Sea-Change: Agential Landscapes and the Architectural Process

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Abstract

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This thesis proposes a sea-change in design thinking towards a methodology that builds an iterative, fluid, entangled, and discursive understanding of the architectural process, one that is better suited for the uncertain and rapidly changing future of our particular moment in time. It proposes a way of working and thinking that embraces the agency of materials, landscapes, histories and time as design partners, and proposes an architecture of questions and conversations, rather than singular solutions or answers. The thesis explored coastal Alaska and Iceland as case studies through a series of material apparatuses, and used collage as a generative and discursive methodology in this world of entanglement, metamorphosis and scalar relationships.

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please note:
best viewed digitally as
a 2-page spread

table of contents

INTRODUCTION: a sea-change

"Full fathom five thy father lies,
Of his bones are coral made,
Those are pearls that were his eyes,
Nothing of him that doth fade,
But doth suffer a sea-change,
into something rich and strange…"

-William Shakespeare,
"Ariel's Song", *The Tempest*

'Sea-change' is a Shakespearean idiom that describes a metamorphosis or a deep change in perspective. In *The Tempest,* 'sea-change' describes the 'rich and strange' material reordering of a drowned man's body wrought on by the power of the sea. It is an iterative transformation in which meaning is fluidly entangled in materials.

This thesis proposes a sea-change in design thinking towards a methodology that is better suited for the uncertain and rapidly changing characteristics of our particular moment in time. It is a method that embraces the agency of materials, landscapes and time as partners in the architectural process, recognizes desire as the fluid force through the movements of life, and holds space for the "rich and strange" in each iterative transformation.

In order to build a more flexible, diverse, sustainable, ancient and interconnected future, architecture needs to develop ways of working that erode the limiting notions of dualism, and instead intensify relationships of iterative entanglement where time is fluid, meaning is embedded in matter, and doing constitutes becoming.

This sea-change is intertwined with the theories of five concept-tools, and recognizes the entangled power of theory and practice: "we change the shape of a concept at the same time as a concept changes us on a molecular level, redirecting our modes of thinking and acting at the scale of perceptible change."[1] In other words, how we think shapes what we do.

Five concept-tools for a sea-change in design thinking:

Fluidity - in which time, change, water, the uncountable and the feminine find their flow.

Iterative Entanglement - a concept that helps us understand the "rich and strange" constant reordering of space, time, matter, and meaning in life.

Situated Listening - a perspective that recognizes the human in relation to the lives of other creatures.

Material Apparatus - in which the discursive agency of materials shapes our work and can connect us more deeply to time and site.

Desire - the force that flows through the movements of life.

The thesis builds an iterative, fluid and situated process from the already-entangled by beginning from sites and thinkers that already move through an entangled world. The immersion begins with artists and theorists who think and work fluidly, and moves to incorporate salmon, the coast and the north, and fishermen in a Catalogue of Fluid Thinkers. The process then tests its strength as an investigative, discursive and generative practice in two already-entangled case study sites: Bristol Bay, Alaska and Iceland.

part I

the THEORY

Figure 1

Figure 2

1 FLUIDITY

> "The tide
> is always pulsing upward, inland, into the river's rapid
> argument, pushing
> with its insistent tragic waves."
>
> - Jorie Graham, "Wanting a Child"

Fluid Thinking

Fluidity as a concept-tool builds a way of thinking and understanding of the world as fundamentally interconnected, sensitive, and susceptible to the ebbs and flows of time. Liquids and gases embody time in the endless flows of their material movements, and have the capacity to entangle the world due to their ability to penetrate solids and connect spaces through movement. A breeze entangles the inside of a building with smell of the environment; a river connects inland territory with the ocean.

Solids also move fluidly, though this is sometimes more difficult to understand from a human perspective as the rises and crests of mountain ranges happen over much longer time scales compared to an ocean wave *(figures 1, 2)*.

Fluid thinking finds its strength in uncertainty, as the only guarantee is that everything will change. To cultivate fluid

thinking means building a familiarity with the uncomfortable, anxiety-inducing state of not-knowing, but doing the work anyway. Fluidity is about questioning, about conversation, about multiplicity, and erodes the notion that there may be universal or 'right' answers. Fluidity favors ebbs and flows over progress and understands that everything is always, already in motion.

Water and Life

The fluidity of water in particular directly aligns us with life, as life originates in water and our bodies and minds materially consist of water. We carry our aqueous origins in our bodies even as we are mostly land-based creatures in the modern world. The choral space of the womb is water, and the moon's movements pull on the water in our veins and the water in the sea, the same yet at a difference in scale. The physical properties of this essential molecule are what enable life on this planet: its surface tension, its tendency to float when frozen, its power as a solvent, and its sheer force and insistence on movement.

The body and dance work of Emilie Conrad explores the ways in which the memory of fluidity permeates the body at multiple scales from skin, breath, flesh.[2] Even the most solidly-perceived materials in our body—bones—are subject to

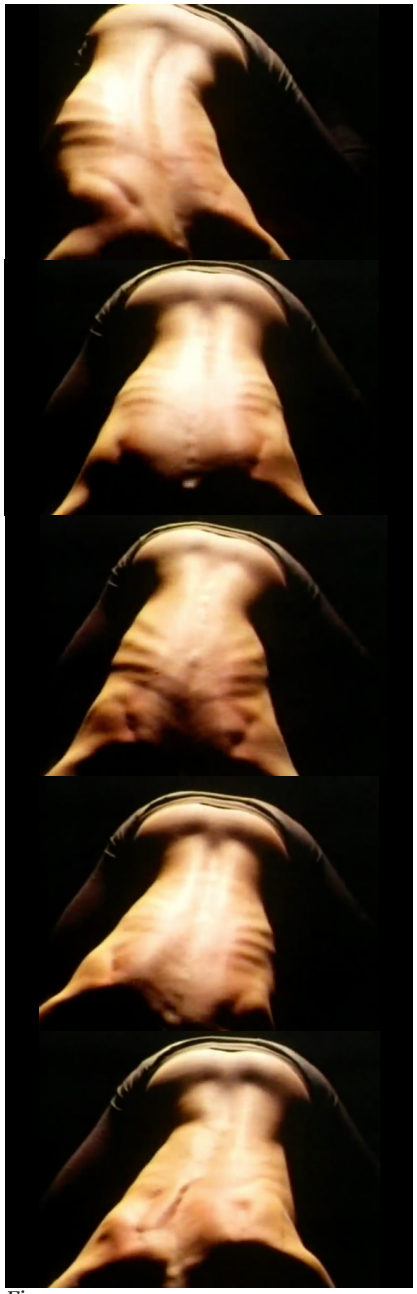


Figure 3

the flexible movements of water and fluidity *(figure 3)*. We are not merely metaphorically made of water, but are physical and gestural metamorphoses of water's articulation in the world.

Coastal Waters

Coastal water more specifically gives clues to the characteristics of this concept-tool of fluidity. It is against the relatively-solid coastline where the currents, eddies, tides and waves express their choreography, and it is along the coastline edges where life gathers. The dance of the tide's steady flood and ebb flows is like breath: inhale water rise, exhale water fall, like the chest of a breathing body. Ancient coastal cultures believed the ocean to be the creature or the breath of the earth itself as seen in its incessant inhales and exhales of tide and waves.[3]

The focus on the ocean is also a focus on the entanglement of life and death. The sea, particularly in Arctic climates, provides food, origin and life, but also the threat of death in its dangerous mercurial surface and frigid depths. By incorporating death into an understanding of fluidity in the design process, we more wholly engage with life.

Water and Time

Water and its motions are ripe processes for understanding the fluid movement of time. The tides at a river mouth remind us that time can move at different speeds as seen in the languid, stretched out hours of an ebb tide drain compared to the frantic sped-up flood rush when water swells in with life and depth for what feels like a few fast hours. The movement of water also reveals and manipulates time in its erosion of coastlines and exposure of sedimentation, in its repetitious gestures of breaking waves, and in its ability to remake space over the course of a day based on flat calm water or raging seas.

Fluidity and the Feminine

Fluidity is also feminine, feminist. As Luce Irigaray writes, the mechanics of fluids—that they are continuous, unending, resistant to the countable, and flow, fluctuate and blur[4]—are forces that incorporate the feminine and are necessary to erode the limiting constraints of phallogocentric systems.

The fluid feminine evokes sensations, ideas and perspectives that are difficult to define with precise language, and have a tendency to leak or bleed through singular or definitive borders. The feminine can be recognized in language that moves like poetry, in immersive visual images that envelop

like sound, in textural, sensory and multiple specifics, and in works that maintain the messiness of process and essence of motion even in the final, apparently-settled iterations. According to Irigaray, fluidity and the feminine drive a powerful force of continuous, viscous excess that is both "beneath or beyond the system currently in force."[5]

Fluidity as Undertow

A process with an undertow in fluid thinking puts an emphasis on movement, time, and interconnectedness. To cultivate fluid-thinking is to become comfortable in not knowing the final outcome, and to follow movement and connections that are difficult to rationalize or quantify. Just as our body has the capacity to move like water, this thesis argues our minds also move fluidly by thinking through association, becoming comfortable in change, and sensitive to our surroundings.

2 ITERATIVE ENTANGLEMENT

> "A day or two after my love pronouncement, now feral with vulnerability, I sent you the passage from Roland Barthes by Roland Barthes in which Barthes describes how the subject who utters the phrase 'I love you' is like 'the Argonaut renewing his ship during its voyage without changing its name.' Just as the Argo's parts may be replaced over time but the boat is still called the Argo, whenever the lover utters the phrase, 'I love you,' its meaning must be renewed by each use, as 'the very task of love and of language is to give to one and the same phrase inflections which will be forever new.'"
>
> -Maggie Nelson, *The Argonauts*

Iterative entanglement as a concept-tool explains the fluid process of material reorganization in time and space in the makeup of meaning and difference. Difference, in an iterative world, is described as a temporary state in a fundamentally entangled existence. Iterations are never final, universal answers, but instead are loving, flirtatious questions of meaning-making in time.

Performance, Meaning and Iteration

In *The Argonauts*, Maggie Nelson refers to a passage by Roland Barthes in which "the phrase 'I love you' is like 'the Argonaut renewing his ship during its voyage without changing its name.'"[6] As she describes, meaning must be renewed by each use. Throughout the book she explores how love, gender, desire, family and language are all subject to these iterations in order to maintain significance.

Iteration relies on the doing to define, maintain, and discover meaning. Karen Barad proposes a performative understanding of iteration, in which "thinking, observing and theorizing [are] practices of engagement with, and as part of, the world in which we have our being."[7] With this concept-tool, we can understand how theory constitutes becoming in ways that go beyond the representational and removed powers of language and metaphor to have material consequences in thought and work.

This notion of performativity in making and remaking the world is also an ancient perspective found in many pre-modern societies, and relies on an understanding of fundamental entanglement of materials, creatures, and spirits. Alaska Native Yup'ik ceremonial dance traditions are rooted in the belief that, as the dancer Emily Johnson writes, "all separation [is] momentary, whether social, physical or metaphysical. There is no finality in death. Rather, it is a re-cycling of life, an exchange involving rebirth."[8] Dance in this tradition was understood to balance the knowledge and forces between the physical and

the spiritual worlds, and maintain a meaning of life that was present from the beginning.[9]

From the perspective of physics, all life and matter is in a constant molecular exchange of energies and particles. A molecular tectonics viewpoint reinforces this understanding of the world as fundamentally entangled, always in a state of movement and redefinition.

Collage, Time, Entanglement

Collage as a methodology embodies the fluid movements of an iterative, entangled project in meaning-making. Collage has the capacity to bring together materials, ideas, and associations into dialogue, and can capture a sense of time and process in an image. The architect Enric Miralles uses collage in a few different ways. A photomontage-style collage captures a building midway through the process of becoming *(figure 4)*. The collage of construction invites time into the full architectural process of his design work where the past, present and future lives of the building are contained in this image of becoming.

Another Miralles-collage technique is through a process of imperfect anagramming, where an element or idea from a previous project is literally cut and pasted into a new design; in this case, a column profile *(figure 5)*. He also employs a cut-

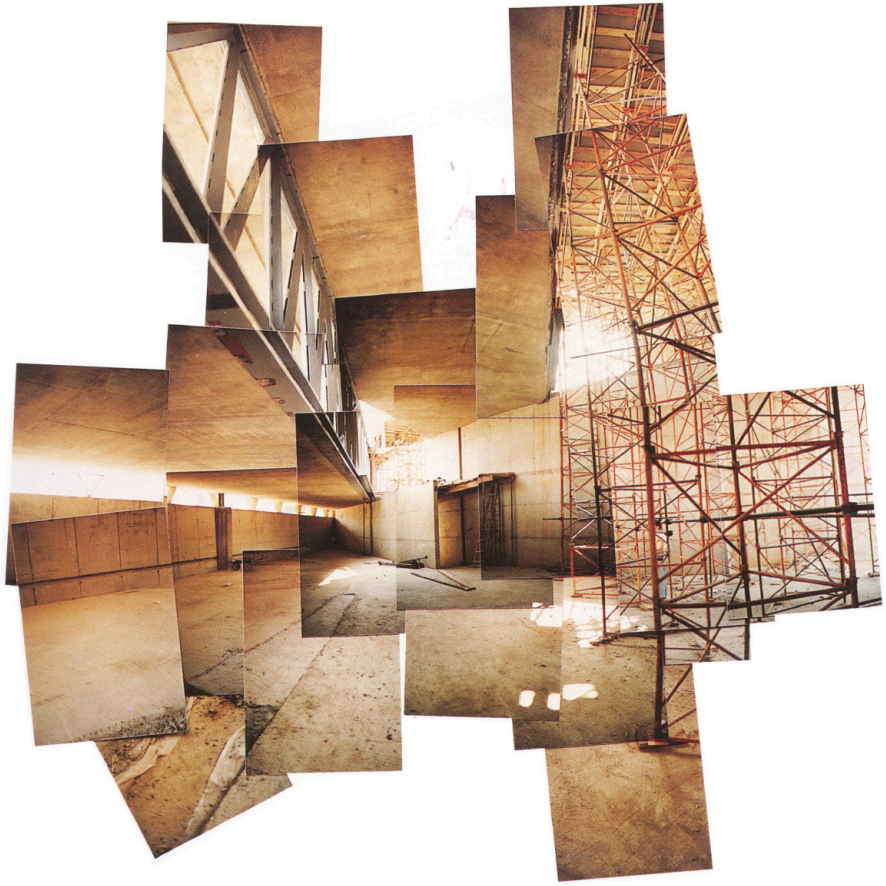


Figure 4

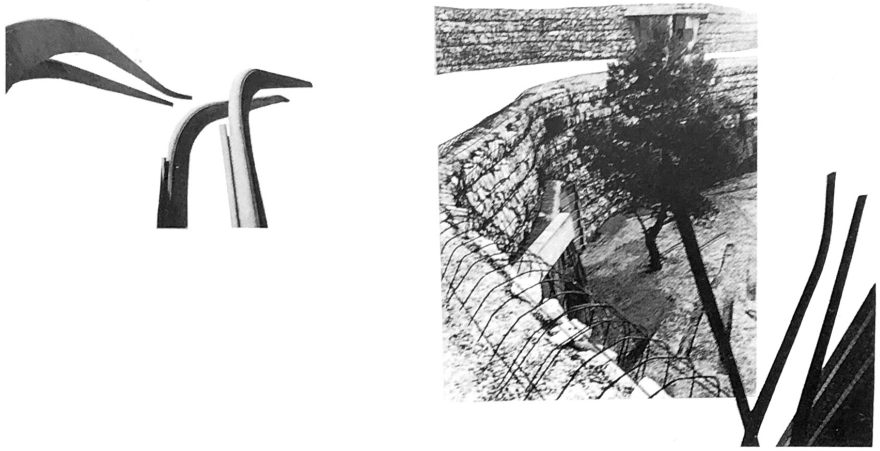


Figure 5

out technique which is a form of subtractive collage in which building forms are separated from their contexts in order to reveal certain fluid, formal relationships of site and structure more clearly.[10]

Collage as a technique of iterative entanglement invites chance and a quality of surrealism into the material meaning-making project of architecture, and has the potential to sew in time, histories and process into final works. Collage and the concept-tool of iterative entanglement have the potential to break down monoliths of meaning and make space for multiple knowledge systems that are subjected to the movements of time in reorganizing meaning.

3 SITUATED LISTENING

De-center

A critical step in building a fluid, iterative and entangled process is to learn to listen, de-center and adjust our calibration from a human-centered attunement to a wider awareness.

This can be understood as posthumanism—a definition that is not necessarily concerned with the end of humanity, but more in the position of the human in relation to other rhythms and agencies of life. Karen Barad describes this posthumanism as "taking issue with human exceptionalism while being accountable for the role we play in the differential constitution and differential positioning of the human among other creatures."[11]

Situated listening brings a conversation of situational ethics into the process and recognizes that the human is intricately entangled within a web of natural and cultural practices, from which it is impossible to extract, transcend, or achieve a position from above or outside. One tool in this ethical situatedness is a re-understanding of anthropomorphism as a "means of writing, thinking and practicing amidst our material entanglements," as a way to build empathy and extend understanding of what constitutes life.[12]

Cast a Wide Net

Situated listening as a process tool widens the net for sourcing inspiration, context and meaning in the design process.

The artist Andy Goldsworthy situates his work sensitively in the material contexts of the landscapes he inhabits. He looks to colors, forms, and time as materials in his iterative reorderings of site materials in order to find and follow the seams in what the landscapes offer to him. His works are utterly site-, weather-, and time-specific. Many of his pieces exist only in photographs such as this drawing, "Kelp Thrown Into A Grey and Overcast Sky" – a material gesture captured in space and time *(figure 6)*. The sites for his work incorporate the agency of his own body, ideas and associations within the larger situational context of the material landscape including stones, water, and plants, and the temporal landscape that introduces changes in movement, weather, wind, rain, and water. This type of situational listening grows in line with an entangled understanding of the world and makes work that "becomes part of it in a way that a sited object has difficulty in achieving."[13]

Figure 6

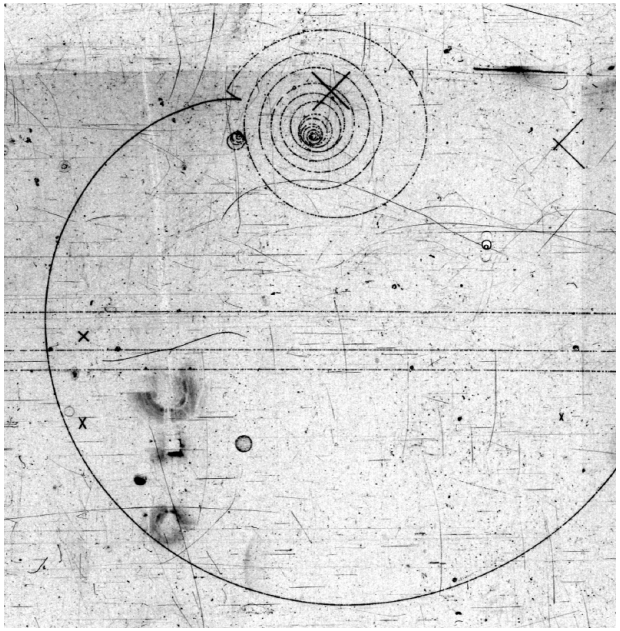


Figure 7

Figure 8

4 MATERIAL APPARATUS

> "Landscape is not merely visually akin to a body;
> it is the skin of the earth."
>
> -Karen Barad,
> "Troubling Time/s, Ecologies of Nothingness"

Material Discourse and Scalar Jumps

A more specific extension of situated listening is an acknowledgment of the material agencies of the tools, concepts and materials in the work we do. Material apparatuses can be used to make work that reveals a fluid and continuous discourse among matter, time and space. An attunement to material apparatuses also places meaning directly in matter. This is a departure from a representational worldview that relies on language and metaphor to infer meaning, and instead builds a way of understanding infused in metamorphosis. Here, sites have meaning beyond example, and matter gives body to meaning.

A discursive engagement with the quirks, desires, powers and tendencies of material apparatuses can reveal a slippage in scales whether material, spatial or temporal in design work. Trisha Brown used the apparatus of her own body

to draw spaces as a performative act in time *(figure 7)*. Because of her alignment with fluidity, iteration, and the material agencies of her body, charcoal, paper and time, her work finds entanglement in the world. A continuity can be seen with the movement patterns of a subatomic particle in a magnetically charged chamber *(figure 7)*. Brown's movements are both as big as her body's gestures and as small as a particle's path.

Material apparatus as a concept-tool can be broken down into two methods: as the work itself and as the tool for making work.

Material Work

The first is the material apparatus of the work itself. The artist Meghann Riepenhoff uses cyanotype to record the light, water, salt, sand, movements and time in landscape. This piece from her series "Littoral Drift" documents the passage of color and texture over seven minutes as the light-sensitive cyanotype chemically changes in response to time and the shifting sand, salt, and drying wave of the material work.

This use of cyanotype and site as material apparatuses lends itself to scale slippages. Again, we have an image that spans scales from the cellular to the oceanic.

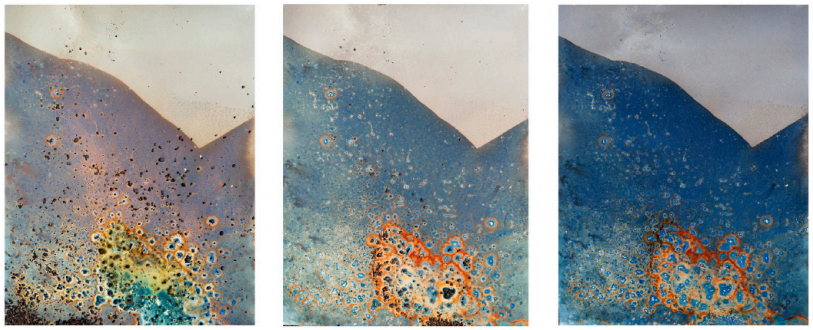


Figure 9

Material Tools

The photographer Sally Mann uses her camera as a material apparatus tool to find time in the spaces and people she photographs. She uses Civil War-era photographic technology and processes in order to look for ghosts and histories in her landscapes of the South, in particular *(figure 12)*.

She embraces the material lives of her apparatus-tools. Imperfections such as scratches, distorted lenses, improperly fixed photo-chemicals or smudged negatives invite chance into the process of her work, and can reveal time and memory embedded within place. In these images, we can see how her use of Civil War apparatuses has the capacity to collapse time

Figure 10

Figure 11

Figure 12

in space: her contemporary portrait of a battlefield *(figure 10)*, seen through the quirks of her material tools renders marks in the landscape that could be memories, bullet streaks, or spirit traces left in this bloody site 150 years ago *(figure 11)*. Her work materially asks her question, "What does death do to the landscape? Does the earth remember?"[14]

The scalar shifts here are temporal, where the past is inextricably entangled with the present and future in space.

5 DESIRE

Desire and Agency

Desire as a concept-tool in this way of thinking and working powers beauty and passion in the movements of life. In this work, we can recognize desire in the agency of materials, landscapes, bodies, and ideas: "matter feels, converses, suffers, desires, yearns and remembers."[15] To be open to desire means inviting joy, beauty, and yearning to the conversation—qualities that can be difficult to defend in logic-based past processes, but that the poets know, and that "fasten us/to sturdier stuff/no doubt." [16]

Displacement

Jacques Lacan would describe the force of desire as *displacement*, where the constant movement of life is towards a desire for a sense of wholeness amidst a fragmented existence.[17] Desire moves like water or collage here, connects fragments and ideas, and stitches the iterations of an entangled world.

Beauty

Desire is recognized as beauty in the material world.

You do not have to be good.
You do not have to walk on your knees
For a hundred miles through the desert, repenting.
You only have to let the soft animal of your body
love what it loves.

-Mary Oliver, "Wild Geese"

...Desire

is the honest work of the body,
its engine, its wind.
It too must have its sails—wing
in this tiny mouth, valves
in the human heart, meanings like sailboats
setting out

over the mind. Passion is work
that retrieves us,
lost stitches. It makes a pattern of us,
it fastens us
to sturdier stuff
no doubt...

-Jorie Graham, "I Watched A Snake"

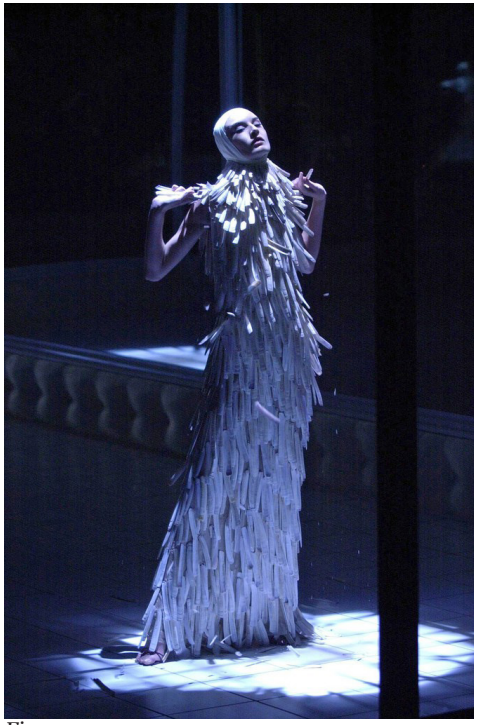


Figure 13

Flirting with the pleasures of color, form and texture has the power to erode other methods of meaning-making that are driven solely by efficiency or function. By following desire towards beauty-cues, we incorporate joy and play into design work, which will in turn generate more energy towards iterative movements. Desire breeds richness in these iterations by providing openings to the unexpected, rich and strange agencies of materials, bodies, and ideas in time.

The work of Alexander McQueen is steeped in desire, made palpable through his collage-like referential ideas, his high level of craft, and a willingness to listen to the desires of materials and himself. Here, we see how he was able expose the desires of a razor clam shell to follow beauty and become a dress *(figure 13)*.

The Ethics of Desire

The use of desire as a concept-tool also brings into question the ethics involved in following these flows. Desire, like any tool, can also be wielded as a weapon; an instrument of carnage and death. By entangling desire within the concept-tools of fluidity, iterative entanglement, situated listening, and material apparatus, we can begin to understand how an ethical path of desire can be revealed based on situation, in relation to the material apparatuses at hand, and subject to a deeply, fundamentally entangled relationship of time and agencies in the world. Ethics is built from a situational doing, rather than an abstract knowing.

the already-entangled...
A CATALOGUE OF FLUID THINKERS

the Artists
the Salmon
the Fishermen
the Coast
the North

Questions to ask of the already-entangled:

Fluidity: How are uncertainty, change, movement, and time embraced?

Iterative Entanglement: How are process and connection expressed?

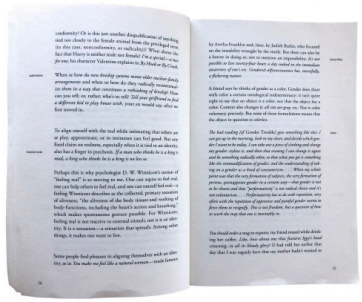
Situated Listening: What are the contextual attunements?

Material Apparatus: How are materials incorporated into the movement of meaning?

Desire: Where is desire indexed?

Enric Miralles
site plan for Igualada Cemetery

fluid drawing, collage, tectonics



Maggie Nelson
The Argonauts

love, body, gender, desire, language

Andy Goldsworthy
"Leaning Into the Wind"

site, time, body

Bill Viola
"Five Angels for the Millennium"

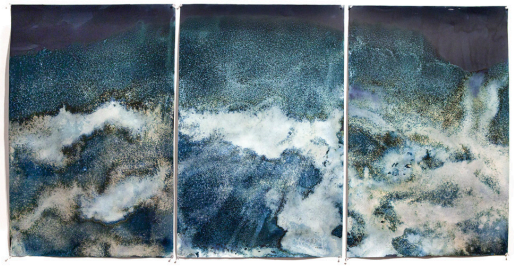
water, light, life, time

Alexander McQueen
stag dress from "Widows of Culloden"

desire, collage, cutting, craft

Trisha Brown
Spanish Dance

repetition, body-space, gesture



Meghann Riepenhoff
Littoral Drift #189, Three Waves, Poured and Buried

alchemy, physicality, site

Sally Mann
Deep South, untitled (Fontainebleau)

memory, desire, ghosts, materiality

Sockeye Salmon
Oncorhynchus nerka, Scale colors fading in three fish, death 10 minutes apart

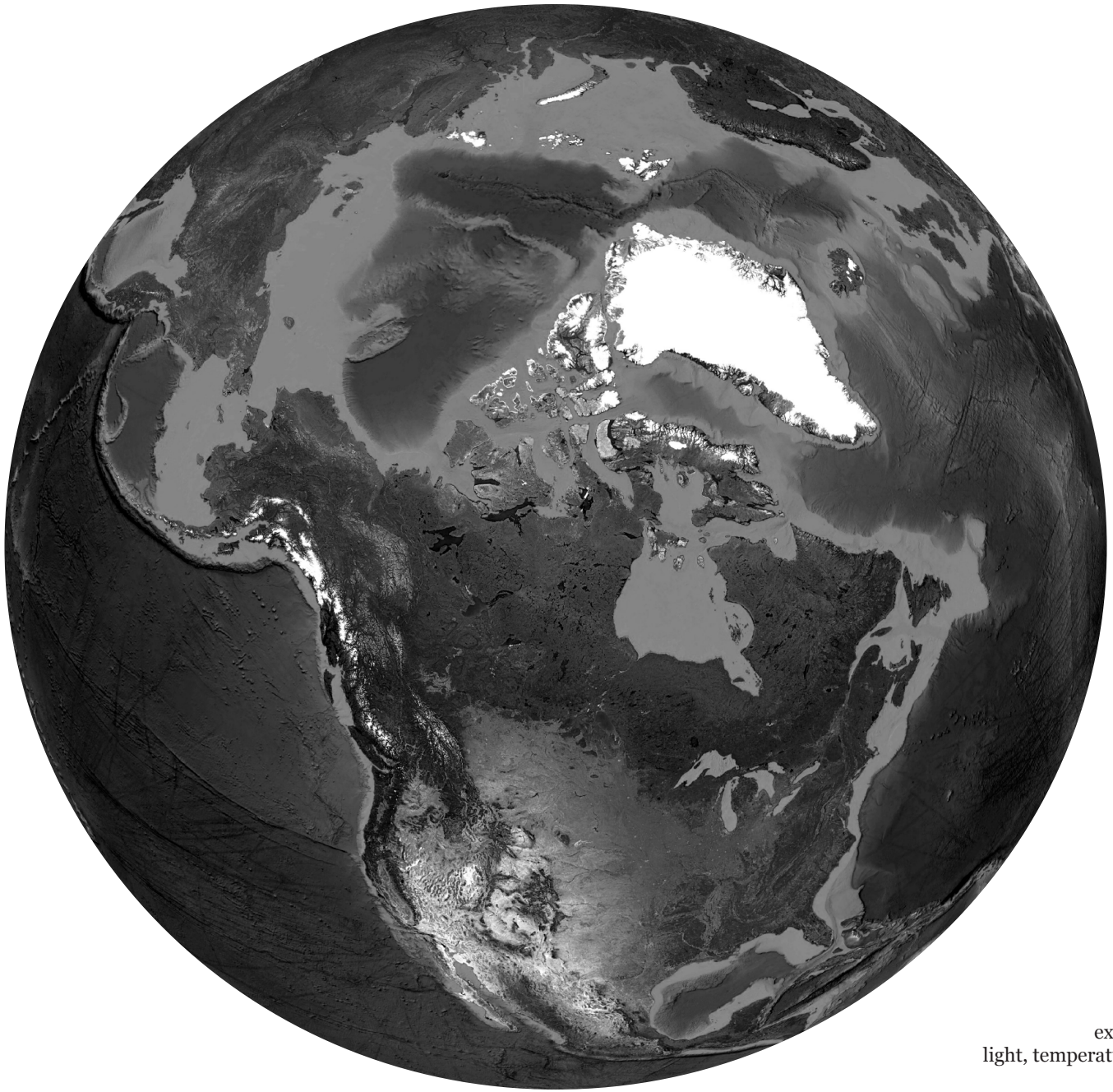
migration, freshwater-saltwater fluidity, tide sensitivity, desire, movement

Drifters
summer salmon gillnet fishermen

seasonal migration, drifting, tide-sensitivity, fish-followers

River Mouth
tidal mudflats in the Egegik River

change, tides, sedimentation, life, brackish water



The Polar North
Alaska and Iceland

extreme fluctuations in
light, temperature, time, migrations

part II

the WORK

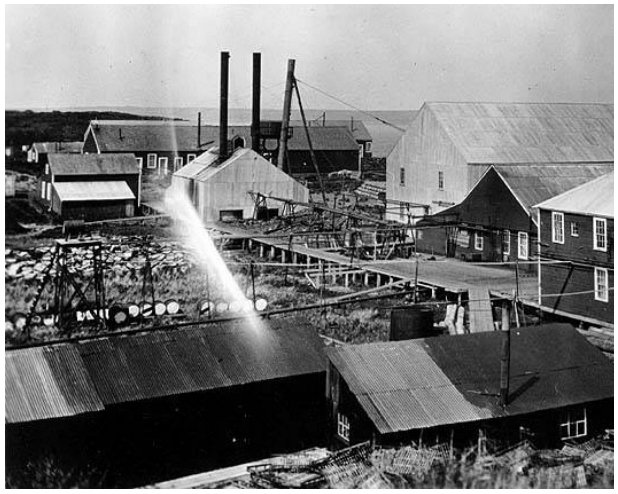
List of Material Apparatuses:

History
Disposable Camera
Pinhole Solargraphy
Movement Drawings
Earth Pigments
Drawing
Printed Photographs
Collage
Family
Layout
Installation

Case I: Egegik, Bristol Bay, Alaska

Ship Star of France anchored in Egagak River to escape the ice
June 1918
John N. Cobb

Native bidarkas, Igegak. Fish drying racks shown to the right.
ca. 1917
John N. Cobb



A.P.A. Igegak cannery
1917
John N. Cobb

Native houses, etc. Igegak
1917
John N. Cobb

Native set nets
1917
John N. Cobb

Native children, Igegak
1917
John N. Cobb

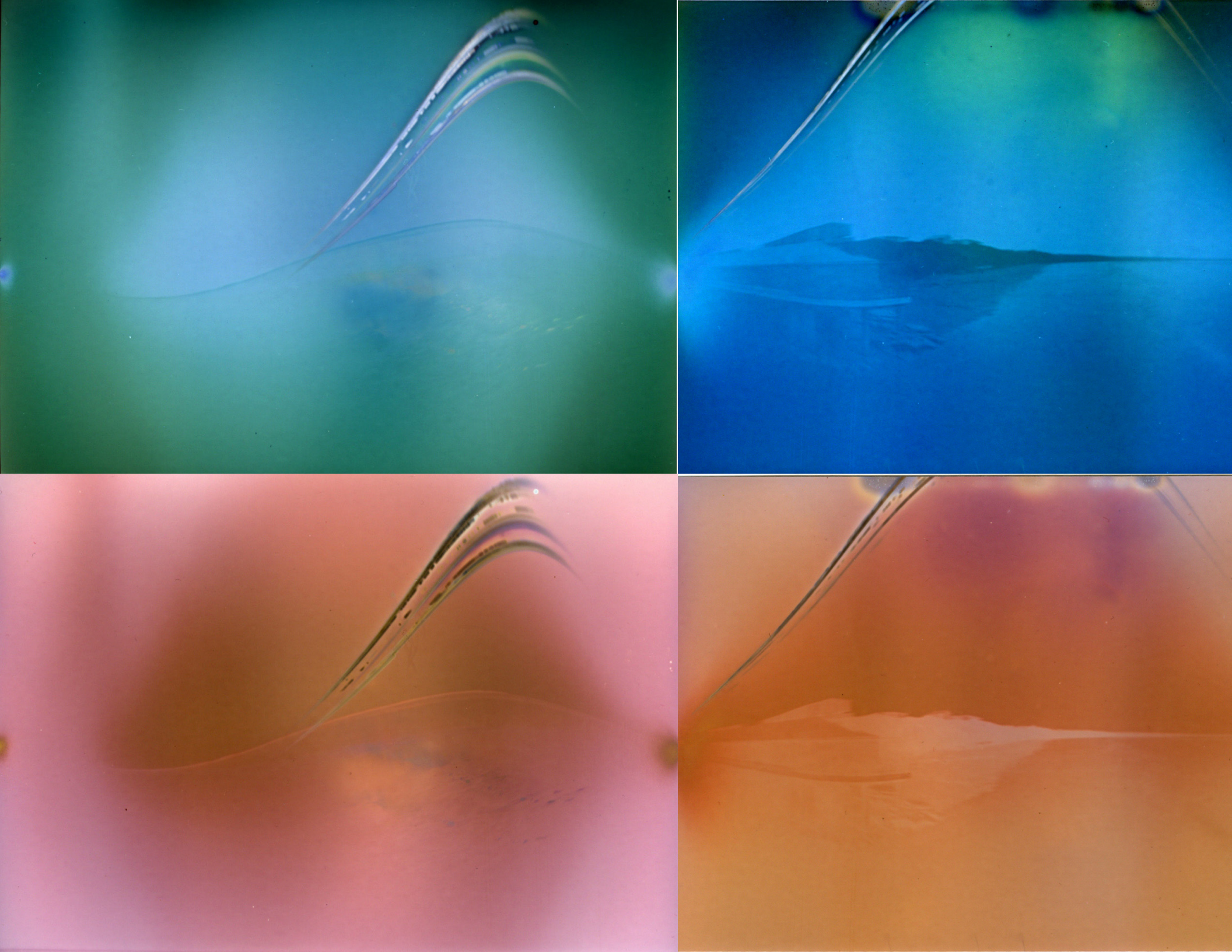
HISTORICAL PHOTOGRAPHS become apparatuses to access an entanglement of time, migration, and movement in tune with the lives of salmon in the Egegik River. They are a tool to understand the material iterations of homes, boats and fish work.

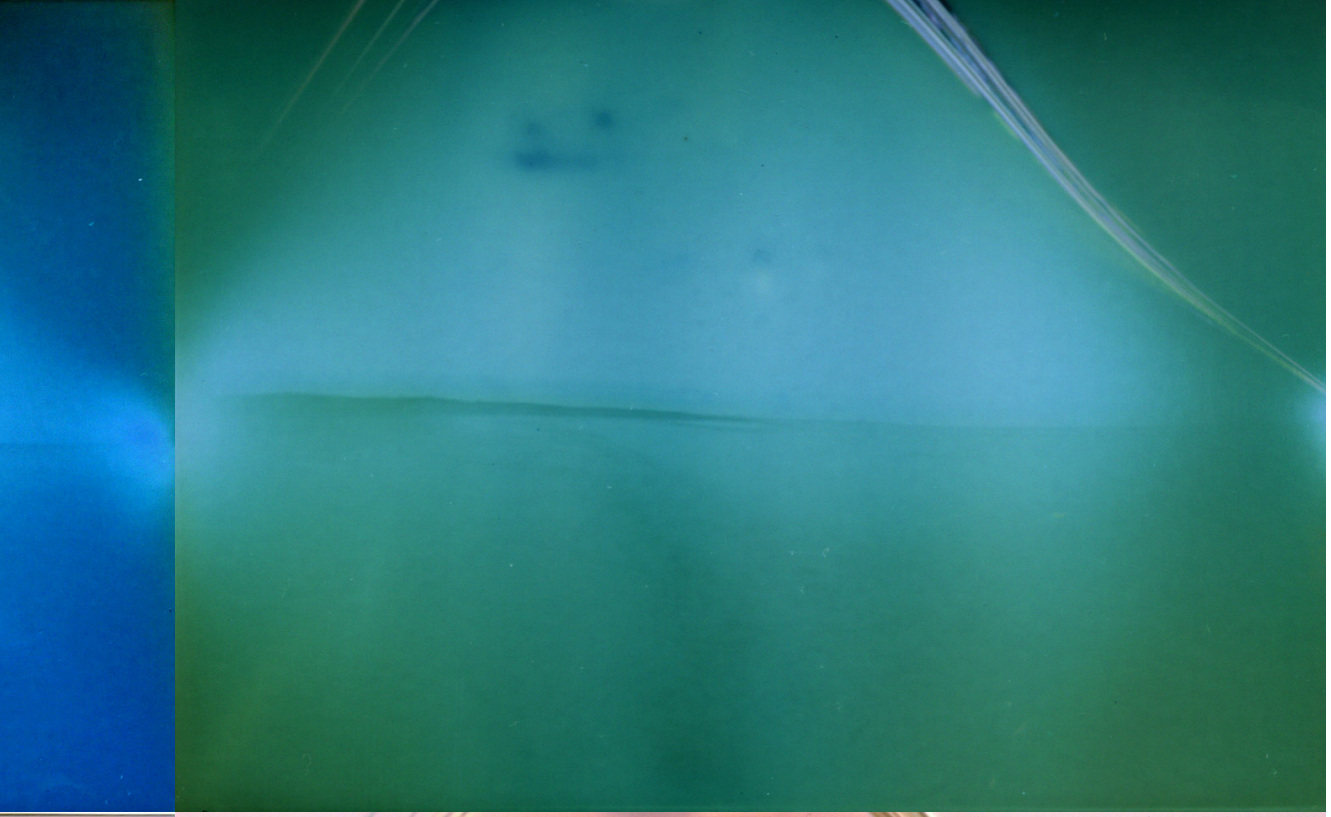
These photographs are taken in a familiar landscape, one century before I knew it. The images expose changes in climate, architecture and fishing apparatuses, held in the same river and along the same horizon.

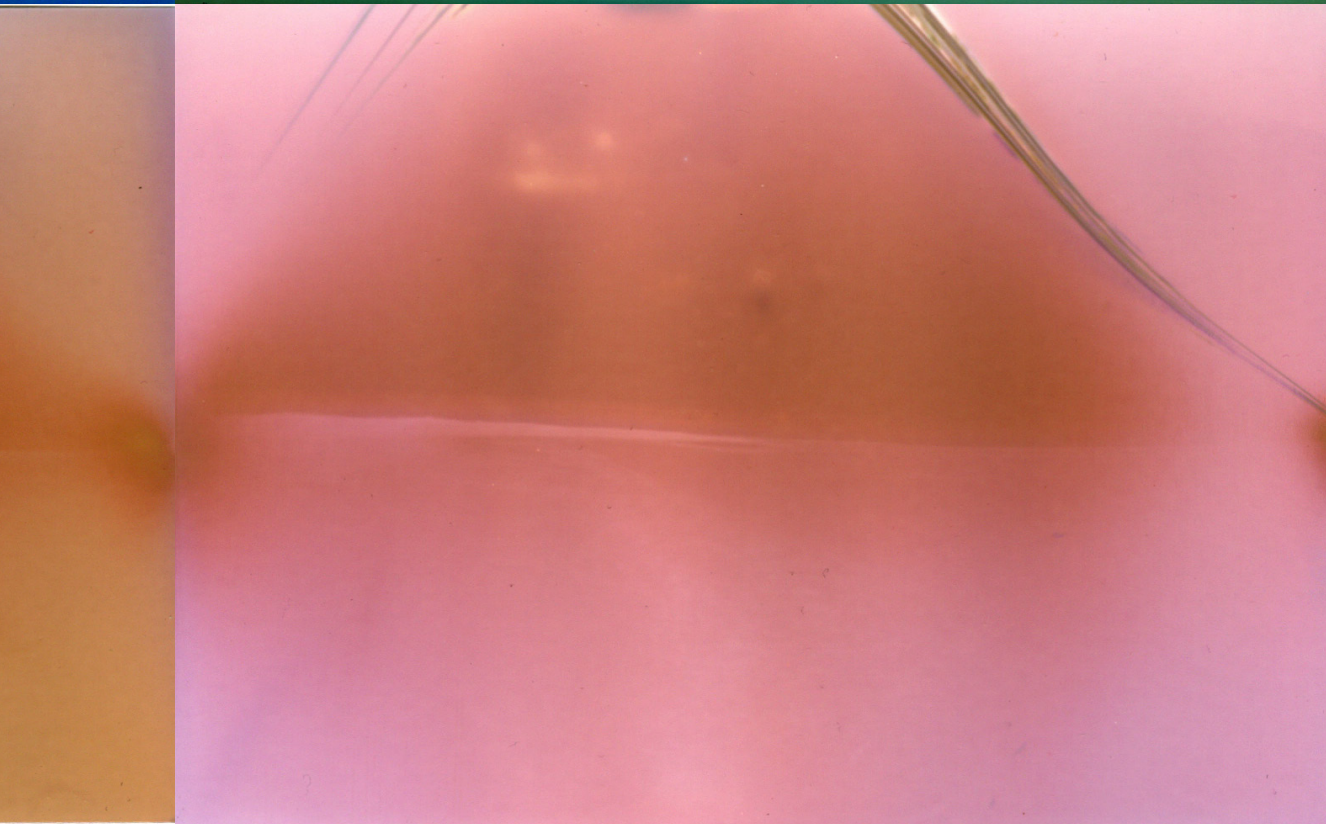
DISPOSABLE CAMERAS are an apparatus to collect emotion in a landscape.

The material imperfections of this cheap camera show the colors, mood, or sensation of weather and situation better than a digital camera, at times.


as a sort of unconscious memory apparatus: I see beauty, but don't have the time to examine what, how while I am wet, busy, fishing (body work)
moment tools. The SNAP-SNAP can get wet, banged around and can even unearth more beauty if so.
with pops of fluorescence in raingear, sunlight, fire, blood.







PINHOLE CAMERA SOLARGRAPHY is a way to make visible the passage of time (the drawing of the sun across the sky) embedded within place. A simple, fixed pinhole camera stands watch over a site for a day, a week, a season, a year.

These images are of the solar paths over the course of 6 weeks during the salmon season including the summer solstice, and hold the fixed measure of the horizon against a blurred tidal coastline. The negatives are pink and are digitally inverted to the green, positive image.

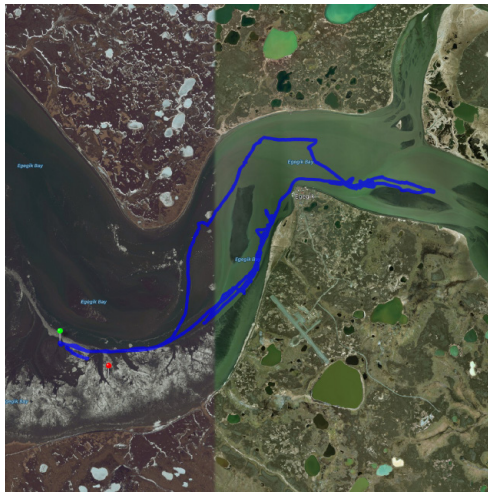
GPS BOAT DRAWINGS show invisible flows as lines in space.

Lines are drawn in the river by the boat when looking for fish, setting the net, drifting, picking the net, bucking the tide, riding the current, or swinging on anchor.














PRINTED PHOTOGRAPHS and COLLAGE become a material-discursive apparatus to study particular material or temporal iterations, to communicate invisible entangled perspectives, and to follow the fluid beauty-cues of desire in a generative process.

Collage in this project moves through the features listed below:

- Physical space of the table: roughly sorted piles, able to see colors, shapes, themes and accidental adjacencies.
- Intimacy of cutting: seeing, tracing, touching, working, and following forms, material or spatial cuts in each image.
- What falls to the floor: what is removed, discarded, and what remains.
- Cutting and fitting: intertwined, intimate, impermanent. Each fragment retains some significance from its original context while generating new meanings.
- Document: photograph with shadow and light to entangle the physical collages with their digital iterations.

The collages give rise to shape shifters, scale shifts, color, form and material secrets that are stitched through the world and make up a multiple-point lived perspective.

COLLAGE *as*:

material study

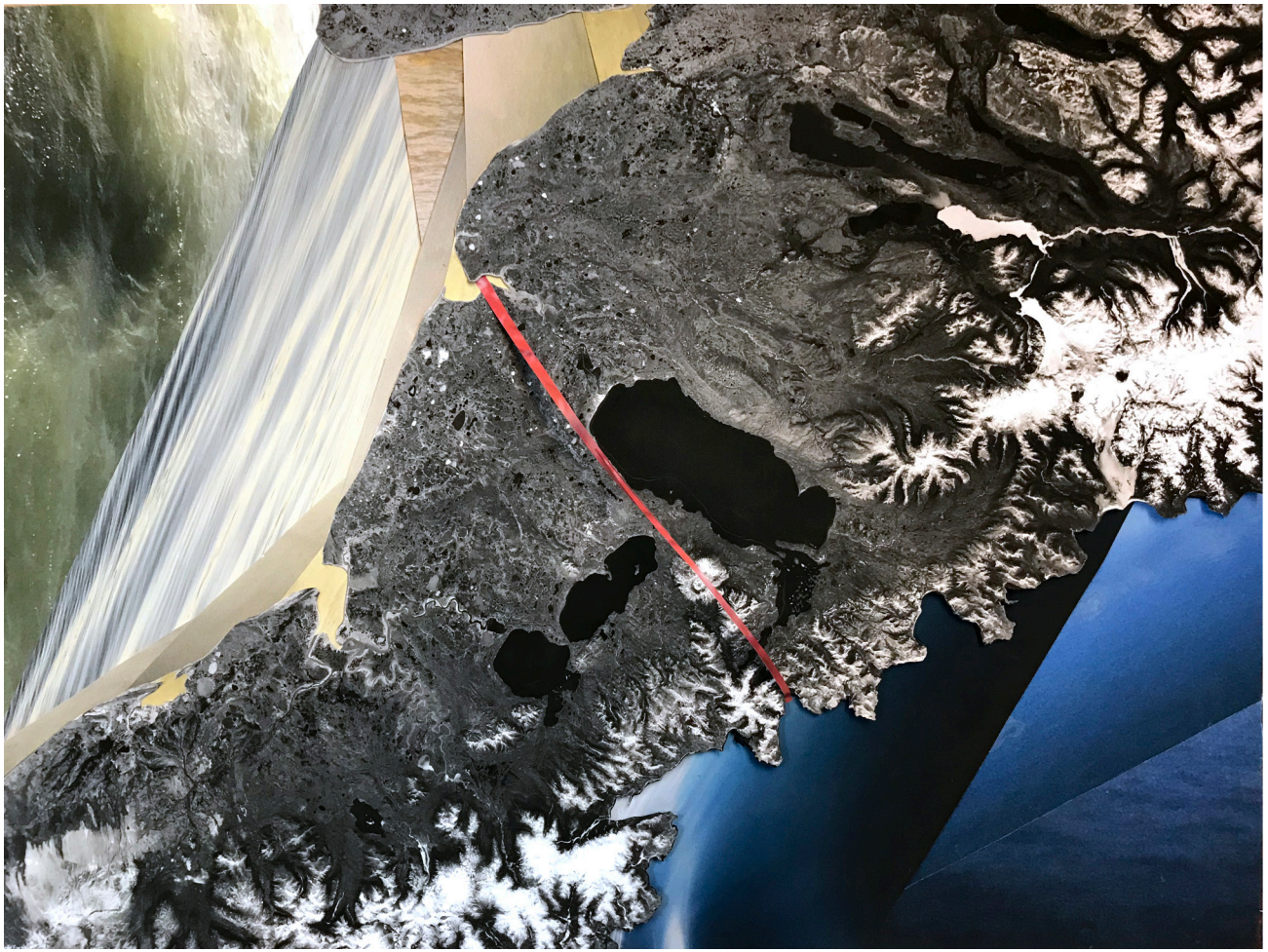
embedded history: climate and materials
embodied history: work and migration

clues:
repetition
lines
texture
color
light

shapeshifters

MATERIAL AND COLOR STUDY: spatial qualities

Bristol Bay
(muddy, shallow,
brackish river water,
horizontal horizon,
shallow bluffs, tundra)



Gulf of Alaska
(rocky, deep, briny
dark ocean water,
steep mountains)

The red path marks the seasonal Sugpiaq migration between the winter home in Kanatak on the Gulf shore, and the summer fish camp at the Egegik River mouth. This traditional migration shifted in the fifties when Egegik became a year-round village.

A sailing ship in June 1918 seeks shelter from ice floes in the Egegik River. 100 years later a diesel-powered tender is anchored in the a river, no ice to be found in the month of June.

A barabara, a half-pit sod home, made from bluffs along the shore.

Fish work and the horizon entangle histories through the iterative movements of bodies, nets and water.

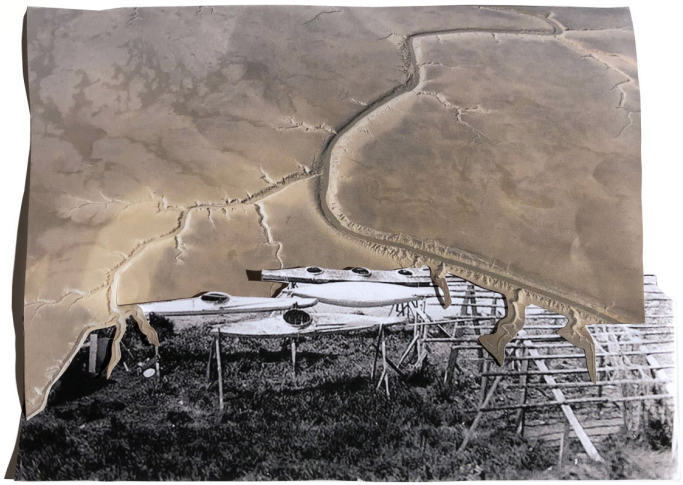
The lines and repetition of gillnets, corks, and salmon entangle migratory lives along the seam of the coastline.

REPETITION

Following the clues of
repetition reveal that

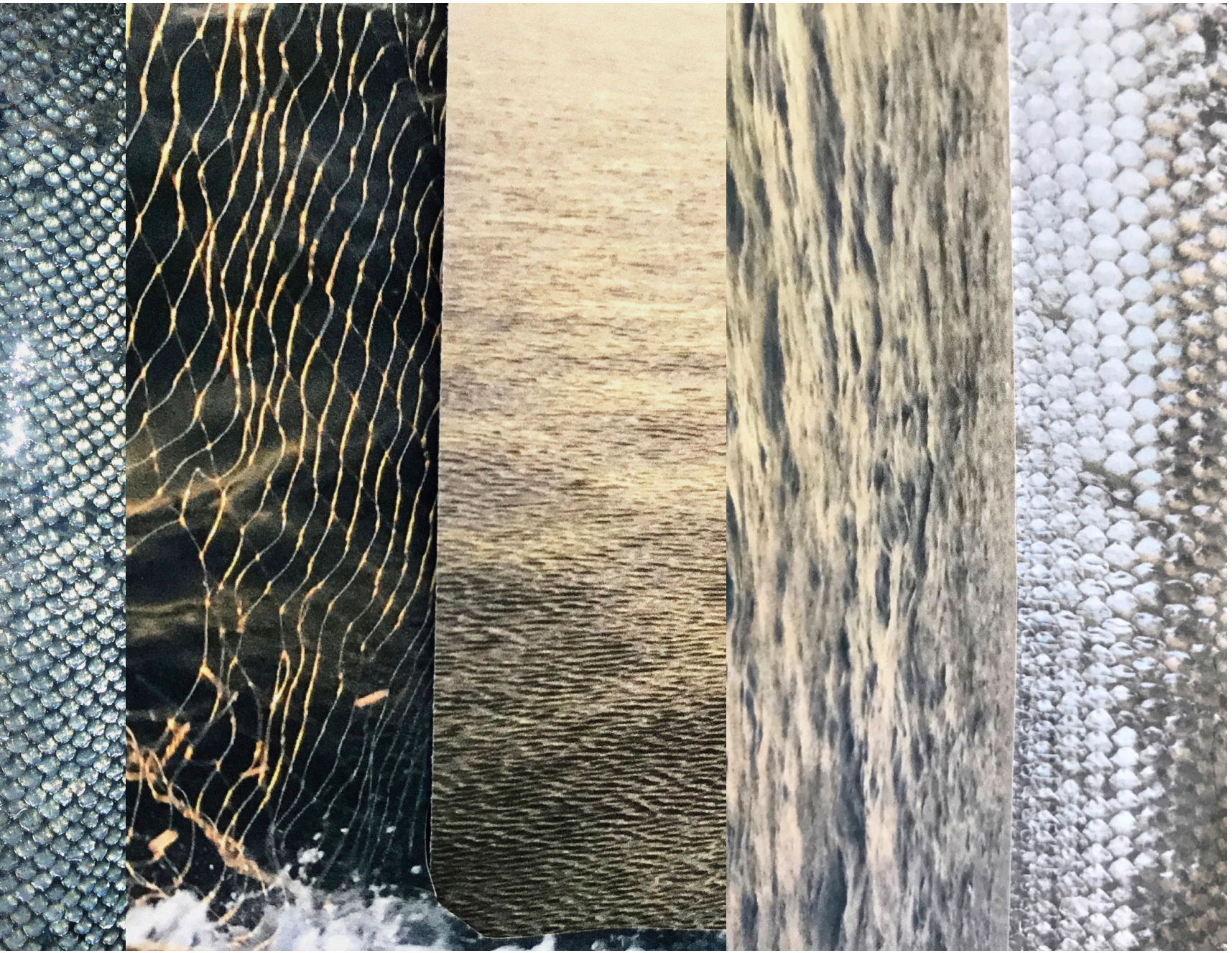
flocks of birds
move like
fleets of boats
move like
schools of fish,

iteratively entangled.



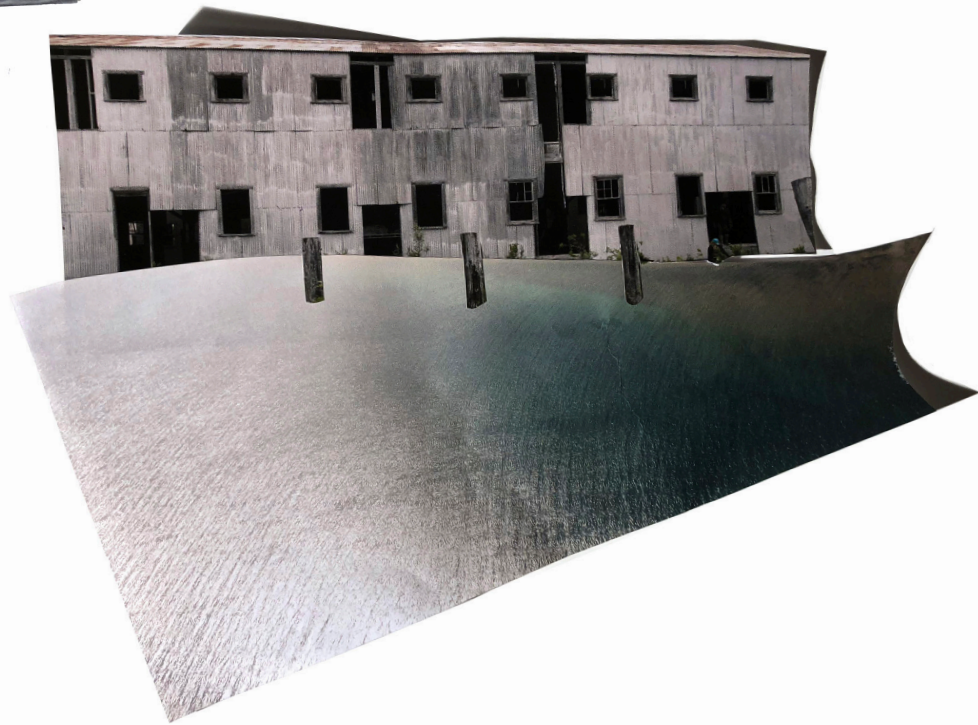
TEXTURE

The material, textural studies in Bristol Bay show that tundra becomes mud becomes salmon become lake becomes mountain becomes wave becomes clouds become bog cotton become scales become web becomes meat becomes structure becomes light becomes shelter becomes skin.



This study of entanglement revealed a story about life and light in water.

TEXTURE

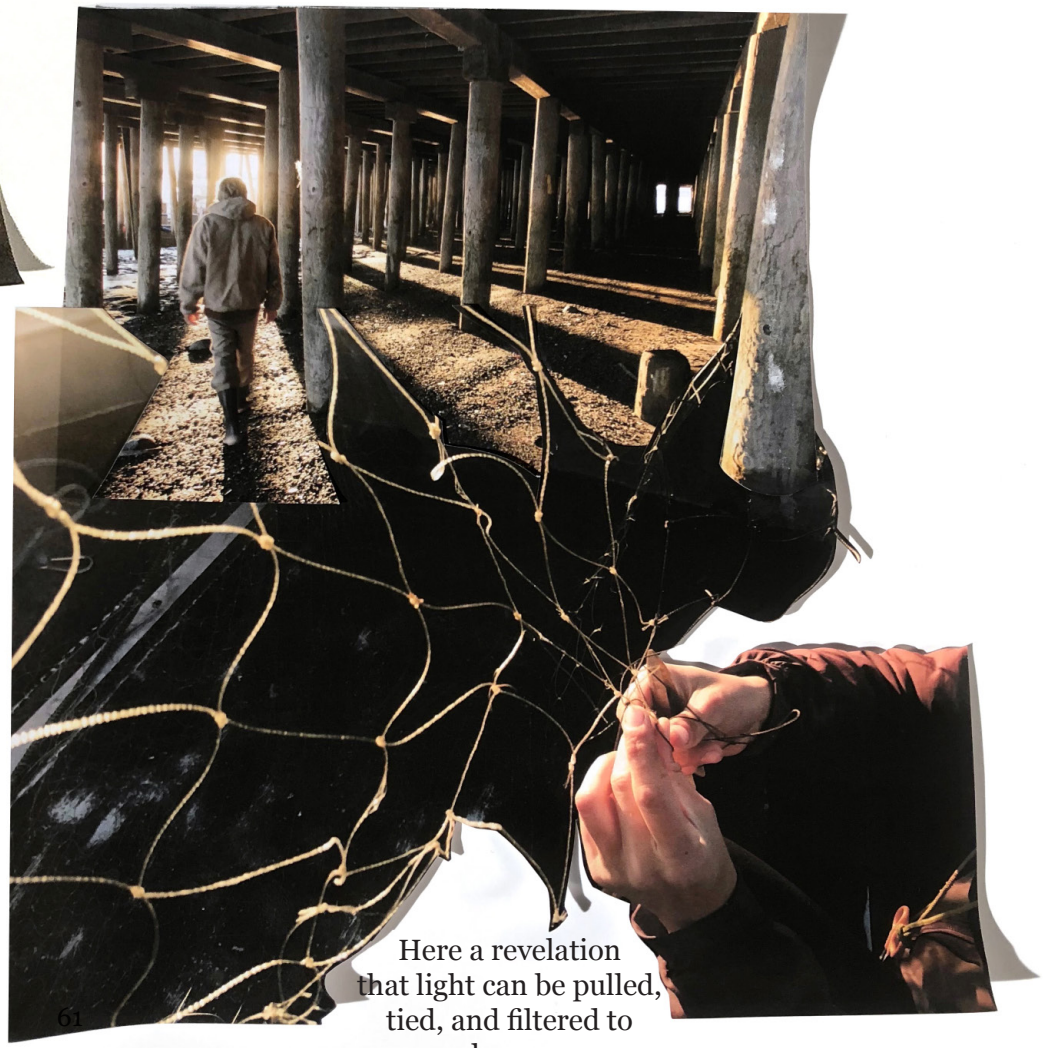


Clues in texture show a kinship among wavelets, light, metal corrugated siding, and buildings in decay whose roof tectonics filter light and floor planes buck and rise like waves.

Collage gives bodies to shapeshifters by following associations in form like the hulls of boats and the bellies of fish.

Shapeshifters emerge when studying a
form of situated listening:
what it feels like to have
salmon-brain and
the river as an appendage.

The clues of color and light reveal an entanglemnet of heat, flesh and structure.



Here a revelation
that light can be pulled,
tied, and filtered to
make space.

Red embodies the iterations of blood, water, river, flesh, clothing and skin in life.

These material secrets bled into the second case study of this thesis: Iceland.

Case II: Iceland

Red bands of pigment streak through cliffs in many places around Iceland. The material apparatus work from *Case I* built a fluid habit of making associations in the way I saw, studied and participated in the world, and I started to see these streaks of red pigment as part of the life-red-blood-flesh-water collage.

I later found that the striations are moments in geologic time when life could take hold in the rocks before the next lava flow burned a new layer of earth on the surface.

Red is iteratively entangled with heat, iron, blood, water, light and stone in the material movements of life.

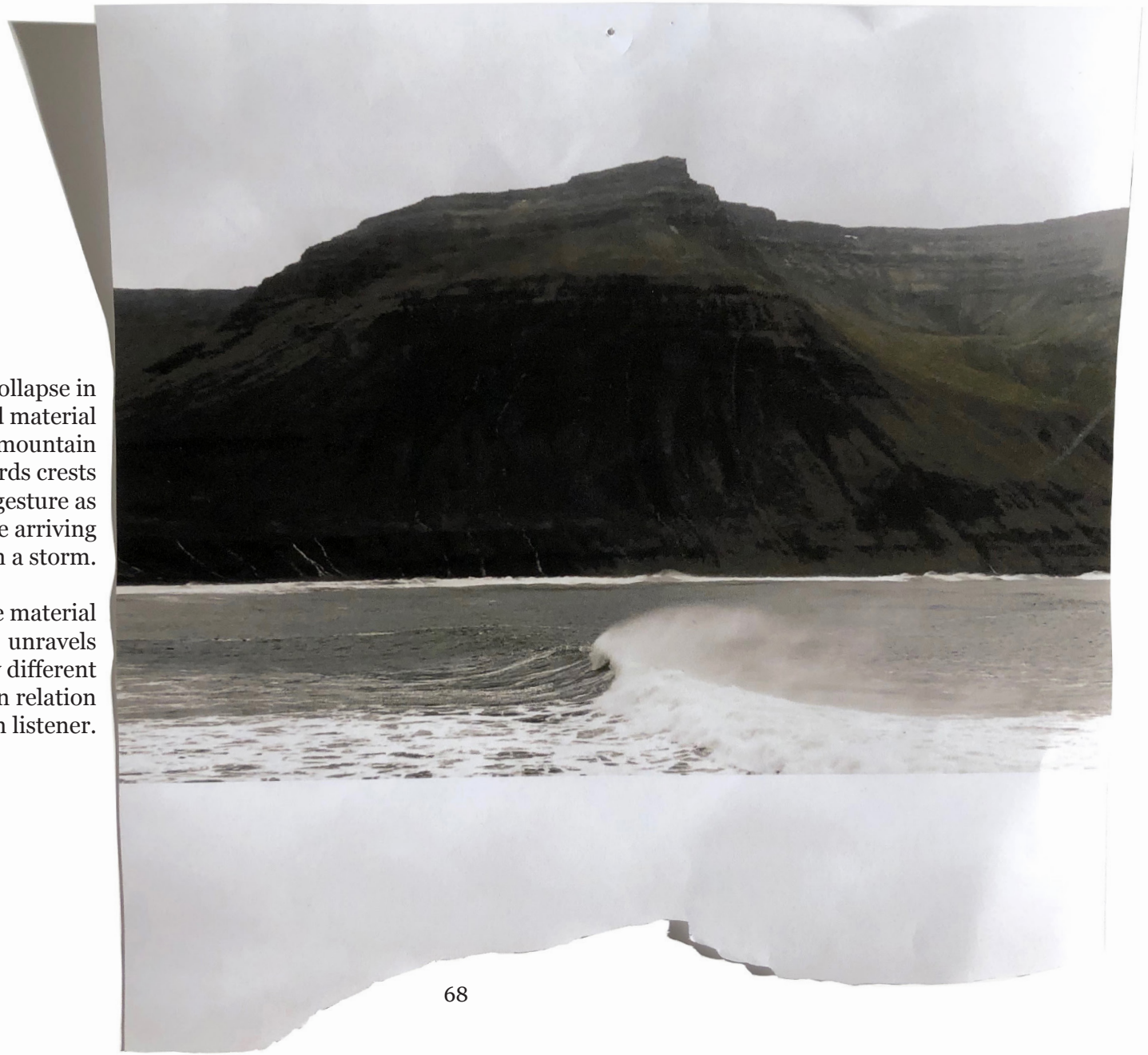
EARTH PIGMENT TEMPERA PAINT

Paint can be made from collected pigments and
further entangle the connection between
red, earth, water and life.

ICELANDIC PIGMENT PALLET

tempera paints made from
site pigments
egg yolk
water
vinegar

Fluid-thinking, when cultivated, reveals
REAL-TIME, 1:1 SCALED COLLAGE.



Here is a collapse in temporal and material scales, as a mountain in the Westfjords crests in the same gesture as an ocean wave arriving to shore in a storm.

The same material choreography unravels through vastly different time scales in relation to the human listener.

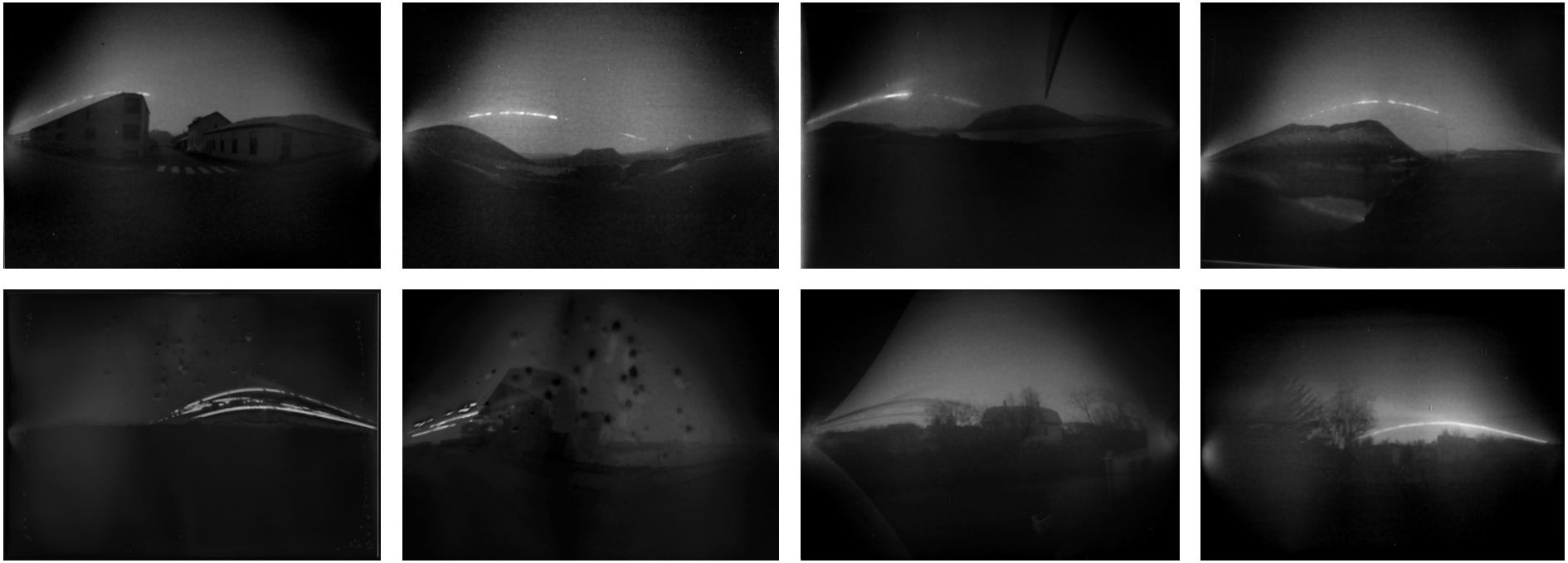
The kinship in wet textures of seaweed and lava entangle the lives of water and stone.

crowberries and lava

hull and house

pebbles and rock-weed bulbs

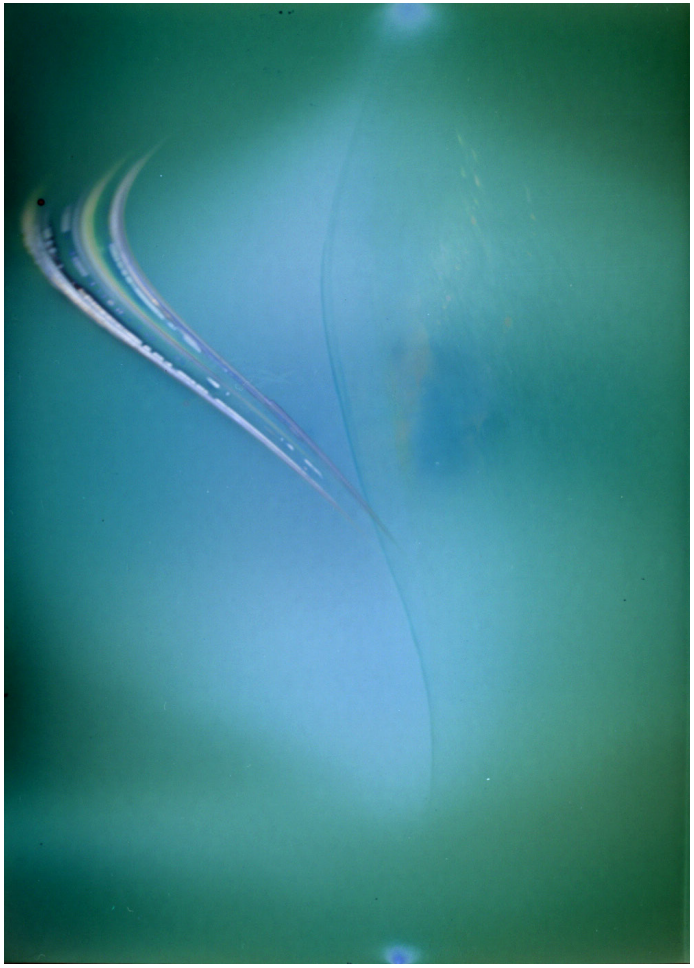
SOLARGRAPHY



Multiple solargraphy photographs show the sun caressing buildings, mountains, horizons, and cities.

These photographs capture the drawings playing out every day and every season in the sky, and intimately show how the sun conspires to stitch together the sky and earth through light.

Comparative solargraphy images bleed across the two case studies
and show the extremes of light in northern latitudes.



Church Point, Egegik, Alaska
Latitude 58º N
six weeks in June and July, 2018

Summer is expansive, bright, sweeping.

Árbær Open Air Museum, Reykjavík, Iceland
Latitude 64º N
three weeks in October, 2018

Winter is compressed, dark, intense.

Egegik, Alaska, 1917

Skagafjörður, Iceland, 1927

My great-grandmother (Malfriður, in a white blouse) pregnant with my grandmother (Ragnheiður Þórey) standing next to my great-great-grandmother (Þórey) at the farm where my great-grandfather (Frímann, the photographer) grew up in North Iceland.

FAMILY becomes an apparatus through which to begin from an already-entangled understanding of the iterations of life in landscape.

Sites with family entanglements make it easier to connect to fluid thinking as the movements of life slip through centuries and bodies. Iceland is a particularly rich site for fluid time as cultural traditions in writing and storytelling have inscribed the movements of people in landscape and memory since settlement in 870.

A personal connection helps to digest broader generalizations about our changing relationships to materials and landscapes: for example, my great-great-grandmother Þórey lived in a turf house with no electricity or plumbing (*left*), just as her great-great-grandmother did before her. This photograph collapses time and reveals just how quickly modern life changed in my grandmother's lifespan, shifting our rhythms and relationships with materials, seasons and landscapes.

This personal connection also has the ability to entangle culture, as we see kinship in the way life responded to similar coastal landscapes with a scarcity of wood and an abundance of earth at the beginning of last century in both Alaska and Iceland.

A personal, familial connection is not essential to fluid thinking. However, it can be a tool in the early stages of this process to more easily understand the slippery movements of time in space, and can strengthen fluid thought patterns for further design inquiries that may not have personal ties.

My *amma* (right) and her sister, Birna, in the south of Iceland.

The patterns of fluid thinking are revealed in several *FLUID SITES* throughout Iceland where an entanglement of time and materials compose the spatial experience:

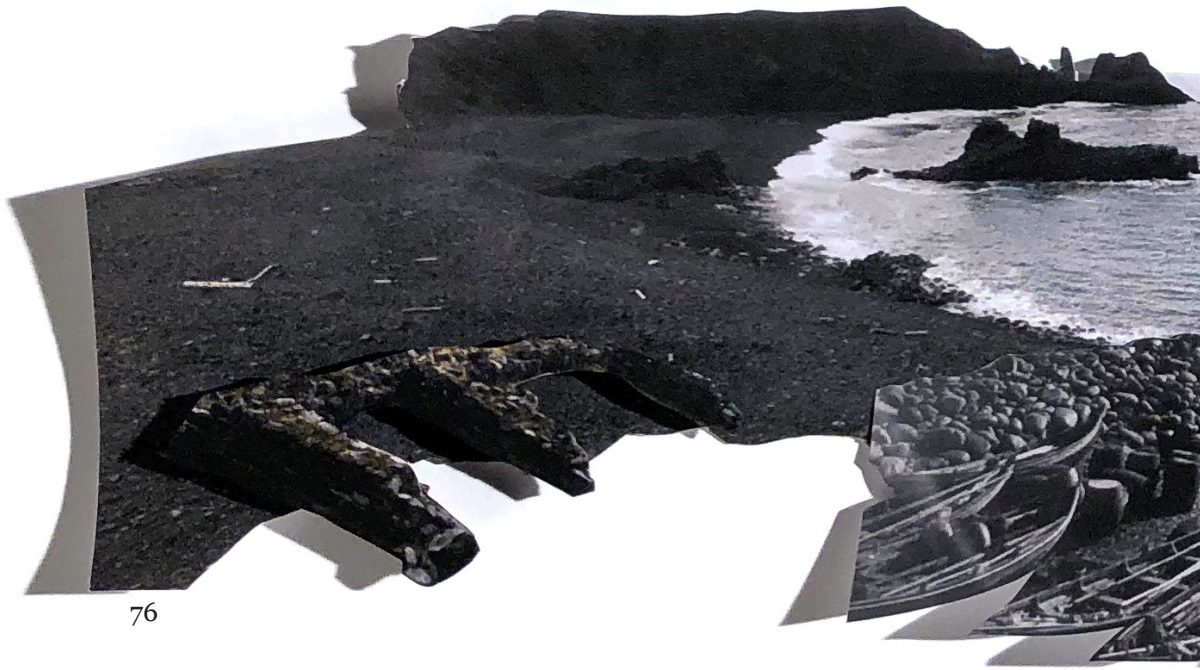
Dritvík
Turfhouse
Djúpavík
Drangsnes
Reykjavík

DRITVÍK is a historic seasonal fishing outpost along the southern edge of the Snæfellsnes Peninsula in western Iceland. For almost 1,000 years, hundreds of women and men would annually migrate to this remote hamlet at the base of an active volcano to be closer to the Atlantic cod spawning grounds in the spring and summer.[18]

The stone figures in this landscape hold the lives of elves, of giants and half-men, of hidden people and the countless spirits of fishermen who found their deaths just offshore in the cold North Atlantic.

Modern day fishing from steel trawl vessels has become safer due to advancements in technology, compared to the open wooden rowboats used for so many centuries. However, the trawlers disrupt an opportunity for a seasonal migration of humans and communities in rhythm with the lives of fish to these outposts, as the larger vessels are able to be farther out at sea for longer periods with a smaller crew.

Today, Dritvík is part of a national park, an area that tourists and the now-urban Icelanders visit when a desire for space and remoteness overwhelms city life.



For the rural farmers isolated around the countryside, fishing outposts offered an intense social, communal, and urban experience to their year.

The lava-stone walls from ancient huts, fish-drying areas, wayfinding cairns, and a stone labyrinth remain in this cove as evidence of the rich and dense lives embedded in this place.

TURF was the traditional building material in Iceland until the middle of the 20th century.

The scarcity of wood shaped structures in Iceland after the early Viking settlers cut down what few forests had taken hold in the harsh climate. Driftwood or expensive imported lumber were reused many times to make the roofs or wooden façades of the *torfhús,* or turfhouse. A scarcity of heat sources shaped the homes into small, highly insulated sequences of rooms where animals and families clustered together between walls of stone, turf and grass.[19]

The turf structures had to be rebuilt every generation with other annual maintenance to keep the grass growing, the walls from slumping, and water from leaking. The homes were dark, with small, oiled animal hide windows before glass, and could be damp and cramped with low ceilings.

The turf made for healthy indoor air quality, however, as the walls were able to breathe and did not build up mold.
In their decay they are able to dissolve easily into the landscape they were made from, and in their life they brought the orbits of multiple generations into the same spatial and temporal rhythms.

The traditional turfhouse undergoes a thorough metamorphosis into the modern Icelandic home made of concrete, glass, and corrugated metal with an abundance of light, geothermal heat, waterproofing, large windows, and spatial sequencing that separates family members, generations, seasonal extremes and nonhuman lives.

Collage disrupts the metaphor that
'turfhouses resemble mountains'
and instead exposes a metamorphosis that
turfhouses *are* mountains, iteratively reorganized to
make homes of stones.

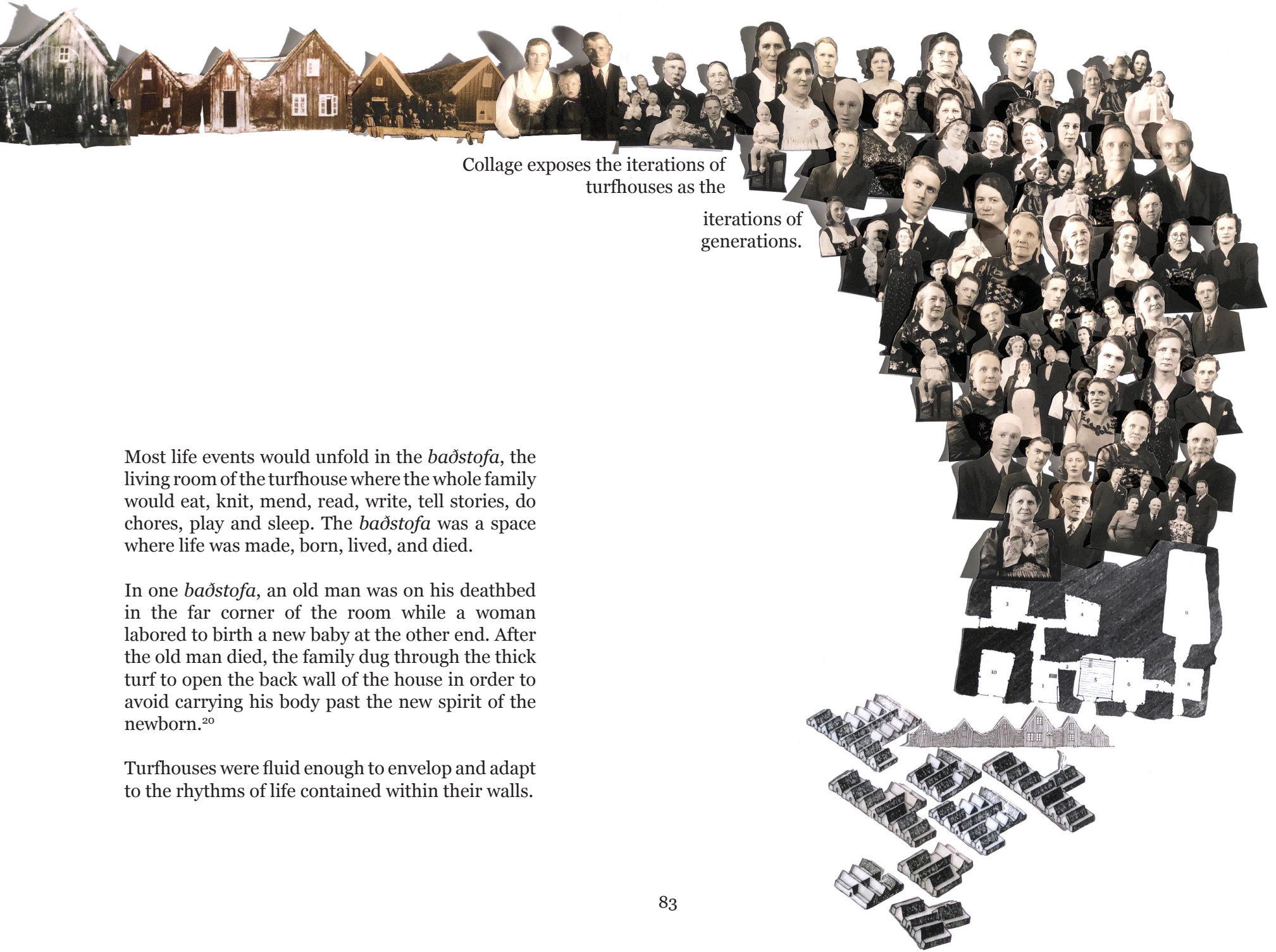
It is difficult to disentangle a turfhouse from its material relationship to site.

Cut-out collages show how the turf entangles the space of the home in earth with the expanse of sky; it is literally difficult to cut the house from its context.

The turfhouse was also a site of incredible poverty, hardship, scarcity, cold and oppression while Iceland was under Danish colonial rule for 700 years.

The entangled material iterations of life during this time of scarcity can be rendered through collage:

the texture of wool knits to protect the body is the same as the layers of turf in walls to shelter the body is the same as the repetition of drying cod carcasses to feed the body.



Collage exposes the iterations of turfhouses as the iterations of generations.

Most life events would unfold in the *baðstofa*, the living room of the turfhouse where the whole family would eat, knit, mend, read, write, tell stories, do chores, play and sleep. The *baðstofa* was a space where life was made, born, lived, and died.

In one *baðstofa*, an old man was on his deathbed in the far corner of the room while a woman labored to birth a new baby at the other end. After the old man died, the family dug through the thick turf to open the back wall of the house in order to avoid carrying his body past the new spirit of the newborn.[20]

Turfhouses were fluid enough to envelop and adapt to the rhythms of life contained within their walls.

The turfhouse is the site where Icelanders' long and rich literary tradition was cultivated.

Families would gather together indoors in the winter as the daylight contracted and harsh weather raged around the home. Here is where stories and poems would be told, where imaginations roamed, where art connected life and landscape.

The interiors of turfhomes were bright with poetry, stories, dreams, and colorful wood paneling, which helped to counterbalance the piercing low-angle sun and long, dark winters.

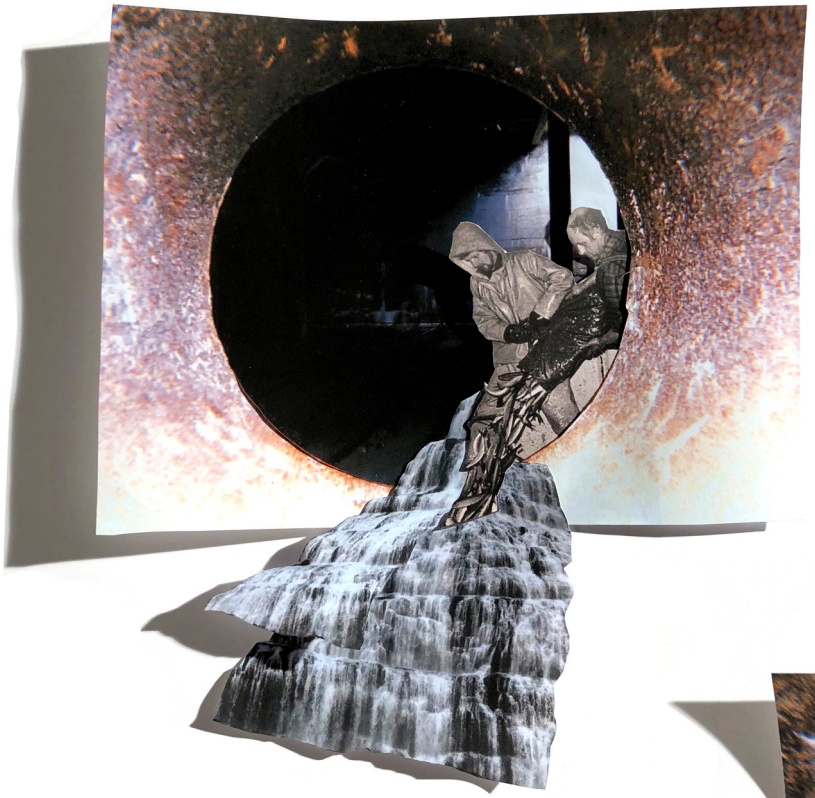
The herring factory in *DJÚPAVÍK* was the largest concrete structure in Iceland when it opened in the summer of 1935. The facility was built at the head of Reykjarfjörður in the north-west Strandir region in the Westfjords over the course of one winter.

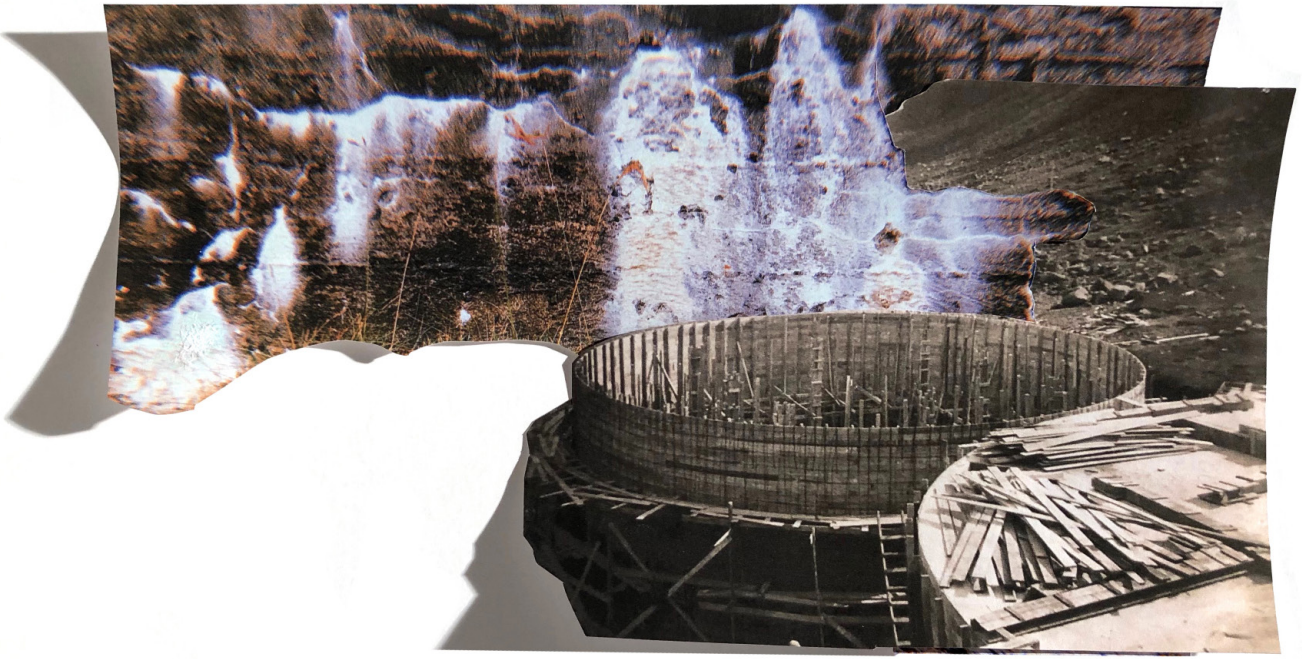
In order to combat freezing building conditions, the workers mixed the concrete with sea water to act as an antifreeze. The salt in this mixture is fatal to the structural steel within the concrete, but has an unintentional side-effect of beauty in the form of ocean minerals leaching down the walls.

After the herring was over-fished in this region, the factory closed and was abandoned for many years. Today, one of the outbuildings has been revived as a hotel for tourists, and the factory holds a museum, art gallery and event space even in its level of decay.

Three herring oil cisterns embody the fluid metamorphosis of this site from a place of industry and war to the modern iteration of tourism and art. The cisterns stored herring oil extracted from the bodies of the silvery fish by squeezing their flesh under the pressure of a giant iron press in the factory. The oil was heated by the spiral of hot water piping in the floor when it was ready to be shipped to mainland Europe for the production of weapons during World War II.[21]

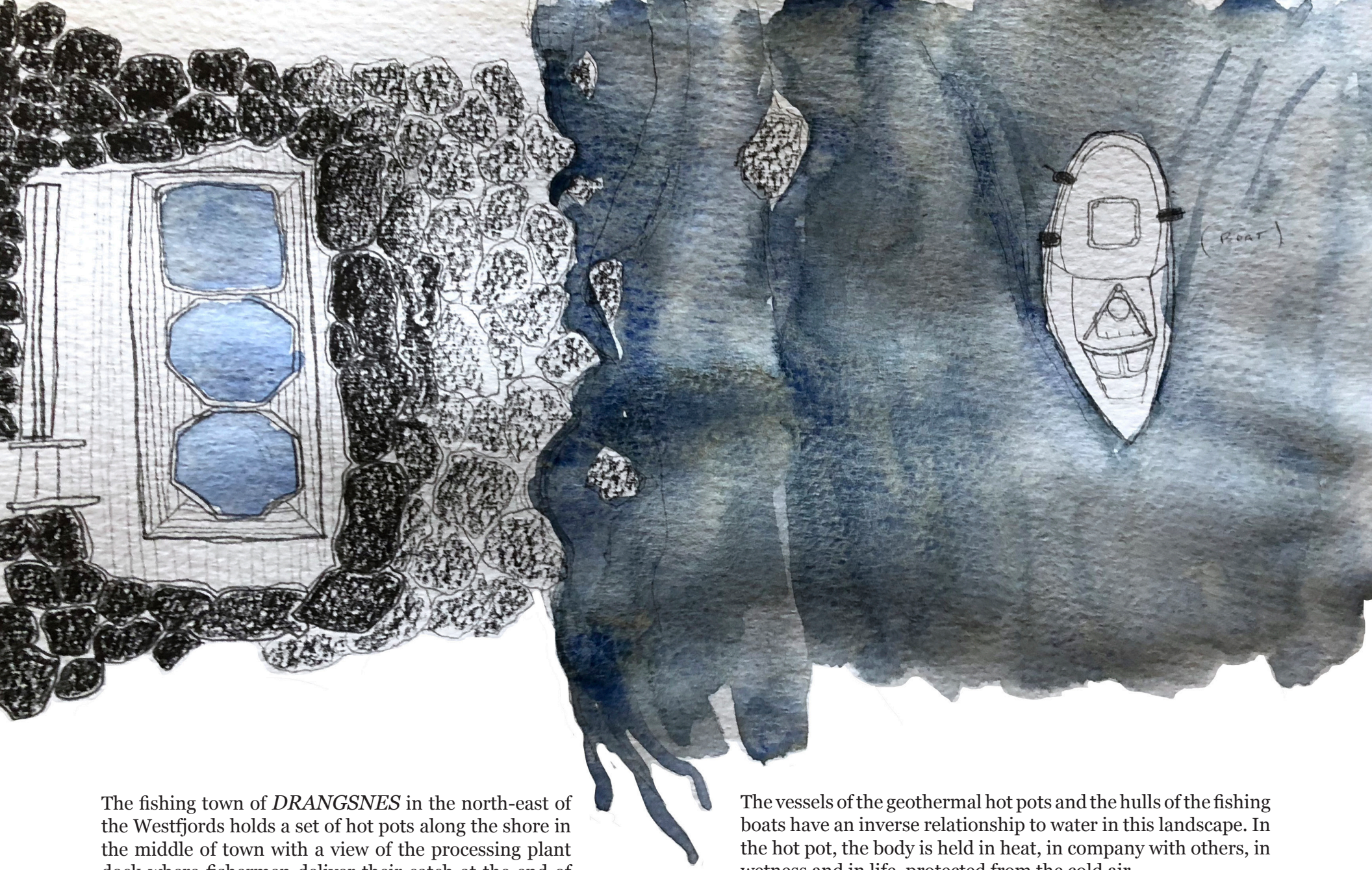
The proportion and material of these circular spaces were born out of utility, efficiency and need, but have a reverberating effect through time as their shape and texture bring beauty to their entangled use as acoustic chamber, photographers' site, tourist experience.





A texture scale study exposes the kinship of sea and stone.

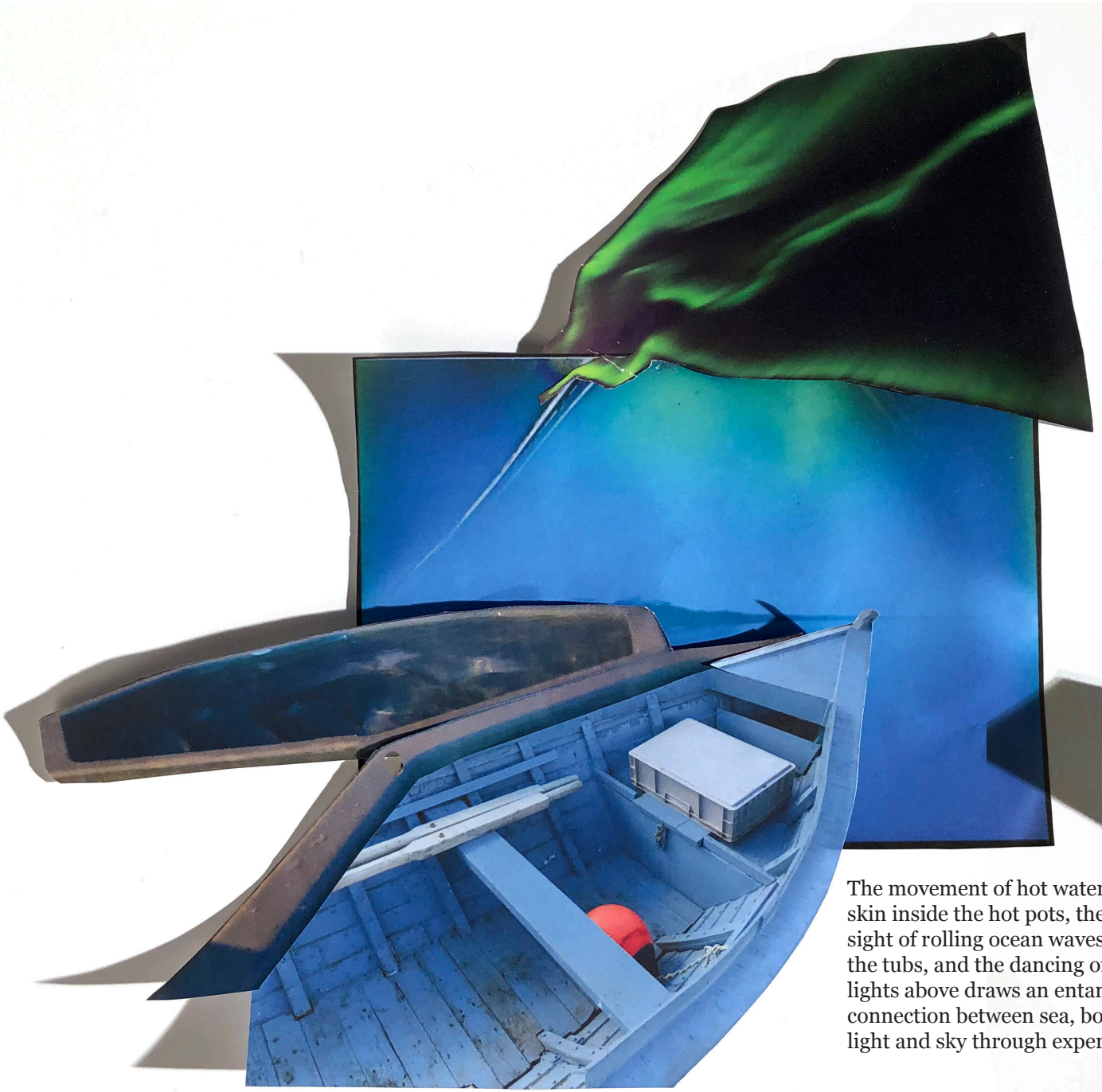
Fluid thinking slips time and recasts history so that the workers so frantically building molds and pouring concrete in the winter of 1935 are actually building a structure that, after an 80-year ripening, leaks light and salt and reverberates sound for the perfect acoustic chamber.

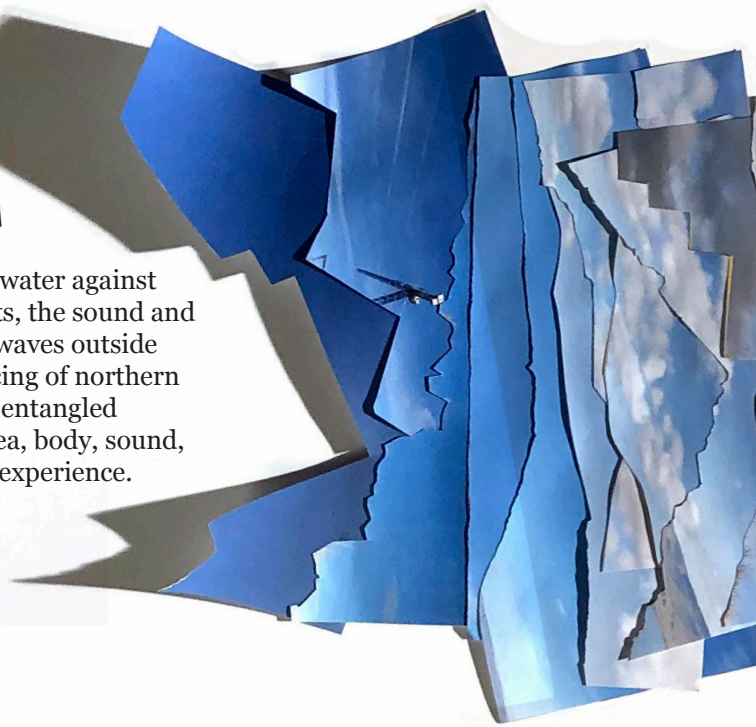


The fishing town of *DRANGSNES* in the north-east of the Westfjords holds a set of hot pots along the shore in the middle of town with a view of the processing plant dock where fishermen deliver their catch at the end of the day. The three hot pots are situated next to the sea and entangle a relationship of the body, water, vessels, light and life.

The vessels of the geothermal hot pots and the hulls of the fishing boats have an inverse relationship to water in this landscape. In the hot pot, the body is held in heat, in company with others, in wetness and in life, protected from the cold air.
The hull of the fishing boat holds the body in air, warm and dry and connects the body to the life of fish found within the deathly cold waters of the sea.

The contemporary culture of hot pots and pools in Iceland is aligned with a fluid metamorphosis in the relationships of life, water, and the sea. Today, every Icelandic schoolchild is required to learn to swim, and every town has their own outdoor, geothermal pool. The pools are where the community gathers to socialize, exercise, or to simply be somewhere warm with others and feel the pleasures of water and air on skin.

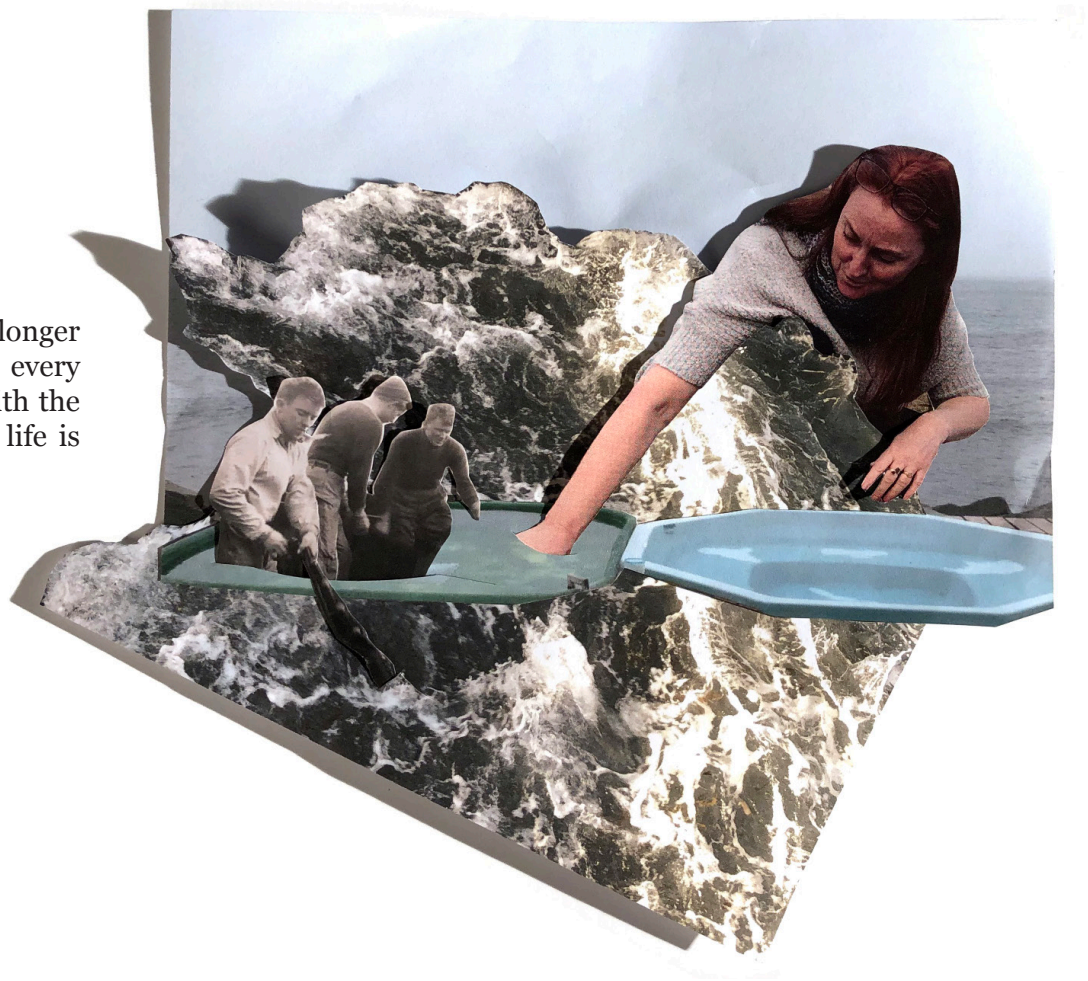


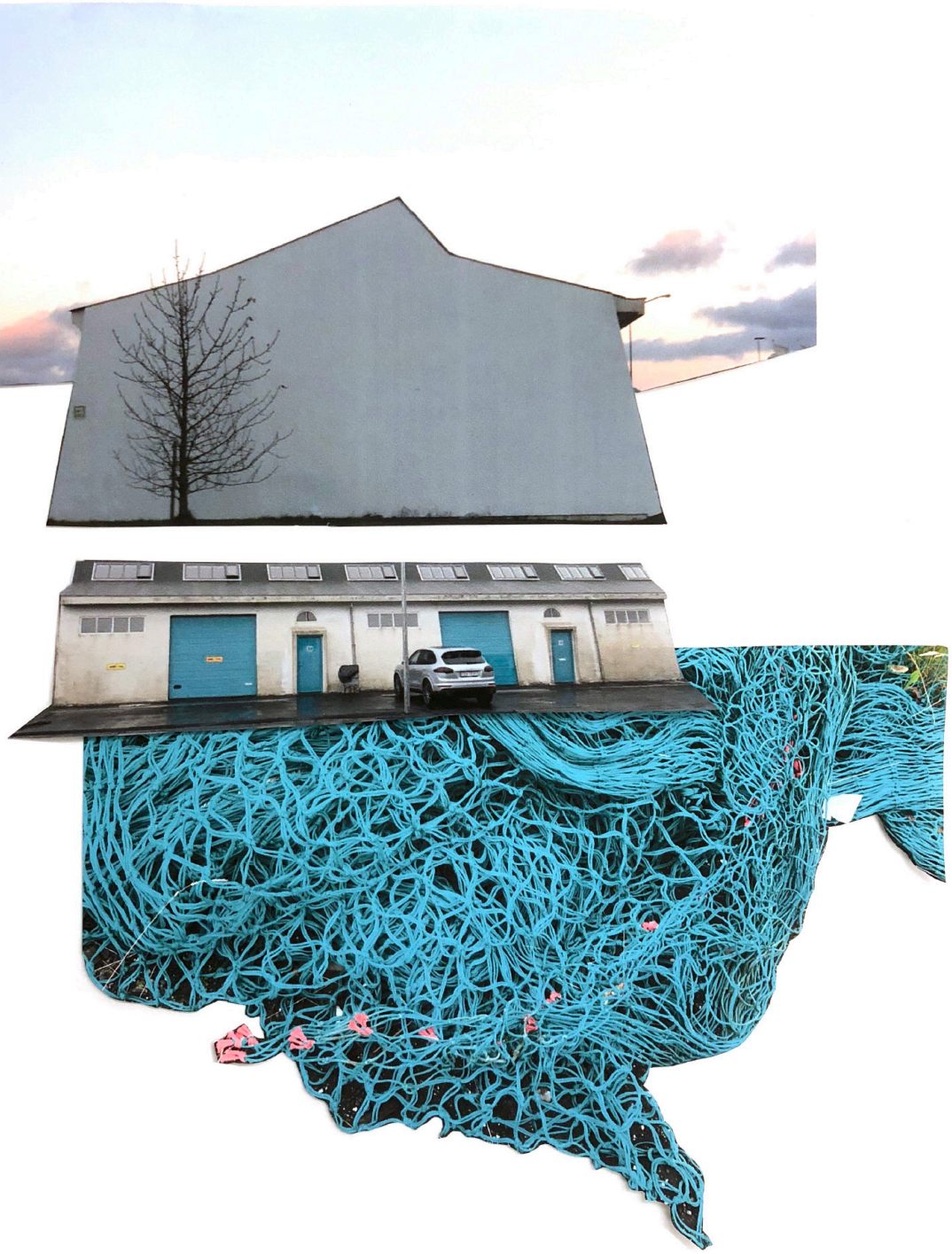


The movement of hot water against skin inside the hot pots, the sound and sight of rolling ocean waves outside the tubs, and the dancing of northern lights above draws an entangled connection between sea, body, sound, light and sky through experience.

Iterations in Icelandic skies,
August-October, 2018.

Although fish work no longer touches the lives of every Icelander, a connection with the sea and water in modern life is still deep.

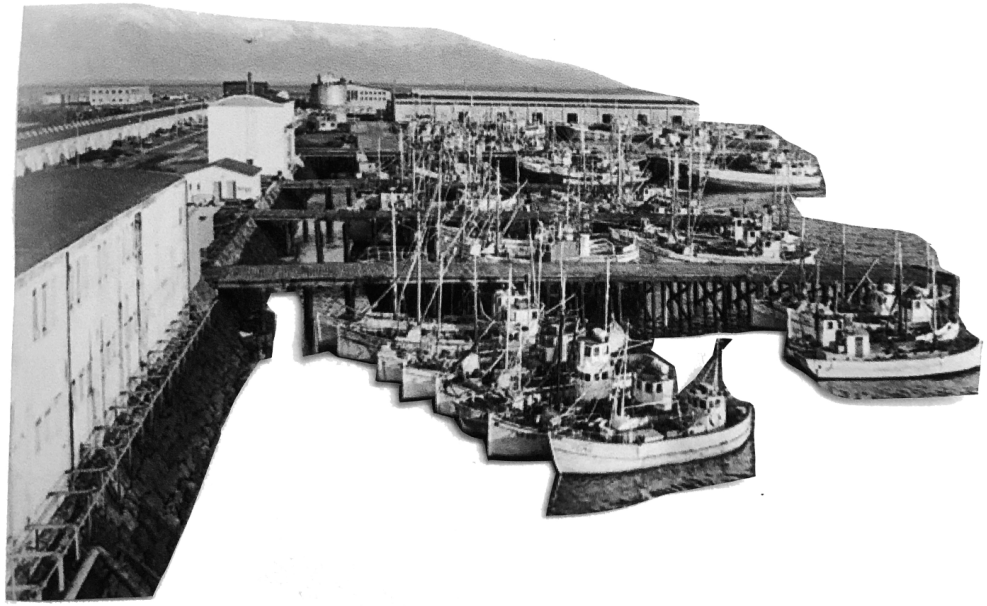




The fishing facility building along Grandargarður in the Port of *REYKJAVÍK* is a long row of 43 units built for storing fishing gear, nets, and bait at the harbor's edge. The sloping back wall was designed to shelter the building from breaking weaves as it was originally built along a small spit at the land's edge. Over time, the city has landfilled the area behind and distanced the building from the raucous sea.[22]

Today, the fishing sheds are transforming into urban shops as the city's relationship to the harbor changes. In one unit, a fashion designer, STEiNUNN has transformed a former net shed into a studio to design knitwear.

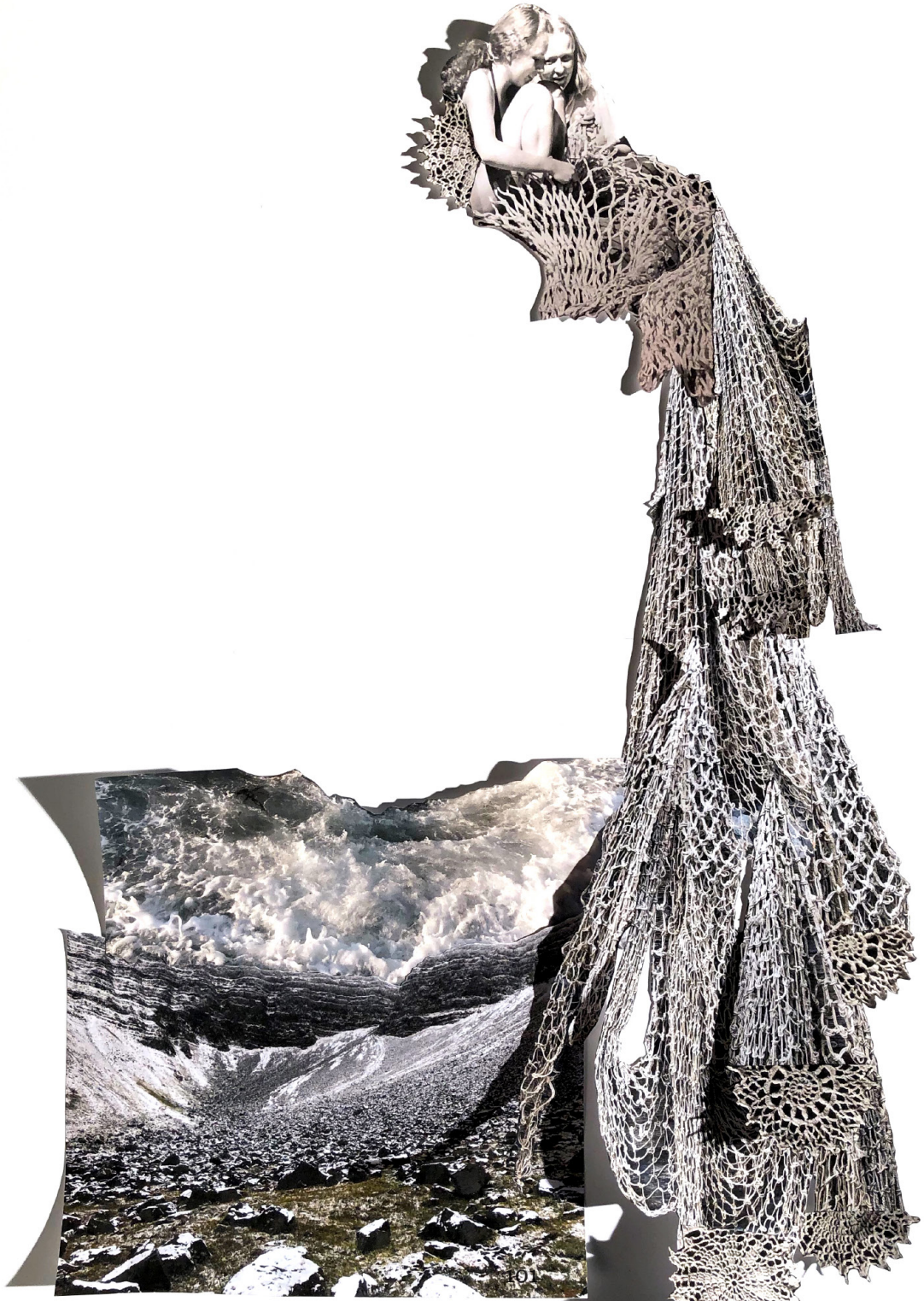

BAD



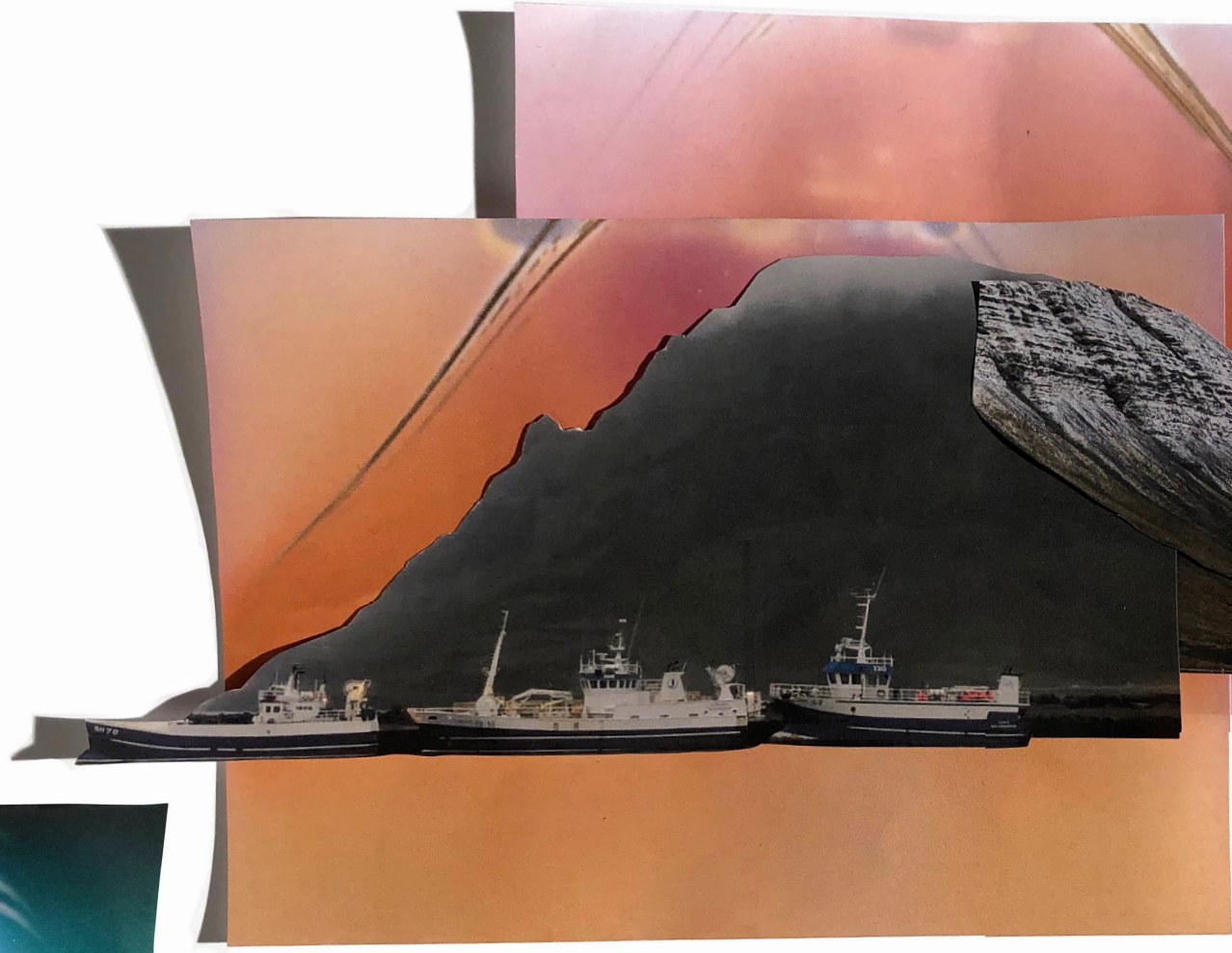
Collage work shows how easily nets, lines, and other ocean-shapes can make dresses, and reinforces the fluid metamorphosis from nets to knits.

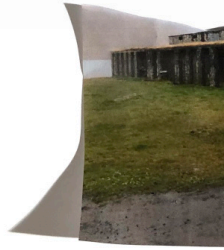
The fluid transformation of fishing and fashion also tells a story of the entanglement of land and sea necessary for survival in Iceland. Both clothing and fishing, sheep and cod, are essential for life.

blue buoy ballgown

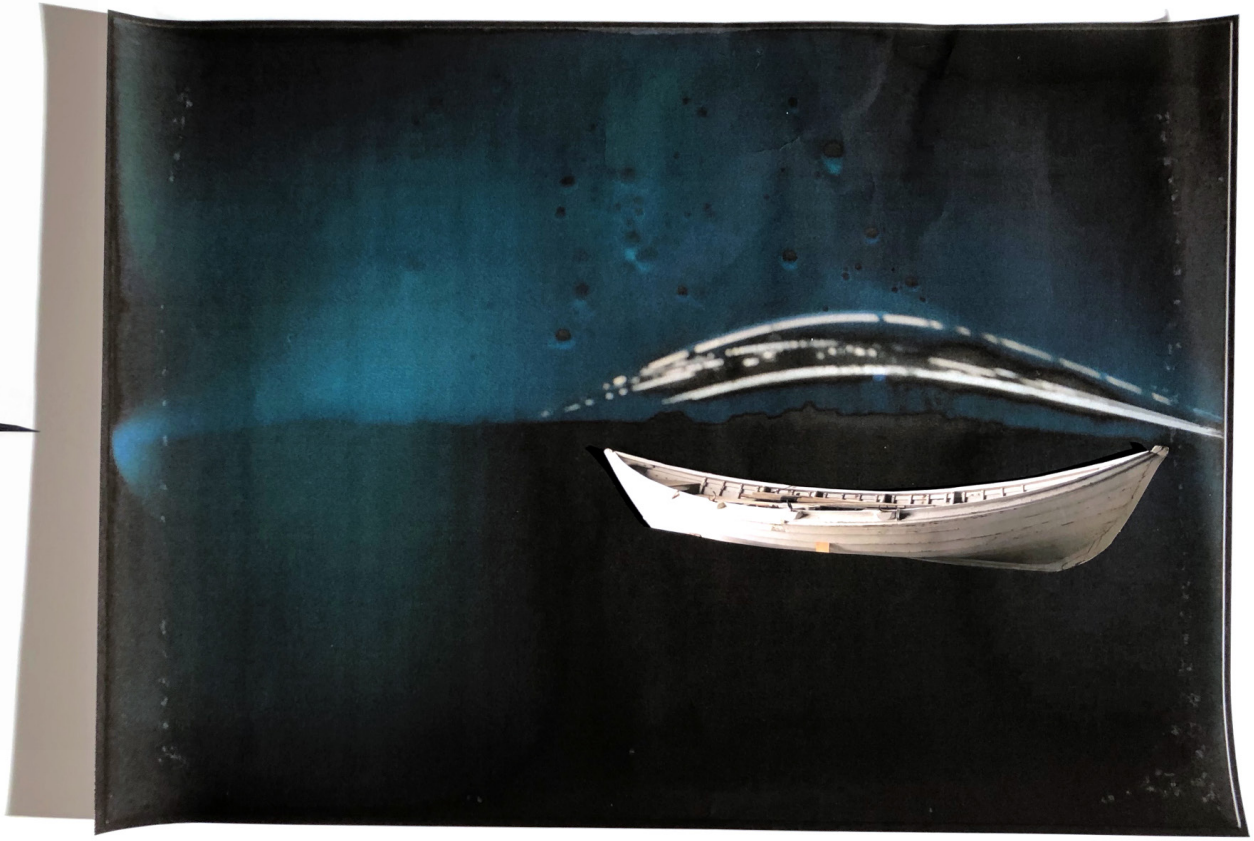


web waterfall dress





Collage scale studies that incorporate solargraphy imagery reveal a cosmic order between the sweep of the sun, the rise of a mountain, a bend in a path, the curve in the hull of a ship, and the gestures of nets and lines in fish work.



Color and gesture cues show how life gathers along the edges of waterbodies: geothermal springs or the sea.

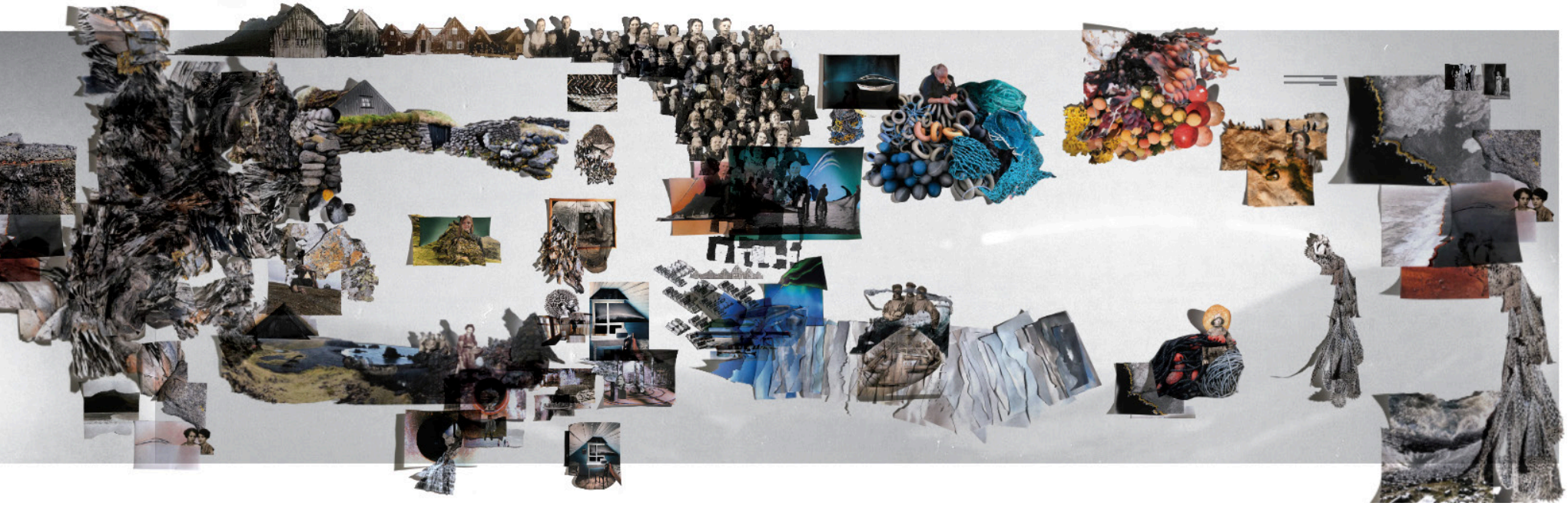
In collage we see how
rocks are alive, how
stones can sing.

By following the desire in color and texture, we understand that rocks dream.

The material, textural
studies in Iceland
show that
water becomes
mountain becomes
snow becomes
barnacles become
lichen becomes
salt becomes
concrete becomes
waves become
stone becomes
sand becomes
wool becomes
knits become
turf becomes
home becomes
kelp become
lava.

The case study of entanglement here reveals a secret about life and fluidity in stone.

Each *LAYOUT* iteration with the individual collages can tell a new story about the flow of associations or the fluidity of time, materials and space.



In the presentation iteration of the digital collage layouts, we see a story about the lines and rhythms of life at the water's edge in Alaska, and a story about the fluidity, texture and life of stone in Iceland.

INSTALLATION

Reiterated clues from the large-scale mylar sun drawings installed next to concrete columns: a relationship between structure and light.

REFLECTION

This thesis, a first run in situational fluid thinking with the help of concept-tools and material apparatuses, not only revealed but iteratively built a world of entangled space, time, materials and meaning. The concept-tools and fluid thinker guides changed the way my thinking moves, and had a physical impact on how I observe and participate in the architectural process, ie. materially moving through space in time.

Ebb and Flood

The experience of the thesis and the entanglement of concept-tools and the work reveals a fluid rhythm very much like the breath of the tides. An ebb and flow is required in the movement between the studio and world. Certain moments require patience, ingestion, active listening, and collection. This will inevitably lead to a moment of slack tide before a rush in the other direction of experimentation, movement, articulation, and questioning through the doing.

Material Apparatuses

Collage emerged as the richest material apparatus as both a tool and the work itself in this iteration of the process. The collages have the power to embody iterative entanglement as each fragment arrangement is a deep and strange source for new insights with a forceful resistance to the settled—the hardest part of the thesis was ignoring new threads of entanglement happening on the desk during the presentation phase. The collages are a tool for discovery about the interactions of space, time and matter in the world, and are a powerful discursive method to communicate how metamorphoses emerge. The collages are generative, if we are to understand concept-tools as having physical effects in the world. They not only expose entanglement, but generate entanglement.

Other material apparatuses from this thesis have potential for further architectural work.

The earth pigment collections become tools of material, site significance that bleed across the boundary between studio and world. A more specific site project could reveal rich methods to use these colors in drawings, models, or as ways to study time embedded in material through weathering.

The solargraphy photographs also have a potential to bloom with a more specific site. Different exposure durations throughout different seasons would show different sun drawings and light seams between sky and earth. Paired with movement drawings, we could begin to explore how human bodies and solar bodies orbit space together (*figure 16*).

The large-scale mylar plot installations of the digitally-

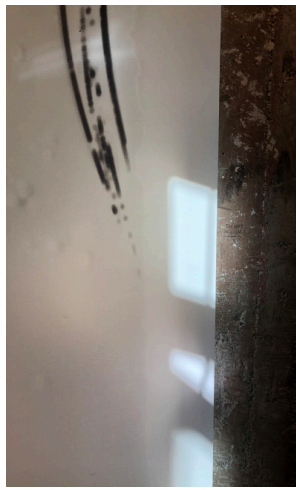


Figure 14

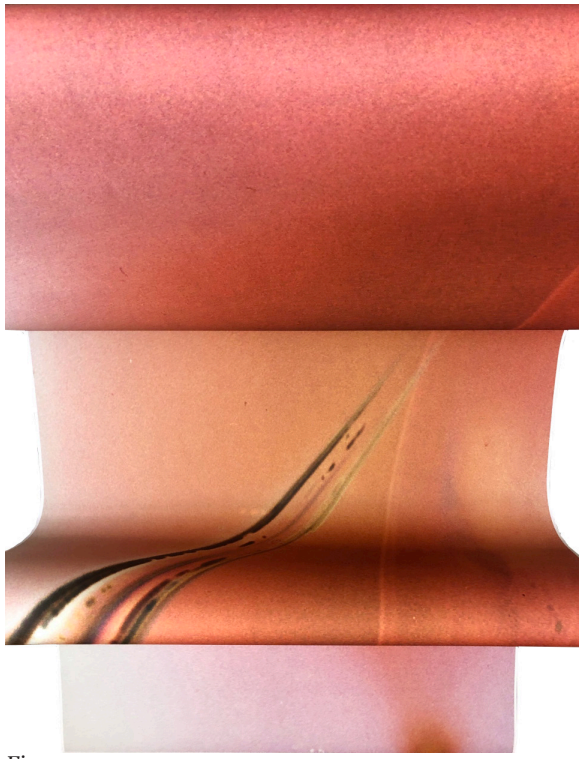


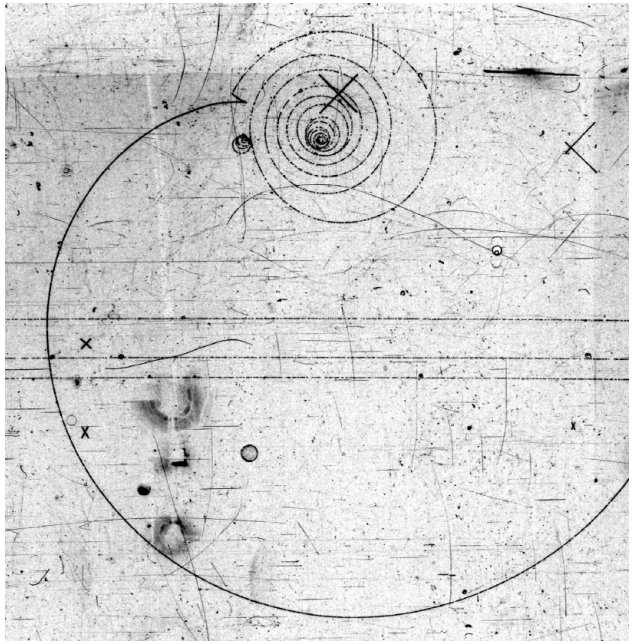
Figure 15

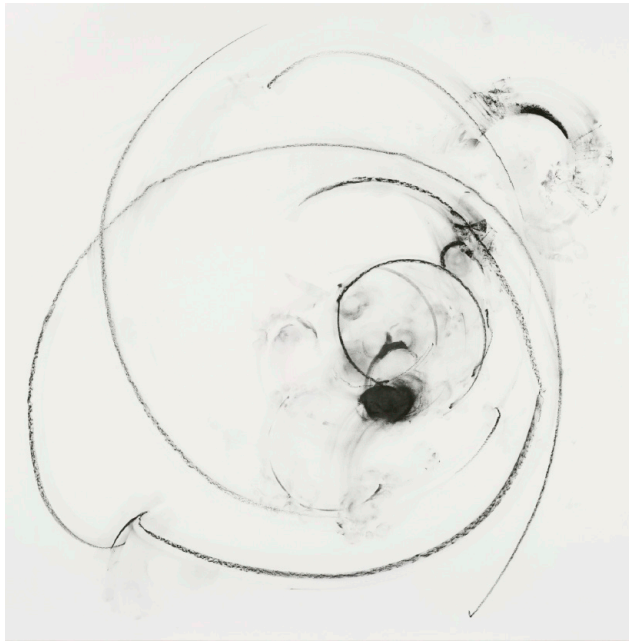
altered solar drawings started to be rich apparatuses for associations in scale. The inverted drawing blown up beyond the height of a human body starts to relate to Le Corbusier's modular man, and suggests there may be other fluid modulors to index the body in space. The material qualities of the large-scale mylar invite light to make space out of the solar drawings and textures through translucence (*figure 14)*. Color and scale in the mylar material reiterates a dialogue of flesh and light (*figure 15*).

Further material apparatuses will emerge as this process moves to other projects and questions about entanglement. The concept-tools inherently invite new perspectives, methods and inquiries according to the situation at hand.

Overflow

This thesis is run through with an undertow that asks, *what else can architecture be?* The sea-change here swells against architecture as building and detail, and incorporates space and tectonics from the microscopic to the interstellar scale, with bodies, buildings and landscapes entangled within. The sea-change overflows beyond spatial scales and absorbs fluid time, desire, and material alchemy in the architectural process. This thesis asks architecture to entangle with materials and time in an iterative formation of space and meaning.





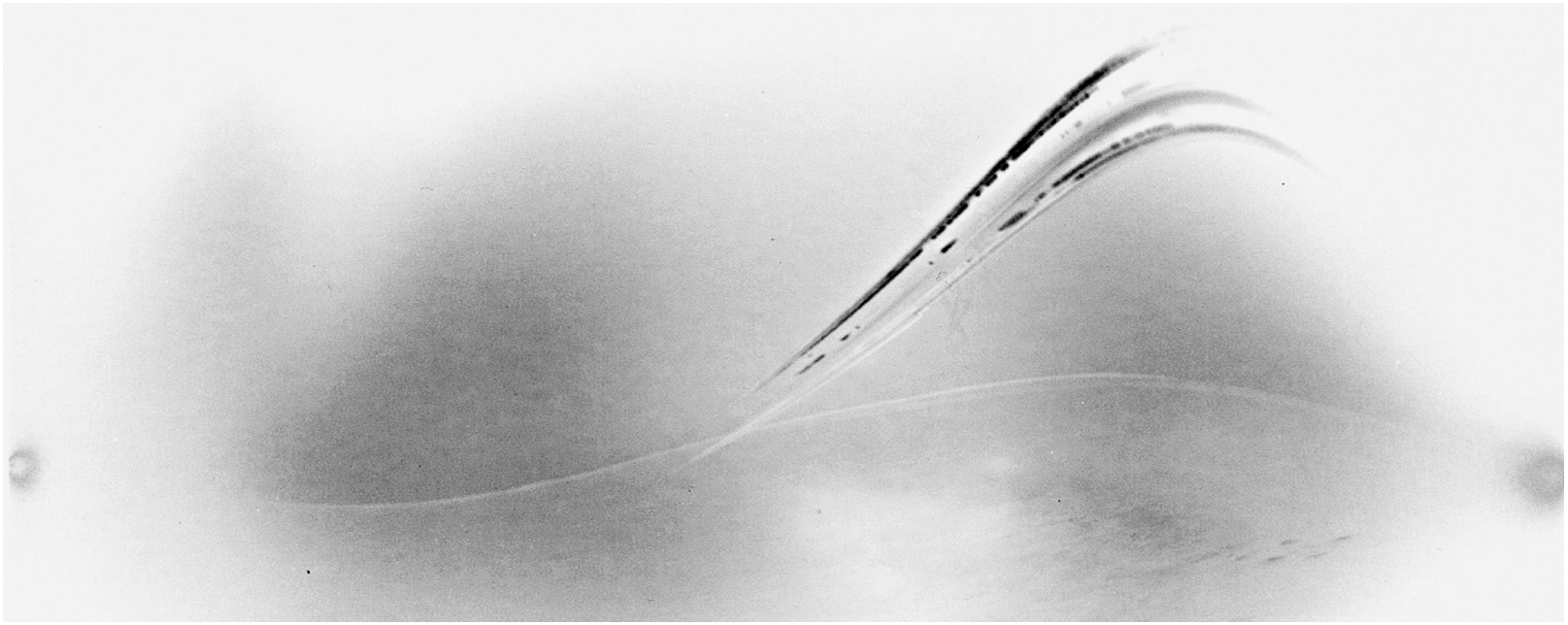


Figure 16

~thank you / takk fyrir~

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Jordan for love and patience
Salmon

Endnotes

1 Frichot 2016, 103.
2 Conrad 2011.
3 White 2018, 8.
4 Irigaray 1977, 11.
5 Irigaray 1977, 11.
6 Nelson 2015, 11.
7 Barad 2007, 133.
8 Johnson, 135.
9 Johnson, 142.
10 Miralles 1995.
11 Barad 2007, 135.
12 Frichot 2016, 132.
13 Goldsworthy 2000, 24.
14 Mann 2018, 133.
15 Barad 2009.
16 Graham 2002, 36.
17 Lacan 1949.
18 Willson 2016, 3-25.
19 Sigurðardóttir 2011.
20 From a conversation with Hrafnhilður on October 4, 2018 in Reykjavik.
21 Historical information from a tour of the factory in Djúpavík on September 14, 2018.
22 Association of Icelandic Architects 2000, 89.

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