



## Boat • Building • Water

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**Abstract** This paper is about the complex relationship of humans with land and water. This relationship is studied through the eyes, nose, ears and touch of second-year architecture students as a pedagogic approach to sensorial perception of the environment both built and natural. The project is designed to make students more receptive to experiential conditions in the built as well as the natural environment. At the surface, the project is a boathouse but its simple program belies the larger issues of site and experience as design drivers. The power of place and the simplicity of action define the design experience.

The Mississippi River is a river of vast scale and power, but it is also a cultural place in the development of America. To this day it is a conveyor of goods and a respite of unique culture. Its banks receive flooding, drought, litter and pollution. Its bluffs and riverbanks provide powerful edge conditions and form a complex backdrop for the experience of the river edge. The first step in guiding the students to be perceptive to experience is to have them be displaced from their normal behavior and confront the power of the place by immediately engaging water and the culture of the people associated with water. The vessel is key to the students' connection between land and water and imperative to this experience is the opportunity to directly experience using and manipulating the craft. Being on a boat, feeling the contradiction of energy and calmness through the watercraft makes the student aware of their senses. The canoe, for example, can be crudely lifted, dragged, shoved or otherwise transported across a landscape, in the water it becomes sleek, elegant and silent. Yet the canoe is an elegant form to behold when it is uninhabited, in the water it can be miserable to steer, tipsy and untrustworthy. These acts are the second layer of physical experience for the student.

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## Rebooting the Pedagogy of Architecture

Architecture is one of the many mediators in the complex relationship of humans in the built environment. The first experience in an architecture design studio is an opportunity to establish methodologies for students that will last a lifetime. This paper will address a pedagogic approach to sensorial perception of the environment both built and natural as well as a way to expose the design student to the broad spectrum of issues that architect addresses in the making of architecture.

It can be assumed that all beginning architecture students come to the discipline with an expectation of what architecture is. This expectation is often the by-product of mass media or gross stereotypes that romanticizes the architect.<sup>1</sup> One of the primary objectives of the first studio in architecture is to dispel the myths while simultaneously allowing students to discover a process for understanding architecture without simply showing what the faculty think is current or fashionable – in other words we give them methods not examples. This studio uses the natural landscape, cultural context, and body of water to reboot the student and allow the students to enter into the discipline from a new perspective.

Before the primary project is described it is important to understand the two preliminary projects that the students have undertaken prior to this study. The first is a precedent house study where the students are assigned in small groups to research, draw and build a model of a small precedent house. Basically, this is a skill building exercise that teaches the student about teamwork, craft, research as well as showing the student examples of non-traditional architecture. The next project is a short three-week birdhouse project where students design a birdhouse for birds native to the Mississippi River valley. In this case, they are beginning to understand a “client” which in this case the bird is a metaphor to a human. Students work individually in this project and research about the bird’s habitat, habits, they study bodies of birds in space, identify their needs and address environmental concerns. Ultimately a full-scale model is constructed. These two projects, the Precedent House and the Birdhouse, prepare the students to go visit the Mississippi River and design a boathouse by teaching the students to think in technical, conceptual and communicative ways.

### The Boathouse Project

The boathouse project is chosen as the program in this primary studio project for the semester because the program itself is rather simple; protect a boat when not in use. This allows the student to escape the trappings of solving the problem at hand and encourages the student to bring other elements to the table. Before a single line is drawn on paper, students visit the Mississippi River where they are challenged to map the area adjacent to the river and are required to write a short narrative describing the experience. The following is an excerpt of the example text:

*a bounded yet endless silken brown flow, surface patterned and punctured. stream and lake fed, it might be wild, yet its narrows and widths are calculated and controlled, its currents slowed or furiously released. it is allowed leaks, small branches and secondary streams that release pressures. it finishes at a continental border, joining a saltwater body that reveals itself in miles of brackish liquid that precede the site of its emptying.*<sup>2</sup>

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<sup>1</sup> Luke Redd gives an example of the romanticized architect in his article for educationcompass.com “When Hollywood screenwriters need a hip profession for a dapper leading character, they often choose architecture. Design and lifestyle magazines fill their pages with glossy pictures of highly distinctive buildings. And at cocktail parties everywhere can be heard the phrase, “You know, I was once going to be an architect,” complete with lots of narcissistic zeal. It all creates the general misconception that architects lead a life of glamour.”

<sup>2</sup> Written by Samantha Krukowski and provided as an example in the project assignment.

The students are encouraged to be poetic in their assigned text with the expectation that it provides a personal insight into the experience they have of the great Mississippi River. In this case, writing can be another type of mapping exercise that students can use to organize their thoughts and provide a starting point for critique and critical discussion.

### **The Great Mississippi and the Watercraft**

The Mississippi River is a river of vast scale and power, but it is also a cultural place in the development of America. To this day it is a conveyor of goods and a respite of unique culture – indeed there are shantyboats still in operation<sup>3</sup>. These shantyboats are the home to a unique collection of people who live on the river in these homemade vessels and probably don't pay taxes or conform to cultural norms. The vessels are the incarnation of an interesting cross section of culture that resides in and around the river. The upper Mississippi in general is the product of early transportation and has always been multicultural. Generally, the people are strong-willed yet keep to themselves. There is a certain sense of freedom associated with the river – perhaps because one can get on a boat and go anywhere in the world from its banks in the center of the United States, Iowa.

The river itself is as dynamic as its people. Its banks receive flooding, drought, litter and pollution. Its bluffs and riverbanks provide powerful edge conditions and form a complex backdrop for the design experience of this riverbank. Modern history is tightly associated with commerce especially the travel of barges through locks and dams. The seemingly untouched vistas are, in fact, the product of much impact by humans to control the waterway by damming and dredging to maintain a constant 9-foot deep channel. Deeper history ties the Native American tightly to the river with both names and traditions<sup>4</sup>. Settlements are commonly connected to resources as well as strategic positions along the river. The many contradictions provide the students with opportunities to generate a position about environmental, cultural and political conditions.

### **The Design Process**

The first step in guiding the students to be perceptive to experience is to have them be displaced from their normal behavior and confront the power of the place by immediately engaging water and the culture of the people associated with water. Students were taken directly on the water to observe the migration of many species of birds, experience the launching of the boat, stepping in mud, climbing a bluff, skipping a rock. They meet local Native Americans, shantyboat operators, barge captains, conservationists from the Department of Natural Resources (DNR) and a whole host of what one may call "locals".

Direct observation and mediated experience are provided through having students go out onto the river and navigate it in a canoe, followed by hiking the various terrains adjacent to the river. The vessel is key to the students' connection between land and water and imperative to this is to directly experience using and manipulating the craft. Being on a boat, feeling the contradiction of energy and calmness through the watercraft makes the student aware of her senses. The canoe, for example, can be crudely lifted, dragged, shoved or otherwise transported across a landscape; in the water it becomes sleek and silent. Indeed, the canoe is an elegant form to behold, in the water, however, it can be miserable to steer, tipsy and untrustworthy. These characteristics learned through direct engagement of the river are the second layer of physical experience for the student.

Walking, hiking, reflecting, relaxing, climbing, ascending, descending are but few of the direct site engagement of the student at the river edge. Students are asked to do a blindfolded walk in order to open their other senses to the environment. This third layer of experience will

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<sup>3</sup> A Shantyboat is basically a houseboat used by "river people" (Wallis).

<sup>4</sup> Petersen describes the "discovery and exploration of the Mississippi is a story of epic proportions." Citing the Native Americans, the French, the Spanish and the birth of the United States (pp. 28-35).

make the student aware of the conditions of site. A student is much more aware of mud if they step in it blindfolded. The crunch of leaves underfoot is a lasting memory when the eyes no longer distract the student from the path ahead. They hear the birds, the distant hum of a motorboat and the rustle of leaves overhead. However, the eyes are keen to use when ascending the bluff and looking out over the vista of the river valley and imagining the glaciers melting and filling the entire valley with water. The students return from this experience with all types of information and inspiration.

Upon return to the studio, students immediately map their experiences through multimedia (called a Phenomenological Map, Fig. 1). In addition to these maps they create sketches, material samples, short video productions and sound recordings as well as modeling both literal and conceptual experiences. This fourth act records and offers a mechanism for analysis and discourse once we return to the studio. At this point the narrative is written to displace the architect from the experience and allow the designer to highlight particular perspectives and experiences that they will use to design the boathouse.



Fig. 1 Phenomenological Map – Showing spatial considerations, tactile conditions and river pollution.

The students are eager to begin the boathouse design after the mapping and narrative are complete. As previously defined, the host for this project is the boathouse. Referred to as “host” because it is the impetus for action and the initial reason for consideration but the program is not the project. The students go to the site thinking about a product, yet they return considering an experience. They return to their desk and consider a design, but the design itself is simple – to protect a boat. Key to the success of a project of this nature is simplicity of program. Not because these issues cannot be addressed in big buildings, but because simplicity is key in translating an idea into material.

Now the students are challenged to find ways that the design can represent or respond to the issues identified while at the site or determined in reflection about the site. A motion study is assigned to help the students to think about moving a small watercraft and the experience of the body in this process (Fig. 2).

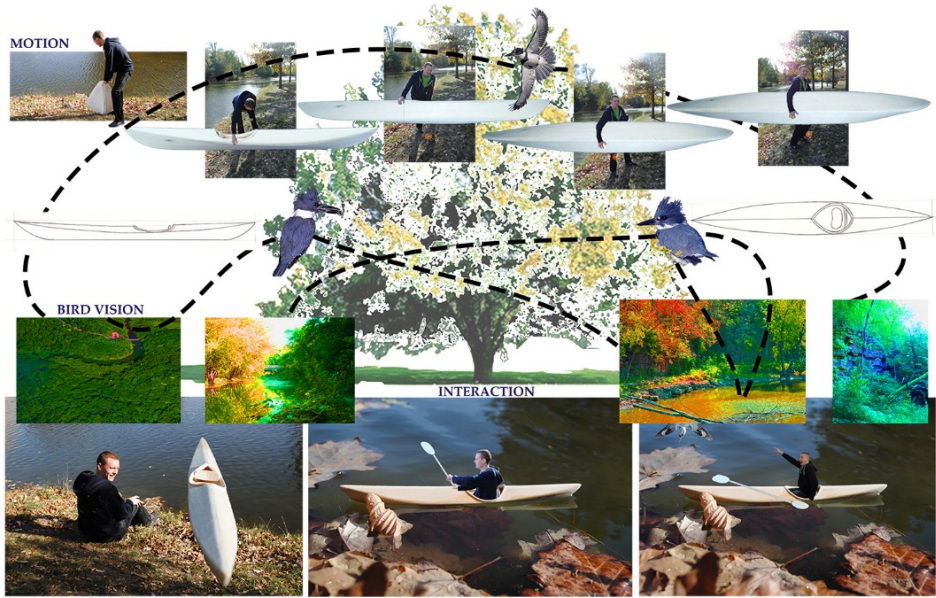


Fig. 2 Motion Study

### Boathouse – Dwelling Example Project

One example project that will be recorded in this text exemplifies the combination of many concepts developed over the course of the semester. By blending the birdhouse research into the boathouse project, the student combined methods of construction used by the bird and issues of protection and surveillance common to the species. Since the Belted Kingfisher is native to the Mississippi River valley its use of the site is quite relevant to the location of the boathouse. As a matter of fact, the student actually witnessed the Kingfisher living in the riverbank while canoeing during the site visit.

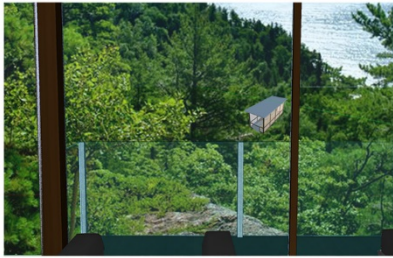


Fig. 3 Boathouse (Boat Storage) Renderings

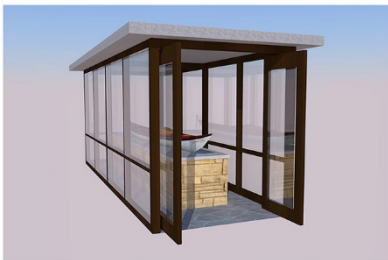
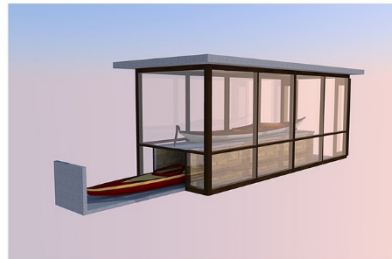


Fig. 4 Boathouse (Living Space) Renderings



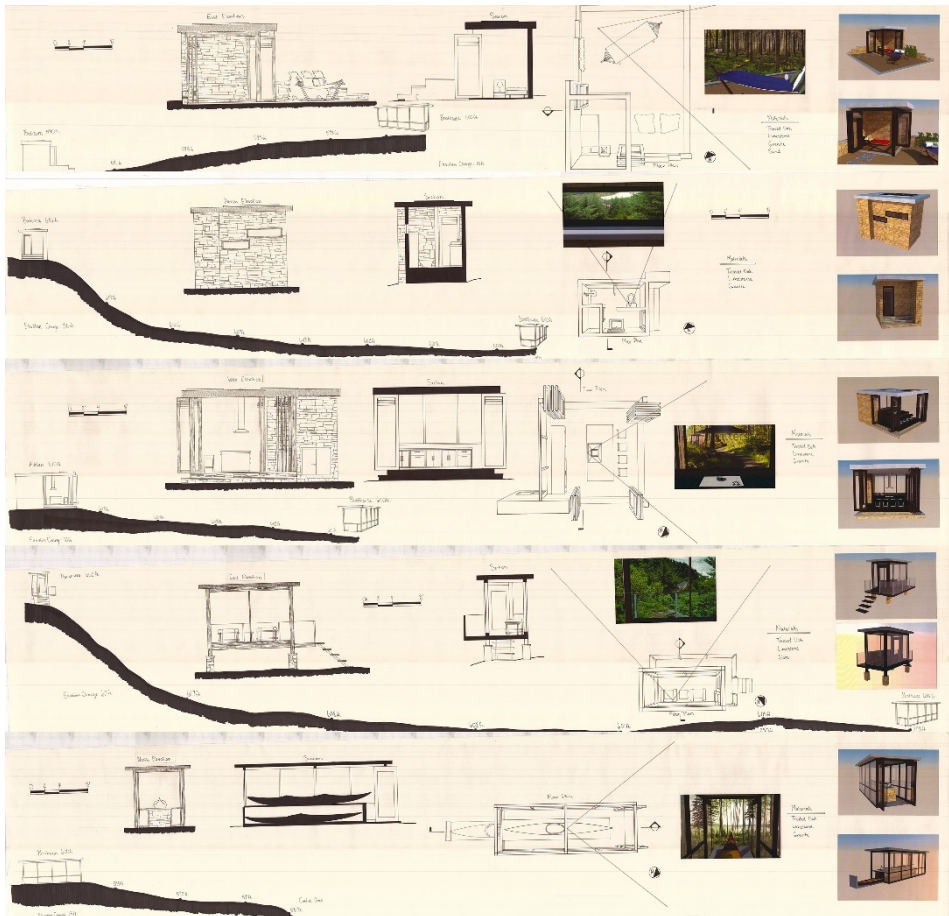


Fig. 5 Boathouse - Series of drawings

## Conclusion

The total studio trajectory begins at the Precedent House where key houses are studied and the definition of “house” is questioned; then the studio creates a Birdhouse to displace the notion of “designing for me”; the studio then addresses a deep study into place, culture and experience in the Boathouse study where human occupation is secondary to the boat; and finally the Dwelling puts the user back into the space to occupy and blends all of the issues developed over the course of the semester. This is a rather ambitious series of projects for sixteen weeks, but the students are inspired by the project type, the place and the type of discussions generated. This results in rich work that embodies the experiential qualities that students have individually studied. They understand from this process how to go about architecture in an entirely different way that influences their career.

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