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2024–2025

RISD Sustainability Design Lab Year Two

Territories of Wood(s)

Creative Approaches to Wood's
Material Cultures in New England



**RISD Sustainability
Design Lab Year Two**

Edited by
Johanna Barthmaier-Payne

2024–2025

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Design Lab Year Two**

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Students come together to carry their built boat to the gallery, a fitting end to a year of collaboration.

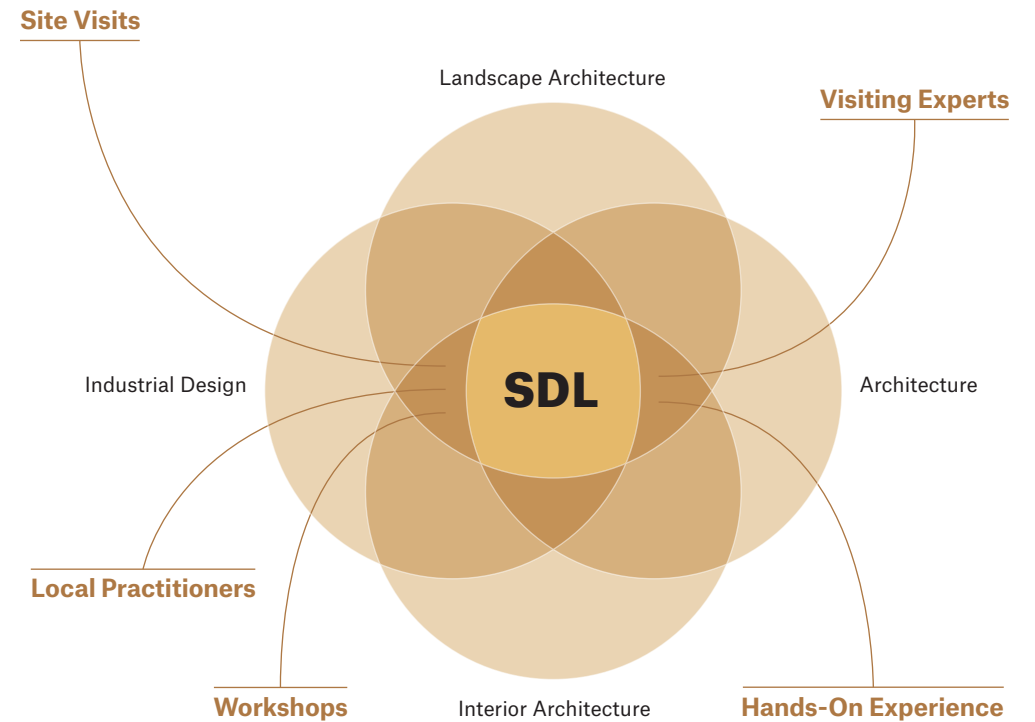
Introduction

Johanna Barthmaier-Payne

Director, Sustainability Design Lab

The Sustainability Design Lab is an endowed, interdisciplinary collaboration between the Departments of Landscape Architecture and Interior Architecture. Serving as a platform for material inquiry, the Lab fosters exchange across Interior Architecture and Landscape Architecture, while bringing together diverse disciplinary perspectives from across the institution, through shared questions of making, ecology, and design research.

This year's work focused on the woods and wood of the New England region, approached simultaneously as material and method. Students and faculty were invited to question inherited assumptions and explore wood's potential as a sustainable medium through research, design experimentation, and



hands-on fabrication. Rather than treating wood as a neutral or self-evident resource, the Lab framed it as a complex, living material shaped by ecological systems, cultural histories, and economic forces.

Despite its deep entanglement with colonial land practices and its long-standing role in fabrication and construction, wood has often been long overlooked by industrial materials such as steel, concrete, and plastic composites. Recently, however, renewed interest in wood has emerged, driven by its rapid regrowth cycles, adaptability for reuse, thermodynamic efficiency, role in emerging biomaterials, and distinctive structural and aesthetic qualities. At the same time, its broader ecological, political, and social dimensions remain insufficiently

examined. While frequently promoted as a sustainable solution for 21st-century construction, wood is often conceptualized in ways that overlook critical concerns related to deforestation, land rights, labor conditions, carbon cycles, and industry standards.

Through a two-semester, research-driven process, twelve graduate and senior students from Landscape Architecture, Interior Architecture, and Industrial Design investigated how the histories and contemporary applications of wood have shaped the New England landscape and continue to influence patterns of land use and design practice. Site visits, fieldwork, material studies, and speculative design proposals supported both collective inquiry and individual research trajectories. Grounded in making, these investigations informed students' thesis work and culminated in the ideas and prototypes presented in this publication. Collectively, the projects examine wood not only as a building material, but as a lens through which to imagine more responsible, informed, and inventive design futures.

The Sustainability Design Lab is generously funded by the Angelo Donghia Foundation and the Sparks Fund. It is currently being led by Johanna Barthmaier-Payne, Associate Professor and Department Head of the Landscape Architecture program at the Rhode Island School of Design.



Learning from Trees

Tom Weis

Assistant Professor, Industrial Design

While not often on our mind, trees are always occupying our senses: the sound of leaves in the wind, the smell of blossoms in the spring, the sight of pollen on the front steps. Trees inhabit our landscapes and envelop our senses, regardless of our awareness of their presence.

There was a time when we held closer regard to our natural surroundings and the knowledge that was gleaned from generations of coexistence with the trees in our forests. Trees have sustained our survival: we've felled them for warmth, processed them into lumber for shelter and tools, and shaped them into forms of transportation. We've harvested the nuts and fruit from our native species, collected the sap and learned to make sustenance and flavors from trees that reflect the conditions of specific regional dynamics.

What can be learned from trees extends beyond the scientific and botanical study of cellular structures and genetic traits. The characteristics of our domestic hardwoods and softwoods

lend themselves to applications and forms that can feel like community knowledge that surrounds us. To teach one to work with wood is often a lesson in simply slowing down. With practice, one might learn to “read” a tree, and thus a board or plank might become a chair or a boat if you learn to acknowledge what the wood might actually do, regardless of what you've willed upon it. The content of wood moisture, the direction of its grain or the way in which it was cut become the factors that will influence your ability to manipulate this material.

Working with wood needn't be conflated with the reverence that is often associated with craft. As children, we snap sticks over our knees and throw twigs like javelins. We float branches down streams and make forts and walking sticks that can be left anywhere, to be reclaimed underfoot as coarse, woody debris that will return from whence it came. Years of apprenticeship or vocational school are also not required for one to advance as a worker of

wood. A sharp tool such as an everyday pocket knife will do. If every high school aged student were to spend an hour a week with a piece of “green” softwood and a carving knife in hand, it might not change the course of the world, but it may lead to small but significant insights that are unique to each of them. They would have the intoxicating smell of fresh cedar or pine and the tactile practice of an edged tool, manipulating material in hand. The tackiness of sap might also alleviate the urge to reach for a phone. Working with wood forces one to be present.

While it might seem counterintuitive that a contemporary design program continues to dedicate core curriculum to woodworking, particularly when so much of the field's conversation centers on the use of new technology (AI, additive manufacturing and digital rendering.) The workshop environment offers something these other modes cannot: direct engagement with material sensitivity, embodied cognition, and the patient sequencing of physical



The workshop environment offers something these other modes cannot: direct engagement with material sensitivity, embodied cognition, and the patient sequencing of physical processes.

processes. The experience begins with the typical diagrams and cross sections of wood. Students learn the difference between flat sawn and quarter sawn lumber, and understand why those distinctions matter when applied to a structure or an object they might design. At the workbench, they sharpen chisels, marking knives, and planes, including a cast bronze number 5 plane with cherry handles that weighs nearly six pounds — before being handed raw lumber, an accurate square, and the task of hand planing every surface smooth, square, and parallel. For the vast majority, this is entirely new territory, and the initial frustration of microadjustments and body control gives way to a quiet attentiveness: they begin to hear the sound of a well-tuned plane, feel the high spots beneath their fingertips, and gradually stop needing to ask whether the board is finished as they can sense the answer for themselves. Alumni working in strictly digital fields have consistently urged the program to keep these courses, not only because the skills are transferable to other challenges, but because

the way of thinking they develop — slow, sensory, self-correcting — shapes how these designers approach every problem, regardless of medium.

From cutting simple joinery with chisels and handsaws, to basic spindles that are turned on a lathe, students develop a way of understanding wood and its properties by the act of doing. They learn techniques from both instructors and their peers and they learn the importance of making mistakes. The domestic hardwoods and softwoods, the very content of the class, is transformed into daily lessons and often work that is worthy of a place in a portfolio. The byproducts of these lessons (like small, unusable scraps, piles of shavings and sawdust) will make their way back into the earth. Reexamining our relationship with trees offers lessons in sustainability and insight into our own humanity.

Jia Hu steam bending her final chair assembly on top of a work table in the woodshop.



Workshop

Tillinghast Farm

Students spent their first day in the Sustainability Lab outside at Tillinghast Place getting a comprehensive introduction to traditional hand tools for processing “green-wood” into dimensional lumber. For some, it was their first experience using woodworking tools and they were able to spend time experimenting with the tools by processing locally harvested wood logs and stumps on site.

Site History

Tillinghast Place began as a working farm in the 1700s and in 1948, the Nayatt Folk School deeded the 33-acre farm to RISD with the stipulation that it be used in perpetuity for creative and educational purposes. Today, the site offers a place where departments can spread out, experiment, and host hands-on workshops in the environment. During this workshop, students worked with traditional and contemporary tools, including a “misery whip” (two-person crosscut saw), chainsaws, axes, and scythes.

DETAILS

10 September

Location Barrington, RI
 Day Tuesday
 Temperature 76 °F / 58 °F
 Condition Fair



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Students learned how to use traditional hand tools for hewing logs into usable lumber during the Tillinghast Farm workshop. Tom Weis led students in sheathing bark using peeling spuds and broad axes, slicing stumps into cookies using crosscut saws, and cutting logs down into kindling using splitting froes.



During the Tillinghast Farm workshop, students grew confident using hand tools and observed the effects of these tools on "green wood" or freshly harvested lumber that has not been kiln dried. Students learned about wood grain and dynamics through hand-hewing logs.

Vija Lietuvninkas

Rooted in Embodied Making: *A Notebook on Process*

ID

ABSTRACT

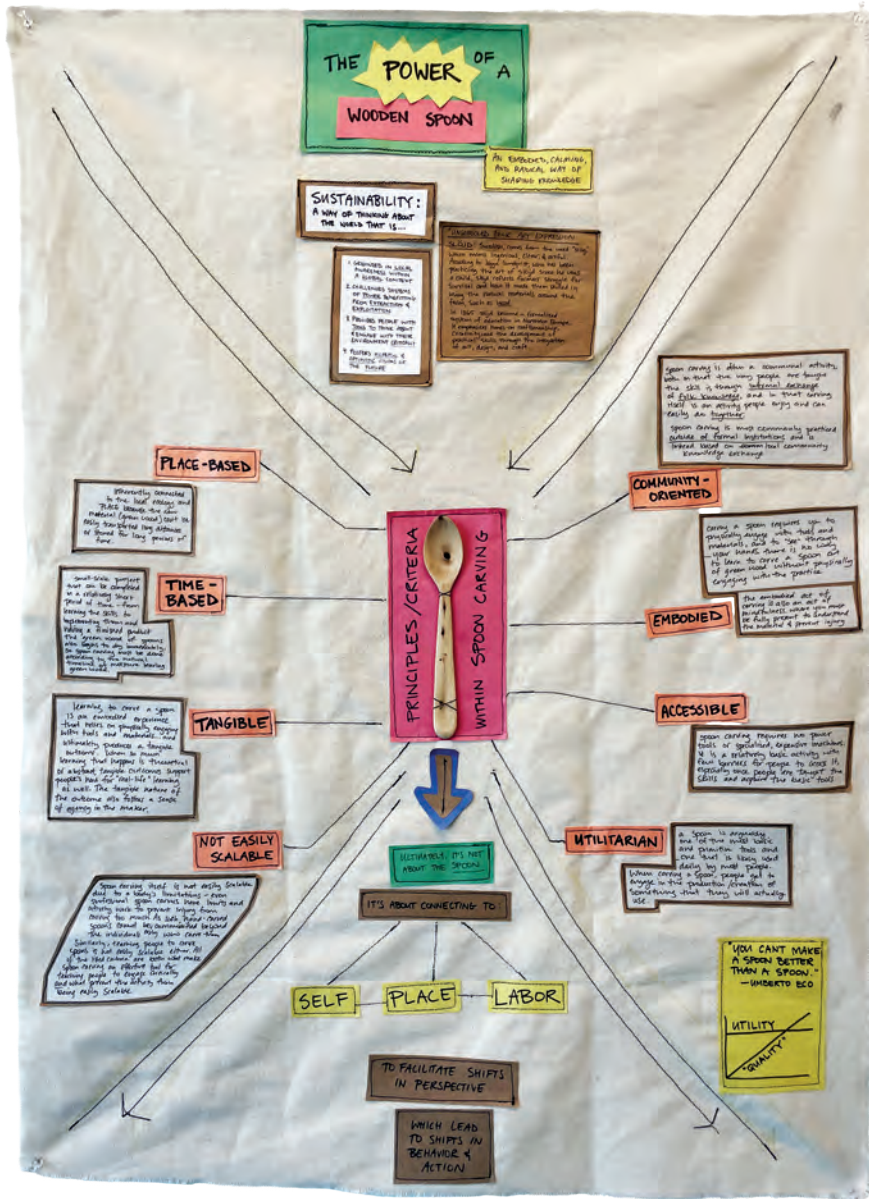
This thesis takes the form of a wooden box containing an archive of fragments—scanned notebooks, sketches, photographs, emails, journal entries, and other materials—that trace a year of embodied, process-based inquiry. Rather than presenting a linear argument or a polished final product, the work reflects a nonlinear, exploratory methodology grounded in making, wandering, and self-reflection.

Born within the context of the 2025 Sustainability Design Lab, an interdisciplinary initiative at RISD examining the material culture of wood across design fields, this project documents the artist’s evolving engagement with green wood as both material and metaphor. Through practices such as carving, foraging, reflective writing, and time spent in the woods, the work explores themes of embodied making, self-doubt, material curiosity, and the role of community in sustaining a creative practice. It also investigates ideas of presence, play, place, and attention as conditions for learning and transformation.

Ultimately, this thesis serves as a record of showing up, again and again, to the messy, nonlinear process of learning to trust yourself through uncertainty, curiosity, and the support of a caring community.

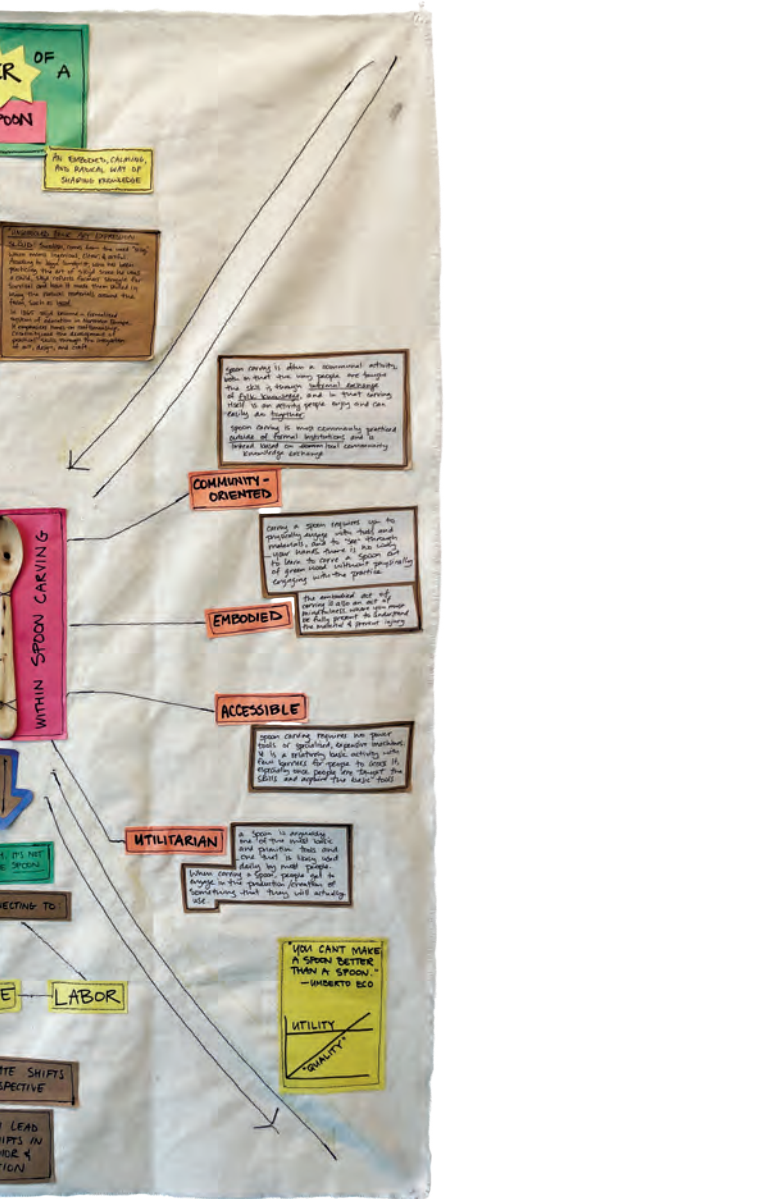
fig. 1 Lietuvninkas's final thesis book consisted of a collection of craft musings and "making" research encapsulated in a hand-made wooden box.





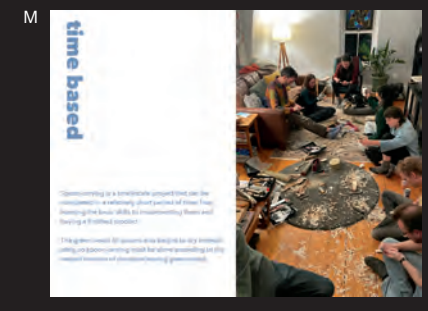
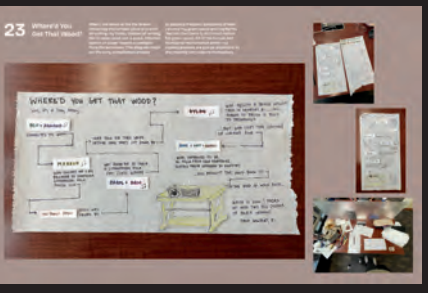
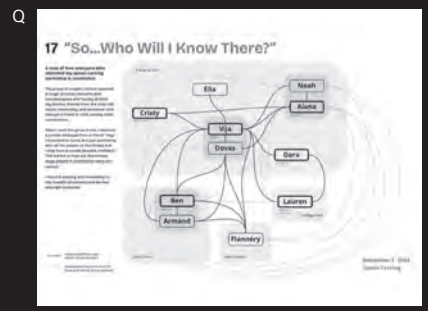
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fig. 2 Wooden spoon diagram demonstrates the importance of spoon-carving and the sustainability inherent in sharing this embodied knowledge.



3

fig. 3 Through leading spoon carving workshops within her social groups, Lietuvninkas reflected on the community building aspects of spoon making—the "power of a spoon!".



Spoon Carving

Saturday, December 7
6pm 153 Vinton St., Unit 3

What to expect:

- 1.5-2 hours of hands-on learning with a professional spoon carver.
- 2.5-3 hours of hands-on learning with a professional spoon carver.

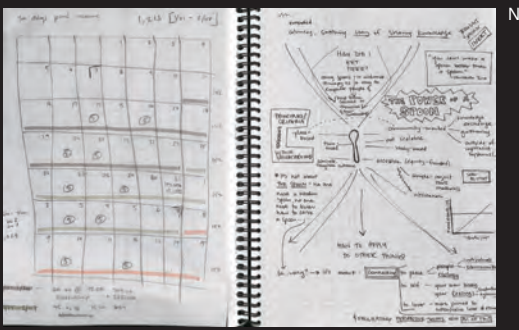
What to bring:

- A sharp spoon carving knife.
- A sharp spoon carving knife.

3

Wooden Box Inventory

- | | | | |
|-----------------------------|-----------------------|------------------------------|------------------------------|
| A Research Document | G I'm Afraid | N Notebook #1 | T Rock Talk |
| B Thesis Research | H Fatema emails 1 | O Mind Map | U Where'd you get that wood? |
| C ChatGPT Prompts | I Fatema emails 2 | P Spoon Invite | V Emailed thoughts |
| D Fall Seminar Writing | J Spoon Diagram | Q So, Who Will I Know There? | W Instagram Posts |
| E Cloth Spoon Diagram | K A Humble Object | R Anne Mind Map | X My Bookshelf |
| F Design Interests Mind Map | L Site Considerations | S Tool / Skill Index | Y Photo Book |



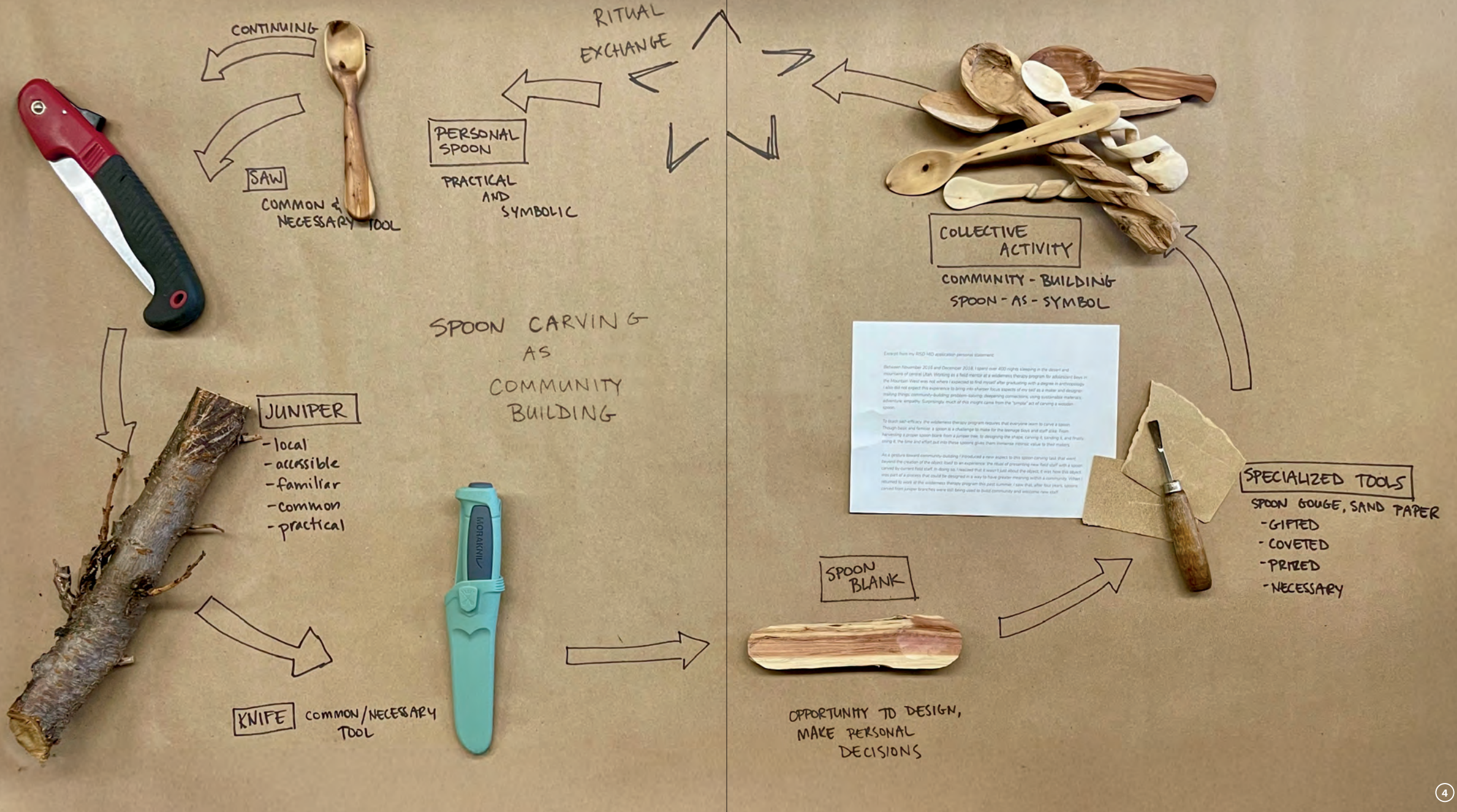


fig. 4 Diagram demonstrating the physical spoon carving process as well as the anthropological and place-based understanding of the spoon carving "ritual".



5



6

fig. 5 Lietuvninkas explored harvesting "green wood" and responding to it in the woodshop. Here she took a stump to the bandsaw and experimented with slicing it into "cookies."

fig. 6 A collection of books referenced throughout Lietuvninkas's thesis work that include explorations into New England's ecologies, spoon carving, craft design, and the anthropology of making.

fig. 7 "Green wood" experiments on the wood lathe in the ID woodshop. Lietuvninkas harvested, cut, and turned these pieces, responding to their grain, movement, and distinct forms.



7



fig. 8 Turned pieces resting on Lietuvninkas's desk in the BEB studios. She made a point of observing how they dried after working them in the shop.

Workshop

Reading the Forest

In mid-September, students traveled to York, Maine to meet with terrestrial ecologist, professor, and author, Tom Wessels for a “Forest Forensics” Workshop. Over the course of the two day workshop, students visited a variety of plant communities and forested ecologies and learned how to observe site histories and interrogate woodland clues by reading the landscape using Wessel’s methodologies.

VISITING EXPERT

Tom Wessels

Tom Wessels is a terrestrial ecologist and professor emeritus at Antioch University New England, where he founded the master’s degree program in Conservation Biology. Wessels is also a prolific author and has written texts that students referenced throughout their year in the lab including: *Reading the Forested Landscape*, *Forest Forensics*, and *Granite, Fire, and Fog: The Natural and Cultural History of Acadia*.

DETAILS

12 September

Location York, ME
Day Thursday
Temperature 74 °F / 48 °F
Condition Fair



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Students visited York, Maine to study "Forest Forensics" with terrestrial ecologist Tom Wessels. Students went on several forest walks with Wessels, learning the importance of reading the landscape to better understand its natural history and successional patterns.





Students visited the Saco Heath Preserve where they observed one of the largest stands of Atlantic White Cedar in Maine. They discussed the Atlantic White Cedar and its surrounding bog ecology from the observation deck at the Preserve.

Tryn Collins

Site-Specific Nurseries: *Reconnecting Nurseries to Time and Place Through Ecotypic Bare-Root Production*

LDAR

ABSTRACT We surround ourselves with empty landscapes, landscapes that are stagnant and decorative. Lawns edged with cultivated non-native species are inert spaces, devoid of complexity and serve little function beyond their appearances. These spaces that symbolize wealth through controlling nature are in fact the end of nature. Most of us are completely unaware of the intricate webs of life, the ecologies, that are our real habitat, hidden under the concrete and turf, pushed to the edges of our developments. They are relationships established over thousands of years between plants, insects, animals, weather and soil. This kind of complexity scares us, it is beyond our understanding on many levels but this does not diminish its importance.

Site Specific Nurseries is asking you to look beyond our hierarchical relationship with plants, informed by our limited capitalist lens and colonial legacies and reconnect our horticultural system back to place and time. We must begin to recognize plants for not only their complexity, but the role they play in safeguarding our future on this planet.

We must shift our horticultural system away from aesthetics and play toward function and care. My proposal is to grow ecotypic trees as bare-roots on land trust farms. But this opportunity can be expanded beyond woodies and into a variety of growing spaces. This manualette will hopefully guide other students, farmers or horticulturalists who want their field work to be truly impactful and sustainable.

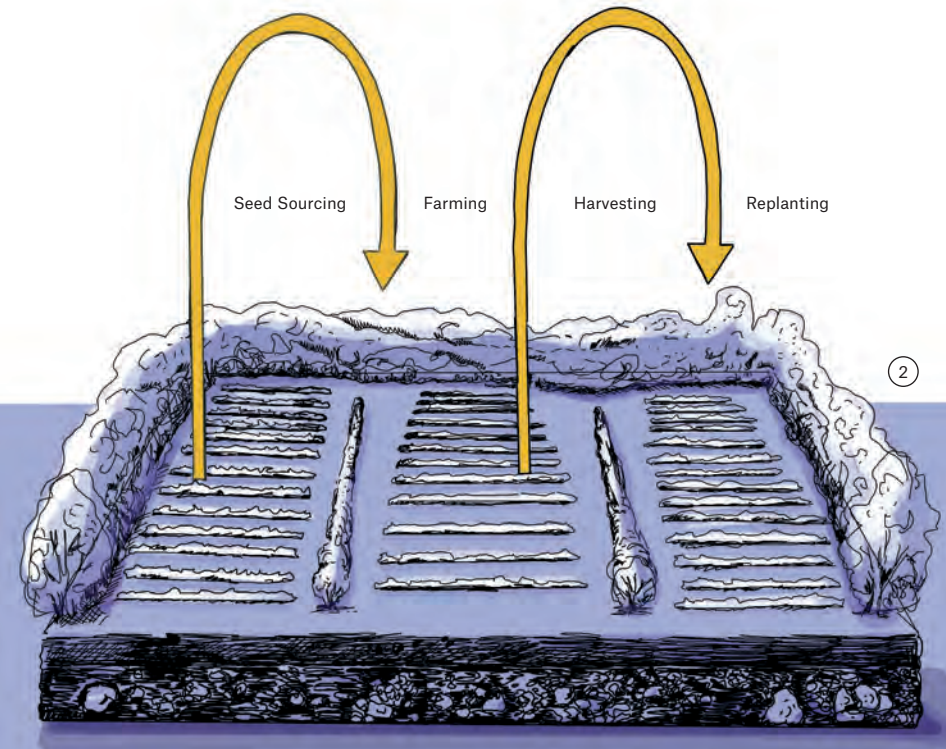
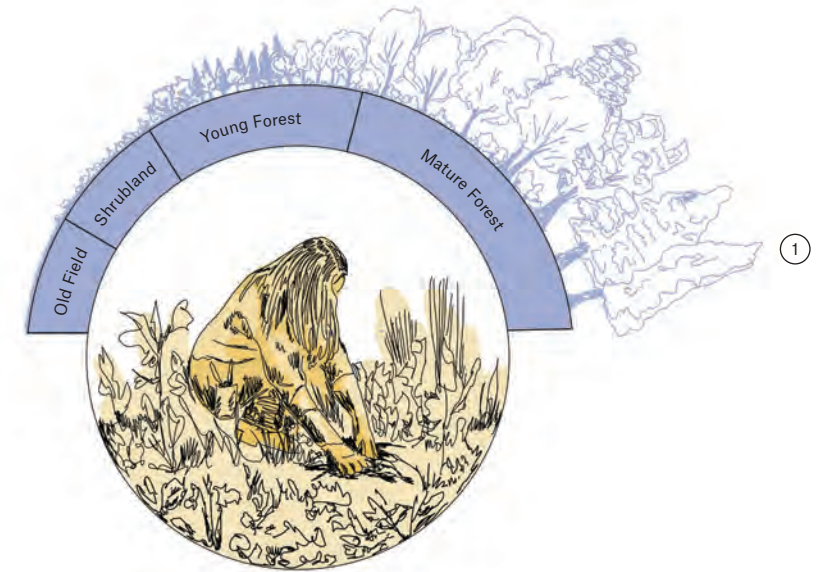


fig. 1 Collins asks what a bare-root nursery would look like if it leaned into honoring the successional stages of a landscape.

fig. 2 Collins is interested in how native seeds sourced from the immediate landscape could be farmed, harvested, and then replanted in the immediate landscape.



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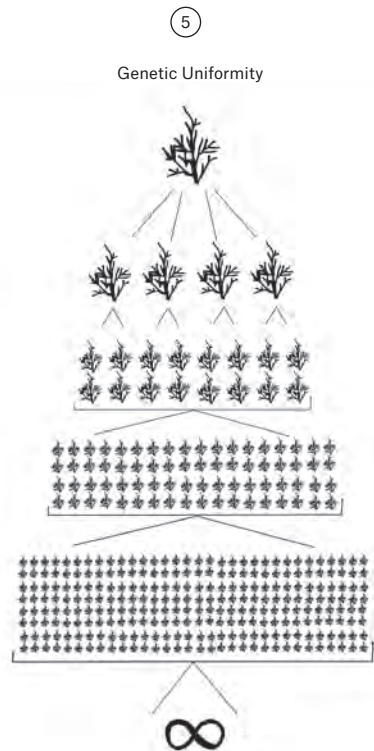
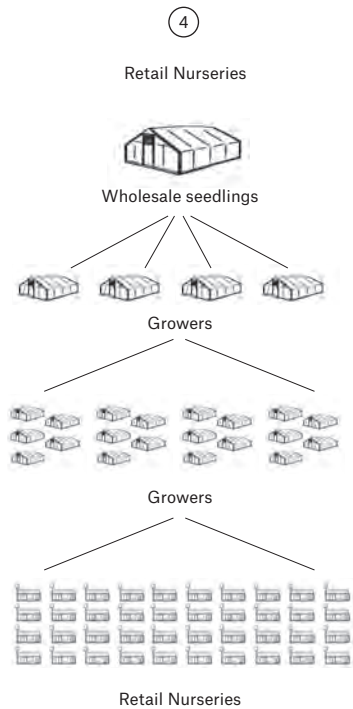


fig. 3 An illustration showing the natural seed cycles that produce genetic diversity.

fig. 4 Diagram demonstrating the homogeneity of the horticultural industry. A result of nurseries standardizing their plant production to increase efficiency and profit margins.

fig. 5 Diagram showing how the horticultural industry operates today.

fig. 6 Constructed "Wardian Case" for final exhibition. Wardian cases were one of the first colonial tools for plant transportation.



fig. 7 Site plan for a placed-based, ecotypic, bare-root nursery in Dartmouth, Massachusetts.

fig. 8 A section from the USDA Ecoregio Map: Level III and IV Ecoregions of the Conterminous United States.

fig. 9 Image from a site visit to The Colonel William F. Fox Memorial Saratoga Tree Nursery. Pictured is a view of their seed cleaning facilities and machinery.

fig. 10 Using the decorative language of toile, this repeating design illustrates the extractive and hierarchical relationship humans have with plants.



Maya Sosland

Mass to Mineral: *Edge Complexity for an Urbanized Flood Plain*

LDAR

ABSTRACT

In the context of channelized rivers, urbanized floodplains, and sea level rise that this project situates itself within- we may look back with disdain for the decisions that have dramatically altered the dynamic, singular landscapes of our riparian systems. Burying the Providence River under a highway, squeezing it into a thread of its former floodplain, dredging, damming, and hardening the Woonasquatucket, Moshassuck, and Seekonk that merge their flows into the Narragansett Bay. But a river is, despite it all, still a river. Today, flooding follows the glacial outwash formation, or the original floodplain that carved these rivers far before our time.

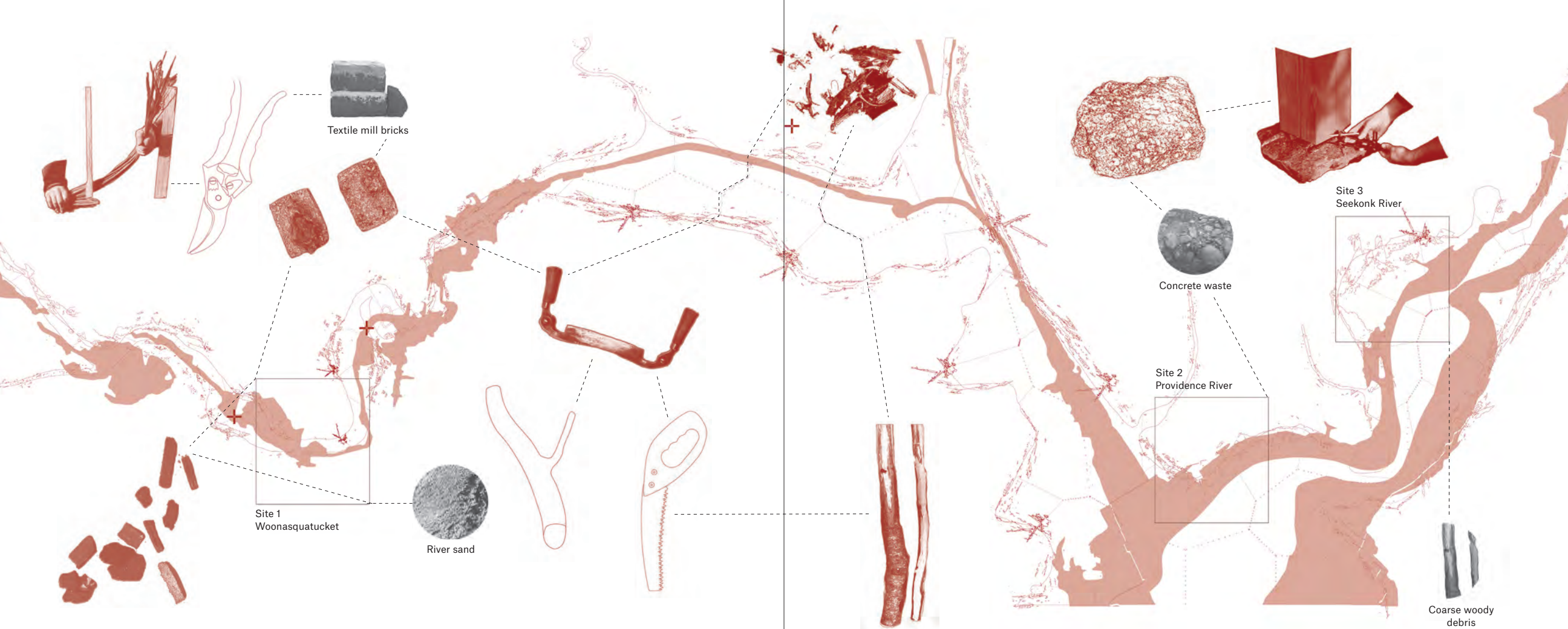
The floodplain is hardened with material conglomerations that have been sorted, shipped, mined, mixed, and deposited in formations that are wholly human. They will erode nevertheless, returning bit by bit perhaps to the mineral state of their origin, but at different rates, with different bonds, in new territories. Restoration seeks to undo these altered landscapes to a state of former being, but urban floodplain landscapes paint a more complex image of restoration practices. This project explored how existing materials can be recalibrated to support strengthened, more complex riparian edge habitats in urbanized landscapes- with attention to the function of flood mitigation and the desire to translate a narrative of site history.

This project proposes edge conditions at three sites that utilize (rather than remove) on site materials, [discarded construction debris, stone wall at varying stages of intact], trying to understand their mineral compositions to balance



erosion into our waterways through designs that address nutrient exchange, mitigation of leaching, and shoreline stabilization. The design repurposes these materials alongside the introduction of woody debris intended to break down into substrate for intertidal growth at elevations of projected MHHW in the next 100 years of sea level rise.

fig. 1 Site specific models at the final exhibition illustrate Sosland's design intent of utilizing wood to create edge complexity in urban floodplains.

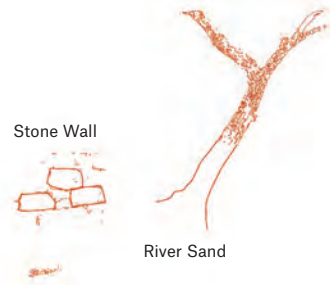


- ② Key
- Pre-Fill River Complex Edge with Log Jam Stabilization
 - FEMA High Risk Flood Zones
 - Current Dams

fig. 2 Collage map highlighting current dams in the Providence watershed, material and tool inventories, FEMA flood zones, and pre-fill edge complexity.



fig. 3 Substrate nutrient balancing diagram shows the ability of Sosland's design interventions to help balance PH in these urbanized floodplains.



Timber Piles



Rip Rap

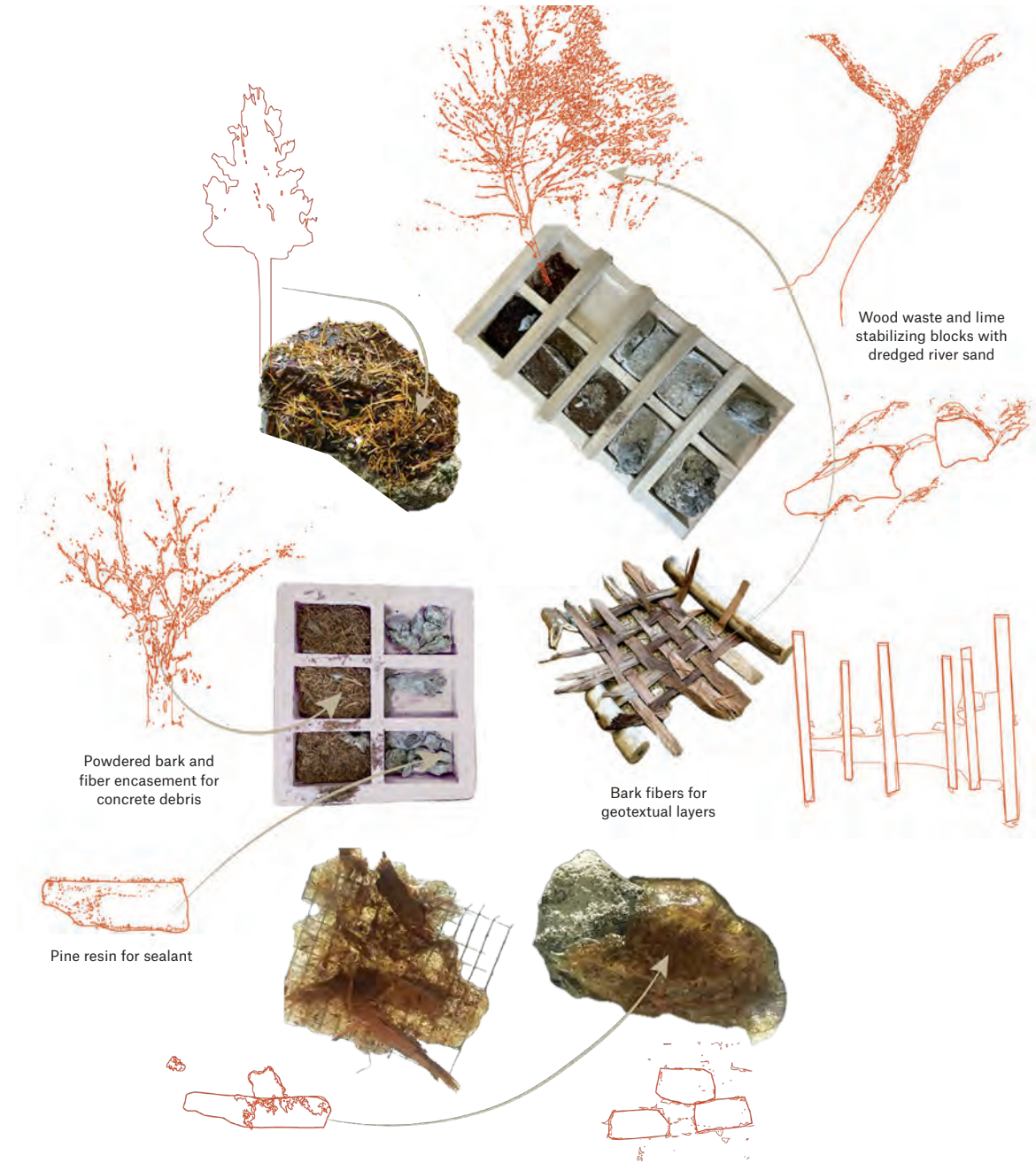


fig. 4 Material edge conditions and inventory along Providence's floodplain.

fig. 5 Potential material compositions for balancing the PH from substrate breakdown.

fig. 6. Sosland's studio desk shows her experiments with timber pile forms for a design intervention that would buffer wave and wind action to support emergent marsh creation.



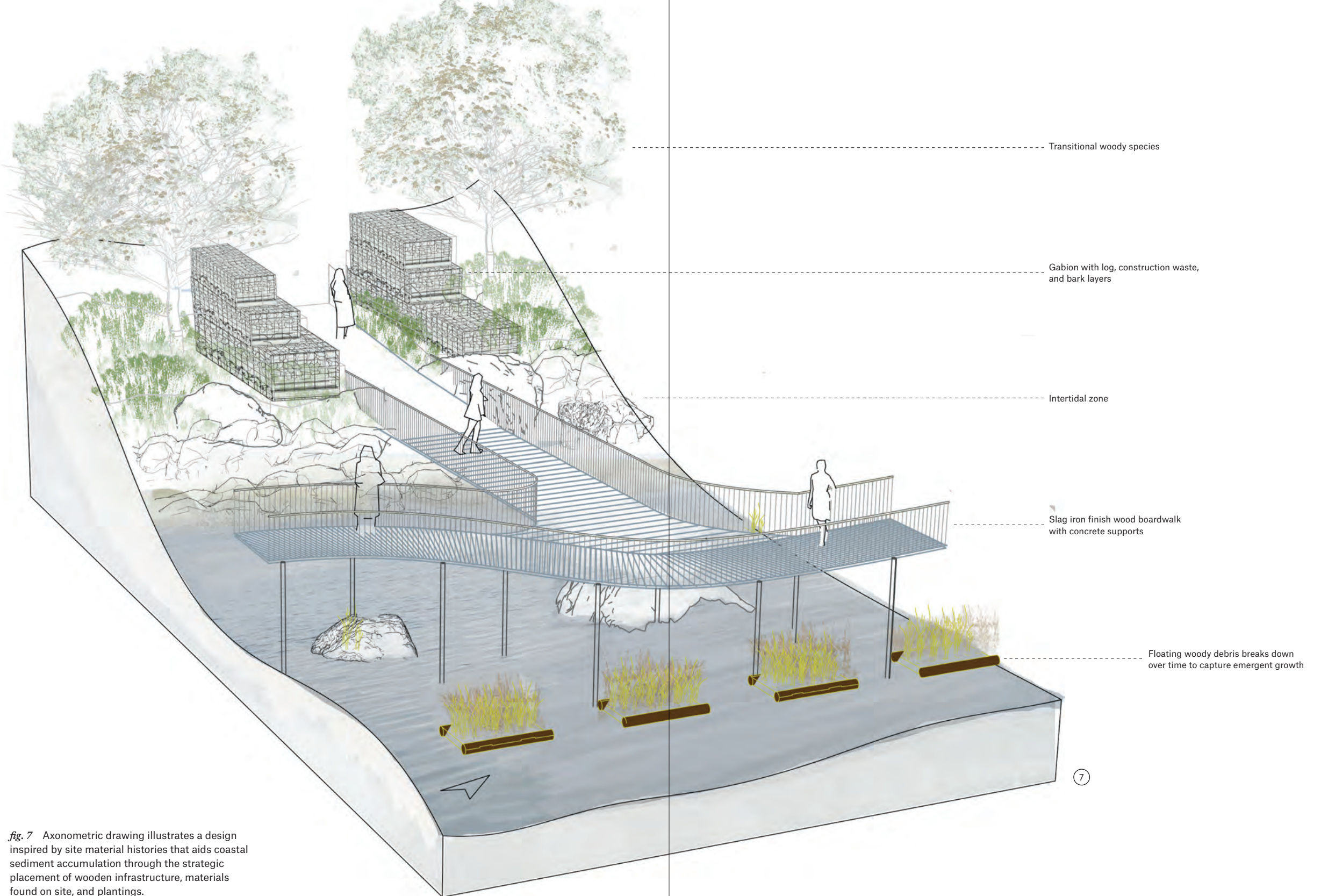


fig. 7 Axonometric drawing illustrates a design inspired by site material histories that aids coastal sediment accumulation through the strategic placement of wooden infrastructure, materials found on site, and plantings.

Jia Hu
*Tree Story: Understanding Nature
 Through Tree Patterns*

LDAR

ABSTRACT What is Nature? Nature is a system of intelligence. It means designing for efficiency—often by learning from strategies that have evolved over time. To explore nature, I began with the red cedar tree, aiming to simulate and predict its growth patterns—forms shaped by both internal biology and external forces. By analyzing its geometry, I sought to understand how trees embody the dynamic relationship between organism and environment. These patterns reveal the adaptive logic of life. Patterns are central to understanding nature. While tree geometry may appear chaotic, it follows internal rules governed by growth and environment. Scientists and mathematicians have long used models to describe these forms. Benoît Mandelbrot’s work on fractals revealed that self-similar, recursive patterns appear across scales. Using computational modeling, simulation, and data visualization, I explored natural systems often hidden from view—decoding their structure and behavior. In this research, I combined observation, drawing, simulation, and analysis to understand a tree’s unique “pattern language.” Trees do not grow in isolation; they exist within a network of wind, organisms, and ecological forces. By interpreting these influences, I investigated how trees adapt over time. Focusing on branching systems, I examined how patterns serve specific functions—distributing loads, guiding energy, supporting ecosystems, and linking the organism to its surroundings. Everything is interconnected. Building on this research, I now apply natural logic to the design of sculptural works and furniture inspired by tree geometry. Drawing from *The Algorithmic Beauty of Plants* by Prusinkiewicz and Lindenmayer, I translate growth rules into design systems—creating forms that reflect both function and ecological intelligence.

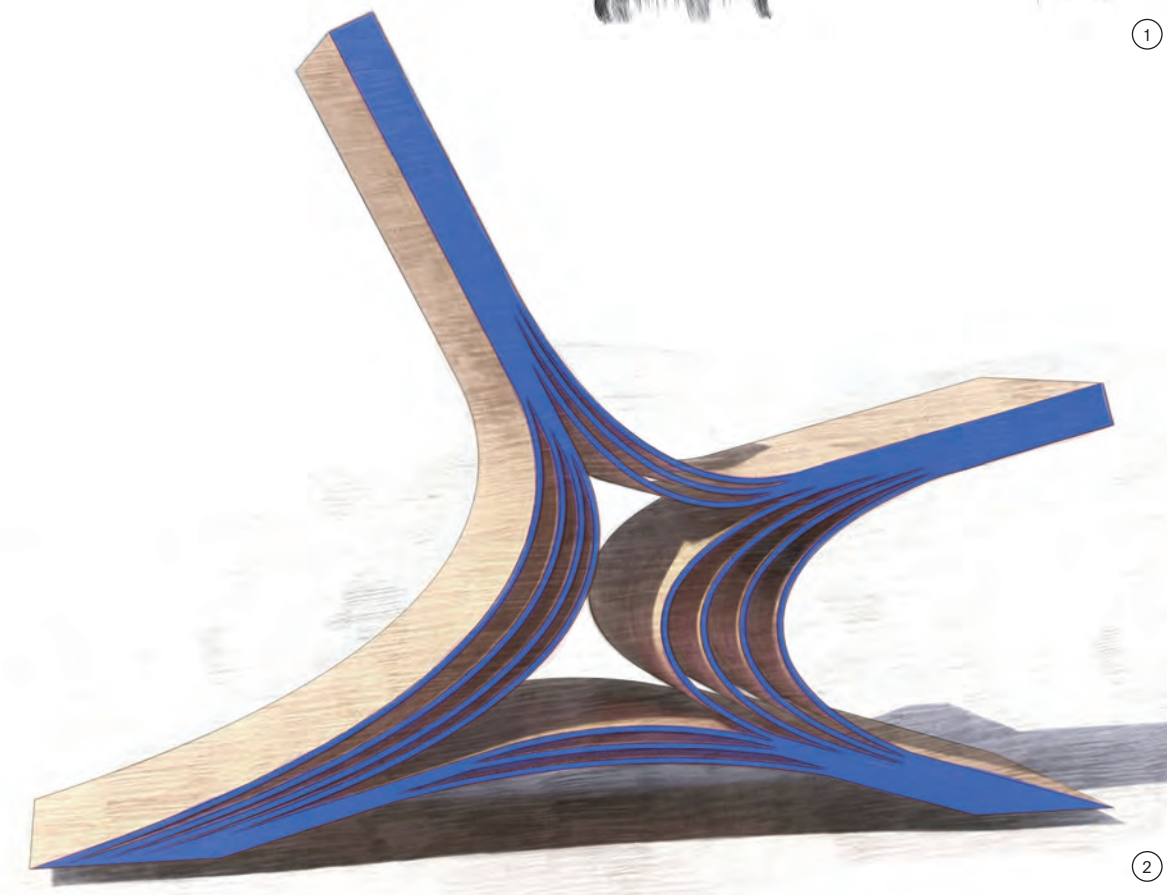
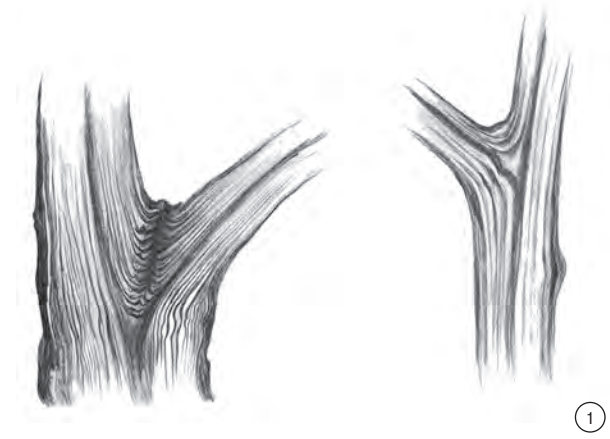
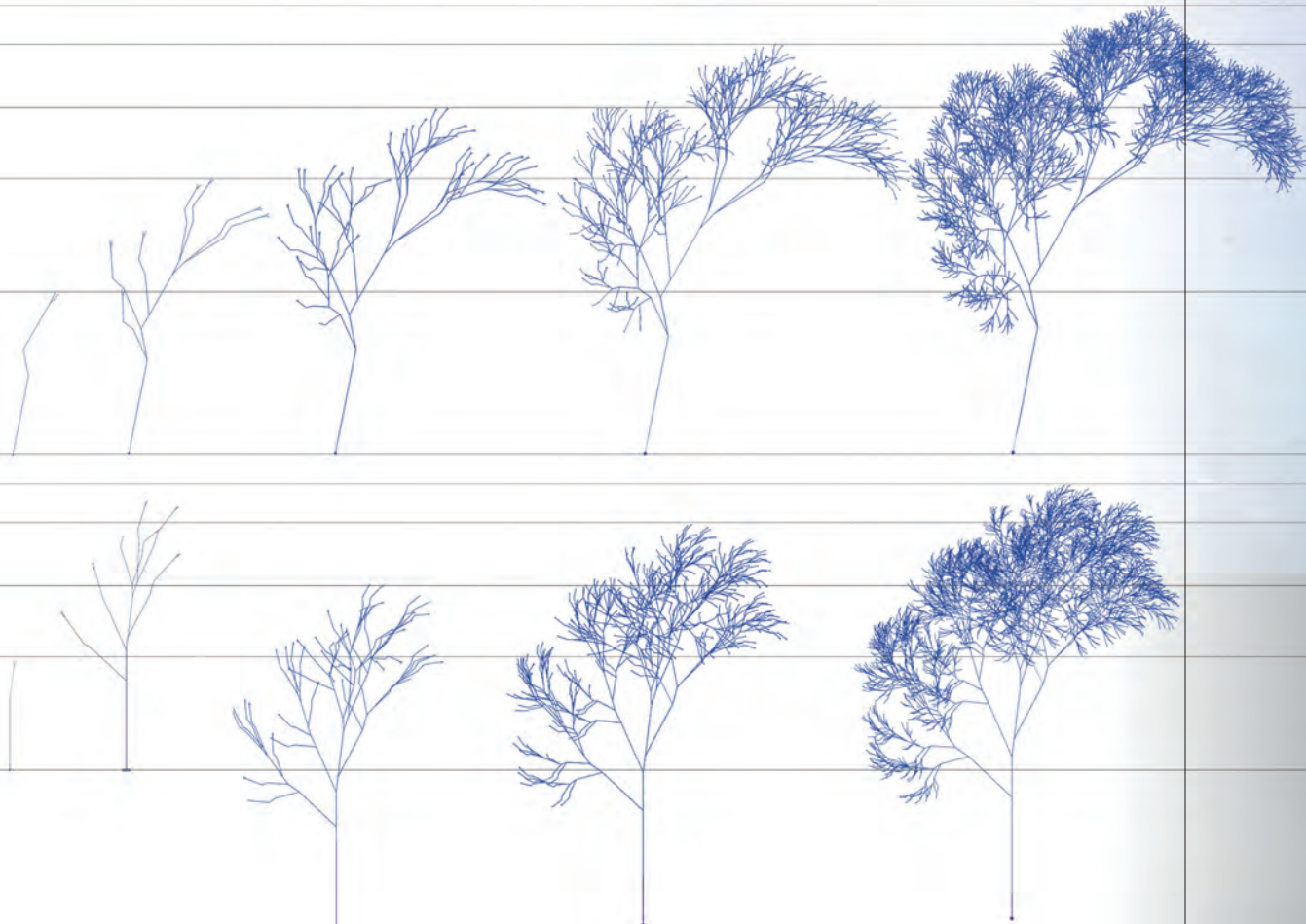


fig. 1 Drawings observing the natural patterns of branches and demonstrating the strong, efficient joints wood forms where branches emerge from tree trunks.

fig. 2 This tree-inspired chair design by Hu follows “tree logic.” Chair utilizes a cantilever structure and catenary curves inspired by tree branch mechanics.



3



fig. 3 An eastern red cedar tree observed by Hu at Rodman's Hollow on Block Island. She spent her thesis year trying to understand its growth patterns and structure.



fig. 4 Hu made tree drawings utilizing the Lindenmayer System, a mathematical model that simulates the growth patterns of plants and other natural forms.



fig. 5 Cross sections of branch collars collected and cut by Hu and observed through modeling and drawing.

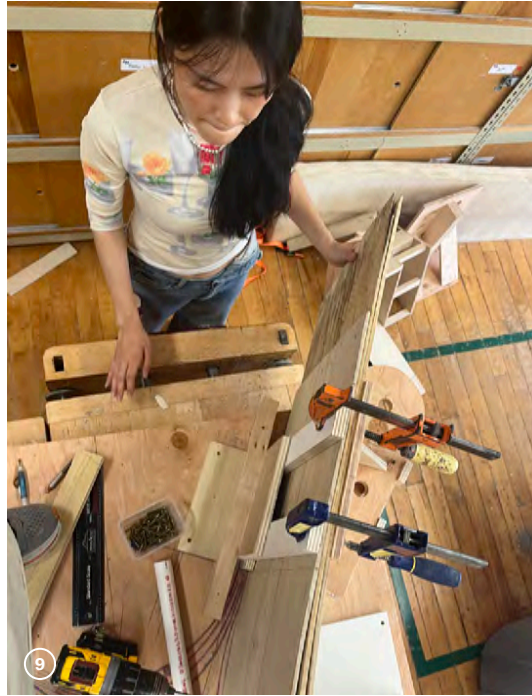


fig. 8 Transporting wood from the Rhode Island saw mill to the the BEB studio.

fig. 9 Wood steambending experiments in the ID woodshop.

fig. 10 Final exhibition showing chair, branch collars, observational drawings, and models of the structural wood observations Hu made throughout the year.



10

Site Visit

Harvard Forest

In late September, students traveled to the Harvard Forest in Petersham, Massachusetts to learn about the land use history of New England, observe the current and ongoing forest dynamics research happening at the site, and have conversations with researchers, docents, and staff about the complicated colonial impacts on forests in the northeast and the ongoing Nipmuc community partnerships with the Harvard Forest.

Site History

The Harvard Forest is a department of the Faculty of Arts and Sciences (FAS) of Harvard University. From a center comprised of 4,000 acres of land, research facilities, and the Fisher Museum, the scientists, students, and collaborators at the Forest explore topics ranging from conservation and environmental change to land-use history and the ways in which physical, biological and human systems interact to change our earth. Since 1988, the Harvard Forest has been a Long-Term Ecological Research Site, funded by the National Science Foundation to conduct integrated, long-term studies of forest dynamics.

DETAILS

19 September

Location Petersham, MA
 Day Thursday
 Temperature 84 °F / 56 °F
 Condition Fair



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136	Review	Midterm
140	Review	Wintersession
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Students toured the Harvard Forest in Petersham, Massachusetts with Greta VanScoy. VanScoy showed students the many ways researchers are using the Forest GEOPlot to track forest changes, measure forest function, and guide sustainable forest management.



Students toured the famous observation and research tower while at the Harvard Forest. Researchers use this tower to study weather patterns, atmosphere, habitat at different vertical zones of the forest, and changes in the canopy over time.



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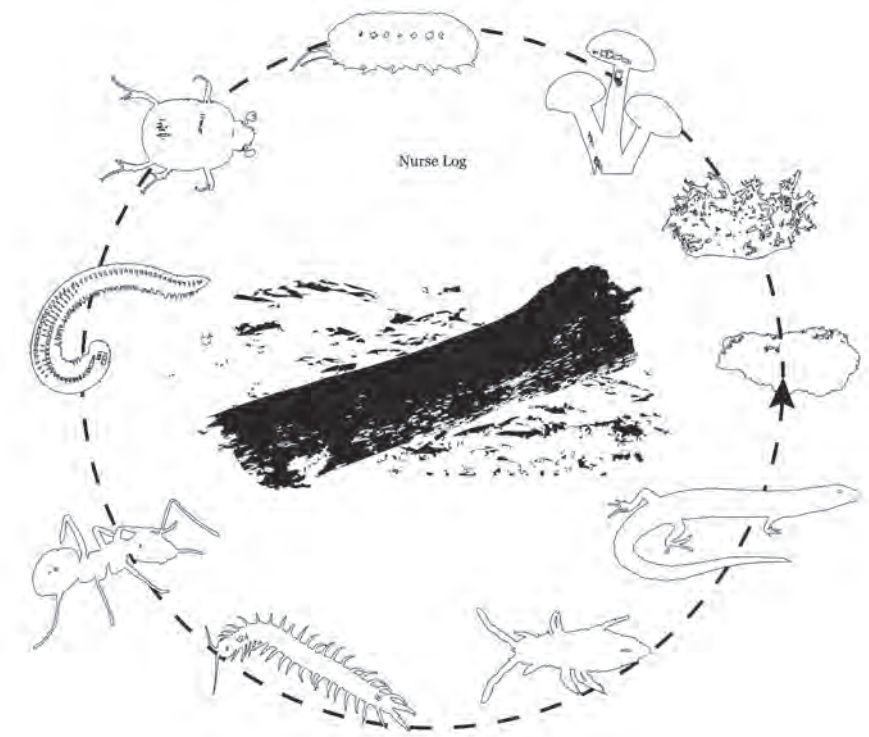
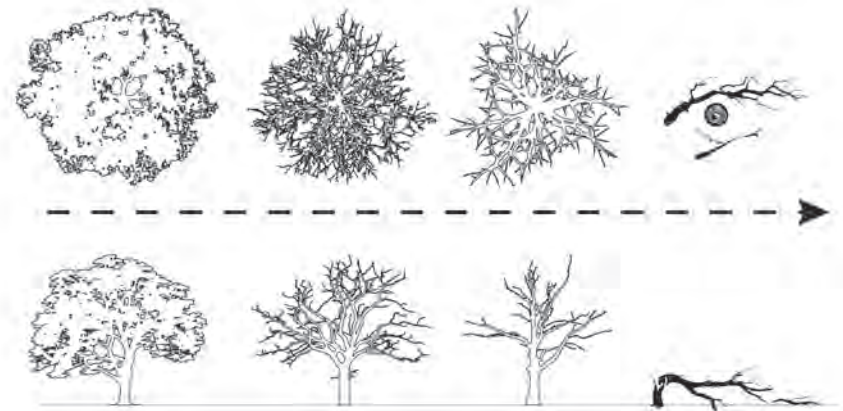
Students viewed the historic land-change dioramas, visited the Dendrochronology Tree Ring Lab, and had conversations with research docents about colonial impacts on forests, pre-colonial ecological knowledge, and Indigenous voices at the Harvard Forest campus.

Cody Young

Coarse Woody Debris: *Growth and Decay*

LDAR

ABSTRACT Coarse Woody Debris is the felled wood from trees. When branches break off and trunks fall down to the ground, the wood from the tree begins to decay. Humans need to acknowledge the importance of this regeneration and habitat building process to help protect it. The debris from coarse wood decay provides multiple benefits to the surrounding ecosystem. It is important to leave the woody debris in the context in which it fell so that the cycles of growth and decay can be preserved. My project is a public service announcement about the values of coarse woody debris. Instead of cleaning or chipping up the fallen branches and logs we should leave them to rot on the forest floor. Coarse wood needs to remain in our forests to maintain a healthy environment.



①

fig. 1 Diagram illustrates the coarse woody debris decay cycle and the decomposers that nurse on fallen limbs and logs in the forest.

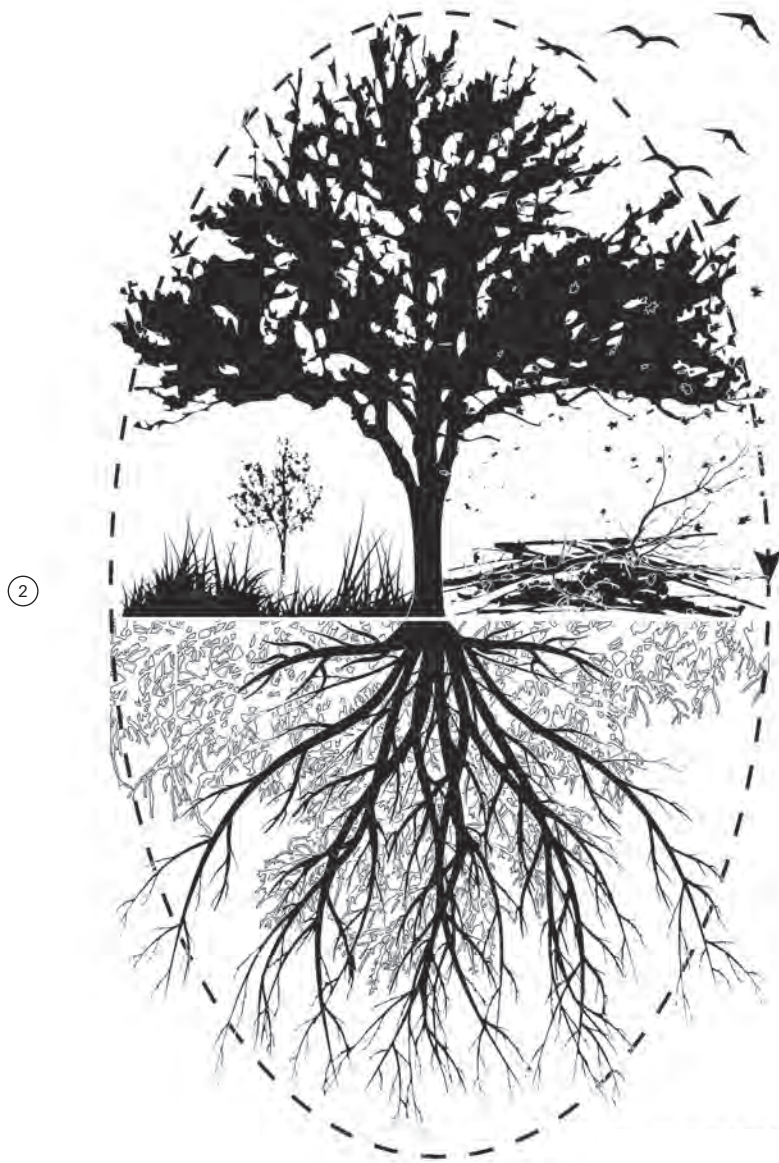
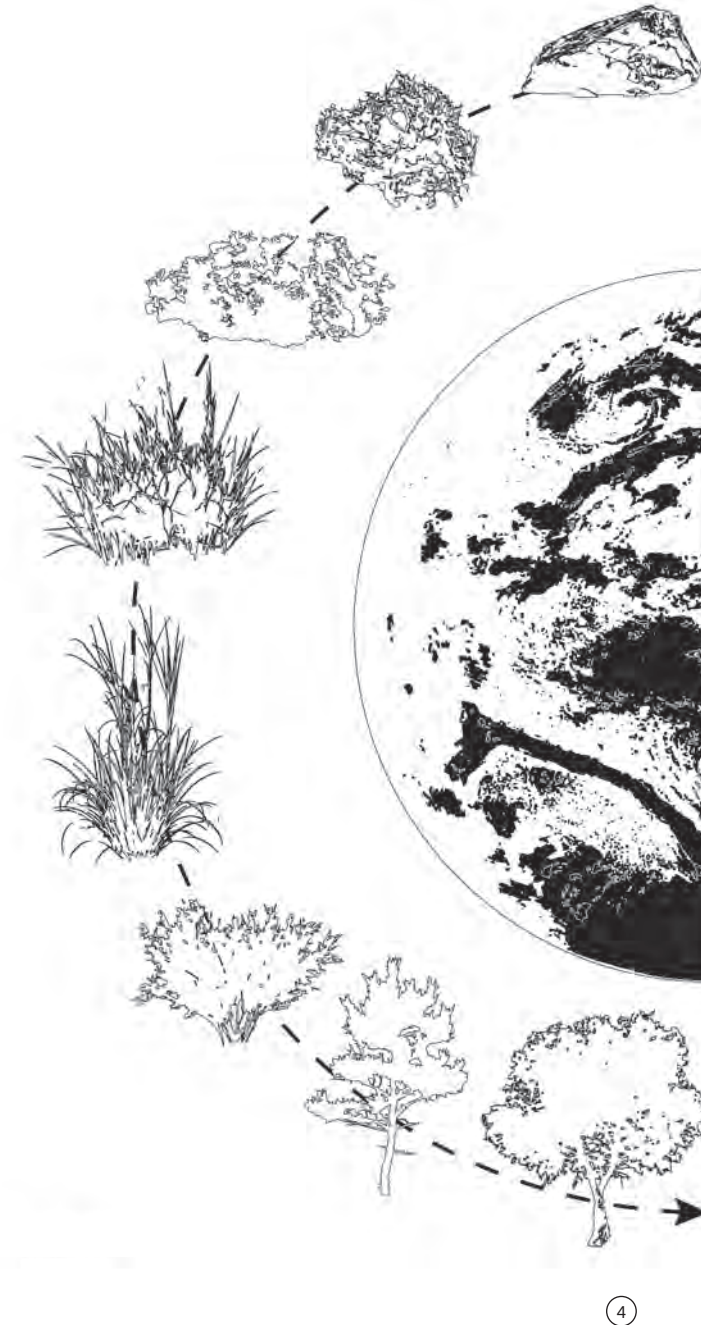


fig. 2 Illustration of the life/death cycle of a tree. Coarse woody debris falls to the ground and helps to nourish the soils and creatures that inhabit the forest floor.

fig. 4 Succession/disturbance diagram describes how forest composition changes over time through cycles of death and life.

fig. 3 Images of coarse woody debris in various states of decay observed on site in Rhode Island.

fig. 5 Coarse woody debris breaks down slowly, providing habitat and ultimately nourishing the soil of the forest floor for future tree growth.





6

fig. 6 Final exhibition shows succession and decomposition models, CWD diagrammatic drawings, and installation of coarse woody debris decay modules.

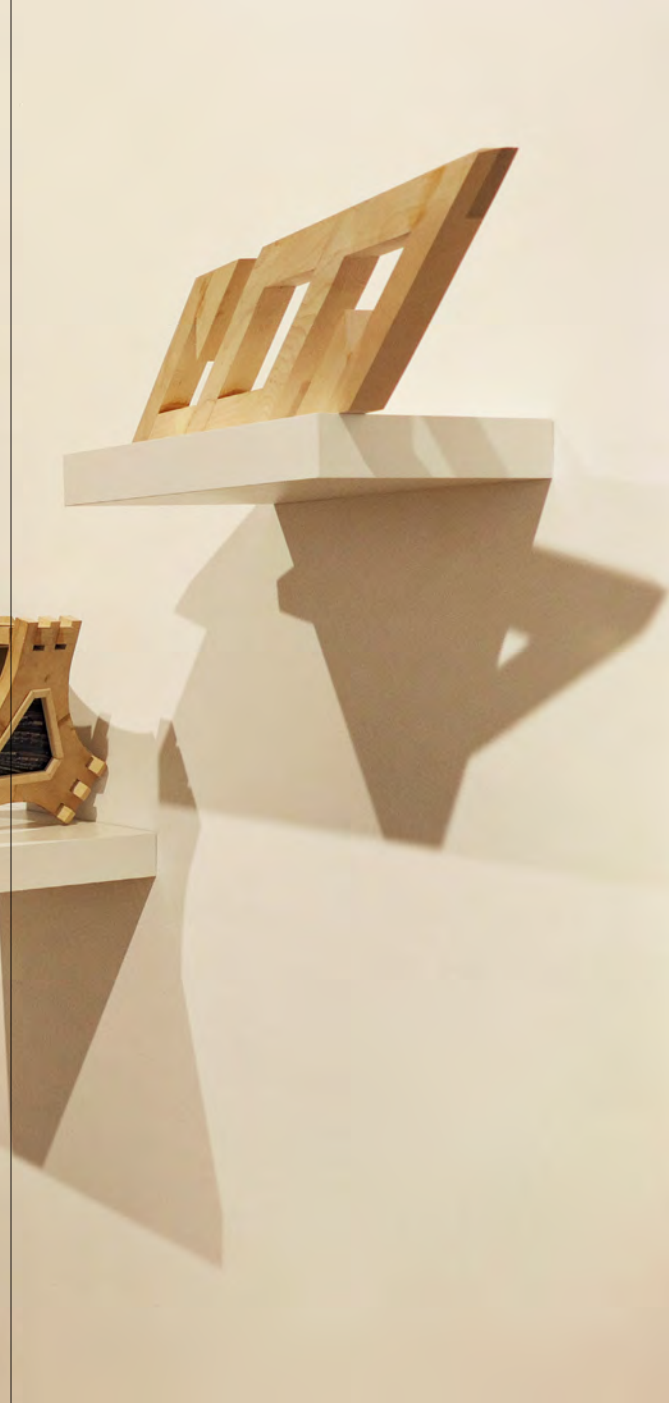


fig. 7 Coarse woody debris decay modules were combined with twigs and branches to show how pieces could be assembled in the forest to engage forest visitors with the concept of coarse woody debris.

fig. 8 Modules balance structural integrity requirements with decay encouragement.



7



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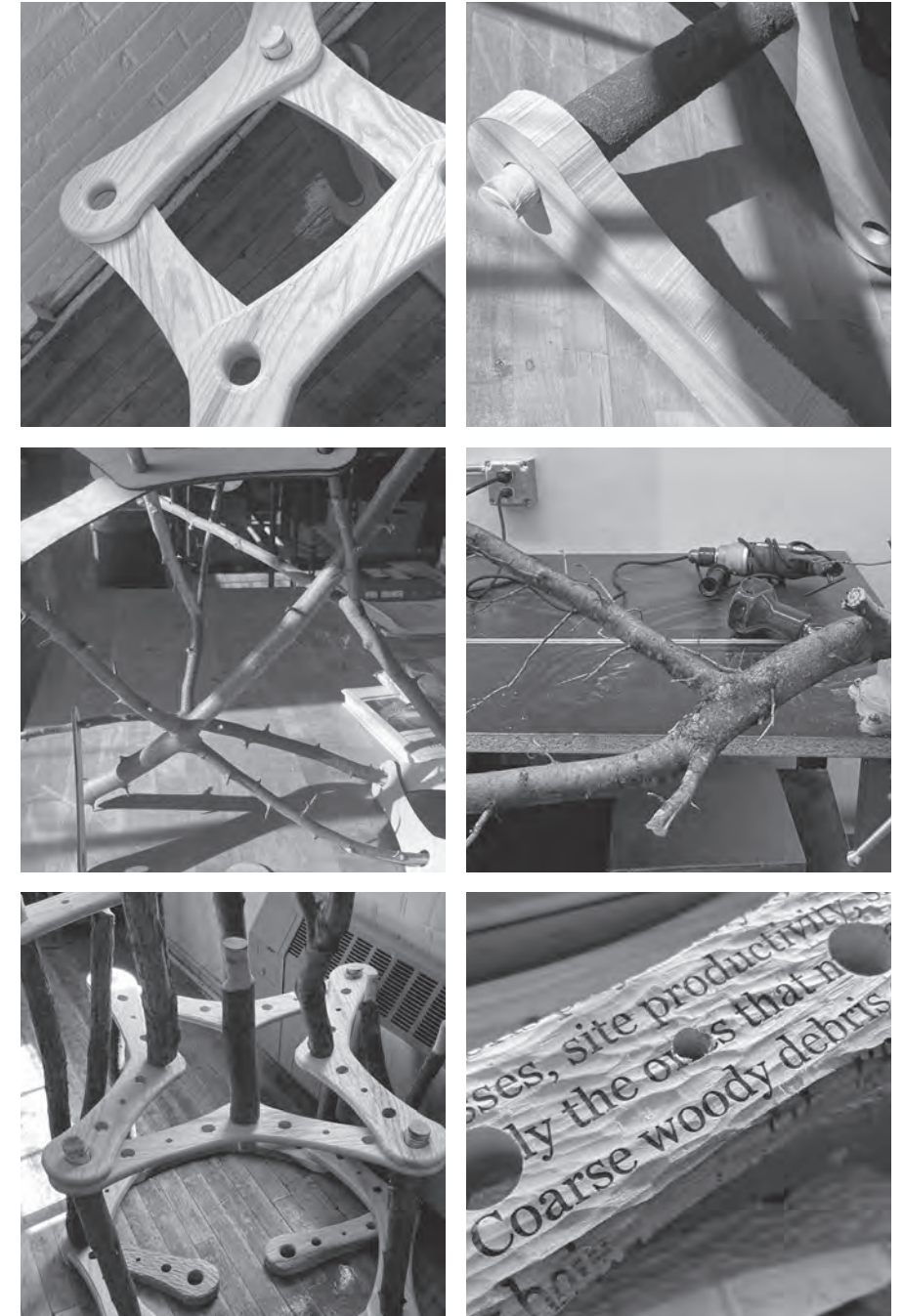


fig. 9 Joints were created by drilling holes in the cwd modules and finding branches that would fit in the holes. In some cases, tenons were drilled into the ends of these branches.

fig. 10 Images of coarse woody debris module iterations.



fig. 10 An image of Young's desk in the BEB studio shows joint experiments and iterative coarse woody debris modules in progress.

Taylor Jais

Building Ecologies: *Maintaining Land, Working with Wood*

LDAR

ABSTRACT This thesis critiques contemporary architecture and building practices for their fundamentally unsustainable and place-less assemblies that rely on extracting finite resources that generate significant emissions while simultaneously neglecting to consider the needs and existence of humans and non-human species within the built environment. Through experimental material research that diverts “wood” waste streams and integrates land and multispecies care, this work demonstrates how maintenance-based approaches to construction can transform built assemblies into ecological systems.

By deconstructing wood to its cellular components and recombining these elements in novel ways, this research reveals possibilities for collaborative, materials-driven, place-based building practices. This thesis proposes that maintenance of ecological systems is not only necessary but inherently non-hierarchical, positioning humans as collaborators rather than managers. It suggests that by making visible our participation in landscape maintenance and building ecologies, we can create habitats that support complex multispecies futures, ultimately challenging natureculture binaries and reimagining the built environment as an integrated ecological system rather than an isolated artifact. The resulting material assemblage is a place-based architectural wall membrane including insulative, structural, and ecological components.

fig. 1 Image of 1/4 scale wall section with bark rain screen, phragcrete insulation, pine framing, lime renders, and methylcellulose paneling.



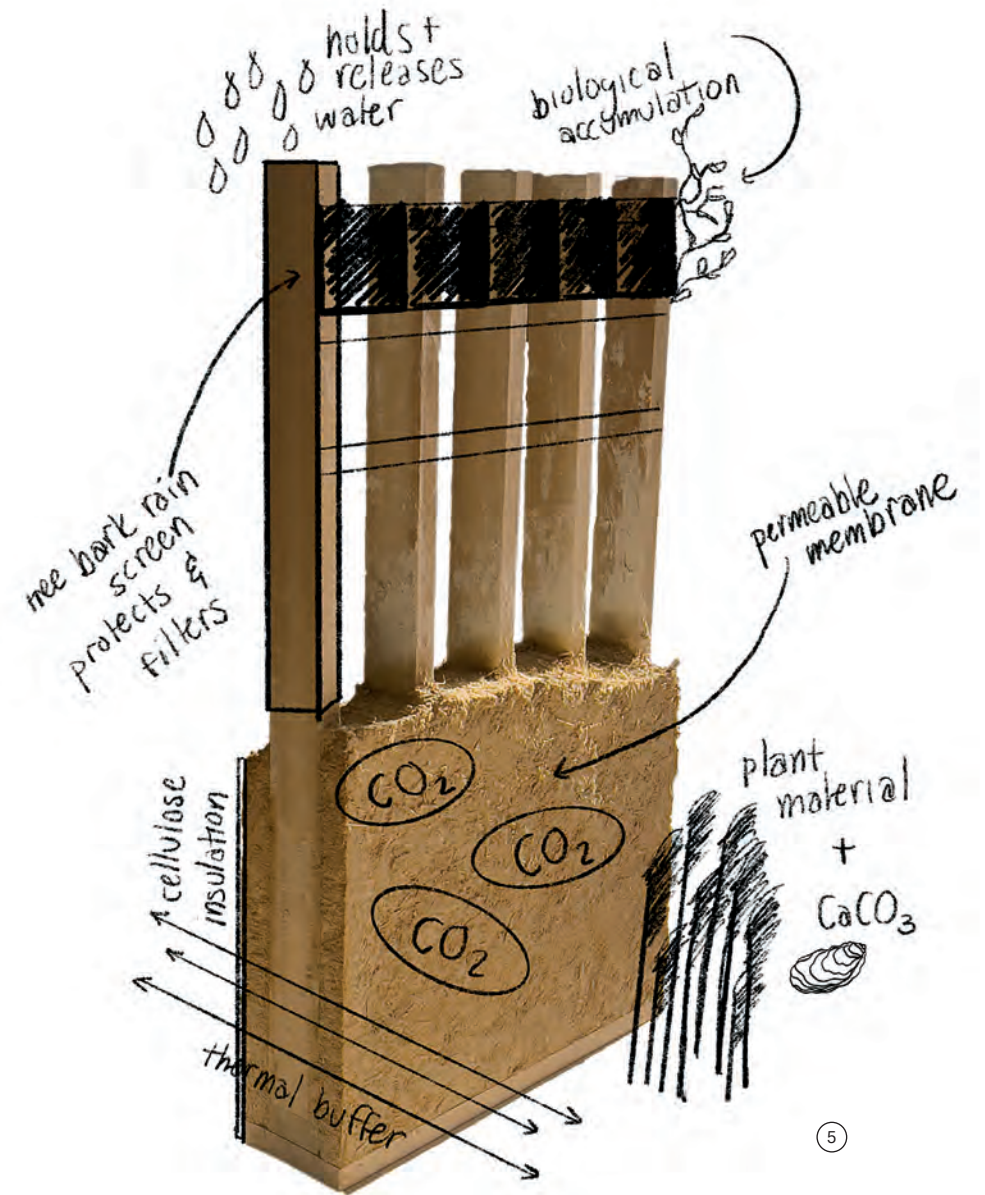
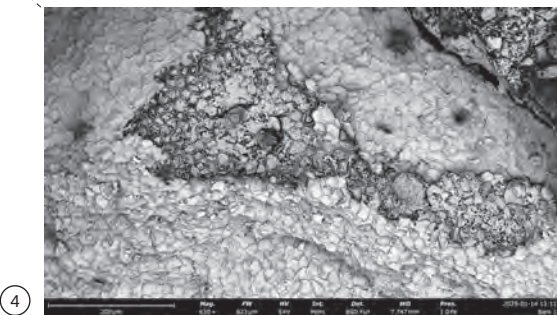
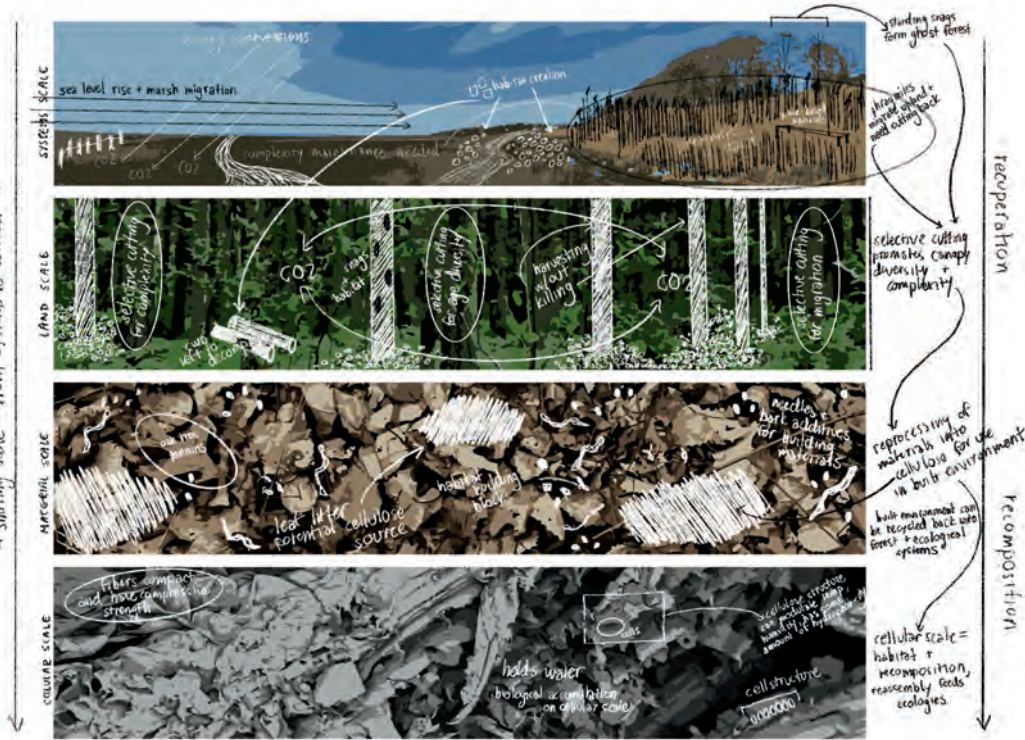
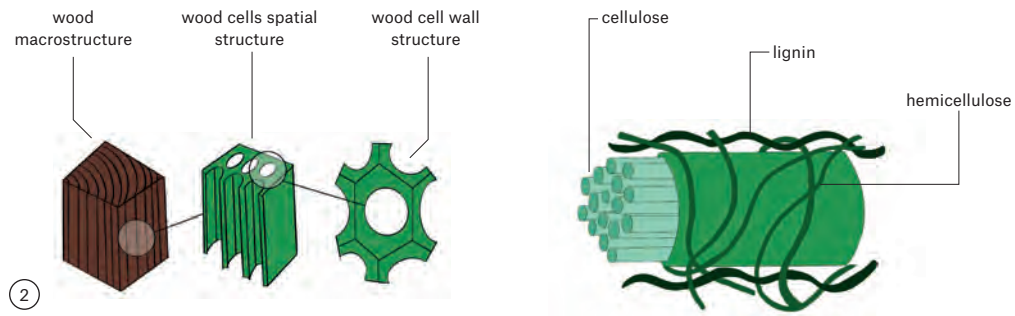


fig. 2 Illustrations of wood's cellular structure that informs Jais's wall mechanics.

fig. 3 Diagram illustrates Jais's scale jumping from bioregional ecological systems to cellular scale cellulose systems.

fig. 4 Scanning electron microscopy images of tree bark shows the cellular structure and surface complexity for biological accumulation.

fig. 5 Diagram demonstrates the breathability of the ecological wall section- disappearing the binaries of landscape and building.



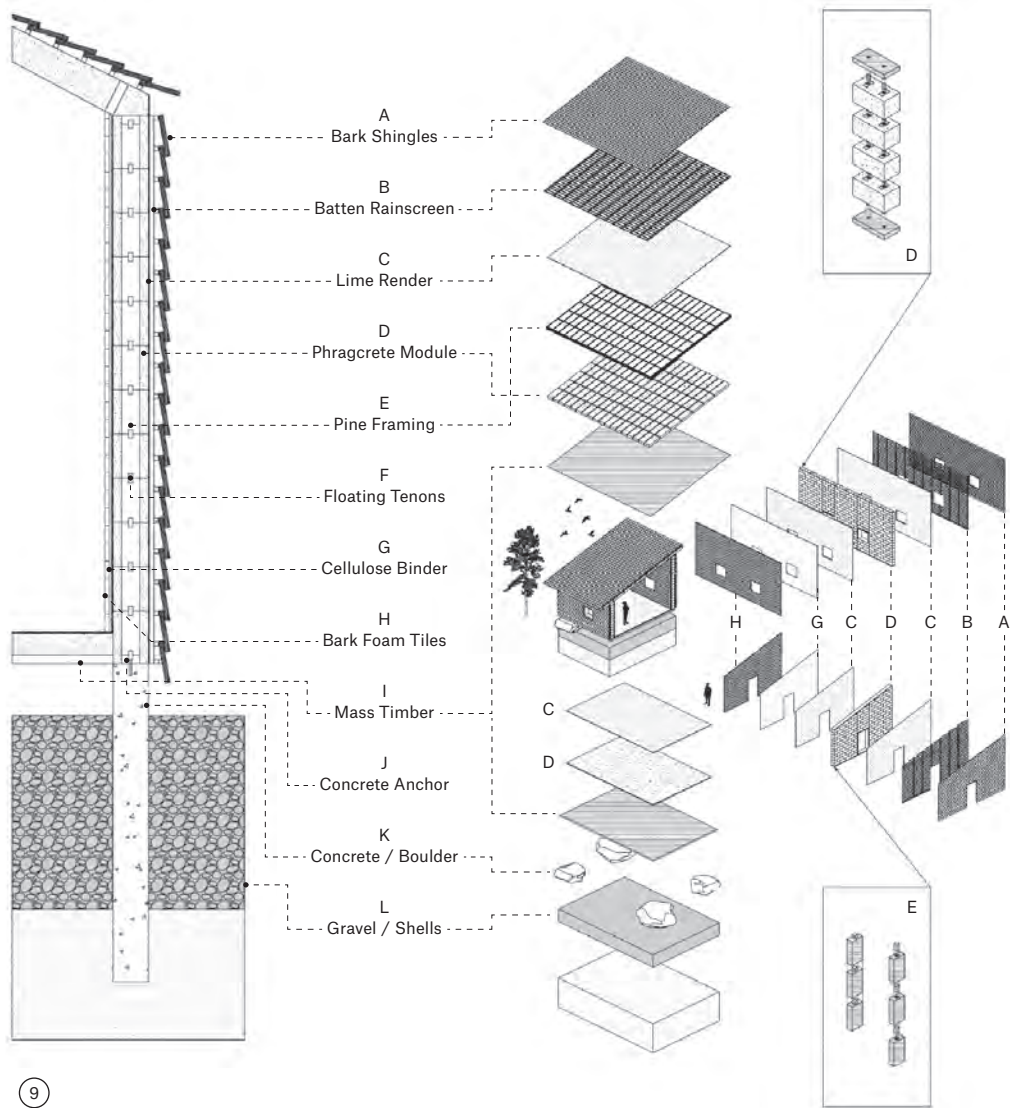
fig. 6 1 to 1 scale building wall section shows assembled phragcrete modules and methyl cellulose pine bark insulation foam paneling experiments.



fig. 7 In the final exhibition, Jais displayed maintenance derived material inventories present in their building section as well as microscopic imagery of inventoried maintenance materials.

fig. 8 "Phragcrete" modules utilized phragmites hurd and hydrated lime (derived from shellfish waste), allowing Jais to form this material completely from maintenance waste and food waste.





9

fig. 9 Section and axonometric drawing of Jais's wall section illustrates the layers, functions, and physical assembly of the system.



10

fig. 10 Jais's bark rain screen imagines buildings as ecologies where multispecies systems can be cultivated and maintained.



fig. 11 Image of Jais's desk in the BEB studio shows bark, phragmites, and other material experimentation iterations for their "building ecology."

Travel

Maine Site Visits and Workshops

In October, students took part in a four-day trip to Maine, visiting and experiencing local landscapes in which it exists and manifests itself, with visits and conversations with local communities, institutions, and skilled craftspeople across industries and practices. Throughout the trip, students worked first-hand with these practitioners to learn how wood is harvested, processed, shaped, and transformed into a wide range of products and services.

DETAILS

Four Day Trip

Day One

The Shelter Institute

Date 15 October

Location Woolwich, ME

Day Two

The Apprenticeshop

Date 16 October

Location Rockland, ME

Day Three

The Center for Furniture Craftsmanship

Date 17 October

Location Rockport, ME

Day Four

University of Maine, Orono

Date 18 October

Location Orono, ME



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Workshop

Maine Day One: Tooling Up

On day one of the Maine field trip, students visited Lie-Nielsen Toolworks and The Shelter Institute. At Lie-Nielsen students were able to try out custom “heirloom quality” woodworking tools made on site, including planes, saws, chisels, and spokeshaves. At The Shelter Institute, students learned about timber framing, the Institute’s educational programming and framing classes.

Lie-Nielsen Toolworks and The Shelter Institute

Lie-Nielsen Toolworks began in 1981 as an effort to make top-quality hand tools available again from a U.S. maker and to revive discontinued, but useful, designs so the average woodworker could obtain them.

The Shelter Institute has been evolving durable, adaptable, energy-conscious building techniques since 1974. They offer fine woodworking tools, Design Build services, real estate, and accredited classes in homebuilding.

DETAILS

15 October

Location	Woolwich, ME
Day	Tuesday
Temperature	55 °F / 35 °F
Condition	Fair, Cloudy





Students visited Lie-Nielsen Toolworks in Warren, Maine to test custom planers and other hand tools. Students used hand tools to craft the Norwegian Pram Sailboat in the ID woodshop at RISD and visiting this historic toolworks was an exciting way to connect to making in studio.

Workshop

Maine Day Two: Apprenticeship Boat Building

On day two, Students toured The Apprenticeship in Rockland, Maine, where they worked alongside apprentices on several active boatbuilding projects. Students helped mill black locust lumber for planking a sardine carrier, processed knees and other structural lumber, spiled plank measurements, and chiseled rabbets for planking. The day concluded with a sail in a Bantry Bay gig in Rockland Harbor alongside Apprenticeship staff.

The Apprenticeship

The Apprenticeship is an educational nonprofit organization dedicated to empowering people through building and sailing boats. The Apprenticeship was founded by educator Lance Lee in 1972 within the complex of the Maine Maritime Museum in Bath, Maine. It became a catalyst for the revival of traditional wooden boatbuilding at a time when the craft and the apprentice way of learning were deemed to be extinct.

DETAILS

16 October

Location	Rockland, ME
Day	Wednesday
Temperature	53 °F / 32 °F
Condition	Fair, Cloudy





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Students sailed a Bantry Bay Gig in Rockport Harbor, Maine with their Apprenticeship instructors. Students learned how to set up the gig, raise the sails, and row the boat to traditional call and response songs.



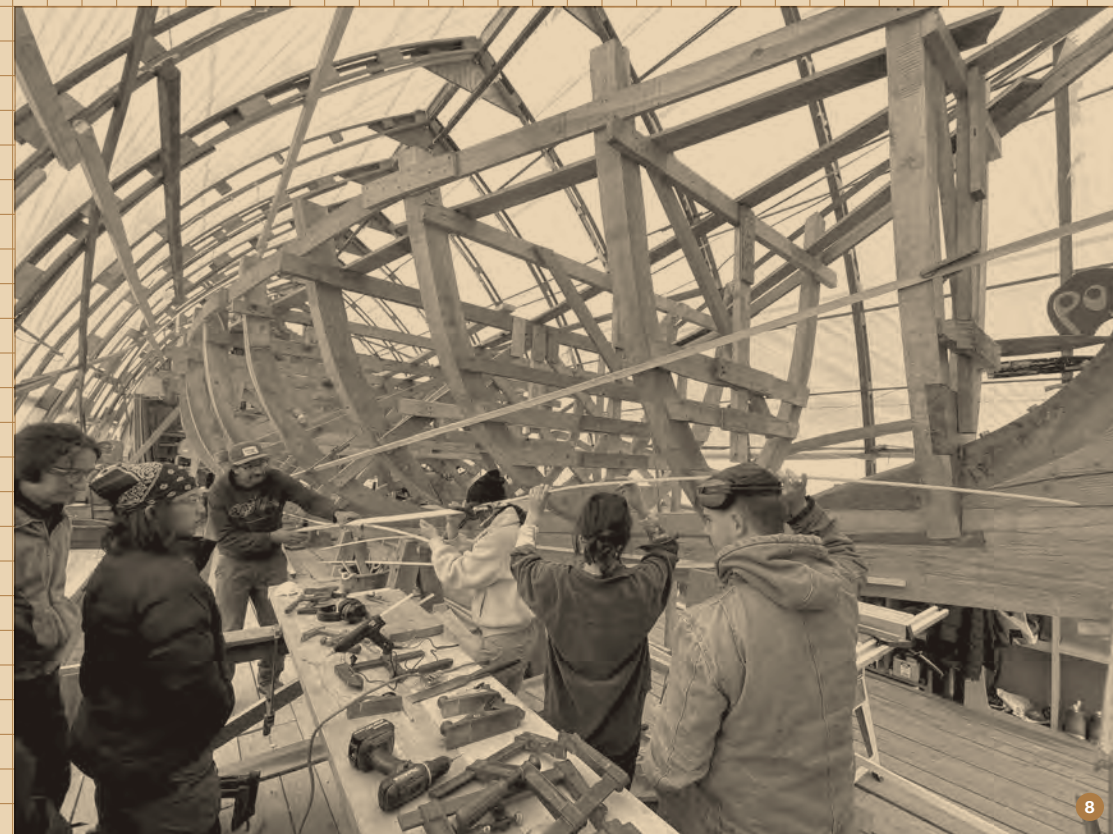
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On their second day in Maine, students toured the Apprenticeship in Rockport, learned about the locally sourced black locust wood for boat building, and helped to mill harvested black locust down into board lumber for the Sardine Carrier.



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Students learned to use an adze tool on wood "knees" for boat framing, helped chisel a rabbet into the keel of the boat for planking, worked on spiling the boat for plank measurements, mapped fair lines onto the black locust planking lumber, and helped cut planks for the boat.

Site Visit

Maine Day Three: Craft Explorations

Students toured the Center for Furniture Craftsmanship in Rockport, Maine, where they viewed a gallery exhibition of fine wood furniture by artists in residence, spoke with Director Peter Korn, visited artist studio spaces, observed classes in progress, explored the Center's woodshops and material inventories, and spoke with current students about their experiences with the coursework and woodworking practice.

The Center for Furniture Craftsmanship

The mission of the Center for Furniture Craftsmanship is to provide the best possible education for people who want to design and build functional, beautiful, and expressive work out of wood to the highest standard of craftsmanship.

DETAILS

17 October

Location	Rockport, ME
Day	Thursday
Temperature	54 °F / 31 °F
Condition	Fair





1



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4

On their third day in Maine, students visited the Center for Furniture Craftsmanship in Rockport. They spoke with director of the Center, Peter Korn, about visiting artist work, lumber sourcing, and wood waste procedures on campus. Students toured the center to see hand tools, machine tools, studios, completed furniture, and works in progress.

Site Visit

Maine Day Four: UMaine Orono

On day four of the Maine field trip, students toured the University of Maine Advanced Structures and Composites Center in Orono, Maine. Students, faculty, and staff at the ASCC gave the Sustainability lab students a tour of the Center that included viewing the worlds first biobased 3D printed home. Students also were given an introduction to material testing procedures and learned a bit about the cutting edge cellulose research being done at the University.

Advanced Structures and Composites Center

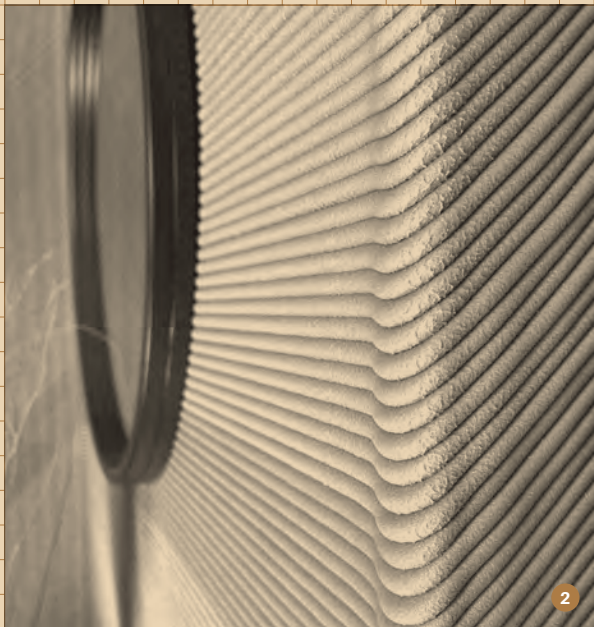
The University of Maine Advanced Structures and Composites Center is an interdisciplinary center for research, education, and economic development encompassing material sciences, advanced manufacturing, and engineering of composites and structures.

DETAILS

18 October

Location	Orono, Maine
Day	Friday
Temperature	62 °F / 31 °F
Condition	Fair





On their last day in Maine, students traveled to the University of Maine at Orono campus to visit the Advanced Structures and Composites Center. Here, students were able to tour the center and learn about cutting edge material research, visit the first ever 100% biobased 3D printed home, and view a demonstration of material testing machinery.

Baiqiang Zhang & Holden Rappuhn

A Modular Framework that Evolves with You

INTAR

ABSTRACT

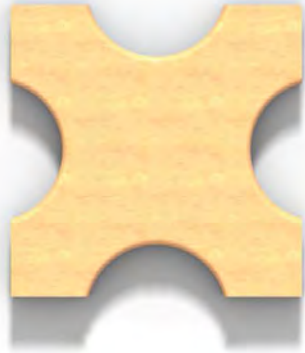
We need to reach a more sustainable relationship with our interiors. As our personal spaces shrink and inflation rises, the materials and fabrications we use to build and furnish our spaces need to work harder and function better. The values for production have shifted to accept unnecessary standards of fastness established by big box retailers in the furniture market and by architectural developers in efforts of increasing profit margins and matching trend cycles that only seem to shorten each new “season”. The demands from both the producer and consumer has sped up shipping times and production leads to an alarming rate. So much so that we have exchanged quality for planned obsolescence; quality control for same day shipping, and uniqueness for safe audience tested designs.

The solution is not as simple as suggesting someone buy something of a better quality. People don’t have time to turn over every stone to find their perfect match, let alone feeling comfortable enough to invest in the steep pricing for custom fabrication or tailored construction. The sentiment of an object being hand crafted or well built is no longer a good enough reason. Pieces can still be under appreciated and replaced if it does not resonate for longer than a given trend since there’s always something shinier one click away. But... Can you have it all? Can you still address the fastness set by the fast furniture model to satisfy both consumers and producers... all while executing on the basis of sustainability?



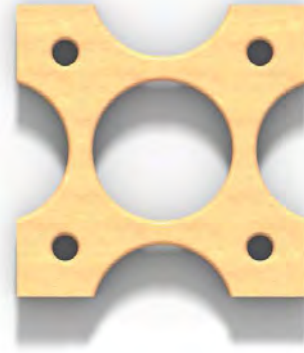
fig. 1 Final exhibition image shows the final modular, adaptable wall system developed by Zhang and Rappuhn.

1st Generation
Weight Reduction: 23%

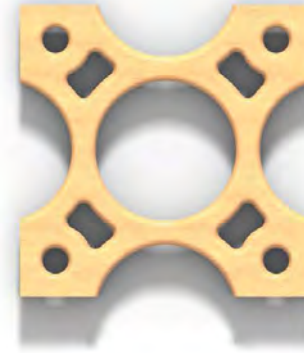


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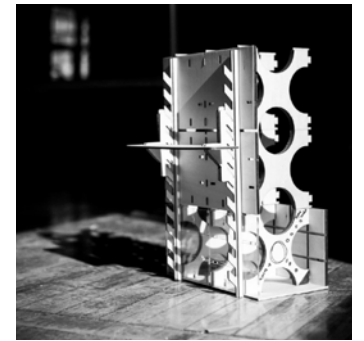
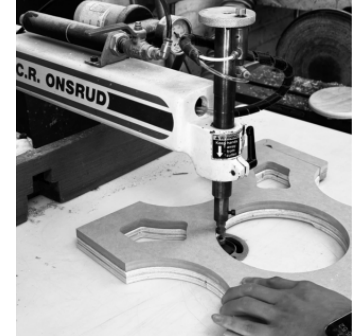
2nd Generation
Weight Reduction: 37%



3rd Generation
Weight Reduction: 41%



4th Generation
Weight Reduction: 47%



3

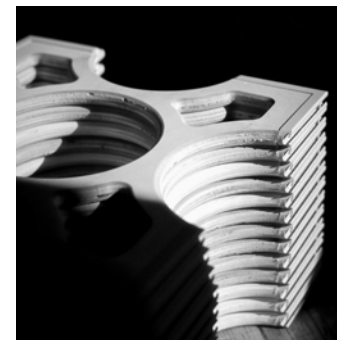


fig. 2 Structurally webbed module iterations for wall system that prioritizes lightweightness while retaining strength and rigidity.

fig. 3 Images of fabrication process and module iterations in the ID woodshop at RISD.



fig. 4 3D axonometric drawing of modular wall system constructed as a shelving unit.

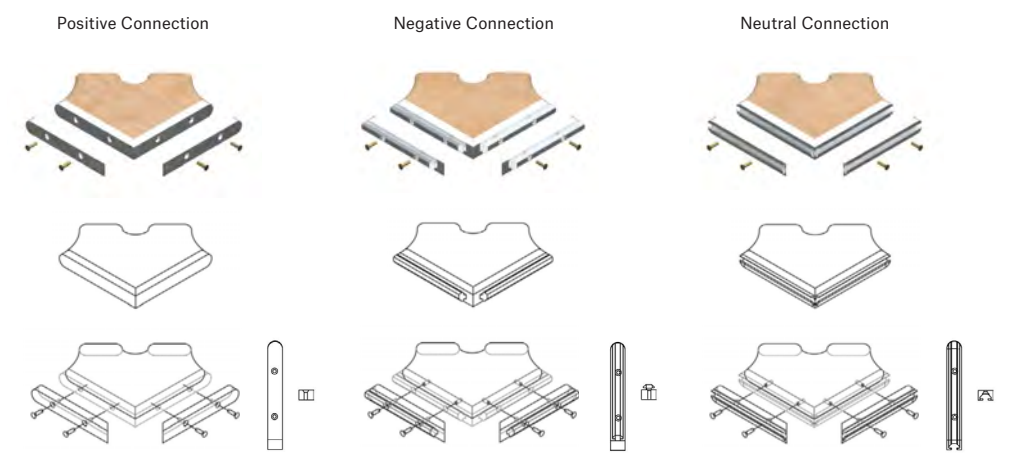
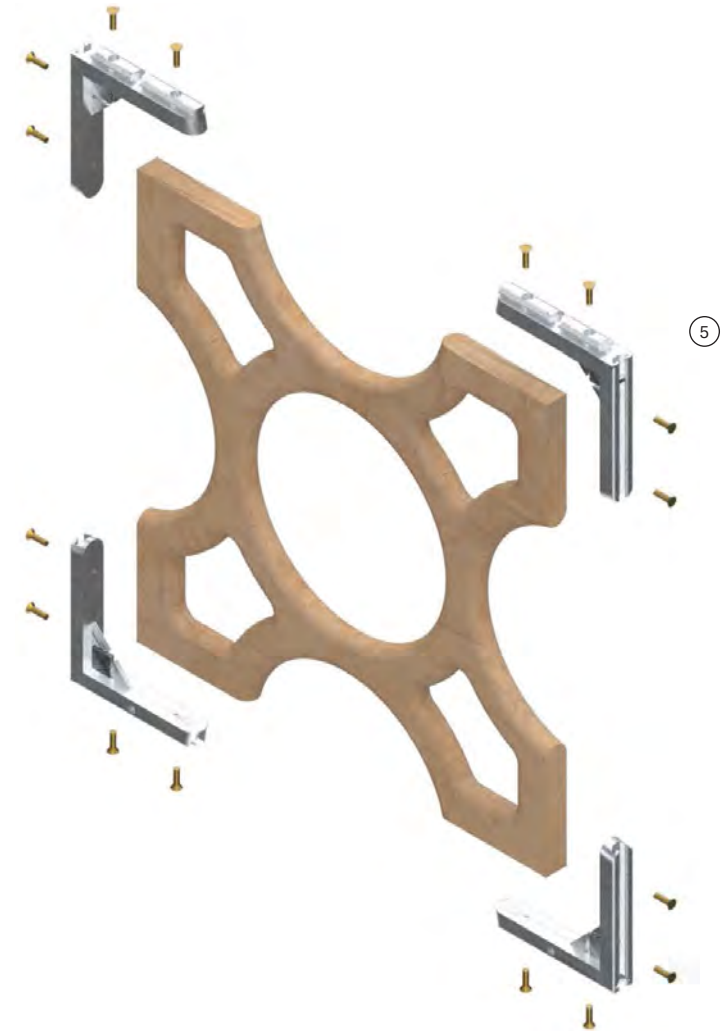
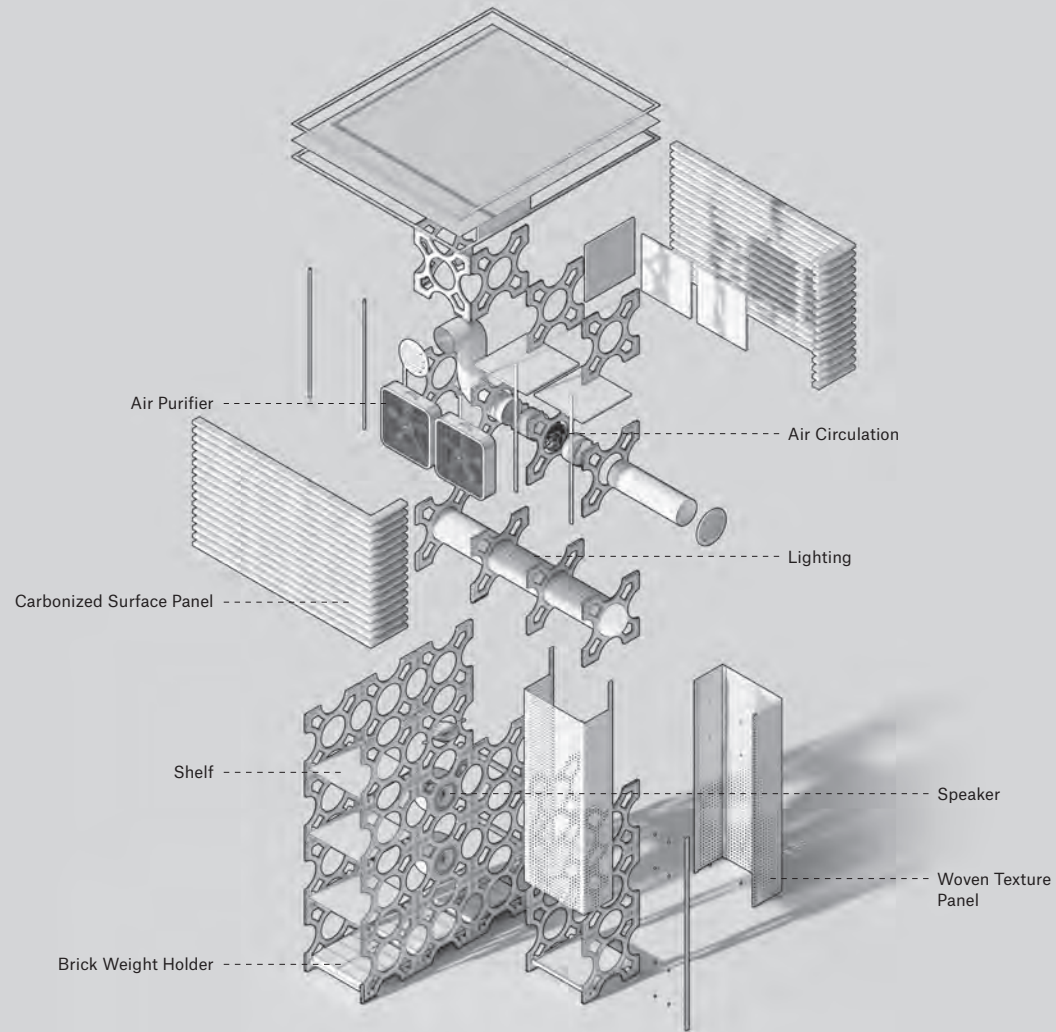


fig. 5 Axonometric diagram illustrates the custom modified T-slot connector that is interchangeable - helping to minimize waste and simplify repair.



6

fig. 6 Diagram of how the final exhibition assembly fits together and can be modified and adapted.



7

fig. 7 Final exhibition image shows a lighting element inserted into the modular wall system as well as optional surface paneling demonstrating its adaptability and versatility.

Benjamin Riley

Material Values: *Black Locust Exploration*

LDAR

ABSTRACT As individuals many facets of our lives do not offer us significant control over our impact on the environment around us. We are limited by access, time, and information- funneled into making less than sustainable choices. To live sustainably we must have opportunities to strike a balance between what we extract and what we produce. Through our consumption of resources this balance is achieved when we take only what we need and can replace while fostering a cultural appreciation of the extracted materials that we utilize. Material Values Investigates how we can approach utilizing materials in landscape construction that are non-traditional and have the ability to subvert existing highly extractive supply chains. The material I investigate in my thesis is black locust, a tree with an aggressive growth rate, the ability to thrive in disturbed conditions, dense rot resistant lumber, and otherworldly fluorescence. By utilizing this material in a way informed by its attributes and understanding it's potential as a part of our rapidly changing ecology and economical system I hope to express the range of possibilities material alternatives could bring to our built environment.

fig. 1 Exhibition image of black locust assemblies glowing under an ultraviolet light source.





Red Cedar
Straight form fits
lumber production



Black Locust
Irregular form hinders
lumber production



Black Locust Tree

②

fig. 2 Diagram describes how black locust trees often grow irregularly with crooked trunks and arching branches - making it difficult to mill into standard dimensional lumber.



③



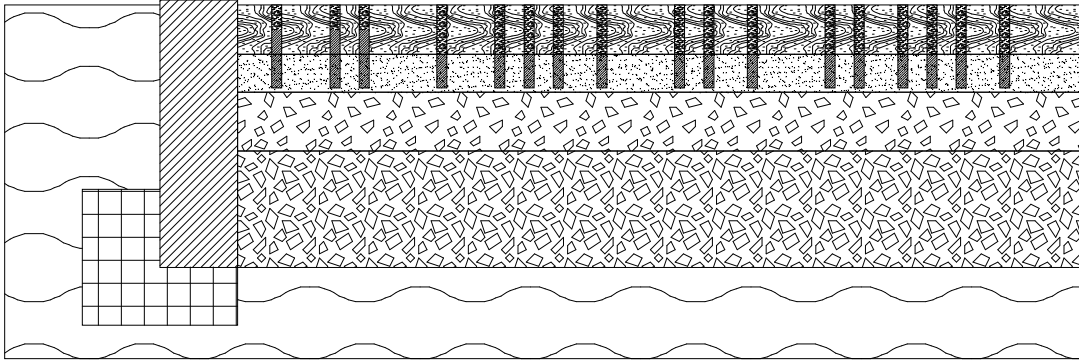
④

fig. 3 Images from Riley's solo trip to the Apprenticeship in Maine where he milled down locally harvested black locust lumber to take back to the RISD woodshop.

fig. 4 Riley cut his pavers to follow the grain of the black locust lumber. He utilized a spline technique to delineate the grain and trace his lines.



5



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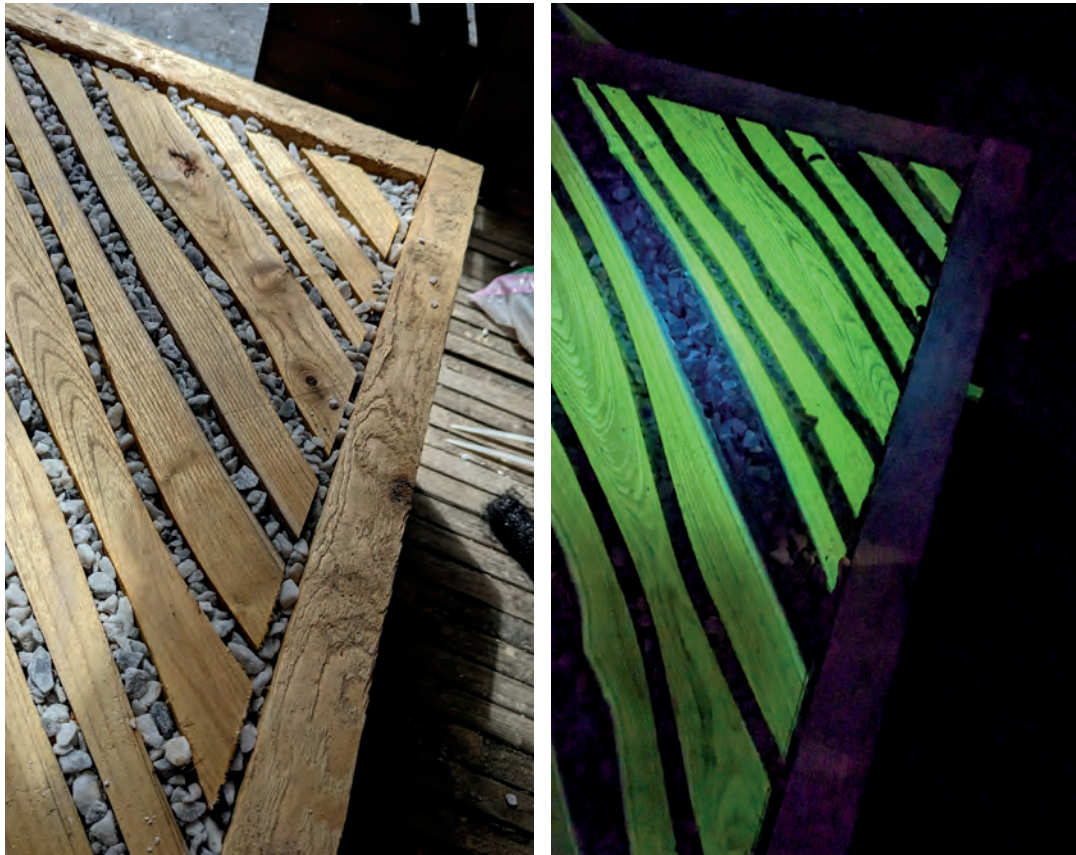
fig. 5 Black locust paver assembly at 1 to 1 scale in order of installation procedure including gravel aggregate and leveling base.

fig. 6 Construction detail describes the black locust paver assembly for the final exhibition.



7

fig. 7 Final black locust permeable paver assembly follows the grain of the black locust lumber.



8

fig. x Paver assembly shown during the day and also under an ultraviolet light source at night.

fig. x Riley researched black locust trees and learned that the flavanoids found in the wood let it "glow in the dark" under ultraviolet light sources.



Farnaz Dastranj

Wood in Hand: *Open-Ended Wooden Play*

INTAR

ABSTRACT

This project explores the design of a sustainable, open-ended wooden toy that encourages children’s creativity, collaboration, and physical development. Recognizing the important role of play in learning, the toy aims to connect children to natural materials while supporting skills like eye-hand coordination, flexible thinking, and visual-spatial processing. Free-form linear elements constructed from wood, a renewable, durable, and biodegradable material, the toy invites children to assemble and create various structures using dowels, pegs, and fabric. By offering different connection possibilities and free-form pieces, it fosters imagination, problem-solving, and group play. This project also addresses sustainability by focusing on material longevity, reusability, and emotional attachment, aiming to reduce environmental impact and inspire early awareness of sustainable practices through hands-on play.

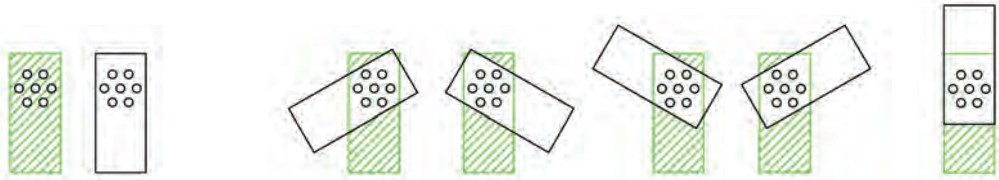


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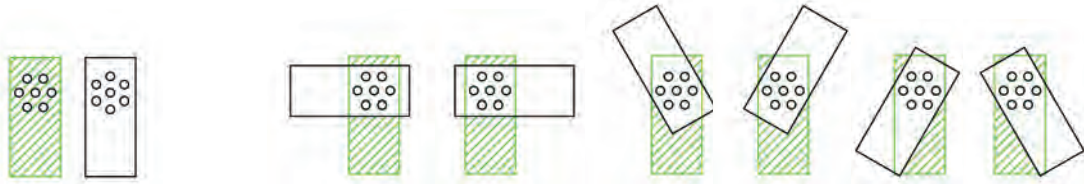
fig. 1 Image of children assembling Dastranj's wooden toy modules during a user testing session.

2

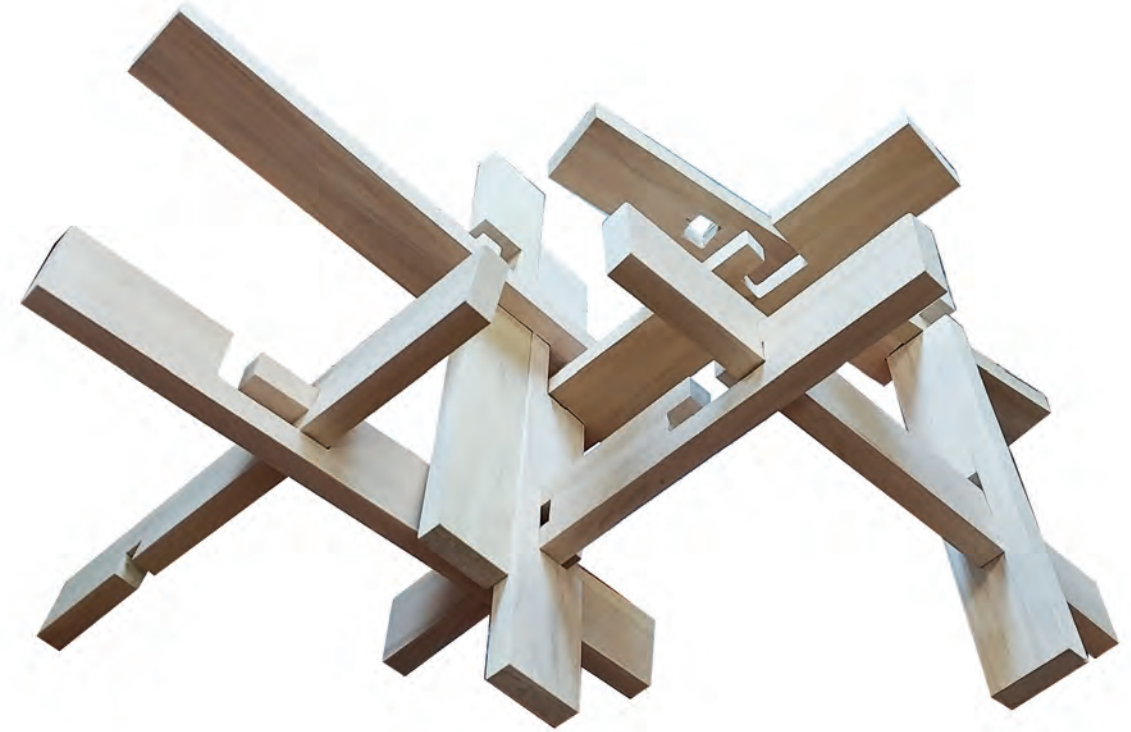
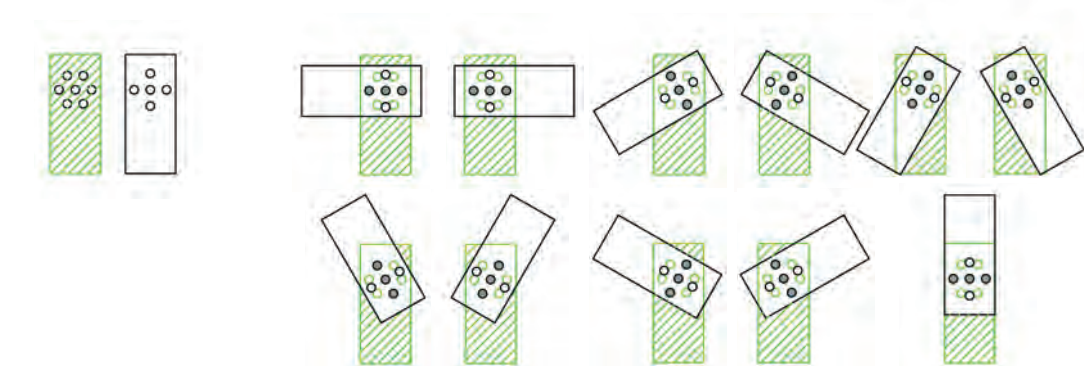
Two similar six-hole pieces



Two six-hole pieces (rotation of 30° in hole placement)



One six-hole and one four-hole piece



3

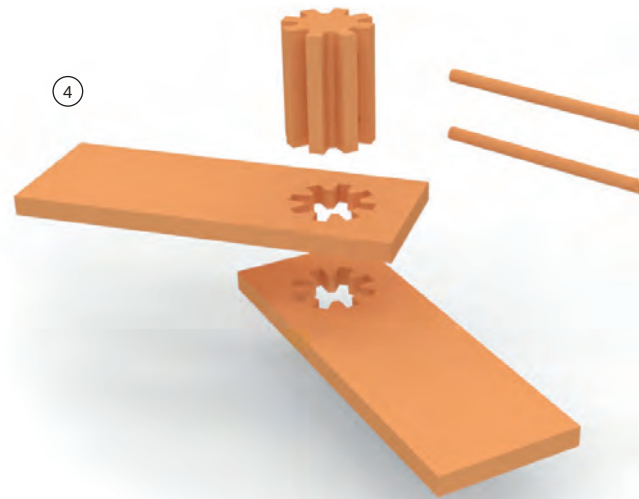


fig. 2 Diagram of wooden toy joint brainstorming that shows how different numbers of holes in the modules can create more configurations.

fig. 3 Dastranj's first attempt at simple wood joints that invite playful interaction. This iteration focused on linear wooden members with basic cuts.

fig. 4 3D model of an idea for a gear shaped joint and its possible configurations.

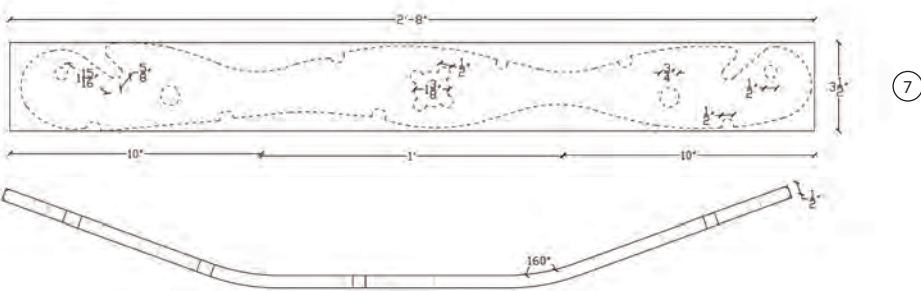


fig. 5 Image of Dastranj connecting two large toy modules after sliding one piece through the hole the other.

fig. 6 Image of child putting together two wood modules during user testing session.

fig. 7 Example module dimensions for Dastranj's wooden toy.

fig. 8 Dastranj focused on the sustainable and educational use of wood in play as well as the benefits of wooden toys on children's health and visual comfort.





fig. 9 Final exhibition image shows assembled wood toy modules and additional pieces for gallery visitors to play with.

Tanmayee More explains her "fire fossil" material matrix to critic Sara Ossana.



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Holden Rappuhn displays his yakisugi bark pieces to critics and students.



Jia Hu illustrates the structural mechanisms at work in a tree's branch collar.



Students display wooden cabinets and woodshop experiments for a group critique.



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Student photographs of observed wood "failures" around Providence on display next to woodshop experiments by Vija Lietuvninkas.



Cherie (Wenxin) Hu
Grain Shelter: Design Strategies for Sustainable Temporary Shelter from Reclaimed Wooden Pallets

INTAR

ABSTRACT This thesis explores the potential of wooden shipping pallets as a sustainable, base element for temporary shelter design. Often discarded after a single use, pallets are abundant, standardized, and structurally capable, making them a compelling resource for rapid, low-cost construction in times of displacement.

Through material studies, design research, and model prototyping, this project investigates how pallets can form modules of shelter that are easily assembled, disassembled, and adapted to different spatial needs. The design emphasizes flexible scalability—from a single-person shelter to larger communal configurations—offering a system that grows with its context. Assembly methods prioritize simplicity, accessibility, and simple tools, encouraging repeatable use. Sustainability is central to this approach: not only in reusing a waste material, but in promoting circularity, minimizing environmental impact, and designing for resilience.

By reimagining the overlooked pallet, this work invites a new kind of shelter-making: one that is grounded in necessity, yet open to possibility.

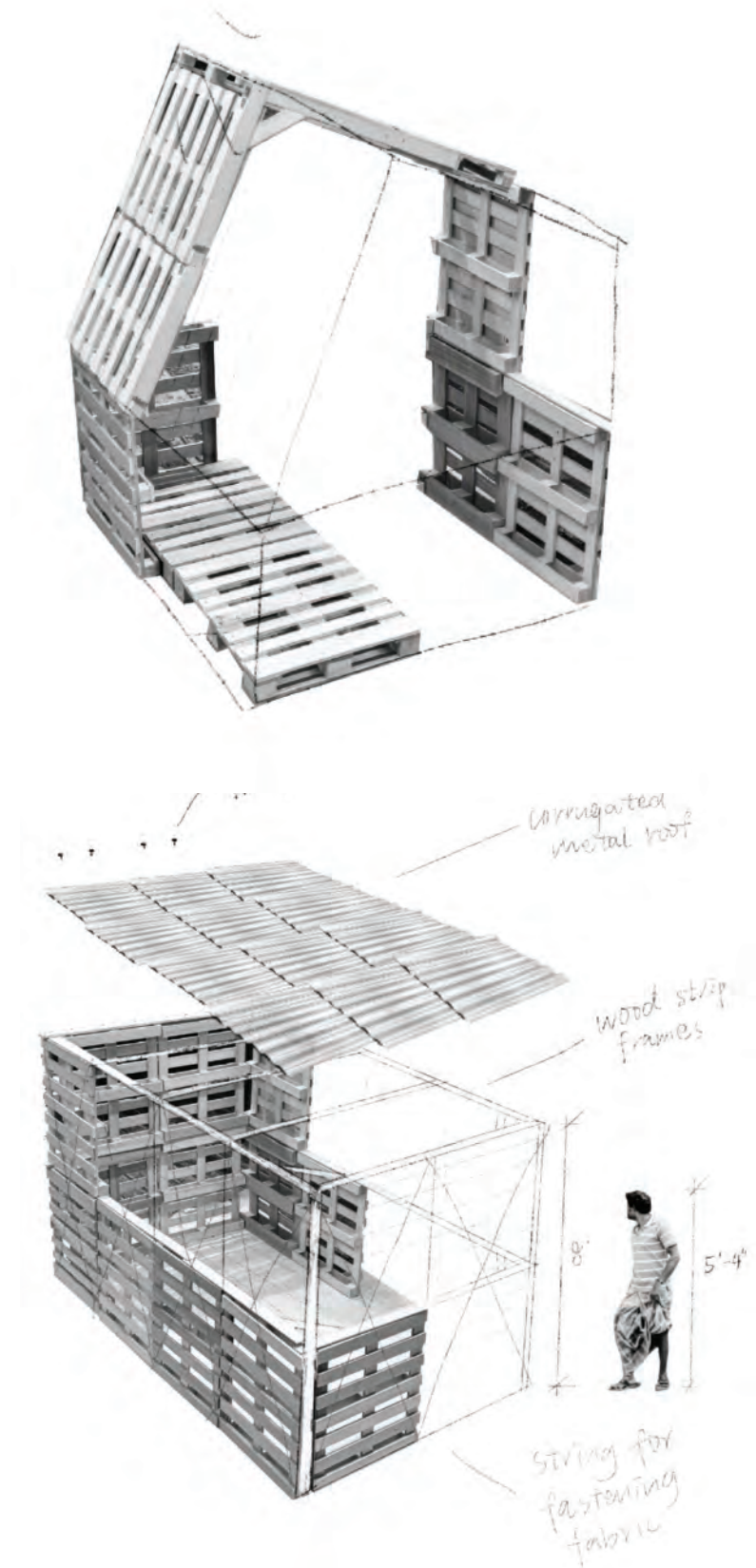
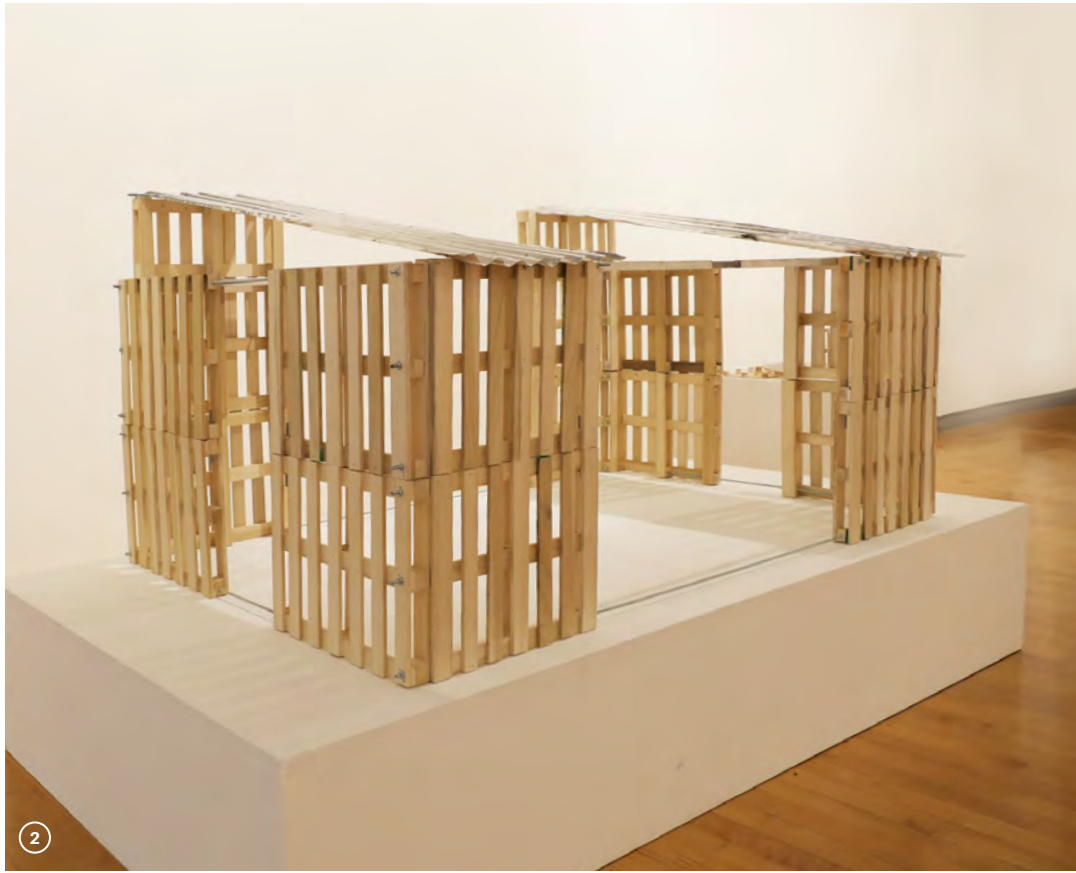
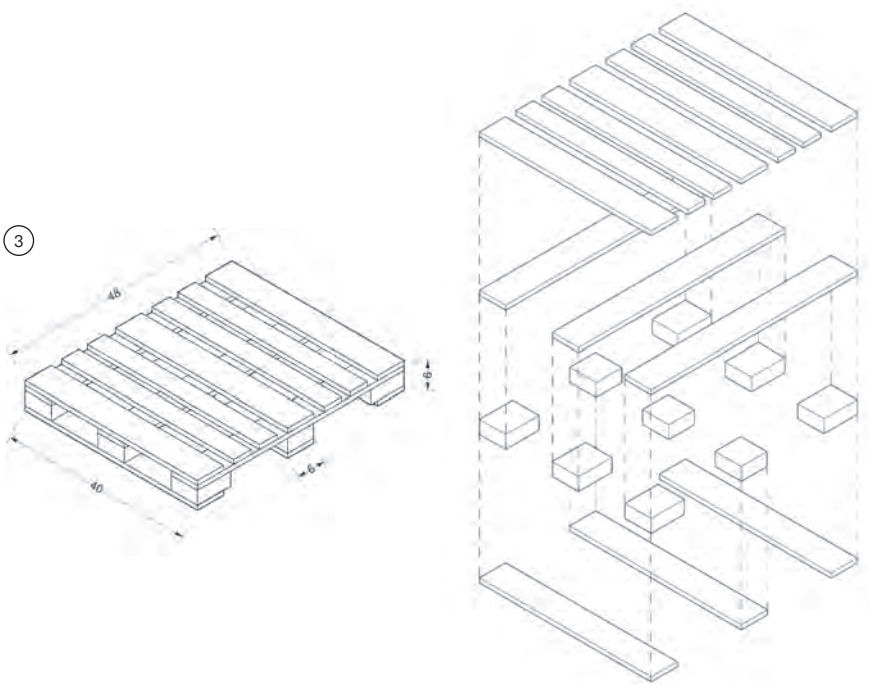


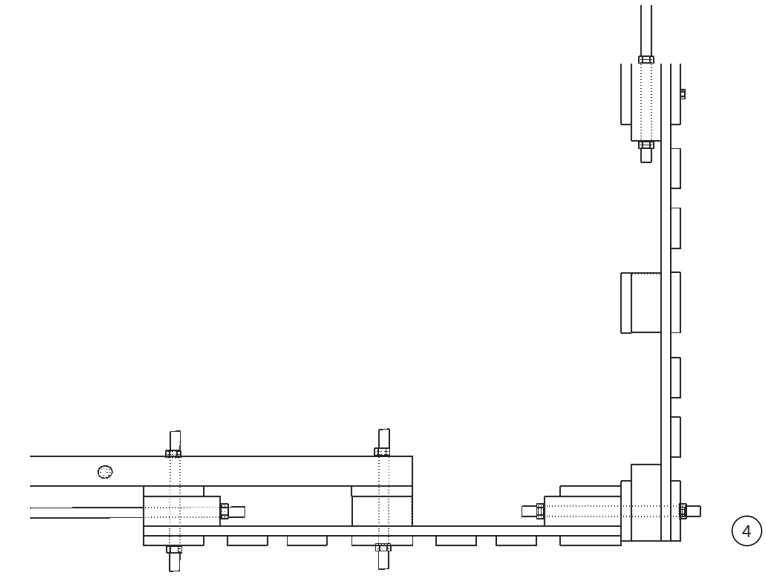
fig. 1 Images of iterative 1/4 scale recycled wood pallet shelter models exploring form and structure.



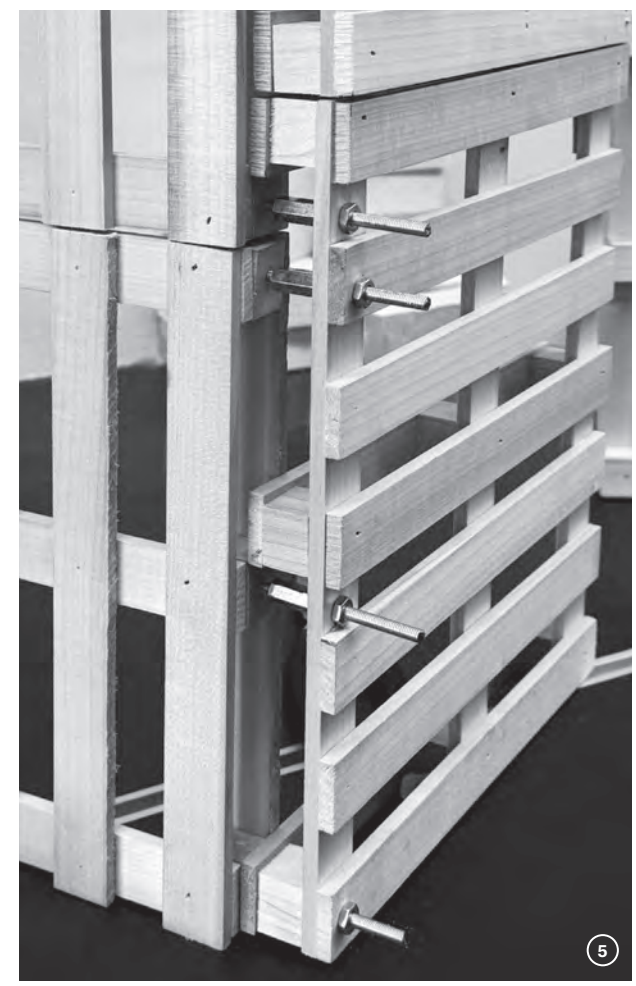
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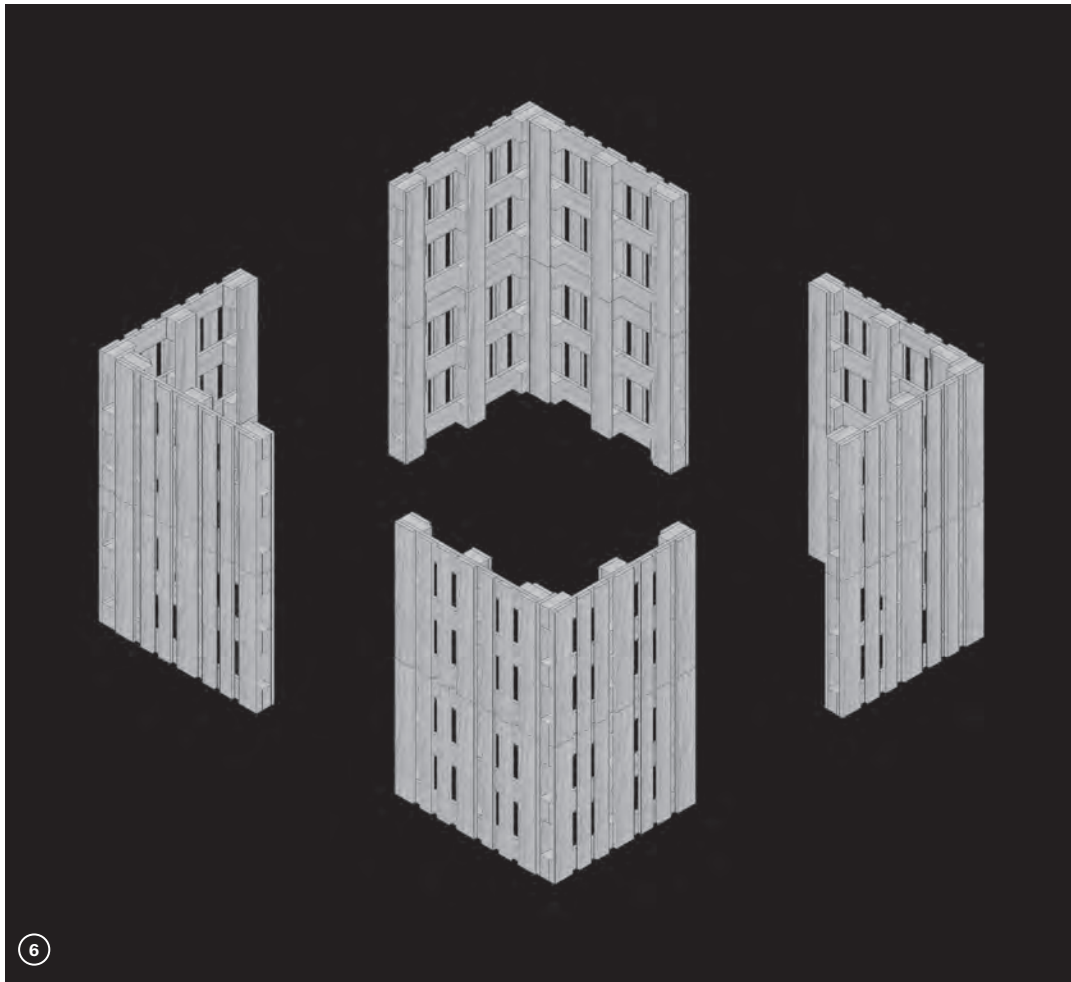
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fig. 2 Final exhibition image of 1/2 scale recycled pallet shelter assemblies with custom joinery and roofing attachments.

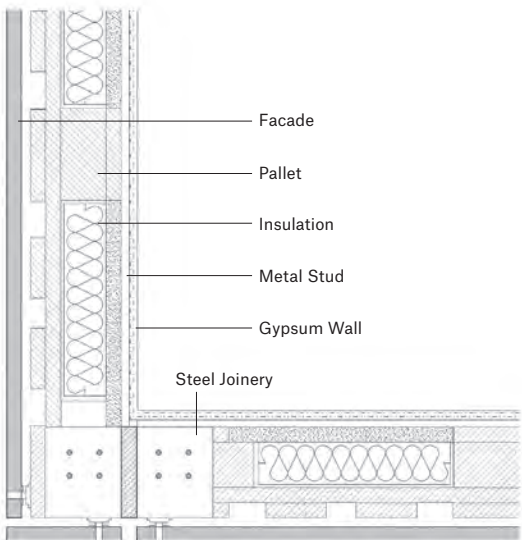
fig. 3 Hu's axonometric drawing illustrating standardized pallet "anatomy" including dimensions and components.

fig. 4 Detail drawing of Hu's finalized joinery for connecting and stabilizing pallets so that pallet shelters can be put together modularly.

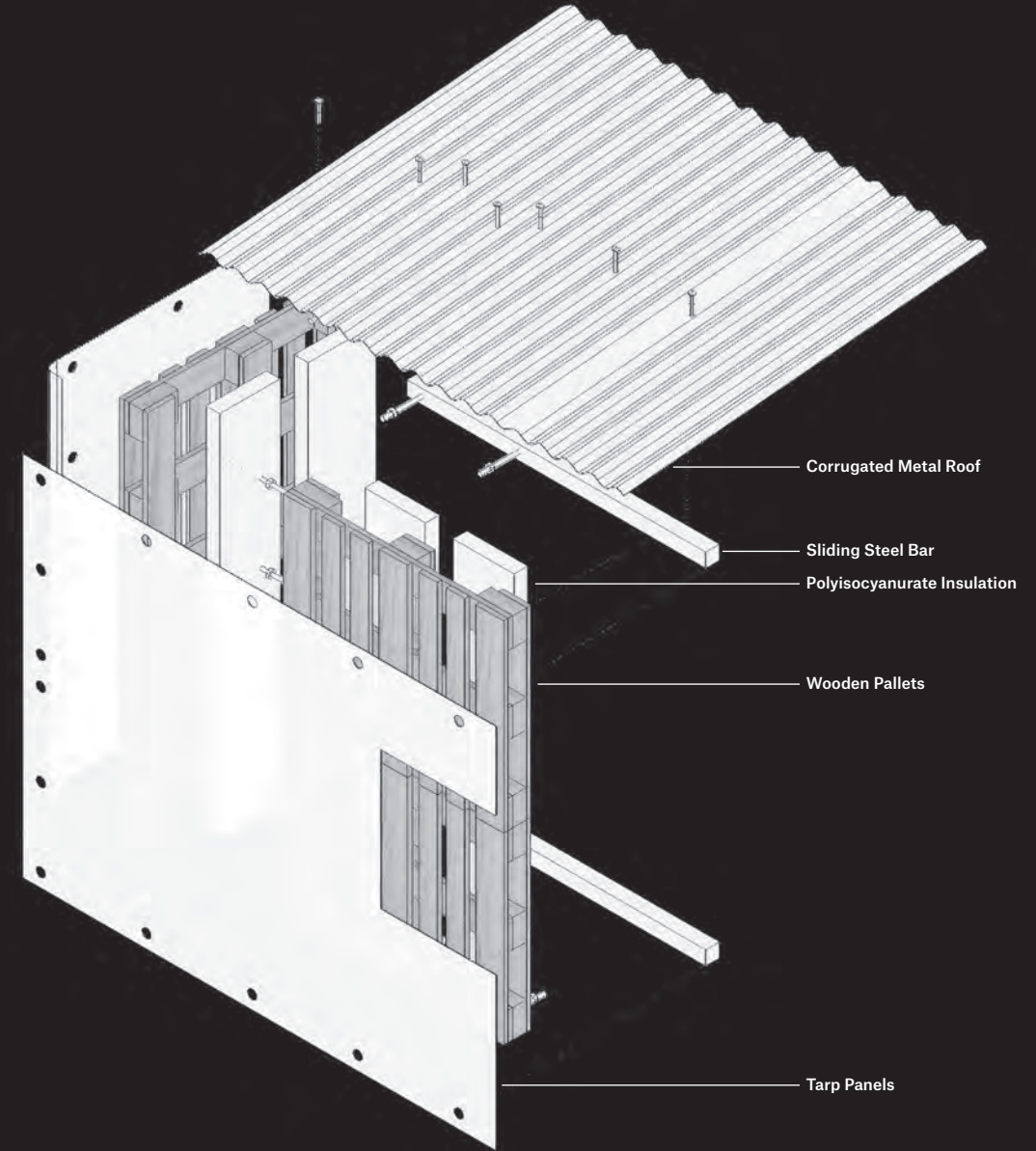
fig. 5 Image illustrating custom pallet joinery strategy developed by Hu on a 1/4 scale model.



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fig. 6 Hu's final pallet shelter system is based on four vertical corner units modeled in this image.

fig. 7 Construction documentation section drawing of shelter assembled with more traditional building components including insulation, exterior facade, and gypsum board interior.

fig. 8 Axonometric drawing of pallet shelter shows potential additions and material improvements that can be made to have the shelter function more long-term.



9

fig. 9 Final imagined rendering of people utilizing the pallet shelter assembly methodology developed by Hu. Wood pallets are reused and reconstructed to provide nomadic, semi-permanent housing.

Tanmayee More

Fire Fossils: *Biomineral Infrastructures* *in Untangling Climates*

LDAR

ABSTRACT Diatoms drift, sediments sink, wildfires generate their own weather. Lightning strikes can blast sand into glass, and microscopic organisms do the same in the cold recesses of the ocean. What alchemies and metabolisms catalyze space, time, and energy? What are the thermodynamics of infrastructure in Climate Change?

Places, materials, and beings are afterimages. Through alchemical experiments, and multi-scalar imaging, I develop simulations of wildfires, and their profound, reverberating effects. In this thesis, a glass-meets-landscape experimental process enters these obscured conditions and renders new material relations for the built environment.

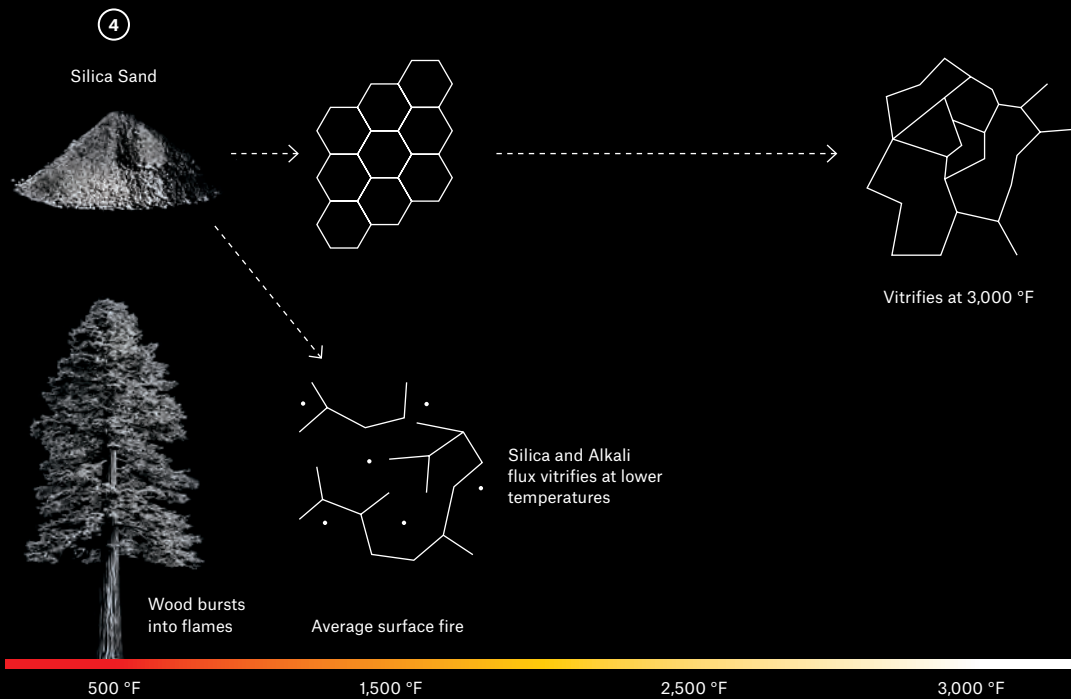
fig. 1 Image of More's 1/4 scale fire fossil model after being covered in wood ash and fired at 2300° F.

fig. 2 Image from final exhibition shows fire fossil modules at 1 to 1 installation scale.





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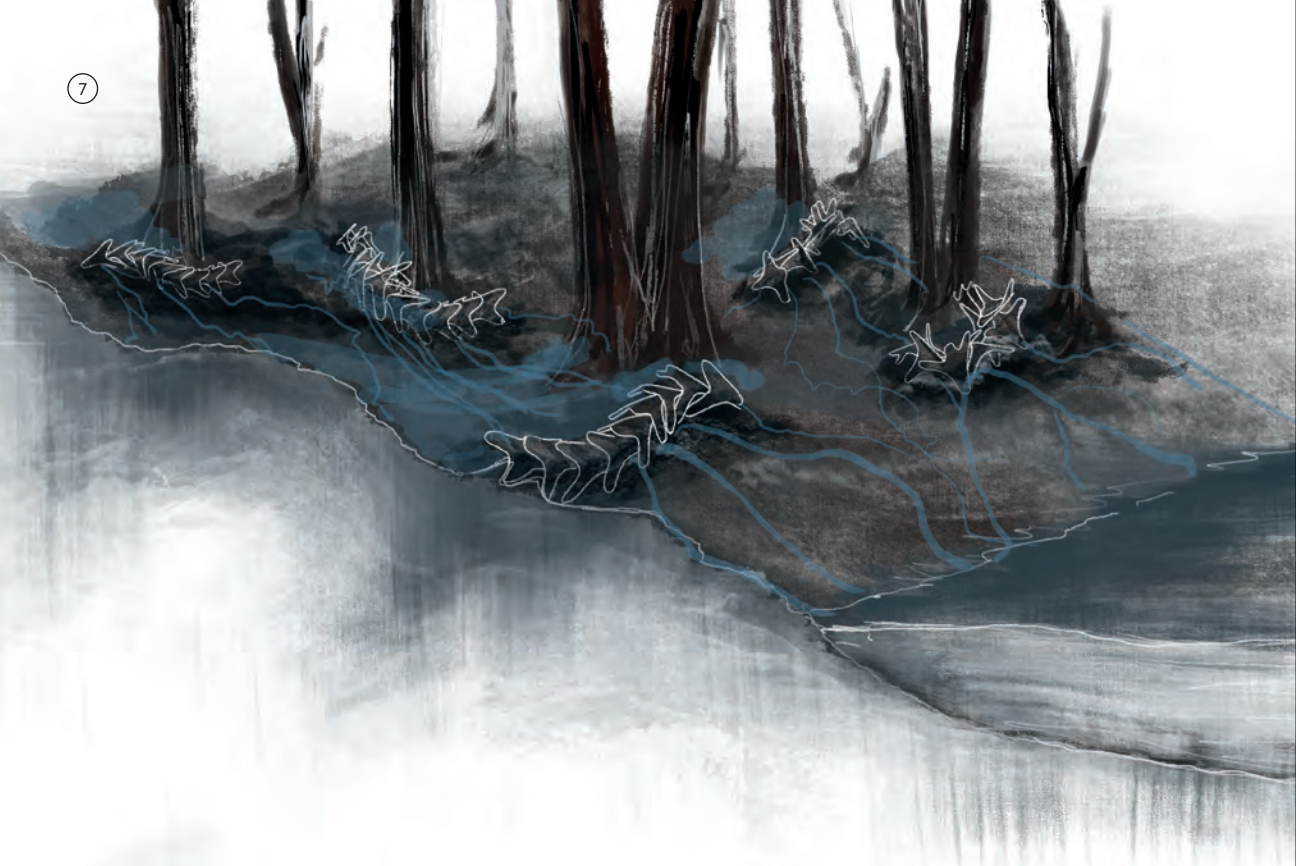
fig. 3 Flux materiality collage with phase diagram from Professor Reid Cooper and material images unique to More's alchemical experiments.

fig. 4 Diagram showing potential wildfire temperatures and the wood/silica reactions along the axis of temperature intensity.

fig. 5 Final exhibition image of More's fire fossil material experiments pre and post firing in the kiln at wildfire temperatures.

fig. 6 Silica/wood ash/cellulose iteration of fire fossil module 3D printed on the Potterbot in the Nature Lab.

7



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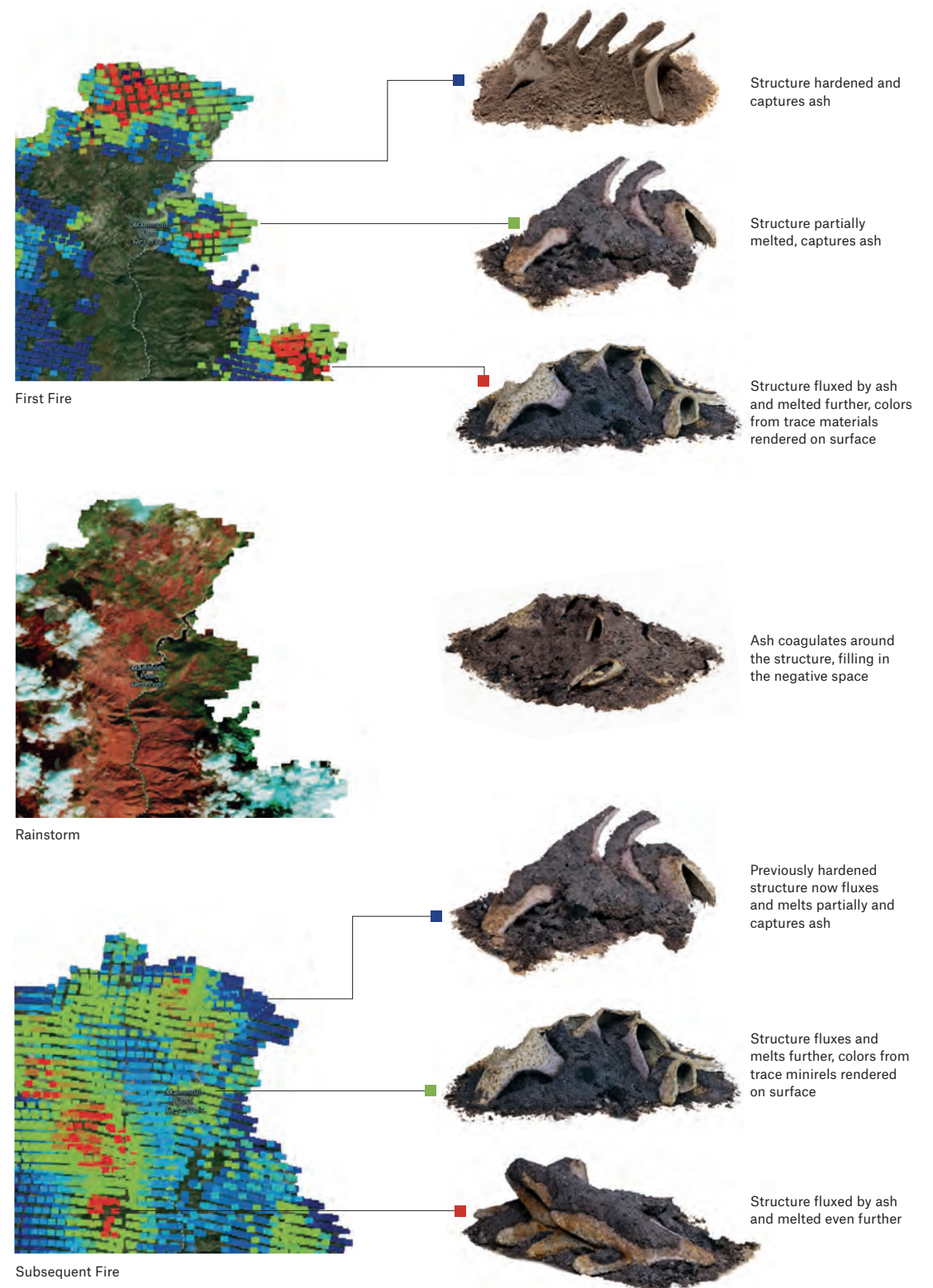
fig. 7 Sketch rendering of fire fossil modules acting as check dams for sediment flow in a rainstorm after a wildfire, mitigating some of the hydrophobic effects of ash cover.

fig. 8 Image of More's fire fossil model after being fired at 2300° F. Blue color is a result of combining a specific wood ash with silica.

fig. 9 Diagram shows potential installation timeline including how fire fossils will react to and mitigate initial and subsequent fires and rainstorms.

9

Wildfire Intensity ■ 0-5 Gigawatt ■ 5-200 Gigawatt ■ 200+ Gigawatt





10

fig. 10 More's rendering of a "Forest Alchemy Trail" fire fossil installation after a fire and during a preliminary successional growth stage.

Workshop

The Boat

The goal of the Lab is to build fabrication literacy in the material under study each year. In the case of wood, a traditional skiff was selected as an ongoing build project because its construction engages nearly every hand and mechanical tool available in the RISD shops and relies on a range of wood species designed to withstand the test of time. The boat was never intended to be the conceptual focus of students' thesis work; rather, it served as a critical educational tool to support and expand the fabrication skills needed to realize their own design visions. From the ecology of where specific species are grown, to how long eastern hardwoods can stay in the steamer, the boat had a skill for everyone's interests.

DETAILS

Process

- Sep 17 Shop orientation, sharpen tools
- Sep 24 Introduce the boat
- Oct 1 Drawing and cutting curves
- Oct 8 Using fasteners, the boat's keel
- Oct 22 Planking the boat
- Oct 24 Hand cut joinery
- Nov 5 Basic residential carpentry
- Nov 19 Making jigs
- Nov 28 Steam bending wood
- Feb 20 The Apprenticeshop visit
- Mar 20 Steam bending boat frames
- May 24 Boat launch



PAGE	TYPE	ITEM
6	Essay	Introduction
10	Essay	Lessons From Trees
14	Workshop	Tillinghast Farm
20	Thesis	Vija Lietuvninkas
30	Workshop	Reading the Forest
36	Thesis	Tryn Collins
44	Thesis	Maya Sosland
54	Thesis	Jia Hu
62	Site Visit	Harvard Forest
70	Thesis	Cody Young
80	Thesis	Taylor Jais
90	Travel	Maine Four Day Trip
112	Thesis	Baiqiang Zhang
112	Thesis	Holden Rappuhn
120	Thesis	Benjamin Riley
128	Thesis	Farnaz Dastranj
136	Review	Midterm
140	Review	Wintersession
144	Thesis	Cherie (Wenxin) Hu
152	Thesis	Tanmayee More
	Workshop	The Boat
170	Opening	Exhibition
176	Essay	When Does It <i>Matter</i> ?



Students spend the first few months of the lab working with hand tools on the Norwegian Pram sailboat. Tom Weis also instructed students on how to use machines for fabrication in the ID woodshop.



Raw cedar planks were cut down to match plank templates using the bandsaw. Planks were then hand-planed to fit into one another and riveted to the keel of the boat.





Kevin Carney and João Strout-Bentes from the Apprenticeshop in Rockland, ME came to RISD in the spring to help us finish up planking the Norwegian Pram.





Images of students carrying the boat from the ID woodshop to the truck that would transport it to the Sol Koffler Gallery for the Lab's final exhibition.

Final exhibition photograph of boat hanging in the Sol Koffler gallery space.



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Saw horse with live edge slab and various handtools used throughout the Wood Lab year assembled at the final exhibition.



Norwegian Pram sailboat hung from the ceiling and displayed with tools students made throughout the year placed inside.



Image of critics interacting with Tanmayee More's fire fossils during the final exhibition presentation.



Image of thesis assemblies constructed and displayed in the Sol Koffler Gallery.



When Does It Matter?

Johanna Barthmaier-Payne

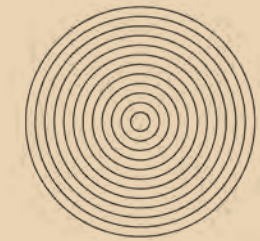
Director, Sustainability Design Lab

Despite being one of the oldest and most widely used construction materials, trees (wood) and their ecological and cultural relationships remain largely absent from contemporary education, design, fabrication, and construction dialogue. In fact, in most conversations, I've even noticed trees and wood treated as almost neutral; a renewable commodity, and not really thought of as organisms inherent to a complex cultural, political, and ecological system. Very few people I talk to outside of my "landscape" bubble ever acknowledge the material cultures of trees and wood, and how expansive and relational they are. Or how trees and forests become tangled in often unfair, relationships of extraction and sites of production or consumption. While these relationships are often constructed through narratives of innovation and sustainability, they're equally tangled up in histories of labor inequalities, ecological degradation, and cultural exploitation.

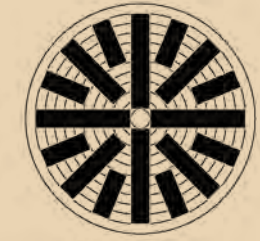
Timber extraction in New England has often come at the expense of forested areas sacred

to the Penobscot, Massachusetts, Pokanoket, Nipmuc, Wampanoag, Pauquunaukit, and many other Indigenous communities. Before European settlement, forests were shaped by long-standing ecological processes and Indigenous practices that supported hunting, agriculture, and settlement while being regeneratively maintained for the future. Land, trees, water, and nonhuman biological life were not seen as economic assets, but as interconnected elements within living systems and often-times, kin.² This relational worldview stood in stark contrast to the colonial constructs that followed, where forests were rapidly redefined as commodities to be owned, traded, and exhausted, and for better or worse, this construct still very much drives our perspectives today.¹

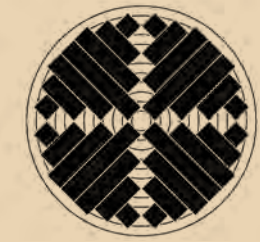
Power and economic structures at global scales became directly connected to deforestation, making wood one of the most critical aspects of colonial expansion. Timber supplied domestic construction and shipbuilding, enabling



Tree Rings



Quarter Sawn



Rift Sawn



Plain Sawn

①

fig. 1 A diagram of tree rings and how different lumber cuts relate.

maritime trade, and geographic control. Forest ecologies literally became projects of world-building, as trees were transformed from living participants in place into materials for ships, settlement, and infrastructure, then measured, transported, and consumed at massive, irreparably damaging scales.¹ Mass deforestation continued throughout the last century and half, making way for agricultural uses.¹ And even though the US, specifically in the Northeast, has made major efforts to reforest cleared areas, the efforts are still largely conceptual, failing to fully engage with ongoing issues of deforestation, land rights, labor conditions, carbon cycles, political economies, and entrenched industry standards that originated in the checkered history mentioned above.

“Strange that so few ever come to the woods to see how the pine lives and grows and spires, lifting its evergreen arms to the light,—to see its perfect success, but most are content to behold it in the shape of many broad boards brought to market, and deem that its true success!”

Henry David Thoreau, *The Maine Woods*³

Some time before teaching this year's version of the Sustainability Design Lab, I had the chance to work closely with an arborist in my own yard to take down a large spruce. For as long as I had lived with it, I understood the tree as a living, breathing biological being, part of my yard, and part of the larger landscape that surrounded it—it was so tall you could see it a mile away from the center of town, and echoed with owls every night! Yet, the moment the saw cut through its trunk, the arborist shouted the obligatory “timber!” and something immediately changed. A conceptual boundary had been instantly crossed. The sudden shift in language was a dead giveaway, no pun intended. Suddenly, the arborist and I were no longer talking about roots and nutrition, and the spruce's critical connection to the

others right next to it; I was now being asked about timber, board feet, cords, waste wood, and my mind was secretly spinning... Is the moment of cutting a matter of fact, or a matter of moral conviction? I found myself wondering whether the instant a tree is cut down, it ceases (at least in most Western cultural imaginations) to be understood as a living being. Does it immediately become a material, a piece of lumber, something to be burned, milled, or otherwise consumed? Is this transformation so constructed, or so quick, that we rarely pause to question it?

I'm very aware that this way of thinking is not exactly universal, so to be fair, many Indigenous groups understand trees as kin whose agency persists beyond death. Forest ecologists and soil scientists often claim that trees remain active participants once fallen, and even more valuable dead, in place, on the forest floor, than alive. There are craftspeople like green wood workers, boat builders and timber framers that hold labor-intensive and often painfully intimate knowledge of wood as responsive, dead or alive, and that knowledge is critical to understanding any reliable construction.² The list could go on with other practitioners and enthusiasts, but I simply wish everyone had this sensibility and that this knowledge was widely shared, especially with designers who work with wood and other inherent materials—not as a storytelling, good-faith gesture, but a sincere form of competence. I firmly believe that people who want to work with extracted materials should at least understand where materials come from, how they are processed, what relationships are severed or sustained in that process, and what possible impacts they might bring in the future. More importantly, how have these relationships been formed and sustained over time, how have they shaped our landscapes over the past few centuries, and how do they continue to inform our cultural understandings of ecology and materiality today?

Is the moment of cutting a matter of fact or a matter of belief? I found myself wondering whether the instant a tree is cut down, it ceases to be understood as a living being.

Standing beside the arborist as the spruce fell, I realized how rarely this inner dialogue accompanies the moment of cutting. To carry it is to refuse the convenience of seeing materials as inert, neutral, or fully resolved at the moment they are extracted from their environment. I think we need to feel this inconvenience if we want to move forward to a “sustainable” future.

By the end of the year-long Sustainability Design lab sequence “Territories of Wood(s)”, the faculty wanted to position wood not only as a material of fabrication, but as a lens through which to understand the intertwined histories of ecology, industry, and design in New England. By tracing the material's journeys from ecological cycles to the forest, standing tree to mill, and from board foot to construction, the course invited students to consider how wood has shaped, and continues to shape, the region's landscapes and built environments. In doing so, it positioned material literacy as inseparable from ecological

awareness and ethical responsibility, asking the designers who joined us for the year, how might we engage wood not as an abstract sustainable solution, but as a living record of place, power, and maybe even possibility.

References

- 1 Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press, 2016.
- 2 Cronon, William. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. Hill and Wang, 1985.
- 3 Thoreau, Henry David. *The Maine Woods*. Edited by Joseph J. Moldenhauer, Princeton University Press, 2004.



A Tryn Collins	F Holden Rappuhn	K Jia Hu
B Johanna Barthmaier-Payne	G Baiqiang Zhang	L Cherie (Wenxin) Hu
C Benjamin Riley	H Maya Sosland	M Tom Weis
D Tanmayee More	I Wolfgang Rudorf	N Farnaz Dastranj
E Cody Young	J Taylor Jais	

Faculty

SDL Director

Johanna Barthmaier-Payne
Associate Professor, LDAR

Johanna Barthmaier-Payne is a landscape architect and cofounder of the multidisciplinary studio A TON. In her professional practice and research she examines the relationships between urban design, ecological and cultural systems, and community collaboration. Leveraging her expertise as a graphic designer, artist and visualizer, Johanna explores large-scale ecological opportunities involving social and environmental issues in urban and built environments. She is dedicated to advancing knowledge on how ethical design, narrative, and visual communication can support the broader public and promote nature-based design solutions.

Tom Weis

Assistant Professor, ID

Tom Weis teaches graduate and undergraduate-level courses at RISD in the Industrial Design Department. Weis teaches on topics such as design and global security in addition to courses that focus on the use of objects and beauty. In addition to teaching at RISD, Weis is a co-founder of the Altimeter Design Group. His work focuses on the use of objects and artifacts to connect audiences and organizations to a range of complex issues.

Fatema Maswood

Assistant Professor, LDAR

Fatema Maswood (they/she) is a landscape and architectural designer based in Providence, RI. They design, vision, build and grow towards "life-affirming institutions" (Ruth Wilson Gilmore). Some of their work includes co-creating the Providence Seed Library with Community Libraries of Providence (provseedlib.com), researching and modeling North African water harvesting and flood mitigation technologies, working towards community land access and designing and building with youth. In addition to their professional practice, Maswood teaches in the Landscape Architecture and Interior Architecture Departments at RISD.

Wolfgang Rudorf

Associate Professor, INTAR

Wolfgang Max Rudorf is a licensed Architect in Massachusetts and a LEED accredited professional, concentrating in his practice on the interface between the architectural and engineering disciplines. Responsible for the design and construction of large adaptive re-use projects, affordable housing projects, and the preservation of historic landmarks in the United States and Germany, he is an adamant supporter of an integrated project delivery method. He has taught for many years at RISD and currently teaches in the Interior Architecture Department.

Bob Pavlik

Critic, INTAR

Bob Pavlik is an artist and professor of architecture, based in northwest Connecticut and western Massachusetts. His work focuses on novel experiments with materials and methods of making. Pavlik's work has a strong emphasis on physical structure, often highlighting unique connections and joinery. His work blends advanced computational design methods and computer-controlled fabrication equipment with analog hand-craft techniques. For the past sixteen years Bob has been a professor of architecture, with academia providing a setting for both theoretical research as well as physical experimentation.

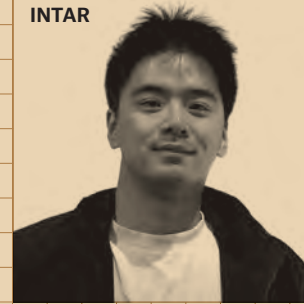
Mark Johnston

Senior Academic Technologist, ID

Mark Johnston is a designer/maker, photographer and educator who has worked in the Industrial Design department since 1991, managing and maintaining the woodshop and providing critical guidance to students and faculty. From project inception to ideation to fabrication, he helps students reach their full potential and produce projects that represent their individuality and meet the goals of the assignment. He has taught such courses at RISD as beginning and advanced woodworking and photography.

Students

INTAR



Baiqiang Zhang

LDAR



Benjamin Riley

LDAR



Cody Young

INTAR



Farnaz Dastranj

INTAR



Holden Rappuhn

LDAR



Jia Hu

LDAR



Maya Sosland

LDAR



Tanmayee More

LDAR



Taylor Jais

LDAR



Tryn Collins

ID



Vija Lietuvninkas

INTAR



Cherie (Wenxin) Hu

Acknowledgments

A heartfelt *thank you* to everyone who has supported the Sustainability Design Lab in its inaugural year, including our dedicated students, faculty, and expert collaborators. Your enthusiasm, commitment, and support have been instrumental in advancing the Lab's mission and pushing forward its curricular and pedagogical goals around sustainability and materiality in the design industries.

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