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Selected works from 2016–2020
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Deep Cut is a winery that leverages excavation as its main spatial driver. The winery is embedded in the terrain using excavation as a means of altering the landscape with the purpose of inhabitation and production. Using a method of excavation found in large scale infrastructural projects, this project exhibits steel sheet pile construction. It demonstrates this method as a solution for building on sites with steep slopes. The process of construction excavates and replaces earth, leaving an occupiable void for both public and private programs. In the context of the Valle de Guadalupe, the slope is exposed to high levels of radiation for extended periods. While the climate is comfortable for most of the year, winemaking requires a more controlled environment. Thus, excavation offers distinct advantages of both a gravity-fed winemaking process and of thermally coupling the earth and the building to create optimal internal climatic conditions.
Speculating on possible applications of piling techniques on a steep slope, we pondered piling horizontally using a system that usually resists ground pressure from the sides to resist vertical gravity loads.
This excavation architecture is integrated into the land by nesting its mass below the boulder-strewn landscape. Programs puncture the hillside offering a compositional and distributed elevation. Below the surface, volumetric intersections create a fractured spatial experience that leverage complexity found in stereotomic intersections. The result is a building that offers dramatic spaces and views but is visually quiet and unobtrusive in the landscape.
Sheet piling creates a distinct material grain that carries through the winery. The custom steel roof brings a secondary logic to the space. The orientation of the roof structure came down to an experiential argument where the roof’s grain elongates the space and directs the eye to the landscape beyond. Thus, both the roof and slab cantilever out of the slope, leaving the side walls structurally free.
This early model revealed the tectonics and grain of the project. In both construction sequence and experiential aspects, the relentless repetition of the sheet pile became the language of the project.
Section Perspective: Barrel Aging and Event Spaces
The YMCA facility has a set of complicated and difficult challenges. The context of the Y demands security and safety while the ethos of the Y asks the architecture to imbue publicness and community. The building, from the state of the art pool filtration system to classrooms and community spaces is a manifestation and representation of the Y as an indispensable community resource. Central to the mission of Y is the notion of movement as Samuel Moore enthusiastically conveyed as he toured us around the cardio studio at the Coney Island Y. “We’re all about getting people moving no matter how old you are or what you look like!” This proposal for the Y of Coney Island leverages the formal device of the continuous surface and applies it as datum upon/within which movement is axiomatic, commonality and democracy are inherent, and programmatic/organizational concerns are sensitively addressed.
From the found object of a circuit board, I became interested in the board itself as both as a datum of organization and a medium for the movement of energy through space. A basswood replica of the board (top right) isolates the formal qualities from graphic qualities of the circuit board. Two models (second row) entertain possibilities of the datum, introducing hierarchy, apertures, punctures, and volumes. The bottom four models explore the surface as dynamic, introducing a language of folding and ramping while reincorporating graphic elements found in the original found object of the circuit board.
In the pursuit of developing a more consistent and refined formal language, a simple index of a square filleted to a circle, each with an associated ramp, became the unit from which the space of the building emerged and within which programmatic elements were nested. The resulting assembly of the index is the primary spatial and formal driver of the project.
An extremely formative realization that while the Y’s programs are ostensibly public, privacy is paramount, especially in pools, daycare spaces, and exercise spaces. This concept significantly influenced the Y’s program being conceptualized as a diagram of discrete nodes with major and minor paths that connect them. With concerns of privacy and regulation, some programs, like the kids pool, were considered dead end programs, where others, like locker rooms or the gym, were considered as nodes with multiple directions of circulation flow and thus were connected to multiple other programs. This diagram and the importance of privacy guided the assembly of the surface from the formal index. In plan, an example of this logic is expressed in the placement of the childcare center (top right) at the end of a single narrowed path, which requires a departure from the main building to access.
The surface folds are an architectural method of curating views, engaging the variance in privacy associated with different programs. The section became an essential drawing in designing and understanding the way these folds contain and orient space. The above drawing shows the children’s swimming pool where privacy and clerestory are created through two fold heights of 12.5’ and 25’, the two ceiling heights throughout the building. The elevation perspective (right), as would be seen from the parking structure across the road, highlights the most public programs of the Y (theater, community meeting space, lobby, cafe, group exercise) and so the fold is not employed.

Purpose and Functionality of the Surface Fold

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Above: Diagrams illustrate circulation paths over time highlighting the most public program.
Below: A long section shows the flatness of the floor plates and the folds being deployed.
The Interior Courtyard

The Swimming Pools
This is a particulate theater of architectural figures. Its deconstructive logic is found in functions and components commonly found, or considered to be, the basis of a theatrical space. Lights, sound, curtains, props, etc., all recognized as components of a theatrical experience, are no longer a diffuse, integrated system, but are objects with character. With platonics as the basis of form and a scatter as planimetric composition, these components of theater and phenomenal elements of light and sound engage the relationship of theater and actor/character. Most importantly, the architectural performance unfolds through a series of movements performed by operable figures, constrained by simple architectural elements like walls, paths, and roofs.
The lobby has 50 wheels and sits on a track and a canvas roof that drapes from each frame. When the lobby is full, it begins to roll on its track towards the sunken, circular threshold through the wall. The audience slowly walks under the lobby and through the gate. As the first members of the audience pass through the threshold, the ticketing booth rolls on casters set on straight tracks similar to those that belong to the lobby. A small, metal shape tinkles down the tube. Each audience member takes one. Some pocket it, some put in their bags, some fiddle with it in their hands. A cone the size of a person pivots around a circle, dropping a canvas on the ground as it goes. A translucent curtain hangs from rigging that projects from the wall. A larger, conic object circumambulates two walls of differing radii. Sound emanates from the cone, barely visible through the curtain, focused in the direction of its opening. A cart with two cylindrical wheels begins to move along the top of the wall. The cart pulls the curtain along a track, revealing the cone and an opening in the wall. A small pyramid sits on a radially scalloped plinth. It rolls over the scallops. Internal dust and dirt fall on the ground. The sound stops and a moment passes. Doors on a suspended box crank open, and a bright light flips on, illuminating its surroundings. The frame of the suspended box, resting on overlapping tracks, one for each caster rotates and rolls along its path into the woods.
The box of light, suspended in a frame on casters, having emerged from the woods, arrives at the top of the hill, where it rests and illuminates a court, contained by a circular wall. A hollow box rolls down a scalloped track. Sound reverberates around the enclosure as a cone rolls back and forth from its point on the hill. The light box turns off. A figure on casters slides on thin elevated walls. Its face is screened. A vague, indiscernible motion can be seen internally. Boats on a gantry crane are winched up and over the wall. They stop above a pond below. Lights in cylinders that rest on top of the wall illuminate. They roll along the perimeter of the wall illuminating the center of the court. As they roll, the boats are lowered into the water and detached from their winches. A figure in the boats operates a punting oar at the rear towards a stream of water that leads to the lake. The boats fade out of sight. A sphere at the top of the hill begins to roll down a set of tracks towards the pond.
The sphere crashes into the water. Water washes against the floating platforms that extend into the pond. A figure slowly rolls along its tracks that extends beyond the floating platform. Sounds projects from the figure with a screened face as it moves. The sound continues when it reaches the end of the tracks. Boats pulling figures through the water enter the platform enclosure on the water. They are pulled by ropes and once inside the water coop, the boat’s operators release the objects. A pyramid with its point in the water, pumps water into itself. Its body lowers closer and closer to the surface of the water but stops before it is submerged. A ridged conic body with thick rounded horns bobs and sways. One by one, lights at the end of the horns illuminate the water and reflect off the cones sharply stepped ridges. A caged taurus rattles. The boats file to a threshold in the wall. Their operators exit the boats, and pass through the wall to a room, lit dimly by a hint of light from the sky.
Professor Andrew Santa Lucia’s third year design studio engaged the practice of assembling volumes in a digital 3D model. These volumes were arranged into a composition which became a diagram of form and volume. These diagrams became a tectonic problem: how can this assemblage be occupiable architecture? Through the process of creating structure and solving problems of occupation, the volumes took on an architectural and structural language. The theater, once a simple box, was now a room in a box truss. The “stacked houses”, office and studio spaces, became defined by a simple slab and internal, load bearing wall system. The diagram, now “tectonified”, was a blend of structure, material, and unconventional forms that begged to be represented accordingly. The axonometric is its drawing—both rational and constructed, the axonometric provided an opportunity to honor the process of “tectonification”. The resulting drawings try to explicitly describe the architecture through, color, pattern, shape, section, and dynamic occupation.
6' x 8' Final Drawings
floor 1 - public ground and commercial space

floor 2 - the theater

floor 3 - theater entrance from ramp

floor 4 - eatery
West Section: theater, offices, eatery, ground plaza
6. **Being and Void**, design studio 4.2, 2018

Void and being are opposite but the construction of void, death, only contributes to the definition of being. The moment void is quantified and given name (being dead), a shape (?), or identity (the Reaper), we are not only contradicting void, but paradoxically constructing being. The further we attempt to define void, the further we ultimately define being. It is the space between awareness and the constructed understanding of void that this funerary landscape seeks to engage. The construction of void influences choice and action by positing death as the punctuating consequence to being. The punctuation is generally manifest through funeral or burial ritual that is prescriptive. This field of remembrance, memorial, and burial attempts to exercise the state of being through choice, multiplicity, and ambiguity, hopefully resulting in the discovery of solace in everything that void is not.
6” x 3” Plaster Models: Index

room for being alone

room for descending to the catacomb

room for prayer and an amphitheater

burying
gathering
isolating
doing
prayer
Informal networks and common knowledge are much more effective in preventing loss of life in the event of a disaster than scientific, man made systems. This multi-phase proposal seeks to shift the density of Chamanga, Ecuador to higher ground which is less susceptible to flooding, landslides, and liquid soil conditions in the event of an earthquake like the one that occurred in 2016. To do this, the proposal emphasizes the importance of social capital’s role in disaster safety and preparedness. This proposal seeks to install a resilient core that creates a common sense, intuitive understanding of safety zones by establishing areas of high social capital and by constructing new routes of access both within the town and from town to water. The final phase of the project is a town hall that provides space for meeting and gathering as well as water collection and storage.
Axon Vingettes

play ground for school and community

small commercial and light production

church place

bus stop
This model for the student exhibition *Part Objects: Precarious Structures and Other Forms of Sculptural Disorder* is a response to the unintended collaboration between Peter Halley and Alessandro Mendini. In Halley’s talk at the Garage Museum in Moscow in 2017 he recounts being commissioned for a permanent exhibition at a hotel in Italy designed by Mendini. Halley did not install the painting himself and the curator held off on sending him photos of the installation because Mendini had decided to design the wall paintings upon which Halley’s paintings were hung without his knowing. “My friend [the curator] thought I would be very angry about it—but I actually loved it!” This resulted in a collaboration between the two at Galleria Massimo Minini pictured below. The exhibition pieces combine Halley’s minimal, rich, saturated color fields with Mendini’s relatively thin, black, circulatory lines that engage the figure ground and references to socio-cultural connections in Halley’s work. The exhibition model expands on this collaboration by folding in three-dimensional, structural, precarious aspects by creating a dialogue between the ground plane, used as a graphic datum, and thin wires that rise from the plane extending beyond the bounds of the model.
This model was one of a series of exercises and explorations in ruled geometries and discretization. A 3D printed frame was ridged to accept basswood louvres that approximate a hyperboloid of rotation formed from a two circles perpendicular and tangent. The result is an object that has several visual readings of opacity through the basswood louvres. The system of surfaces was trimmed by a sphere leading to a object that is agnostic to orientation but weighted in rotational symmetry.
This chair was the result of a semester long investigation on fundamental questions of digital design and fabrication, experience, and material efficiency. As designers do we design outside of existing means of fabrication leading to the choice of either innovating methods of making or shoehorning our designs into an existing workflow? Conversely, do we design according to specific techniques of production or innovate in the realm of experience and function? In an attempt to innovate on the experience of a chair, this project asks the chair to serve two functions by offering two seating positions, one allows a relaxed seated position and the other, an upright position for work at a desk. These positions are allowed by a central trunk of the chair that houses a ball joint that connects to the seat. The chair is fabricated using simple CNC cuts from a single sheet of .5" plywood and was assembled in less than an hour and left to use overnight.

10. Chair, Advanced Projects in Digital Fabrication, Lawrence Sass, Spring 2019

Central support

Embedded rotational joint

3D printed feet
The finger pavilion was the resulting product of an exploration in digital fabrication by bringing together three unique digital fabrication methods: 3D printing, laser cutting, and CNC routing. The ultimate challenge in this project was combating the tendency to ignore material tolerances in a digital environment. Using materiality and available fabrication methods as the starting point of design was integral to the success of this model. The wooden base, intended for the CNC router, was never completed due to complications with the machine. The piece had to be fabricated by hand at the last minute; a lesson in the imperfections and reliability issues involved with certain methods of fabrication.
ArN2thrO2pO2 is an installation that, for the 50th anniversary of the bike bill, celebrates the positive impact biking has on the air we breathe. The anthropocene is a geologic time period defined by human effects on climate and the earth’s environment. One of the largest implications of human environmental influence on our environment is the quality of our air.

Initial design inspirations were found in air flow diagrams and heat maps of bikers and bicycles. Produced using parametric design software, this installation abstracts the relationship between air, rider, and bicycle.
Pickathon is a music festival that happens in early August on a farm south of Portland, Oregon. Portland State University, along with several other significant partners, designs, builds, and coordinates a material diversion plan for the material used in the stage itself. As a part of the design team, and an Intern at SRG, the office that designed the “pod-buddy” diversion, I was deeply involved in design conversations through the project. This grove of columns is an inhabitable stage space that provides an atmospheric backstage viewing and listening experience. Its pin-wheel columns, each 32 feet high, project the topography into the sky. Its bracing, aligned with the audience, are frames of Mount Hood during the day, and portals of diamond light at night. The “Nesculous” (Nest+Oculous) is a clearing and anomaly in the matrix of columns, a place to sit and listen.
The Treeline Stage and Proposal Drawings
Yingchuan village is located near Quzhou in Zhejiang Province, China, where it is situated right by the Qujiang river. The unrelenting summer rains of this region pose an interesting challenge to the design of a public market in the heart of the village – it needs to at once provide shelter from the elements, whilst maintaining an openness suitable for public activities. Surrounded on all four sides by a mix of new and old residences, the market site also exists as a rare public courtyard, something that we were determined to preserve. With these considerations in mind, our team developed a long-span strategy, seen prototyped below, to provide sufficient shelter for the market whilst minimizing the number of columns and structural connections that might interrupt the flow of space.
The market is situated at the end of a small lane that extends from a newly built road. As part of our proposal, we included a recommendation of improving the infrastructure along this lane, widening for cars and a public arcade, making new parks, and renovating historic buildings for new cultural programs.
The space sits at the intersection of two axes, one that includes existing shops and public life, the other is the main road through Ying Chuan where deliveries and visitors leave and arrive. Two generous and shallow ramps provide space for the market as well as circulation, negotiating the site’s 5M elevation change. The back wall is both the foundation for the roof and a washing/preparation station for the market.
The main structure of the roof is a combination of three robust bamboo trusses upon which a lightweight Fiberglass Reinforced Panel provided a structural diaphragm that was intended to provide lateral structure between the bamboo trusses and extremely slender, single member bamboo columns which touch the ground at a single point. The panels are intended to be prefabricated, and were discretized to fit on a standard mill bed. The highly custom roof panel system allowed us to design the water flow such that it drained to the planter at the top of the site.
Foundation and Truss Connection Detail

1:1 Mockup Photos
Expressions of grief come in many forms for many different people. For those who have assumed a masculine identity, the act of grieving can be especially complex. Today, representations of grief in culture are expressed through emotional releases, sadness, crying, and quietness, all of which are largely considered to be feminine qualities or components of a culturally understood femininity. This creates a social understanding and assumption of “correct” grieving processes which result in methods of grief support that marginalize masculine griever. Masculine grief is characterized by a reluctance to engage in emotional tasks of grief, the resistance of emotional support, and a general mitigation of emotional expression. The tendency to internalize emotion in masculine grief makes it difficult to identify the griever, thus they go unnoticed. Masculine griever are action oriented and use doing as a means of controlling emotion. They seek companionship not for direct emotional support, but companionship in their actions. Masculine grieving tends to happen when that person is alone in a private place.

15. **Burial Gardens for a Masculine Griever**, design studio 4.2, 2018

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In the NW industrial district of Portland, Oregon on the Willamette River, a large asphalt lot with three abandoned warehouses became the site for a new public complex. Creeping gentrification and growth means that the city is in need of more public facilities that can accommodate the new city dwellers, as well as the dead. This proposal takes the footprints of the three abandoned warehouses and considers each of the footprints as a walled garden. The rest of the area becomes a new public waterfront and a productive orchard that produces apples and pears. The southern warehouse footprint accommodates public courts. The northern footprints become a space of therapy for those who loved the deceased the other, a small chapel and burial yard.
This building provides the space for the masculine griever to process the death of a loved one.

1. Entrance for the griever
2. Gallery
3. Ante-room
4. Therapy room
5. Workshop and material storage
6. Vessel assembly
7. Entrance for the deceased
8. Pathway to the chapel garden
Making shapes
This garden provides the space for a service in the chapel. The funerary itinerary passes the vessel through two large doors and between a large tree and a reflecting pond to the final resting place.

1. Entrance for the deceased
2. Entrance for service guests
3. Chapel
4. Reflecting pond
5. Burial garden
6. Exit of the service party
Chapel axonometric
An urban infill project in China Town, Portland, this building for the Nikkei Legacy Center for Japanese Americans had a dense program: storage for archiving, four gallery spaces (pre-war, internment, post-war, rotating), an artist studio, a small dance space, a kitchen and dining area, a conference room, three offices, a classroom, and an auditorium. The ways which the galleries interact with heavy timber structure represent and contributes to each gallery’s story. In the Internment gallery, strong timber verticals block light, rendering a lightwell inaccessible, in the Immigration gallery, a rigid timber structure makes no concessions to a newly arrived culture. Inside the heavy timbers, moments of Japanese culture occupy space within. Finally, the Post-war gallery’s floor is suspended above, finding new ways of interacting with the heavy timber superstructure.
Floor Plans

Floor 1
Floor 2
Floor 3
Floor 4
Floor 5

Perspective: In the First Gallery

Perspective: In the Rotating Gallery
This wall is part of a series of “Portland Walls” in a collaborative project with Office Andorus exhibited in the Portland State faculty show, “Extracurricular PSU.” Using the “wall” as an architectural canvas, the wall should manifest Portland through objects both referential and reflective. Here, the strange, obliquely extruded profiles of historic cast iron street lamps protrude from the wall, dematerialized and scaled. They sit adjacent to a caricatured, plastic, craftsman door, commonly seen in turn of the century Portland bungalows. This wall is a comment on Portland’s relationship with old and new.
18. Splatter Matrix, Graphic Exercise, 2017

**Cartesian Explosion**

**manual**

Let \(L\) = line

1. Lay paper flat.
2. Draw a vertical line 1" from edge of paper.
3. Draw \(L\) a set of vertical lines, centros, 1" apart, across page.
4. Draw \(L\) a set of horizontal lines, centros, perpendicular to centros at intervals of 1" across.
5. Label centros with digit set 1, 2, 3, 4, 5, 6, repeat each that the line is set(s) separated to line.
6. Label centros with digit set 2, 3, 4, 5, 6, repeat each that the line is set(s) repeated to line.
7. Make 6 colors of watercolor paint in palette.
8. Design each color with digit set 1, 2, 3, 4, 5, 6 in boxes repeating number digit.
9. FunctionPaint:
   a. Roll brush with marker(s)
   b. Roll brush with marker(s)
   c. If first pass, roll deeper with marker(s)
10. Repeat FunctionPaint 3 times.

**digital**

Let centros = their normal horizont curves

1. Draw centros 1 inches from edge of paper.
2. Draw centros vertically, 1" apart across page, inside centros, side "centros.
3. Draw centros horizontally, 1" apart across page, inside centros, side "centros.
4. Roll brush with marker(s), 1-4, 5, 6, repeat size centros, side "centros.

"centros" is defined as any interior or exterior perimiter(s) of points, numbers, marker(s).