CONTENTS

- Timeless Materials
- The Politics of Stacking
- YMCA • CORE II
- Environmental Angst
- Embodiment
- Discretization
- Peculiar Artifacts
- Shattering for Flexibility
- Sculpting Dimensional Lumber

- Forest Fire to Furniture
- LED Sandwich
- A Magical Dome
- Cardboard Collection
- Metal Smithing
- Casting Studies
- A Project About My Sister
- Choreographed Evasion
- Drop Me Slow
In the Big Horn Basin, an extensive repository of movement, time, and space has collected. One can see the earth’s stacked geologic past. Trapped and sealed beneath salt, sediments, and time, oil, gas, and coal reside. They are the degradation of materials lost; the transformation of a previous world giving life to the next. Each source of heat bringing material revolutions and societal transformations. First peoples have crafted the earth, artifacts turned to relics with time. These light the experience and memory of place and people. Human touch is tied to geology, geography, and process. Clays are remains of a world unknown.
Geologic memory is articulated through materiality and form, provoking connection and questioning linear time. How can time be collapsed, rumpled, and pinched to generate relationships across space and time? Connection between geologic material events, extractive practices, and making with the earth exposes eloquently thin ceramic composites, spatializing materiality and time.

TIMELESS MATERIALS II CRAFT AS CONSTRUCTION
Non-metallic and non-organic, clay is swirled into a slurry, whose phase change gives way to structure. It is strong in compression and weak in tension and shear. That is, until, reunited with a sibling that it once trapped and hugged to the earth’s core. Just as horsehair has held plaster, straw has reinforced clay, and wattle lattices have supported daub, carbon nanotubes will strengthen ceramic construction. Carbon nanotubes extend into the landscape just as the vault itself reflects the earth from which it rises. Sediments and nanotubes once nestled and entangled within the pores of one another beneath the earth are once again strengthened and embedded, enclosing space on the earth’s surface.
Hydrocarbons are pyrolyzed into carbon nanotubes, deployed along isocurves, and cloaked in clay. These materials meld as timeless as the sculpted figures and vessels of times past. They are reunited and strengthened through heat, fusing and sintering. Clay becomes matrix and matrix becomes ceramic; a material born from fire.
Sheeps Head Anticline is a fold that has been rubbed raw, brushed away by wind and water. Its erasure reveals a colorful stratum, a geologic record with layers giving way to a ghost. Sediments express time of settling, rate of crystallization, and conditions of metamorphization.

TIMELESS MATERIALS II CRAFT AS CONSTRUCTION

madison limestone

cloverly, morrison, sundance

phosphoria, tensleep, amsden

bighorn limestone

gypsum springs, chugwater

thermopolis

pierre shale

laramide & associated formations

big horn river

NATALIE PEARL
processional
unsealed space

stone rubble
salt dome
strata as clay

unseal'd space

processional

strata as clay tile

pat fired vault

traditional ecological knowledge

learning

making

firing

material innovation

acknowledgement

learning

firing

strata as clay tile

carbon ceramic composite

NATALIE PEARL
Collapsing the formation of Wyoming oil and bentonite clays takes shape as a compressed salt dome, where oil was once trapped before extracted. Processes of weathering are reflected in form, gradients are engaged, and structures dictate by pigmented sensibilities. The first peoples existence for 10 thousand years yields a clay vault formed over timber and tree flimmings, hardened through their burning and disappearance, giving space to study past peoples, their traditional knowledge, and understanding of working with the earth.
The discovery and extraction of hydrocarbons gives way to a space that requires geologic understanding. The hands will collect a repository of minerals and sediments for geologic learning and cultivation of material intelligence. Spaces emerge for the study of the earth’s processes, its formations, its stewardship, and its material deployment. Facilitation of earth system understanding yields an outpost for geologic field camps, facilities for collection, safekeeping, and making.
The pressure of extractive industries, the consequential removal of Native Nations, and the impending doom of climate change yields structural optimization through carbon ceramic composites. A disproportionate burden of popular practices of environmental degradation falls on those of minoritized populations, often Native Nations, descendants of these lands. One must pass through a sinuous curve of acknowledgment for past stewards of these lands prior to contemplating the innovative deployment of carbon as a tool in the battle against a warming planet, material depletion, extraction, and the prioritization of economic output.
TIMELESS MATERIALS II CRAFT AS CONSTRUCTION

NATALIE PEARL

XXX

14  INDUSTRIES

XXX
The institute will promote a logic of feedback systems. Acts of removal will be countered with gifts to the landscape. The loop, the process, is the point. The institute stimulates a timeless way of building. Within this institute, one ponders how to dwell, how to embrace environment, materiality, and connection. Relationships form with earthly memories of timescales beyond that of human life. One can feel rooted in the geologic process and human presence in the landscape. The material culture of clay emerges not only in the architecture but the programs that take place here. Building is a reflection on community values, constructing a material culture sensibility, and cultivating an ethos of reciprocity.
THE POLITICS OF STACKING

MIT CORE III - FALL 2020
A SEAWEED HARVESTING AND PROCESSING PLANT ON THE COAST OF MAINE

TEACHING TEAM: SHEILA KENNEDY, CRISTINA PARREÑO, RAMI EL SAMAHY
GROUP WORK BY: LATIFA ALKHAYAT, WILSON MARSHALL, TIM COUSIN, NATALIE PEARL

NATALIE PEARL
On the coast of Maine’s Mount Desert island, home of Acadia National Park, and sacred land of the Wabanaki people, an architecture has been proposed that questions ownership and permanence through an architecture of stacking. It is an architecture that will visit rather than eternally impose itself on the land.
This site and architecture’s stewardship is dictated temporally; seasonally. The cribbing will house a seaweed harvesting and processing facility in the winter and a Wabanaki space in the summer.
This shared structure will allow for integration and blending of communities within the transitional seasons of fall and spring. The goal is not to designate spaces for these communities, but to make these communities spatial.
Stones will be sourced from Crotch Island quarry, where stones are scattered like debris. They will not be treated as tools or instruments in the architecture, but as objects with personality, to be stored on site as an architectural repository.
Acting in compression, the stones of this proposal will enable cantilevers, provide counterweights, and increase the surface area of the coast by at least 4 times. The intertidal garden will slow wave action while also allowing nutrient-rich water to flush through the site.
Stacking and cribbing as a repetitive system has been eroded and provoked to create programmatic spaces. Where stone isn't appropriate, the constructive system continues in timber, both materials merging into a hybrid form.
THE POLITICS OF STACKING
Permeable at times and enclosed at others, this architecture serves human visitors as well as the coastal ecosystem, fostering the growth of seaweed, eel grass, and shellfish amongst the foundational stone cribbing. It is an intertidal garden joining land with coast with ocean.
Since the ice retreated, they have been here. Here where the earth's spin plunges me day after day into the rays of the sun. Here where stones grumble as they're dragged over my granite bones by ceaseless waves. The seams of scattered enclosures glow like lanterns held by slender timbers that have been bent and embedded in the earth. They are cloaked in the bark of birch and skin of animal in a deciduous manner, tanning as the sun slips into the sky. Slowly, laborious and timeless routines commence. They wake, they pick and they gather. Eel grass is plucked from the sea to be woven into baskets. Clams are dug from the mud to be consumed then cast into heaps, hardening and calcifying, merging with my existing skeleton. Artichokes are tugged from their stalks to be unfolded petal by petal. At the edge of my existence, where the ocean laps at the stones sprinkled between land and sea, a group is gathered. They season the roots that they pulled from my mossy skin. Each will puncture and stitch and repair canoes, vessels that have carried them to symbiotic ceremonies from the river's mouth.

As the world is warming, they surge forward, wrestling the fingers that are being constructed along my coast. Each wave draws them forward, boats whose cargo sinks them deep, their bows flitting with the flooding of waves. Beyond the horizon, they originate, an island populated by debris. They are stones, the consequence of violence, of production that has diminished into a lethargic quarry. Intense production followed by shifting practices and priorities. My gut wrenches as I contemplate the innards exposed and scattered over the landscape. For weeks they have been gathered, dragged, and hauled to me. Once aimless but now cradled in my coast. Relieving one island and constructing purpose on another. One upon another, piled high, like an appendage I never knew I needed. One by one they are dressed, nested, and stacked, gently resting but always heavy. They are skeletal fittings, prosthetic extensions articulating enclosure, breaking waves, and nurturing sea life. They are an architecture that visits rather than eternally imposes itself on myself. I am a repository, dictated by a constructive presence and eventual absence of stone.

This work builds off of The Politics of Stacking. It explores the themes of temporality and assembly through stacking through the representation of the site at different moments in time and phases of assembly. The goal of these paintings is to expand the time frame in which we understand and present our architecture.
The sea has risen, and through a blue waving wash of water, I see it below. Above, white crystalline flakes drift. I see lobster buoys sway, rooted by cages, their once bright coloring paling with each passing sun. My vision is parsed by moments of darkness, and short visits from a sun that slinks low through the sky. My crumbling stone fringe is punctuated by a crystalline granite structure bridging land to ocean. Emerald clings and drips from each stone, extending my life giving further out to sea. Ice crystalizes, and seaweed swings like charms on a bracelet until frozen fingers dip beneath the water's surface, slicing roots, scraping stone. The seaweed-laced ocean surges and collapses upon a permeable network nurturing an intertidal garden. It is a ritual. Bloated greens are passed from stone garden to stone enclosure to eel grass basket. Strung to a straining body by a braided rope, the basket is lifted. Seaweed is elevated to a warmer, drier place where it will shrink and shrivel.

The world continues to shift, and so too do the spaces under which I exist. Each afternoon, as the wind grows dreary and the sun slumps, limbs relax. I am punctured by roots that reach through a moistened earth, navigating polished stone, and gripping hardened bedrock. I am topped by salt-stained shingles scattered and perched throughout. An aircraft spits its way through the sky, its reverberations echoing off the water. Stones once so impeccable dressed and stacked have fallen as we shift with time and evolving purpose. I was fond of their presence. I had started to caress, to hug. For years they were stacked and stored, merging with earth and timber. That is until they were needed elsewhere. The past couple of years have been marked by disassembly, an architectural weathering. I have had to loosen my grasp, to allow them to be plucked from my tendrils as an evolving erosion of the coast. Those that remain are held tightly, and many continue to glisten green. The breadth of my coast, my ecosystem, nurtured by the crib scape for years, continues to flourish despite the diminishing landscape of stone.
This project’s open-air design toys with the dichotomy of inside and outside. Using vertical elements that guide circulation and act as structural support, this architecture breaks the rules of the module and creates a cohesive architecture that parses the YMCA and public access in a linear fashion. As this project is located in a transition zone, from land to water, it is an architectural membrane extending from the cityscape into the water of the East river.
Selective viewpoints of Manhattan and the river engage passerby while not dramatizing the skyline of the rivers opposing side. Visitors descend through a layer of earth that has been peeled up to create enclosure and allow for the programmatic spacing of the YMCA. Once one passes through the threshold of the athletic facility, they are extruded out onto the water via public paths and docks connecting Domino Park and Grand Ferry Park to the south with the 5th Street Park and Pier to the North.
ENVIRONMENTAL ANGST

MIT CORE I
PERFORMANCE SPACE ALONG THE EMERALD NECKLACE
PROF. HANS TURSAK
FALL 2019
This work confronts the idea of the picturesque and challenges the urban environment's relationship with landscape through a procession that is conceived from axes that have been ascribed architectural form, both folding up out of the landscape and down into the water. This architecture, though placed in a site designed by Olmstead and meant to adhere to the pacifying of urban angst, challenges such notions by forcing the audience to confront an environmental angst.
Ornamental framing is used as a tool to enhance and juxtapose aesthetic and confrontational encounters with water. Temporal vantage points mark scenic and aesthetic moments to observe the water—dormant, still, and beautiful. The moments of scenic calm complement and challenge the performances’ characterization of water with its varying realities and potentials.
The Emerald Necklace, like many urban green spaces, is an artificial park. Deep beneath the superficial pleasantries of the Emerald Necklace there lie historical and infrastructural remains that have inspired the projects industrial materiality and aesthetic. This call to the area’s history can be paralleled in the architecture’s excavation and man-made carving of pathways for water and humans to travel. Through giving a one to one scale to humans and water, this relationship is equalized. The water is no longer a beautiful ecological element to enjoy, but a force to incite fear and anxiety.
Fabricate and Choreograph a 15-minute performance to elicit Awe, Curiosity, or Hesitation.
DISCRETIZATION

GEOMETRIC DISCIPLINES
PROF. JEREMY JII
FALL 2019
PECULIAR ARTIFACTS FROM A GLOBAL PANDEMIC

HANDWASHING, RITUAL, AND FORMS OF OBSESSION

PROF. JEREMY JIH

SUMMER 2020

NATALIE PEARL
PECULIAR ARTIFACTS FROM A GLOBAL PANDEMIC
Forest fires of the fall of 2020 rendered many woods ill and thus cut from their roots. I collected cottonwood stumps from Cameron Pass that were slabbed, dried, and reassembled into a desk. The greatest challenges of construction came with working with green wood, cutting and joining along a curve dictated by grain and maintaining a live edge. The cottonwood is paired with heart pine, pulled from an abandoned antique beam. This project was an opportunity to test the limits of working from home, working out of the garage, and learning from a carpenter/builder—my dad.
SCULPTING DIMENSIONAL LUMBER

ANDERSON RANCH ARTS CENTER
SUMMER 2019
LED SANDWICH
FOUND WOOD, LED'S, ADHESIVE
2017
A MAGICAL DOME

HOW TO BUILD A GEODESIC DOME: ISRU
TEACHING TEAM: TOM SACHS + NICHOLAS DE MONCHAUX
AUGUST 2020
CARDBOARD COLLECTION
CARDBOARD, GLUE
2017
Copper, Liver of Sulfur, Fine Silver
0-1/2" x 2" x 3-1/2"

Brass, Fine Silver
2" x 3" x 0-1/2"

Cast White Bronze, Fine Silver
0-1/2" x 1" x 1"

Cast White Bronze, Fine Silver
0-1/2" x 0-1/2" x 2"

Brass, Fine Silver
1" x 2" x 0-1/2"
A PROJECT ABOUT MY SISTER, ABOUT ME

SELF & WORK
PROF. ROSALYNE SHEH
SPRING + SUMMER 2020

NATALIE PEARL
A PROJECT ABOUT MY SISTER, ABOUT ME
This object and its evasive nature are being developed during the 2020 Covid-19 pandemic era of social distancing. Not only does it provide commentary on people’s fear of proximity, but its demeanor also reminds us of the desire to touch, to interact.

Inviting interaction but the inability to support weight led to an evasive agenda. One where the object avoids contact from the world at all costs. If and when approached, the top disk is triggered and moved by the calculated movement/arrangement of the Stewart Platform’s upper deck.

A Stewart Platform is used because it allows for six degrees of freedom, and can achieve the complex motions needed to mimic animal-like behavior and thus actuate this object in a manner that satiates its agenda. Having a static base and the upper disc controlled by a Stewart Platform, the object can lean away when approached. The Stewart Platform allowed the complexity of human-object interactions to be realized, as well as the object’s behavioral potentials.
The project began with constructing eyes, using the knots in wood as the corneas, and wicker to shape the eyes. Eyelashes were then formed out of a thin wire that would also act as a guide for tear drops. Each eye was connected to a 2×4 via wire. At the base of the 2×4 there is a dowel that has been attached to a dc gear head motor. Tear drops made out of clear plastic were attached to fishing line, which was then fed through the eyelashes of each eye and attached to the dowel. When plugged into a power source, the motor would begin turning, causing the dowel to spin, and the tear drops to move upward. The Arduino was coded to make the motor switch directions every 30 seconds, which allowed for the tear drops to retract up toward their eyes as well as fall toward the ground. Due to the force of gravity, and the ease at which the motor was able to spin, the tears, the tear drops fell much more easily than they were pulled up.