



PERVIOUS URBANISM, PERVIOUS ARCHITECTURE

The Medium of Perviousness

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While a pervious architecture and urbanism serves as an example of Metamedia, this does not imply that such efforts are only predictions of a desired future. Architects and urbanists are beginning to explore ways of merging the medium of water with the medium of shelter and public spaces. Flooding experienced near watersides due to rising sea levels and climate change serves as the impetus for this investigation. It is reasonable to assume that water levels are rising again, largely because of our effects on the environment, and with this, watersheds are slowly being overtaken.

To investigate the relationship between human beings and water, one must discuss the Netherlands. Certain experts claim 26 percent of the nation lies below sea level, while another 29 percent of the nation is at risk of flooding (Reuters). In "The Dutch Have Solutions to Rising Seas. The World is Watching," Michael Kimmelman discusses the measures the Dutch have implemented to combat not only rising sea levels, but also the fact that many areas within the

nation are gradually sinking. Among these efforts, the Delta Works project, which was enacted shortly after the flood of 1953, is the most prominent. This effort involved damming “two major waterways and produced the Maeslantkering — the giant sea gate, keeping open the immense waterway that services the entire port of Rotterdam” (Kimmelman). The infrastructure which resulted from the Delta Works project, which didn’t reach completion until 1997, was unprecedented during the time of its construction. Artists depicted the colossal dams during the 1960s and these depictions shine a light on their alien presence in the Dutch landscape (Metz p. 71).

In *Sweet and Salt: Water and the Dutch*, Tracy Metz argues that the Delta Works project was insufficient in terms of its ability to combat the issues of rising sea levels. Also, the project was unsuccessful due to the dams’ detrimental effects on the delta’s ecology. For example, the Zandkreek and Veerse Gat Dams resulted in the disappearance of mussel and shrimp in a large stretch of the southern estuary (McDowell p. 53). Since sea levels have continued to rise and because much of the infrastructure has already shown signs of aging, the Delta Works project has had an additional, unexpected consequence. It has introduced to the area the incorrect assumption that people living below sea level can successfully fortify themselves from water. Overall, the project has caused the Dutch to suffer from a false sense of security.

Even though the Delta Works project required roughly 40 years, and 8 billion guilder (Dutch currency), to complete, the Dutch government is realizing additional efforts must be made. New plans, such as Room for the River, show the government is wisely incorporating means of adaptation, rather than fortification, to create change. Harold van Waveren, a senior government adviser, has expressed his position by stating, “We can’t just keep building higher levees, because we will end up living behind 10-meter walls. We need to give the rivers more places to flow” (Kimmelman). The failure of the Delta Works project and the country’s implementation of Room for the River serves as an example that large fortification efforts are an inevitable failure.

European watersides are not the only places experiencing increased levels of flooding. When discussing climate change and how it has affected areas worldwide, New Orleans is often a recurring point of interest. Hurricane Katrina resulted in mass amounts of flooding, and a death toll of 1,800 people. LSU professor Craig Colten has stated that “Keeping the city [New Orleans] dry, or separating the human-made environment from its natural endowment, has been the perpetual battle for New Orleans” (McDowell p. 48). In May of 2011, New Orleans avoided a massive flooding event, which may have been comparable with the flooding which occurred due to Hurricane Katrina, by “opening sluices further upstream and preventively flooding thousands of hectares of farmland” (McDowell p. 48 + Metz p. 233). While these preventative measures are not ideal, since they entailed intentionally flooding farms and villages, they serve as proof that means involving fortification are not viable.

People must understand that water is a very difficult substance to control. While terms such as “rising sea levels” may lead people to believe that inland areas are exempt from the ramifications of climate change, rivers are a portion of our planet’s interconnected, dynamic water system. A large spectrum of actors, which collectively create complex morphodynamic [change dynamics involving the motion of sediment] processes, make it impossible to predict how a river may change over

time (Prominski p. 21).

The Mississippi River, as well as its many tributaries, is experiencing rising water levels and flooding as well as extreme lows. In 2013 a project broke ground to improve the St. Louis Arch Grounds. To combat flooding, the project involved elevating S Leonor K Sullivan Boulevard. The process of raising the street, which stretches along the riverfront, required nearly three years to complete. Unfortunately, after this effort was made, a massive flood submerged the entire street during June of this year. This failed project serves as proof that methods of retreat, like those involving fortification, are also unsuccessful.

This flooding event served as the inspiration for this year's AIA Central States Student Competition, a competition which Elaheh Houshmanidpanah, Tanaka Kawondera, Skye Reid, and myself participated in with faculty sponsor Francesco Cianfarani. The brief called for a building which would serve various programmatic needs including research, education, and public outreach. The site, located behind the city's flood-wall, provided students the opportunity to instill within the public an understanding of what it means to live near one of the country's largest rivers.

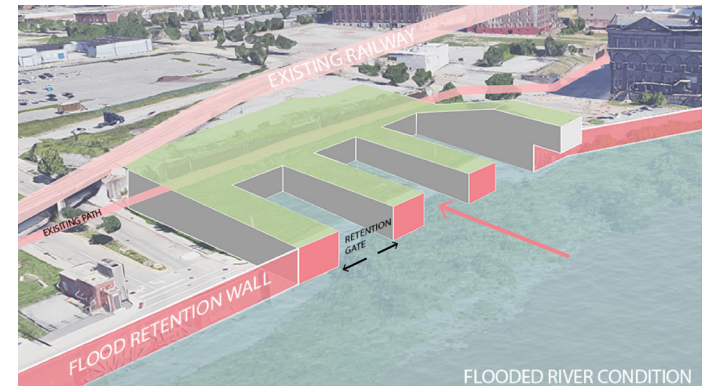
Our project, Pervious Park, emphasizes the fact that retaining walls will only keep the issue of rising water levels out of sight and out of mind. We placed our building below the existing flood-wall and placed a community green space on its roof. Through doing so, the project serves as an ideal extension of the public realm towards the river and offers an unobstructed view of the Mississippi. By merging the retaining wall with occupiable and public space, the wall's presence is alleviated, and its character altered significantly. We proposed jogging the wall not only to break up its scale, but also to allow more water to enter the site. This would also allow park visitors to engage the Mississippi River directly, allowing them to better understand its fluctuations and condition.

Other projects which envision intentionally allowing water to enter the urban realm are Aranzadi Park by Alday Jover, Water Square Benthemplein by De Urbanisten, and Structures of Coastal Resilience by

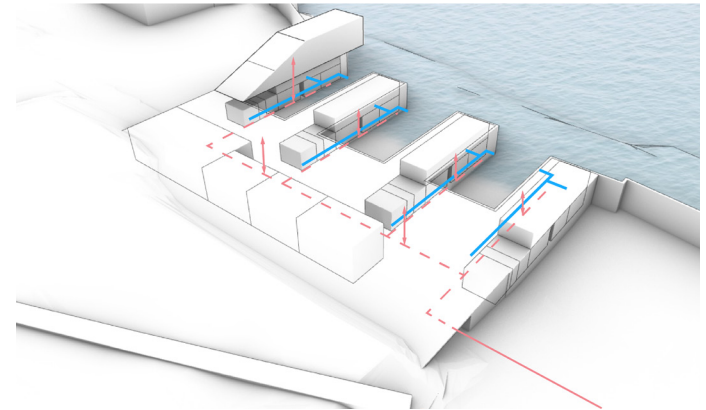
Attractions on the Riverfront



Flood Retention Concept



Program and Circulation



LTL Architects.

The previously mentioned projects are altering our stereotypical relationship with water. Fortifications are insufficient long term and only succeed in separating our daily experiences from the issues we need to be consistently mindful of. People should not continue to view water as a problem overcome by pilotis, retaining walls, and the builders of bridges. In “The Dry Salvages,” T.S. Eliot explores this theme of water taking the form of a solved, and thus forgettable, problem:

The problem once solved, the brown god [the river] is almost forgotten
By the dwellers in cities—ever, however, implacable.
Keeping his seasons and rages, destroyer, reminder
Of what men choose to forget. Unhonoured, unpropitiated
By worshippers of the machine, but waiting, watching and waiting.

How may architecture take on a state of perviousness and would this be appropriate? The aforementioned projects suggest we are enthralled by water and this is certainly true. The city dweller must be included with those whose rituals involve the use of water; the shower, the medley, the christening. Consider the water found in the pipes of buildings, lifted to the tops of towers. It has been driven here from some distant reservoir or spring. Often in the form of aqueducts, dams and “the lastingly monumental” we have succeeded in leveraging the “fluid and transitory, the elusive and diaphanous” (Calvino). If we were to merge our buildings with this element, for both to exist symbiotically, we would find an architecture which does not strive to last indefinitely, define itself via form, or enclose itself from the “outside world”. The following piece of writing will hopefully provide a mental image for such an architecture.

Imagine when lost in the city, I follow the fiery hues which enliven this multiplied. Or what if during the months when a collective breath obscures my immediate view, I follow the image seen in a silver blade.

And after the traversal, what if the disorientation wrought from a mass of drops suspended indicated the end of my commute. During moments such as these, I would feel an overwhelming thankfulness. A gratitude for having an excuse to need not pretend I know my exact position in the world. After all, what defines these spaces I visit, the porous, cartesian planes or the mist?

And what about the friends I would've missed,
since the fog has served as impetus for many chance encounters,
with those who would've otherwise gone on living among my many strangers?

The ripple marks, the wind streaks and the bulrush,
striae our fluid world like broken glass.
We will run through the same fractures and crevices in the landscape,
formed over millennia by the smallest stream.

While crossing the tombolo against the uprush
We see birds of the wetlands airborne
their image overhead and below
Offset, slippage, static in the water like a screen

What if, when ankle deep in the double of you and me,
We could realize with minds cleansed
That our actions will yield glad tidings
that we will live as the bearers of good news?

Or what if we left this wet ground,
to circulate obliquely within the volumes,
understanding that in a city half drowned,
we wake to rain, refracted and dappled, in a world people are eager to assume?

Ben Decuyper, 2020



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