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How does the act of architecture suggest performance? This project proposes an annual performance by which personal and shared memories are deposited to later become the building material of an architectural landscape. Once a year, 150 new memories—in the form of masonry units inscribed with personal messages, memorabilia, or artifacts—are deposited in the well located in the southwest of the site. Three platforms rise from the ground opening up the previous year’s memories to the world which are excavated and reassembled to build up the succeeding parts of the landscape. Over the course of years, this annual ritual of excavation and insertion creates a new architectural landscape built from a collage of forms familiar to the contemporary eye yet enigmatic to defined functions. As this new architectural landscape emerges over time, it itself becomes a source of memory through shared experience and potentially could see fragments of itself inscribed and memorialized within its own walls.

The Memory Well
A Performance for Pinebank Promontory
Act I: Excavating the memories

The first act of this performance removes memories put into the well from the previous year. Three wedges rise from the ground revealing the previous memories, and a team of volunteers go to work removing the inscribed masonry. As they take out the masonry, they encounter the thoughts, desires, regrets, and maybe memes of a city etched into stone. Taking place in a space with just enough light, the experience is almost archaeological, and as the last memories come from the well a new set of memories is interred.
Act II: Building with the memories

After their extraction, volunteers place memories according to masterplan that guides the emergence of the architectural landscape. From the well at the southwest point of the site, paths punctuated by pylons radiate to other sections of the site which will eventually see their own constructs emerge shown in dashed lines in the site plan at right.
Act III: The realized landscape

The final act is the experience of the realized landscape. As this project would span many decades, if not centuries, the architectural language employs simple geometries that seem to be simultaneously ancient, contemporary, and futuristic. Every square inch of the architecture’s surface would hold some facet of the city’s hopes, dreams, concerns years and decades past for all to see. These surfaces could be the starting points for a new set of memories, a new set of rituals for Boston.
Since 1969, the Ramblin' Reck Club has imbued spirit in the student body of Georgia Tech by driving and maintaining the official mascot of the student body: a 1921 Ford Model A Sport Coupe known as the Ramblin' Reck. In the fifty years after its adoption, the club has preserved the automobile's appearance and internal workings requiring specialized knowledge and tools as well as space to perform the act of maintenance. However, the club has recently found itself without an adequate garage to store the car. What is the nature of a garage for a car like the Ramblin' Reck, whose gleaming headlamps and manicured leather seats seem to elide the decades of its existence?

How does architecture, a construct through which its designers have typically worked with static images, incorporate notions of time and weathering in the typically banal typology of the garage? This project proposes that the Ramblin' Reck garage incorporates a clubhouse to become more than just space to display and maintain the car, and "age gracefully" by strategically combining weathered materials found on site and procured weathering materials together into a cohesive whole. By building on the principle that the garage can be both a "shed" and "shrine", this project will create a place anchored in the campus fabric for the Ramblin' Reck to age in the decades to come.
Social space for Ramblin' Reck Club (RRC) becomes gathering space for weekly meetings of RRC

Cookout space for the RRC to host tailgates during football games becomes serving space for Midnight Breakfasts during Dead Week

Tree arbor occupies former turnaround using transplanted water oaks

What happens in a "garage"

While the gabled form of the Ramblin' Reck garage is reminiscent of industrial garages, the habitual activities proposed let the space be used for more than just scheduled car maintenance. Meeting space for the monthly gathering of the Ramblin' Reck Club becomes social space for the rest of the month. Outside a built-in grill becomes the place to be for football tailgates during the fall and a spot to pick up Midnight Breakfast during finals. The oversailing roof offers shelter while waiting for the bus while the tree arbor in the south creates a space of quiet repose.

Game of half-walls and full-walls rising from the earth

Double-gabled roof dropped between the full walls

Clerestory between the walls and floating roof seal the interior from the exterior

Place to linger by the Reck as students and faculty wait for campus shuttles
The changing (and ageing) garage

Unlike the gleaming Ramblin' Reck which holds, the Ramblin' Reck garage will accept and act on the changing qualities of its materials and finishes. As it ages, the materials begin to weather from use. The garage makes use of weathered materials in the brick walls that enclose the overhanging roof and weathering materials in the red-cedar clad roof. 40-year-old brick from the soon-to-be demolished Stamps Student Commons is reclaimed and stacked against virgin brick to create a play of textures and color. Weathered brick contains around prockets of virgin brick creating a patchwork play of textures and color.

Once removed, the brick is cleaned in a solution of hydrochloric acid to remove any of the previous mortar. Brick is then ready to use alongside virgin brick.

Weathered brick from Stamps Student Commons which will be demolished to make way for the new Student Center.

Once removed, the brick is cleaned in a solution of hydrochloric acid to remove any of the previous mortar.

Brick is then ready to use alongside virgin brick.

Weathered brick uniformly fades to a gray while the interior ceilings retain the wood's finished warmth.

Reflected ceiling plan showing the cedar ceiling just after occupancy.

12 months after occupancy, the exterior ceiling has uniformly faded to a gray while the interior ceilings remain as warm as the day of occupancy.

Section aa

Weathered brick contorts around prockets of virgin brick creating a patchwork play of textures and color.
The extended landscape

As part of its duty serving as a shrine, the new garage cleans up discordant landscaping plan of south campus. Bus loops, tree arbors and allees, and employee parking layer upon each other to gradually deliver students, faculty and visitors to campus.
One consequence of a growing campus is the separation between academic spaces and its adjacent community. Currently, the major academic spaces of Georgia Tech are located on the western side of campus, far away from one of the highest-volume flows, the Interstate. The I-75/85 Midtown corridor is a fourteen lane strip of Interstate that runs parallel to the campus of Georgia Tech and serves 289,000 vehicles per day. It is an incessant flow of vehicles, goods, and people and onto which a marker of the institute can be grafted. Within this marker which takes form as a singular line pulling away from retaining walls of the interstate, traditional mediums of learning in the form of reconfigurable study spaces and lecture hall are negotiated to heighten the experience of fluid movement at the human scale. Joined to the pavilion of traditional learning by the makers’ garden, a new mode of academic engagement emerges in the form of a lightweight makerspace which fosters education as learning-by-doing which contributes to the culture of experimentation present on Tech’s campus. Through architecture which better connects the existing campus to Atlanta, Georgia Tech will gain new academic spaces for students and faculty and simultaneously embed itself in the eye of the traveler as an institution dedicated to bringing the future.

Makers’ Garden
An Institute for Higher Education

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Objects and Curiosities
During Interactivities Period of 2020, I was introduced to the method of casting aluminum through the oil-sand mold process. As my final piece of the 3-week exercise, I explored the creation of an inverted Titan’s Goblet, the painting by Thomas Cole of the Hudson River School. Both the painting and the aluminum cast use vessels to explore the relation between human and natural worlds. Where the vessel in the painting is part of the natural environment and holds signs of human inhabitation (the sailboat, the temple), the aluminum vessel is clearly the result of a human process which supports a natural landscape above it.

Winter 2020
Instructor: Jennifer O’Brien

The (other) Titan’s Goblet
Results from winter-session aluminum-casting workshop

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The first cast did not succeed as intended, but it revealed the potential textures cast aluminum can create. CNC molds that are sanded and waxed produce smooth surface textures in aluminum that contrasts strongly with loose sand that can occur when the sand sticks to the mold. Following the apparent failure, I casted a coaster that captures the range of textures cast aluminum can take.
After learning from the first failure, I modified the mold to improve its release on the sand in the middle of the piece, and the cast succeeded! I surfaced the top and bottom of the piece and machined a shallow void to hold the soil.
The infinitely thin line of tangency. The indexing of edge conditions. This project explores the creation and material realization of a surface geometry through two different contexts and material conditions. Beginning in digital environment, a piece of geometry was developed to embody a moment of tangency. The geometry was removed from the digital world through the ease of 3D-printing to explore its spatial and figural effects as an object in the physical world. A second round of explorations rationalized and enlarged the geometry while preserving the tangency and introducing new spatial effects on the piece.

**Geometric Precision**

Exploring form in digital and physical environments
The material reading of the piece changes as it rotates about its short axis. The planar nature of its construction affords two different qualities—the unblemished basswood faces and the chocolate-colored laser-cut edges—that enhance our experience of the object.
During the summer of 2018, I joined the Re-Wind project, an international research project investigating the means to reuse decommissioned wind turbine blades—an issue seldom heard now, but will become a pressing issue as we continue to install and retrofit wind turbines. I am responsible for creating digital models of the wind turbine blades as these are usually proprietary, and the diagram above schematically shows the workflow I have developed to create mutable digital models. From a point-cloud model which can be readily generated with LIDAR or photogrammetry, a polysurface model is reconstructed by best-fitting aerodynamic cross-sections known as airfoils against the point-cloud sections taken at regular intervals. The image on the right shows the output of the evolutionary solver used to select and position an airfoil profile. In the image, warmer colors indicate better matches, while the specific type of airfoil is labeled in black text. Once the routine "finds" an acceptable number of airfoils, a surface is interpolated between the sections and can be used by architects and engineers to explore design space.
**Re-Wind Project**

Point-cloud of the Clipper C-96 47.6m blade from 115' to 142'.

Exterior surface rebuilt from interpolated airfoils.

Mean deviation between point-cloud and surface model:
- 4.933e-6 mm
- 1.399
- 2.463
- 3.621
- 7.758
The Computational Gaze

Perceiving the urban environment

This urban mapping work presents a record of visual depth as a function of movement through the immediate hard-scape urban environment of Glasgow. From 118 miles of walking collected over 15 weeks, multiple maps (of which three are shown in this body of work) were generated which explore dichotomies inherent in most post-industrial cities such as the encroachment of conflicting Cartesian grids on natural terrain. While the drawing is created in a highly procedural manner as shown in the diagram above, the paths for the routine were created by an initial plan of action invaded by spur-of-the-moment distractions and events as the city is explored in the manner of Guy Debord's notion of the dérive. The resulting paths are chaotic as they overlap themselves and abruptly start and stop marking points where the GPS loses signal underground while gliding along the subway. In the following completed images, new visual-spatial relationships emerge that are not immediately experienced by walking in the city asking us to reconsider our perception of the built environment.

118 miles of walking (Garmin GPS)
Dividing the recorded path into sampling points
Trace lines of site from single sampling point
Repeat along all sampled points along path (~5 hours runtime)

Single path selected for analysis

Importing the urban hardscape of Glasgow (OpenStreetMap)
Montage Aesthetics

During the fall of 2017, I experimented with the Situationist technique of détournement (as described by Thomas McDonough in his essay “Fluid Spaces: Constant and the Situationist Critique of Architecture”). Along with the dérive, détournement embodied mobility at the scale of the human as the source of freedom in a crystalline and immobile urban environment. But does this mobility necessarily exist only in the lived moment, or can it be layered so that the successive stacking of past and present (and potentially future?) moments merge into a superior construction? In becoming something constructed, does this mobility remain fluid, is it frozen and immobile, or does it lay somewhere in between? How can the material environment of architecture be pushed to promote the same experience of motion and mobility found in these images?

Montage Aesthetics
Revisiting détournement and dérive

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