Light filters through the cracks of a rotting ship carcass

Utilizing a secondary fabrication process, CNC plasma cutting, the properties of steel deck are altered. Decking is made permeable allowing it to modulate views of the landscape and light inside the barge exhibit. In the process of becoming wood the steel skin corrodes with light, taking on the material properties of a 19th century wooden barge. The viewing platforms and Lewis and Clark barge are suspended within the illuminated volume for display. Beneath them are functional areas including a cafe or assembly space for tours or the casual visitor.

Joey Koon and Arthur Notaro
Bridge Builder’s Museum
Carnegie Mellon School of Architecture
48-305 Third-Year Studio, Spring 2010
Instructor: Mike Gwin

Process
Initial exploration included a joint model that showed how items can be joined in space, dispassionate of the scale of the objects. A piece of tar-crusted rubber found at the site is woven to accept a clean piece of perforated aluminum with a diamond at its’ center. Through that hole, allow woven into the rubber is a galvanized steel stake from the same railroad stock pile. This served as a inspiration for initial sketches and diagrams and then as a prototype for relationships created within the museum.

Programmatic diagrams show the relation of new and old bridge, as well as the location of the main functional spaces along a central axis of the bridge, the main floor. The public passes either through the pathway to which the bridge is attached, or leaves that path to enter the park space at the bottom of the bridge structure. This results in spaces floating amid structure, as if they had been inserted into the existing bridge. Some spaces extend under the existing bridge, others locate people near it, while some push away from the existing infrastructure. This is an example of new space reacting to yet also co-opting an existing structure.
A Museum for Pittsburgh

Passage over a bridge often ignores the structure of the path itself, the frame supporting movement. This invites curiosity of what is underneath and into the concealed structure. The old bridge is repurposed for transport to the framework of the new, a metaphor for architecture as a continuing development of what exists. The new develops a symbiotic relationship with the old.

Two giant glulam trusses create a superstructure for the museum’s metal boxes that are all clipped to the wood. Atrium spaces placed in relation to the existing bridge’s piers create a new relation between the heaviness of the old and light, structure quality of the new museum. The public spaces around these vertical connections relate indoors to the environment and reveal a mesh surface that wraps the entire museum structure and houses photovoltaic panels to power the museum.

Entering through the trusses of the old bridge, from a walkway for pedestrians and bicyclists hung from the old bridge, one enters the new bridge passing under one of the large glulam trusses. The only space above the main entrance is the main gallery where the floor is at the same height as the bed of the old bridge. Moving down a floor from the entrance to the main level, one finds all the functional spaces of the museum: cafe, kitchen, assembly and video spaces, offices, services, and support as well as a couple galleries. Moving down another floor one finds several galleries showing how the wooden trusses slice through the structure, revealing the dominance of wood over the steel. On the lowest level there are two hanging galleries as well as three public spaces composed of risers that allow visitors to encounter the island and to enjoy exterior space at the base of a bridge.

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