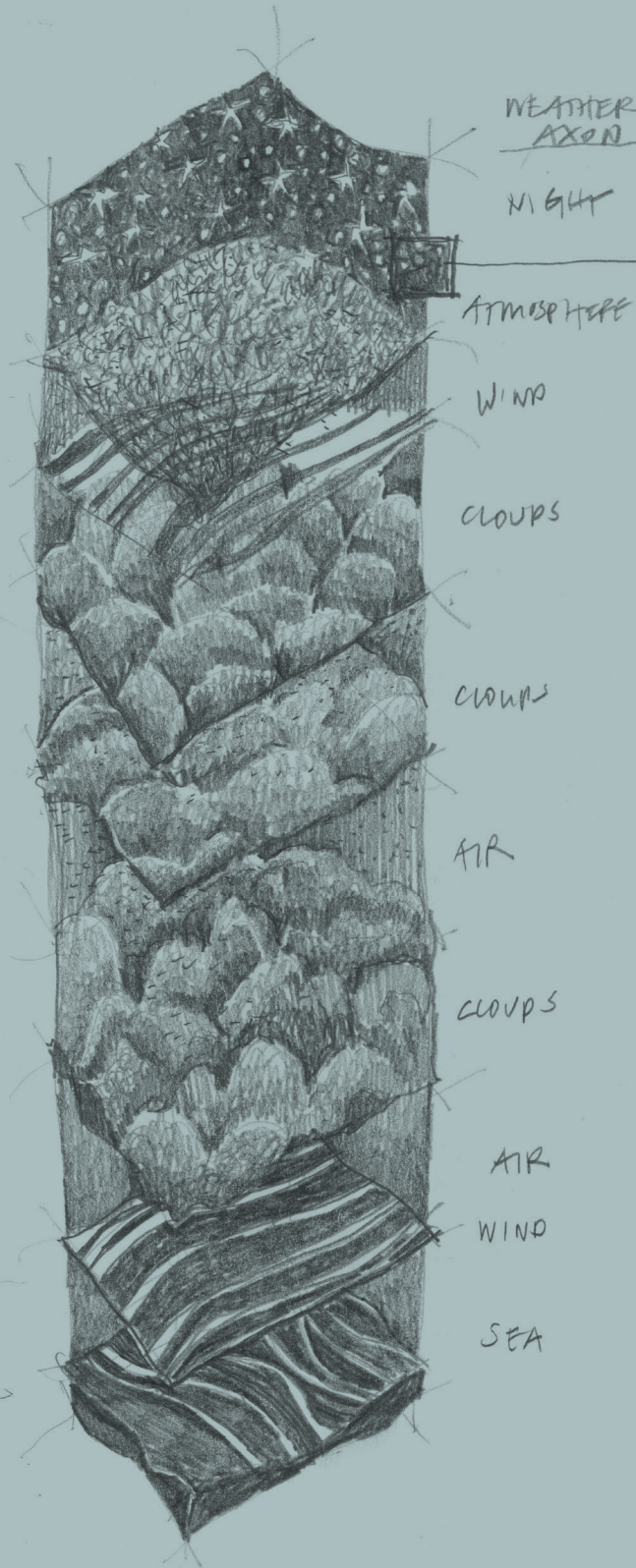
I am nothing if not accustomed to rain. A child of the Pacific Northwest, I grew up somewhere between high precipitation and light evening showers. Even now I feel my eyes are best suited to the overcast grey, and I sleep most soundly to the pattering of rain against my shingled roof. You could say my life has been shaped to embrace the inevitable gale. Yet, as a designer I perpetually find myself defending my ideas from water.

We are taught that the origin of architecture is shelter. Architecture began with a roof pitched overhead to shield the sacred interior. We continue in this history by creating shells that are shaped and nestled into the landscape – spaces that frame views, but ultimately barriers to create refuge. We stitch, tape, seal, caulk, gasket and screen our shells, perfecting the recipes of our skins to inhibit even the slightest trace of precipitation. And in so doing, our spaces resist and endure. But in our enthusiasm to protect might we not have missed something?

What if our fundamental understanding of water was different? What if our common sense was reversed and water was friend, not foe. What would our buildings – our cities – look like? Would buildings drink water and grow? Would they take off their coats and shake the rain from their skirts? Would urban centers transform their streets, their roads, their walkways with rain, creating cities of storms? How might we work with water, instead of against it?

For my AIA Seattle Emerging Professional Travel Scholarship, I propose to study the potential of rain. I would like to research, have conversations, and experience moments in design where rain has been a fundamental component of a project, not just a detail. I propose seeking out and studying eight unique projects that focus on one particular aspect of rain. I would like to document and provide insight into these works in an attempt to provoke and inspire how we respond to rain.





## PROPOSAL

methodology & research plans

This proposal is broken into 3 categories:  
Rain Research, Site Visits and Conversations

### RAIN RESEARCH

Before I begin my journey, I need to better understand the phenomenon of rain. This initial research will include looking into the atmospheric science behind rain – both its metamorphosis and its ecological impact. This phase will also include research into rain's history, looking at how different cultures have viewed rain and their associated myths and stories.

### SITE VISITS

I have selected eight research projects as part of this proposal. Each project has been selected based on its clear and singular approach to water. The projects have also been selected based on accessibility – all are open to the public and relatively easy to access. The goal of each site visit will be to experience the spaces during rainfall, and subsequently to create documentation of each design and its successes.

### CONVERSATIONS

Over the course of this year of rain, I hope to hold a series of side conversations with admired architects and designers about their favorite architectural rain details. Unlike the site visits, where rain is the driving concept for the projects, these details will be isolated moments within a project that have dealt with shielding, collecting and distributing water. The goal will be to create a treasure trove of details to be incorporated into the final deliverables.



# (rain) MAKERS

## ORIGINS OF RAIN

contact: CLIFF MASS  
CYNTHIA BARNETT

Rain. It's so familiar, yet so complex. We dread it in the fall and winter, and long for it in the summer. It gives life, but can also take it away.

We all know some version of the tale of 40 days and 40 nights of rain unleashed upon humanity. Or of stories of rain gods called upon to give life to broken soil. Literature overflows with stories of misery or romance set to backdrops of rain. Rain is woven into our myths, our stories, and even our values. It is as much a part of our cultural storytelling as it is a part of our daily lives. If we are to design with rain, we must first begin by understanding both its ecological and narrative complexity.

Cliff Mass is a professor of meteorology at the University of Washington. He is well known as the local authority on all things Northwest Weather. About a year ago, Cliff Mass gave a lecture to my office on the topic of climate change and its effect on local weather patterns. To begin my research, I would like to revisit this conversation with Mass and discuss the origins and changing nature of rain.

Cynthia Barnett is an environmental journalist who wrote the wonderful book *Rain - A Natural and Cultural History*. I would love to reach out to Barnett and hear from her the stories and histories associated with rain. In researching rain as a cultural phenomenon I hope to discover new ideas, new experiences, and new projects about rain.

The research and interviews will be executed over the course of the year with the outcome and documentation incorporated into the final deliverables.

Thomas Jefferson

Journal with Weather Observations, July 1776

# Observations on the weather

Philadelphia 1776

| July. | hour.      | thermome. | day | h. m.      |     |
|-------|------------|-----------|-----|------------|-----|
| 1.    | 9-0 A.M.   | 81½       | 9   | 5-30 A.M.  | 75° |
|       | 7- P.M.    | 82.       | 9   |            | 77½ |
| 2.    | 6. A.M.    | 78.       |     | 6-30 P.M.  | 81½ |
|       | 9-40' A.M. | 78        |     | 9-45       | 78. |
|       | 9. P.M.    | 74        | 10. | 8. A.M.    | 75. |
| 3.    | 5-30' A.M. | 71½       |     | 9-15.      | 76½ |
|       | 1-30. P.M. | 76        |     | 2-0. P.M.  | 80. |
|       | 8-10.      | 74.       |     | 4-45       | 82. |
| 4.    | 6. A.M.    | 68.       |     | 6-30       | 81½ |
|       | 9.         | 72½       |     | 9-30.      | 78. |
|       | 1. P.M.    | 76        | 11. | 5-30. A.M. | 74. |
|       | 9.         | 73½       |     | 8.         | 76½ |
| 5.    | 6. A.M.    | 71½       |     | 9-40. P.M. | 75. |
|       | 9.         | 72        | 12. | 7. a.m.    | 72. |
|       | 9. P.M.    | 74.       |     | 9.         | 72. |
|       | 10.        | 74.       |     | 8-50. P.M. | 72. |
|       | 9.         | 75.       | 13. | 5-30. a.m. | 71½ |
|       | 4. P.M.    | 77.       |     | 11.        | 74  |
|       | 10.        | 74.       |     | 2. P.M.    | 76  |
| 7.    | 6. A.M.    | 71.       |     | 6-45.      | 76  |
|       | 10.        | 73.       |     | 7-25       | 76  |
|       | 1- P.M.    | 74.       |     | 9-         | 75  |
|       | 3-30'      | 75        |     |            |     |

seattle, wa annual rainfall 37.49 inches



( r a i n ) D E L I G H T  
CONTROLLING RAIN

project 1: THE RAIN ROOM  
location: LACMA

We all long to beat the rain. Who doesn't find comfort in the morning forecast and endless doppler readings. And when weather isn't in our favor we have even dared to alter it, attempting to 'harvest clouds' or induce rain over barren environments (Barnett, 10). As climate changes, our desire to respond and predict the weather grows. In a society obsessed with the weather, what would it feel like to truly control rain?

At the Los Angeles County Museum of Art (LACMA) there exists such a place – the Rain Room. Designed by Random International, a studio that uses science and technology to explore natural phenomena, the Rain Room is just as it sounds – a room of rain. But through the aid of motion sensors you can walk freely in the space and never get wet ("Rain Room").

The Rain Room is currently closed, but I hope that over the course of the year it will re-open and become a moment of delight with in this journey.

los angeles, ca annual rainfall 14.93 inches



## (rain) SHAPE

BUILDINGS FORMED BY WATER

project 2: WARM MINERAL SPRINGS MOTEL  
location: VENICE, FLORIDA

How do we shape buildings to respond to rain? Our first response is the roof, which we mold to direct and funnel water; ornamenting our control through gutters, downspouts, chains and catchment pools. But roofs conceal as much as they control, and sometimes we don't feel the presence of rain, only its absence.

Outside the city of Venice, Florida there is a small project which has taken the form of rain and used it to define space. Designed in 1958 by Victor Lundy, the Warm Mineral Spring Motel sought to create a form that would invoke the fountain of youth – a nod to the area's warm mineral springs. Lundy began by creating a pre-cast concrete roof shape that resembled a foundation. This roof form is then duplicated, offset, staggered and infilled with glass, creating a kit of parts that is used to layout the motel (Dmadsen, 2013).

What's most interesting to me about this project is that Lundy wasn't necessarily interested in making a roof that responded to rain. Yet, the roofs, or concrete funnels, have to drain. So, when it rains the roofs transform from being a symbol into having a purpose. The roof becomes a giant inverted fountain that reaches out to hungrily pull water into the building's core.

What do the spaces feel like when it rains? Can we sense the flow of water? Does water change the experience of the space? The goal for this site visit will be to stay at the motel during a rain storm. To experience the spaces and track down and document the flow of water.

venice, fl annual rainfall 54 inches



## (rain) MATERIAL

BUILDINGS THAT ABSORB WATER

project 3: KELDUR

location: HELLA, ICELAND

When we first begin to assemble and detail a building we learn of the components that help define roofs, walls and floors. We learn to track the flow of water over our building's surfaces and how to shed it away from our spaces. We agonize over the waterproofing membranes and vapor barriers that wrap around our forms – creating envelopes like rain jackets into which we zip our spaces. But what if our envelopes absorbed water instead? What if rain was actually needed for a building to survive? What would the roof, the walls, the floors look like?

Anyone that has visited Iceland can tell you that the weather is aggressive. So much so that buildings of the region have responded by burrowing themselves into the earth to find relief. These historic structures, known as turf houses, have sought to use the land to defend themselves against the sky. But unlike most green roofs or walls, these buildings are truly one with the land, with walls and roofs that grow with the environment.

Rain has become a necessity for the turf house. So, is water actually a part of the envelope? Does rain in fact protect the interior and act as a barrier? The goal for this site visit and research will be to better understand the history and science of the turf structure. To document the flow of water within the earthen walls and roof, and experience the spaces of Keldur, Iceland's oldest turf farm, during the rain.

iceland annual rainfall 80 inches



## (rain) SCAPE

SPACES TRANSFORMED BY RAIN

project 4: ACQUA ALTA  
location: VENICE, ITALY

Technically, the phenomenon of Acqua Alta is not caused by rain. High tides and increased water pushed into the lagoon by the Adriatic is the cause of Venice's seasonal flooding. But what is so extraordinary about this natural phenomenon is that a new city seems to grow from the water. New walkways are erected overnight and the familiar streets of the city are literary transformed.

The city of Venice has put a vast amount of effort and planning into lessening Acqua Alta's impact on its residents and tourists. Maps of the city have been redrawn to highlight campos and streets prone to flooding, with alternate paths planned from the train station to San Marco. But beyond the city's official response to the flooding, the residents of Venice have found unique ways of modifying their surroundings to ensure their daily habits.

The goal for this site visit will be to experience the phenomenon of Acqua Alta. To re-map the allies, streets, and campos along the walk from Campo dei Frari, to the Pont de l'Academie, to Piazza San Marco. While mapping this new cityscape, I will also seek out and document the informal architectural details that residents have employed to respond to the water. Overall, looking to see how we can truly live alongside the flood.

venice, italy annual rainfall 29.4 inches



## (rain) ILLUSION

CHANGING THE PERCEPTION OF SPACE WITH WATER

project 5: LONDON MITHRAEUM

location: LONDON, UK

Rain has the power to transform. It brings green, helps to make the sky blue and can change our perception by altering our mood – for better or worse. But what if rain could actually reveal architecture?

Seven meters below London's surface lies the Temple of Mithras, a roman ruin whose foundations only remain. Reconstructed by Blomberg SPACE the temple has been brought back to life through the aid of water. Using light projections on mist, a ghost of the temple now sits above the ruins. Visitors to the museum are invited to walk into the site, hear sound recordings and experience this ghost like space, creating an illusion which may have felt like the mysterious cult's lair ("London Mithraeum Bloomberg", 2017).

The water used within this project is clearly not rain. However, the idea behind the concept – using mist, or moisture in the air, to reveal the unseen– is an extraordinary idea. The goal of this site visit will be to determine the success of the illusion. To research and hypothesize about whether an application like this could be used with rain – that is to say could we create architecture that comes and goes with the weather?

london underground annual rainfall 0 inches



## (rain) FOUNDATION

### RAIN INFRASTRUCTURE

project 6: PUEBLO BONITO  
location: CHACO CANYON, NM

Sometimes the most powerful aspect of rain is its absence.

At the University of Cincinnati, Vern Scarborough, a professor of anthropology, and a small group of interdisciplinary researchers are seeking to unearth how ancient civilizations "manipulated their environment to manage water" (Schefft, 2017). The goal for their research will be to understand how we can more effectively and efficiently (without high tech infrastructure) manage our world's water supply (Schefft, 2017). One primary area of focus for the group is the ancient water management strategies of the Anasazi in Chaco Canyon.

Within his book *House of Rain - Tracking a Vanished Civilization across the American Southwest*, Craig Childs seeks to understand the disappearance of the Anasazi culture through exploring the history, archaeology and landscape of New Mexico. Like many before him, Craig is captivated by one of the most elaborate homes of this civilization - the great house of Pueblo Bonito. Craig's descriptions of this over researched archaeological site, is a ruin still full of wonder and mystery - with stone walls that seem to speak histories and clues. And water - rain - is a part of this home's many mysteries.

How did the Anasazi manage their water? How did water lay the foundation for these settlements and homes? The goal for this site research will be to understand how the Anasazi used the rain runoff from the surrounding cliffs, how they stored it within their settlements, and how water acted as a catalyst for design. I hope to reach out to University of Cincinnati and collect documentation of this act of water infrastructure at Pueblo Bonito, and personally experience this 'house of rain.'

albuquerque, nm annual rainfall 6.82 inches

Vincent P Tomardy

Three Doors at Sunrise - Pueblo Bonito, Chaco Canyon, New Mexico, 2017



(rain) PLAY  
SPACES FOR RAIN

project 7: HOLLYGROVE GREENLINE  
SHADE-WATER PAVILION  
location: NEW ORLEANS, LA

If you were to design a structure that seemed to relish and play in the rain you would first reference the Hollygrove Shade and Rain Pavilion. This small structure, created by the Albert and Tina Small Center for Collaborative Design (the community design center at the Tulane School of Architecture), sought to transform a derelict lot into a community space while resolving the neighborhood's need for storm water management.

The pavilion is primarily a steel frame with four inverted tent like roofs that funnel water to specific catchments and drains. But what is so unusual about the roofs are the free ends. Unlike most gutters and downspouts the ends are loose. This allows water to control or play with the roof's structure. During storms rain and wind will move the spout like ends, creating a pavilion that doesn't control, but rather dances with the rain.

The goal for this site visit and research will be to contact the Tulane School of Architecture and learn about the concepts and the design process behind the small pavilion. I would like to seek out the school's opinion on the success of the structure and finally experience the space during a heavy rainfall.

new orleans, la annual rainfall 65 inches



## (rain) NOISE

RAIN AS AN ACTIVATOR

project 8: RAIN DRUMS

location: NORTH BEND, WA

At the Cedar River Watershed Visitors Center in North Bend, Washington, there are 17 drums scattered across the forest floor. The installation, Rain Drums by Dan Corson was created to honor the rain and emphasize its falling. This trip will be taken on a stormy afternoon so I can go and hear the rain.

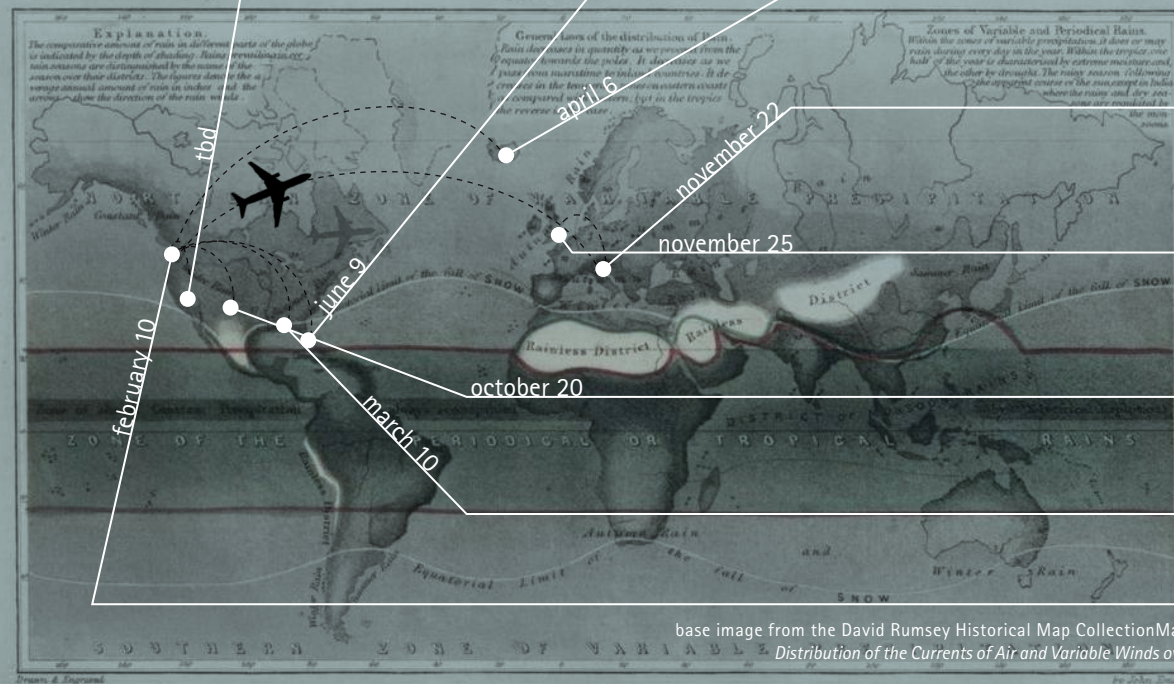
north bend, wa annual rainfall 59.1 inches



# DISTRIBUTION OF THE CURRENTS OF AIR AND VARIABLE WINDS OVER THE WORLD.



## METEOROLOGICAL MAP SHOWING THE DISTRIBUTION OF THE RAIN OVER THE WORLD.



## SITE VISITS

## (rain) JOURNEY BUDGET & ITINERARY

### RAINY SEASONS

PROJECT 1 : RAIN ROOM, LACMA  
Seattle to LA flight: \$150 (round trip)  
hotel accommodation: 1 night @\$150

PROJECT 1 TOTAL: \$300

PROJECT 2: WARM MINERAL SPRINGS MOTEL, FLORIDA  
Seattle to Florida flight: \$350 (round trip)  
rental car: \$100 for 2 days  
hotel accommodation: 1 night @\$100

PROJECT 2 TOTAL: \$550

PROJECT 3: KELDUR TURF HOUSE, ICELAND  
Seattle To Iceland flight: \$500 (round trip)  
hotel accommodation: 3 nights @\$100  
rental car: \$200 for 4 days

PROJECT 3 TOTAL: \$1000

PROJECT 4: ACQUA ALTA, VENICE  
Seattle to Venice flight: \$650 (one way)  
hotel accommodation: 3 nights @\$150

PROJECT 4 TOTAL: \$1100

PROJECT 5: TEMPLE OF MITHRAS, LONDON  
Venice to London flight: \$200 (one way)  
London to Seattle flight: \$700  
hotel accommodation: 1 night @ \$200

PROJECT 5 TOTAL: \$1100

PROJECT 6: PUEBLO BONITO, CHACO CANYON  
Seattle to New Mexico flight: \$300 (round trip)  
rental car: \$150 3 days  
hotel accommodation: 2 nights @ \$100

PROJECT 6 TOTAL: \$650

PROJECT 7: HOLLYGROVE PAVILLION, NEW ORLEANS  
Seattle to New Orleans Flight: \$400 (round trip)  
hotel accommodation: 1 night @\$100

PROJECT 7 TOTAL: \$500

PROJECT 8: RAIN DRUMS, NORTH BEND  
gas: \$30

PROJECT 8 TOTAL: \$30

OVERALL TOTAL: \$5230

base image from the David Rumsey Historical Map Collection  
Mary-Ann Ray  
Distribution of the Currents of Air and Variable Winds over the World



## (rain) DETAILS

STORIES OF RAIN

'all great architecture leaks'

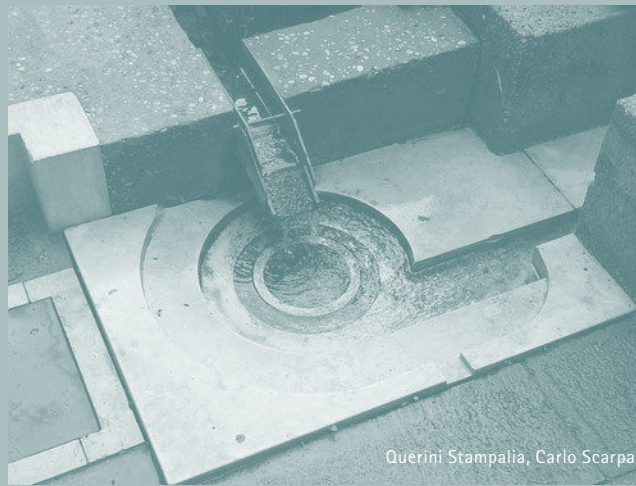
Over the course of this year of rain, I hope to hold a series of side conversations with admired architects and designers about their favorite architectural rain details.

Unlike the main proposal where rain is the driving concept for a project, these details will be isolated moments within a project that have dealt with shielding, collecting and distributing water.

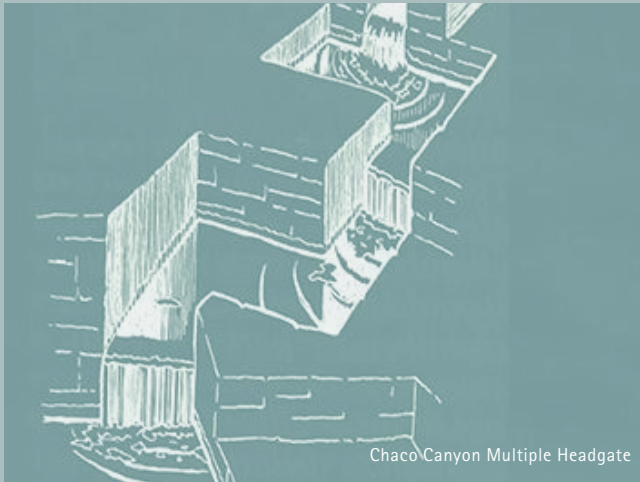
The goal will be to create a treasure trove of details to be incorporated into the final deliverables.



Rolling Huts, Olson Kundig



Querini Stampalia, Carlo Scarpa



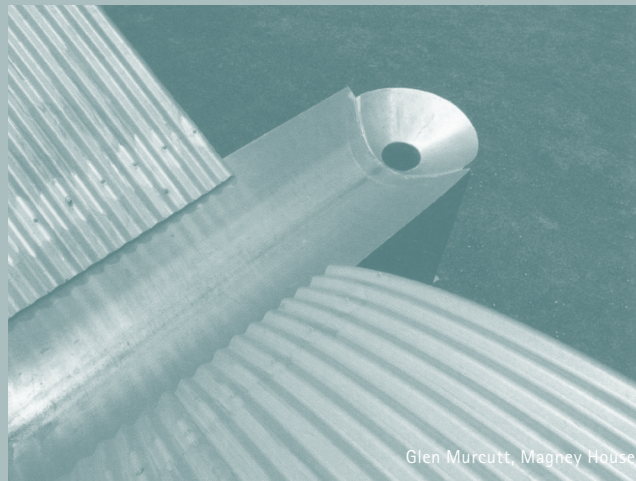
Chaco Canyon Multiple Headgate



Enampor Impluvium



Gutter Detail, John Roe Luna



Glen Murcutt, Magney House



## (rain) PAMPHLET DOCUMENTATION

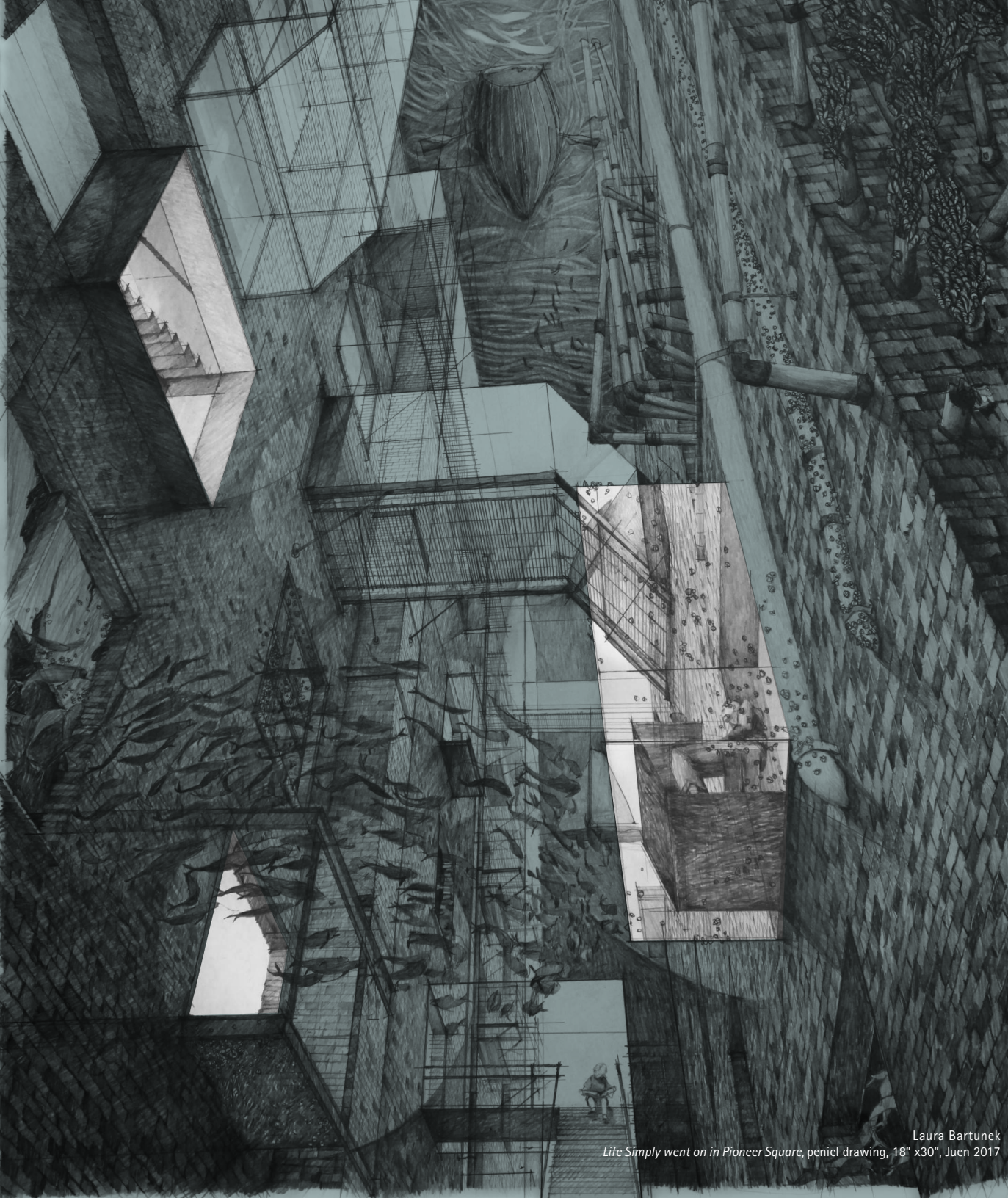
research, stories, photographs  
& personal drawings

The outcome of this research, will be a small publication inspired by Mary-Ann Ray's *Pamphlet Architecture 20: Seven Partly Underground Rooms and Buildings for Water, Ice, and Midgets*; a wonderful text that includes history, research, anecdotes, photographs and original illustrations.

The goal for the document will be to knit together histories, myths and stories of rain, with the eight featured projects. Supplementing the journey with the unique rain details collected over the course of the year.

The final deliverables (pamphlet) will be presented in the form of a lecture on rain.





## BECAUSE IT RAINS

relevance to AIA Seattle  
and its members

I have always been fascinated with speculative design, be it the visual stories of Lebbeus Woods, to the new cityscapes presented by CJ Lim and the students at the Bartlett School of Architecture. I love the potential conceptualization has to act as a catalyst with practice, and the ability designers have to shepherd these new ideas into our reality.

I hope this proposal acts as one of those sparks that challenges others to rethink how we see this world. In investigating the history, cultural influence, and projects of rain, I want to excite others about how we see our familiar environment. Because the only way to continue to push design forward, or change the way we think and design, is in first changing the way we see.

Laura Bartunek  
*Life Simply went on in Pioneer Square*, pen and ink drawing, 18" x 30", June 2017



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## Special Thanks:

Jerry Garcia

Principal at Olson Kundig whose lecture in the spring of 2017 titled 'When it Rains' (a conversation about the details of Olson Kundig that respond to the weather) secretly inspired this endeavor

Nate Boyd

Architect at Olson Kundig who gave the title

Vikram Sami

Director of Building Performance at Olson Kundig who gave rain insight

Lauren Gallow

Marketing Coordinator at Olson Kundig for her talent with words and grammar

