

Reclaiming the Land:
A New Paradigm for the Future of Tuktoyaktuk

by

Michele Gagnon

A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs
in partial fulfillment of the requirements for the degree of

Master of Architecture

Azrieli School of Architecture & Urbanism

Carleton University
Ottawa, Ontario

© 2021
Michele Gagnon

ABSTRACT

The Inuvialuit environment is found on vast landmasses where the Arctic ocean has a great influence on the region. The nation has a unique understanding of the land after inhabiting it and utilizing its resources for millennia making it extremely vulnerable to the various consequences of climate change in the Arctic. Hence, the new ecological forces at play erode the Arctic shorelines and shift the ancestral marine ecosystem.

The village of Tuktoyaktuk sits within the context of severe land loss where cultural activities and education are practiced, bringing a critical concern to avert further physical and social erosion along the coast. This thesis investigates particular intersections of architecture with the pressing questions of the Inuvialuit constructs of place, tradition, knowledge and ecology.

An exploration is conducted to develop a proposition of advancing architectural representation practices inclusive of the Western and Inuvialuit traditions. Intrinsicly, this thesis studies the traditional place-ness and place-making of the Inuvialuit to speculate on a proactive architecture response to the ecological and cultural changes taking place in Tuktoyaktuk. Ultimately, the thesis seeks to provoke necessary discussions to empower architecture to incorporate traditions and vernacular spaces on the coast.

ACKNOWLEDGMENTS

Throughout the development of this thesis, I received a significant amount of support that was essential to advance my research. Firstly, I would like to express my gratitude to my advisor, Zach Colbert, whose advice and guidance helped me formulate a working methodology with personal value.

To Pouria, whom I am grateful for all the love, the great intellectual and emotional support, the patience and the insightful thoughts that made me further challenge my thesis and believe in myself. Thank you for staying close to me.

To my parents, who have been by my side in every step of my life, that continuously encouraged and helped me to expand my horizons. I will forever be thankful for their unconditional love and the absolute interest they have in my studies.

To Sabruna, who has always believed in me since the first day I thought of becoming an architect, now 13 years ago. Thank you to my dearest friend for the endless encouragement and the understanding over the years, and through the impossibility of spending time together.

Finally, I would like to acknowledge GRC Architects, especially Pat, to comprehend the weight of my studies in the past years.

TABLE OF CONTENTS

v	Abstract
vii	Acknowledgments
x	Table of Contents
xii	List of Figures
xxii	List of Terms
xxiv	A Troubled Coexistence
xxvi	Foreword
<i>Chapter One</i>	ERECTING FROM THE COAST
4	An Intrinsic Homeland
6	A Cultural Narrative
<i>Chapter Two</i>	A LAND IN DEPLETION
12	The Eroding Arctic
14	A Dislodged Traditional Knowledge
16	Tuktoyaktuk: A Coastal Collapse
<i>Chapter Three</i>	DICHOTOMIC THEORIES
24	Interpersonal Significance of a Place
30	Extension of a Space
34	Timely Development Through Social Memory
40	A Reflection of the Past

<i>Chapter Four</i>	INTERWOVEN WITH A VANISHING COAST
48	Coastal Anthropology
54	Divergent Definitions of Justice
56	A Concrete Line
<i>Chapter Five</i>	THE ARCTIC - FRAMING THE ARCHITECTURAL INDIFFERENCE
68	The Apathic Ontology of Architecture
76	Epistemological Influence of Drawing
80	The Academics and Narratives Dichotomies
96	Conception of a Narrative Paradigm
<i>Chapter Six</i>	PRODUCING AN ARCHITECTURAL EMPATHY
128	Verbalization as an Ignition
132	Inclusive Design Process
158	CONCLUSION
164	EPILOGUE
168	BIBLIOGRAPHY

LIST OF FIGURES

<i>Chapter One</i>	ERECTING FROM THE COAST
4	<i>fig. 1.1.1</i> Eskimo man paddling kayak among chunk of ice clost to shore. Lomen Bros. University of Washington Special Collection, 641 https://digitalcollections.lib.washington.edu/digital/collection/alaskawcanada/id/6401
6	<i>fig. 1.2.1</i> Inuit women and children at summer camp. Geraldine Moodie. Fullerton Harbour, Nunavut, August 1906. https://monovisions.com/geraldine-moodie-biography-19th-century-photographer/
<i>Chapter Two</i>	A LAND IN DEPLETION
12	<i>fig. 2.1.1</i> Arctic Vulnerability Assessment. Author's Work, informed by "Beaufort Sea Large Ocean Management Area Ecosystem Overview and Assessment Report." https://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/eoar2008march.pdf
14	<i>fig. 2.2.1</i> Offshore Shifts: Consequences on Traditional Knowledge. Author's Work, informed by "Beaufort Sea Large Ocean Management Area Ecosystem Overview and Assessment Report." https://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/eoar2008march.pdf
16	<i>fig. 2.3.1</i> Natural Forces at the Harbour. Author's work, informed by "A Method for Assessing Coastal Vulnerabilities to Climate Change within an Arctic Community: The Example of Tuktoyaktuk, Northwest Territories." http://hdl.handle.net/10222/37025
18	<i>fig. 2.3.2</i> Past and Current Erosion in Tuktoyaktuk. Author's work informed by "Tuktoyaktuk: Responsive Strategies for a New Arctic Urbanism." http://hdl.handle.net/1721.1/62886
19	<i>fig. 2.3.3</i> Forthcoming Years of Flooding. Author's work informed by "Tuktoyaktuk: Responsive Strategies for a New Arctic Urbanism." http://hdl.handle.net/1721.1/62886

Chapter Three DICHOTOMIC THEORIES

- 24 *fig. 3.1.1* Tables and benches represent the bounded landscape of Tuktoyaktuk.
De Ciccio, Mario. *Des tables, des bancs et des touristes sont venus remplacer les maisons sur la pointe de Tuktoyaktuk*. September 2019. Photograph. *Radio-Canada*, September 2019.
<https://ici.radio-canada.ca/nouvelle/1319580/tuktoyaktuk-changements-climatiques-ocean-arctique-climat>
- 28 *fig. 3.1.2* Inuvialuit camp circa 1860.
Author's work adapted from Émile Petitot. Summer camp with tents, kayaks and umiaqs.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 29 *fig. 3.1.3* Tuktoyaktuk today.
Author's work adapted from TukTV. Aerial view of Tuktoyaktuk.
https://terralingua.org/langscape_articles/happening-to-us-amplifying-youth-voices-from-the-arctic/
- 30 *fig. 3.2.1* Inuvialuit whalers gather fresh belugas meat.
Bidini, Dave. *Inuvialuit whalers gather fresh beluga meat in July 2015 in Tuktoyaktuk, NWT*. July 2015. Photograph. *Canada's National Observer*, June 2016.
<https://www.nationalobserver.com/2016/06/10/analysis/first-road-tuk-about-change-western-arctic-forever>
- 32 *fig. 3.2.2* Inuvialuit camp circa 1860.
Author's work adapted from Émile Petitot. Sod houses in the Anderson River area.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 33 *fig. 3.2.3* Tuktoyaktuk today.
Author's work adapted from Clif Bar & Company.
<https://www.clifbar.com/stories/t3-adv-the-great-trail-tuktoyaktuk>
- 34 *fig. 3.3.1* Alice Husky and Barbra Allen, Inuvialut Elders, 2005.
Lyons, Natasha. *The Wisdom of the Elders: Inuvialuit Social Memories of Community and Change in the Twentieth Century*. *Arctic Anthropology* 47, 2010.
<https://www.jstor.org/stable/25780669>
- 37 *fig. 3.3.2* Victor Allen, Inuvialuit Elder, 2005.
Lyons, Natasha. *The Wisdom of the Elders: Inuvialuit Social Memories of Community and Change in the Twentieth Century*. *Arctic Anthropology* 47, 2010.
<https://www.jstor.org/stable/25780669>

- 38 *fig. 3.3.3* Inuvialuit camp circa 1860.
Author's work adapted from Kitigaaryuk in 1909.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20Ar%20That%20Time.pdf>
- 39 *fig. 3.3.4* Tuktoyaktuk today.
Author's work adapted from Tuktoyaktuk in the 1940s. A. Fleming Collection.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20Ar%20That%20Time.pdf>
- 40 *fig. 3.4.1* A Reflection of the Past.
Author's work partially adapted from Alic Kaodloak and Mable Nigiyok. Long Distance Walk to Qalgiliimanaq.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20Ar%20That%20Time.pdf>

Chapter Four INTERWOVEN WITH A VANISHING COAST

- 48 *fig. 4.1.1* Diagram of Furture Land Loss.
Drawing adapted from Pamela Ritchot. "Tuktoyaktuk: Responsive Strategies for a New Arctic Urbanism."
<http://hdl.handle.net/1721.1/62886>
- 50 *fig. 4.1.2* Sigliit Traditional Drum Dancing.
Author's work adapted from Tuktoyaktuk Drummers and Dancers. Inuvialuit Regional Corporation.
<https://www.youtube.com/watch?v=7D3NHk9UNO4>
- 51 *fig. 4.1.3* Learning the Basics of Net Fishing.
Author's work adapted from Tannis Toohey / Toronto Star via Getty Images. Tuktoyaktuk is preparing for more visitors.
<https://www.lonelyplanet.com/articles/arctic-circle-canada-permanent-road>
- 54 *fig. 4.2.1* Children in traditional drum dancing clothing in front of a massive erosion hard-coast management.
Spectacular Northwest Territories Stories. Photograph.
<https://spectacularnwt.com/story/itinerary-inuvik-and-tuktoyaktuk-three-thrilling-days>
- 56 *fig. 4.3.1* Concrete slabs and boulders along the coast compared to a human scale and houses.
Solomon, Steve. *Attempt to control shoreline erosion using riprap at Tuktoyaktuk, Northwest Territories, Canada*. Photograph. *Geological Survey of Canada*, December 2016.
<https://pubs.usgs.gov/pp/p1386a/gallery5-fig43.html>
- 58 *fig. 4.3.2* Scale of Existing Coast Protection.
Author's work.
- 59 *fig. 4.3.3* Coastal Anthropology.
Author's work.

60 *fig. 4.3.4* Existing Coast Protection.
Author's work.

61 *fig. 4.3.5* Existing Coast Protection.
Author's work.

Chapter Five THE ARCTIC - FRAMING THE ARCHITECTURAL INDIFFERENCE

68 *fig. 5.1.1* Fish preparation clashing with the rock aramature in the background.
Fraiser, Crystal Grail. Photograph. *The Walrus*, November 2019.
<https://thewalrus.ca/the-new-road-in-the-north/>

71 *fig. 5.1.2* Rows of repetitive houses contrasting with a coastal landscape.
Spectacular Northwest Territories Stories. Photograph.
<https://spectacularnwt.com/story/itinerary-inuvik-and-tuktoyaktuk-three-thrilling-days>

75 *fig. 5.1.3* Carmen Kuptana interviewing Natan Obed, president of Inuit Tapiriit Kanatami.
avatarmedia1. *Happening to Us*. YouTube video. December 2019.
<https://www.youtube.com/watch?v=Udhyy9sWWL0>

76 *fig. 5.2.1* Architectural diagram for the Arctic by Ralph Erskine, *The Polar Record*.
Erskine, Ralph. *The Arctic Town*, 1968, drawing, Hidden Architecture,
<http://hiddenarchitecture.net/arctic-town/>

79 *fig. 5.2.2* Inuvialuit Drawing: First White Man's Ship.
Emerak, Mark. *First White Man's Ship*, drawing, Taimani At That Time - Inuvialuit Timeline Visual Guide (Holman Eskimo Cooperative),
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

80 *fig. 5.3.1* Cover page of the book *Architectural Graphics* by Francis D. K. Ching
Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.

83 *fig. 5.3.2* Drawing of Anderson River Inuvialuit hunting a whale from an umiak.
Inuvialuit drawing circa 1865. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

83 *fig. 5.3.3* Inuvialuit drawing depicting ice fishing.
Inuvialuit drawing circa 1865. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

83 *fig. 5.3.4* Inuvialuit drawing showing umiaqs being carried on sleds.
Inuvialuit drawing circa 1865. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

- 83 *fig. 5.3.5* This Inuvialuit drawing of people at a snow house camp on a wooden box lid from the Anderson River area.
Inuvialuit drawing circa 1865. May depict Kuukugmiut. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 83 *fig. 5.3.6* Wooden Box Lid
Inuvialuit drawing circa 1865. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 83 *fig. 5.3.7* Inuvialuit drawing of showing hunters in kayaks spearing caribou as they swim across a river.
Inuvialuit drawing circa 1865. *Taimani At That Time - Inuvialuit Timeline Visual Guide (MacFarlane Collection)*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 85 *fig. 5.3.8* Cover Page.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 86 *fig. 5.3.9* Typical Drawing Guides.
Author's work partially adapted from Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.
- 88 *fig. 5.3.10* Drawing Process.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011 & partially adapted from Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 90 *fig. 5.3.11* Juxtaposing Scales on a Site Plan.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011 & partially adapted from Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 92 *fig. 5.3.12* Juxtaposing Architectural Views with Landscaping.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011 & partially adapted from Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

- 94 *fig. 5.3.13* Human Figures as a Focus Point.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011 & partially adapted from Ching, Francis D. K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 96 *fig. 5.4.1* Drawing Process.
Author's work.
- 98 *fig. 5.4.2* Traditional Representation of the Drawing: Arctic Vulnerability Assessment.
Author's work, see figure 2.1.1.
- 99 *fig. 5.4.3* Narrative Representation of the Drawing: Arctic Vulnerability Assessment.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 100 *fig. 5.4.4* Traditional Representation of the Drawing: Offshore Shifts: Consequences on Traditional Knowledge.
Author's work, see figure 2.2.1.
- 101 *fig. 5.4.5* Narrative Representation of the Drawing: Offshore Shifts: Consequences on Traditional Knowledge.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 102 *fig. 5.4.6* Traditional Representation of the Drawing: Natural forces at the Harbour.
Author's work, see figure 2.3.1.
- 103 *fig. 5.4.7* Narrative Representation of the Drawing: Natural forces at the Harbour.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 104 *fig. 5.4.8* Traditional Representation of the Drawing: Past and Current Erosion in Tuktoyaktuk.
Author's work, see figure 2.3.2.
- 105 *fig. 5.4.9* Narrative Representation of the Drawing: Past and Current Erosion in Tuktoyaktuk.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

- 106 *fig. 5.4.10* Traditional Representation of the Drawing: Forthcoming Years of Flooding. Author's work, see figure 2.3.3.
- 107 *fig. 5.4.11* Narrative Representation of the Drawing: Forthcoming Years of Flooding. Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 108 *fig. 5.4.12* Realistic Representation of the Drawing: Existential Meanings of Place Identity & Loss of Place: Modernity Exists in a Nowhere. Author's work, see figure 3.1.2 & figure 3.1.3.
- 109 *fig. 5.4.13* Theoretical Representation of the Drawing: Existential Meanings of Place Identity & Loss of Place: Modernity Exists in a Nowhere. Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 110 *fig. 5.4.14* Realistic Representation of the Drawing: Functioning in a Spatial Unity & Contemporary Place: Living Memories. Author's work, see figure 3.2.2 & figure 3.2.3.
- 111 *fig. 5.4.15* Theoretical Representation of the Drawing: Functioning in a Spatial Unity & Contemporary Place: Living Memories. Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 112 *fig. 5.4.16* Realistic Representation of the Drawing: Natural Process of Time & Living in a Linear Time and a Surviving Past. Author's work, see figure 3.3.3 & figure 3.3.4.
- 113 *fig. 5.4.17* Theoretical Representation of the Drawing: Natural Process of Time & Living in a Linear Time and a Surviving Past. Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 114 *fig. 5.4.18* Traditional Representation of the Drawing: A Reflection of the Past. Author's work, see figure 3.4.1.
- 115 *fig. 5.4.19* Theoretical Representation of the Drawing: A Reflection of the Past. Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 116 *fig. 5.4.20* Representation of the Drawing: Sigliit Traditional Drum Dancing. Author's work, see figure 4.1.2.

- 117 *fig. 5.4.21* Fiction Narrative Representation of the Drawing: Sigliit Traditional Drum Dancing.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- 118 *fig. 5.4.22* Representation of the Drawing: Learning the Basics of Net Fishing.
Author's work, see figure 4.1.3.
- 119 *fig. 5.4.23* Fiction Representation of the Drawing: Learning the Basics of Net Fishing.
Author's work partially adapted from *Taimani At That Time - Inuvialuit Timeline Visual Guide*, Inuvialuit Regional Corporation, 2011.
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
- Chapter Six* PRODUCING AN ARCHITECTURAL EMPATHY
- 128 *fig. 6.1.1* Youth March in Tuktoyaktuk, N.W.T.
De Ciccio, Mario. *Youth March in Tuktoyaktuk, N.W.T.* Photograph. *CBC News*, October 2019.
<https://www.cbc.ca/news/canada/north/now-or-never-nwt-youth-on-climate-change-1.5308149>
- 132 *fig. 6.2.1* Primitive Hut: Nature is Mine.
Charles Dominique Joseph Elsen, Vitruvian Primitive Hut, 1755, Wikimedia Commons accessed March 31st, 2021.
https://commons.wikimedia.org/wiki/File:Essai_sur_l%27Architecture_-_Frontispiece.jpg
- 134 *fig. 6.2.2* Winter Camp with Tipi: Nature is Me.
Edward Curtis. *The Winter Camp*, photographic print, The Library of Congress, accessed March 31st, 2021,
<https://www.loc.gov/item/2002698428/>
- 136-137 *fig. 6.2.3* Organic Diagram of Tuktoyaktuk.
Author's work, partially informed by "Living Tradition: Supporting the Inuvialuit Community of Tuktoyaktuk Through Productive Cultural Space."
<http://hdl.handle.net/10222/75439>.
- 139 *fig. 6.2.4* Process Drawing: Translating Narrative into Architectural Representation - Natural Forces at the Harbour.
Author's work partially adapted from "Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius", Azrieli School of Architecture and Urbanism.
<https://www.youtube.com/watch?v=NYzx7rLe3Do>
- 140 *fig. 6.2.5* Process Drawing: Translating Narrative into Architectural Representation - Functioning in a Spatial Unity & Contemporary Place: Living Memories.
Author's work partially adapted from "Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius", Azrieli School of Architecture and Urbanism.
<https://www.youtube.com/watch?v=NYzx7rLe3Do>

- 141 *fig. 6.2.6* Process Drawing: Translating Narrative into Architectural Representation - Learning the Basics of Net Fishing.
Author's work partially adapted from "Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius", Azrieli School of Architecture and Urbanism.
<https://www.youtube.com/watch?v=NYzx7rLe3Do>
- 143 *fig. 6.2.7* Implementation of Strategies in the Organic Diagram of Tuktoyaktuk.
Author's work partially adapted from various sources.
- 144 *fig. 6.2.8* Close-Up Drawing Illustrating Breakwaters and Sediment Retention Poles.
Author's work partially adapted from various sources.
- 145 *fig. 6.2.9* Close-Up Drawing Illustrating Vegetation Mats.
Author's work partially adapted from various sources including from Shoreline Stabilization Techniques.
<https://www.dec.ny.gov/permits/67096.html>
- 147 *fig. 6.2.10* Process Drawing: Implementating Strategies from the Translated Drawing - Natural Forces at the Harbour.
Author's work, see figure 6.2.4.
- 148 *fig. 6.2.11* Process Drawing: Implementating Strategies from the Translated Drawing - Functioning in a Spatial Unity & Contemporary Place: Living Memories.
Author's work, see figure 6.2.5.
- 149 *fig. 6.2.12* Process Drawing: Implementating Strategies from the Translated Drawing - Learning the Basics of Net Fishing.
Author's work, see figure 6.2.6.
- 150 *fig. 6.2.13* Seasonal Diagram of Tuktoyaktuk.
Author's work.
- 154-155 *fig. 6.2.14* First Attempt to a Design Experimentation.
Author's work.

EPILOGUE

- 166 *fig. E.1.1* Drawing Lines from Muscle Memory: The Initial Production of an Abstracted Space.
Author's work.

LIST OF TERMS

- Land* The Indigenous tradition and culture are inextricably connected to the land, its inhabitants, and existence, which influences their identity and hegemony. The culture relies heavily on the protection of the land and water. The land is ingrained in their nature but also compels them to protect it.
- Organism* An organism is a single being. Although an organism can contain various distinct components, it cannot subsist without them, just as the components cannot subsist without the organism.
- Place* The simplest vernacular solution consists of a direct adaptation of the natural space. As the general identity of our places depend on structure, they form an important part of the phenomenology of architecture.
- Christian Norberg-Schulz
- Space* Anthropological space sought the distinction from geometrical space from which space is existential and existence is spatial. It expresses the same essential structure of our being as being situated in relationship to a milieu and implanted in the space of a landscape.
- Michel de Certeau
- Time* The relation of the past and present is purely temporal and continuous, the relation of what-has-been is not a progression but an image, suddenly emergent. This relationship lies between topography and the writing of place, between site-identification and self-identification.
- Jan Rendell
- Memory* The body is the physical fabric of the heritage site in its original state and setting. The soul, spirit of place, is the sum of the site's history, traditions, memories, myth, associations and continuity of meaning connected with people and use over time.
- Lauren Loh

<i>Justice</i>	Justice is expressed socially through design by expanding the profession's inclusiveness. Diversification allows a community or a nation to critically and establish solutions that address the necessities of a single community.
<i>Empathy</i>	Corresponds to an individual's ability to interpret and understand the feelings or thoughts of another individual. Empathic accuracy refers to obtaining a more comprehensive and precise understanding of the information received from another person's experience.
<i>Narrative</i>	Seeing the Earth as a matter of concern requires forms of knowledge that synthesize scientific epistemologies and sensible experience, reason and imagination. Such aesthetics draws on geographic visual representation to construct worldviews that bridge disciplinary divides. - Rania Ghosn
<i>Epistemology</i>	Study of knowledge with emphasis on the queries such as which type of knowledge and how was it gained. In architecture, an interpretation of epistemology is vital for assessing the integrity of the profession and to comprehend the way that knowledge assumes a meaningful function in society.
<i>Ontology</i>	The ontology of architecture is associated with beneficial concepts on a society or a community from design practices. It is a positive form of knowledge in which the design behaviour is described as a set of capabilities.

A TROUBLED COEXISTENCE

A boy and a grandmother are living in water
where the horizon appeared unpronounceable,
an infinite extent in which they suffer.

The Southern individual is solely a follower
accomplishing an art ending to persist invisible:
a boy and a grandmother are living in water.

The population will have to answer
to the extinction of a land long presumed unbreakable
Ice is renouncing the North, leaving it in suffer.

Why the moulded individual acts as a viewer?
All types of wrongs will not be excusable,
a boy and a grandmother are living in water.

Few are screaming the destruction we empower,
a life filled with actions justly professed as deplorable.
Shame and disgrace are not enough to suffer.

But at the end, who would share their shelter?
The indulge of selfishness is considered acceptable:
a boy and a grandmother are living in water.
When our journey is over, maybe from regrets, we'll suffer.

FOREWORD

Tuktoyaktuk, a small Inuvialuit village of 900 residents, has experienced ongoing coastal erosion throughout its history. Today, the effects of climate change, such as increasing storms, are rushing the inhabitants and the government to act in light of the accelerated transformations. Thus, structures are not the only thing at risk. The residents practice most of the traditional, cultural and substantial activities on the coasts, where these practices are also threatened by major land loss.

Due to a lack of site surveying and testimonies from the residents, this thesis will not propose an alternative for the Inuvialuit to prevent imposing an arbitrary strategy for the community. The thesis rather researches innovative methods to view place and space through different lenses, crafting a new dialogue between the Settler and Inuvialuit societies. By studying the current ontological and epistemological shortcomings in the understanding of place and space in Tuktoyaktuk, the thesis introduces a discussion regarding the current approaches to manage the community's coastlines.

Intrinsically, the research explores a proposition of developing architectural representation practices that are inclusive of the Settler and Inuvialuit traditions to initiate a comprehensive design method by incorporating both drawing types. Architectural drawings are embedded in a power structure, and this power behind representation can provoke and reconcile our approach to manage coastal erosion.

Ultimately, a design experiment is used as a process to activate a discussion among architects, landscape architects and urbanists as this topic requires more time and research than a single thesis year. The design experiment is not a final one, accepting the readers' thoughts as the work aims to bring a collective transdisciplinary and introspective discourse among the Settler designers.

CHAPTER ONE:
ERECTING FROM THE COAST



*fig. 1.1.1 Eskimo man
paddling kayak among
chunks of ice close to
shore*

AN INTRINSIC HOMELAND

The harsh environment and the Arctic tundra landscape are foundational to the Inuit cultural sense of life, traditions and practices. The Canadian Arctic is indeed a distinctive region often categorized by settler-colonial accounts as a desolate wasteland deprived of proficient agricultural capacity and barely viable to maintain modern human life. Nevertheless, it is a vibrant and dynamic ecosystem that has been the motherland of a wealthy and successful nation named the Inuvialuit, “the real people,” living in the Northwest Territories.¹

Throughout history, the Inuvialuit thrived as hunters and fishers in the Mackenzie River delta. Its various coastlines and shallow sea waters provided vital functions in the Inuvialuit communities’ daily lives. The Inuvialuit occupied a land far beyond their origins by the 1800s, where thousands inhabited the Beaufort Sea coastlines.² The nation resided in seven or eight groups at the time of encounter with Settlers where communities had developed their names based on place and subsistence.³

The Inuvialuit are biologically and culturally entwined to other Inuit peoples but have cultivated a refined distinctiveness.⁴ Their geographical location outlines the nation’s unique identity where they inhabit a rich and complex ecosystem.⁵ Its freshwaters predominate the western Canadian Arctic resources, where the Inuvialuit region, an oasis in a snow desert, is enclosed by ecologically impoverished lands.⁶

In the current cultural renewal period, the Inuvialuit progressively reflect upon themselves as a unique nation to the broader Canada and worldwide.⁷ They engage with other Arctic communities across diverse political, social and economic practices to identify their differences from other Inuit.⁸ Inuvialuit today affirm their right to articulate and convey their distinctive history, culture and language.⁹



fig. 1.2.1 Inuit women and children at summer camp

A CULTURAL NARRATIVE

Unipkat
Stories telling the
Inuvialuit cultural
values and ways of
life.

Story told by Agnes Nanogak Goose¹⁰

A Grandmother and orphan boy lived next door to people who lived around them.

One day they set the fish net. The orphan boy watched his fish net all day long but it did not get any fish. Soon it was getting dark and the sun was setting. The orphan boy started to make a tune, asking the current to bring the fish to his net. As he sang he saw one of his floats start to move so he went on his kayak to get the fish out. He had gotten a char. As soon as he got the fish he ran home to his grandmother. His grandmother said, "Oh! Thank you very much." She cooked for the orphan.

People started to wonder how the orphan boy got all the char when they could not.

All summer long the old grandmother made dry fish. They had put away more than a winter's supply, but the orphan and grandmother never bragged about their success. They were always thankful - that is how their success continued.

One day the orphan thought to himself, "I wonder if I should ask the rich man if I can marry his daughter." He was a very successful worker by then, especially a good hunter.

She had never wanted anyone for her husband before but when the orphan boy asked her for her hand, she had agreed with no arguing. So they got together. She was very talented in making clothing. She made beautiful clothing for her husband. She was so pleased with him and he took care of his wife very well. She was so happy, she sewed summer caribou parkas, mukluks, and she made beautiful trimmings on them all. They had their own place. She cared for the old grandmother, of course. If it wasn't for the grandmother teaching the grandson, she would never have found a husband to live with for she never wanted to marry anyone before. She said everyone else was too proud or selfish.

ENDNOTES

Chapter One: Erecting from the Coast

1. "5000 Years of Inuit History and Heritage," Inuit Tapiriit Kanatami, November 2004, https://www.itk.ca/wp-content/uploads/2016/07/5000YearHeritage_0.pdf
2. Wendy Stephenson and Charles Arnold, "Taimain – At that Time: Inuvialuit Timeline Visual Guide," Inuvialuit Regional Corporation, 2011, <https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>
3. Natasha Lyons, "Inuvialuit Rising: The Evolution of Inuvialuit Identity in a Modern Era," *Alaska Journal of Anthropology* 7 (2009): 66, <https://www.semanticscholar.org/paper/inuvialuit-rising%3A-the-evolution-of-inuvialuit-in-Lyons/820385e7968597aef5039ecdf8b5c9002bac04e7#paper-header>
4. Ishamel Alunik, Eddie D. Kolausok and David Morrison, *Across Time and Tundra: The Inuvialuit of the Western Arctic*, (Vancouver: Raincoast Books, 2003), 1.
5. Ibid.
6. Ibid, 3.
7. Natasha Lyons, "Inuvialuit Rising: The Evolution of Inuvialuit Identity in a Modern Era," *Alaska Journal of Anthropology* 7 (2009): 75, <https://www.semanticscholar.org/paper/inuvialuit-rising%3A-the-evolution-of-inuvialuit-in-Lyons/820385e7968597aef5039ecdf8b5c9002bac04e7#paper-header>
8. Ibid, 72.
9. Ibid, 75.
10. Wendy Stephenson and Charles Arnold, "Taimain – At that Time: Inuvialuit Timeline Visual Guide," Inuvialuit Regional Corporation, 2011, <https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

CHAPTER TWO:
A LAND IN DEPLETION

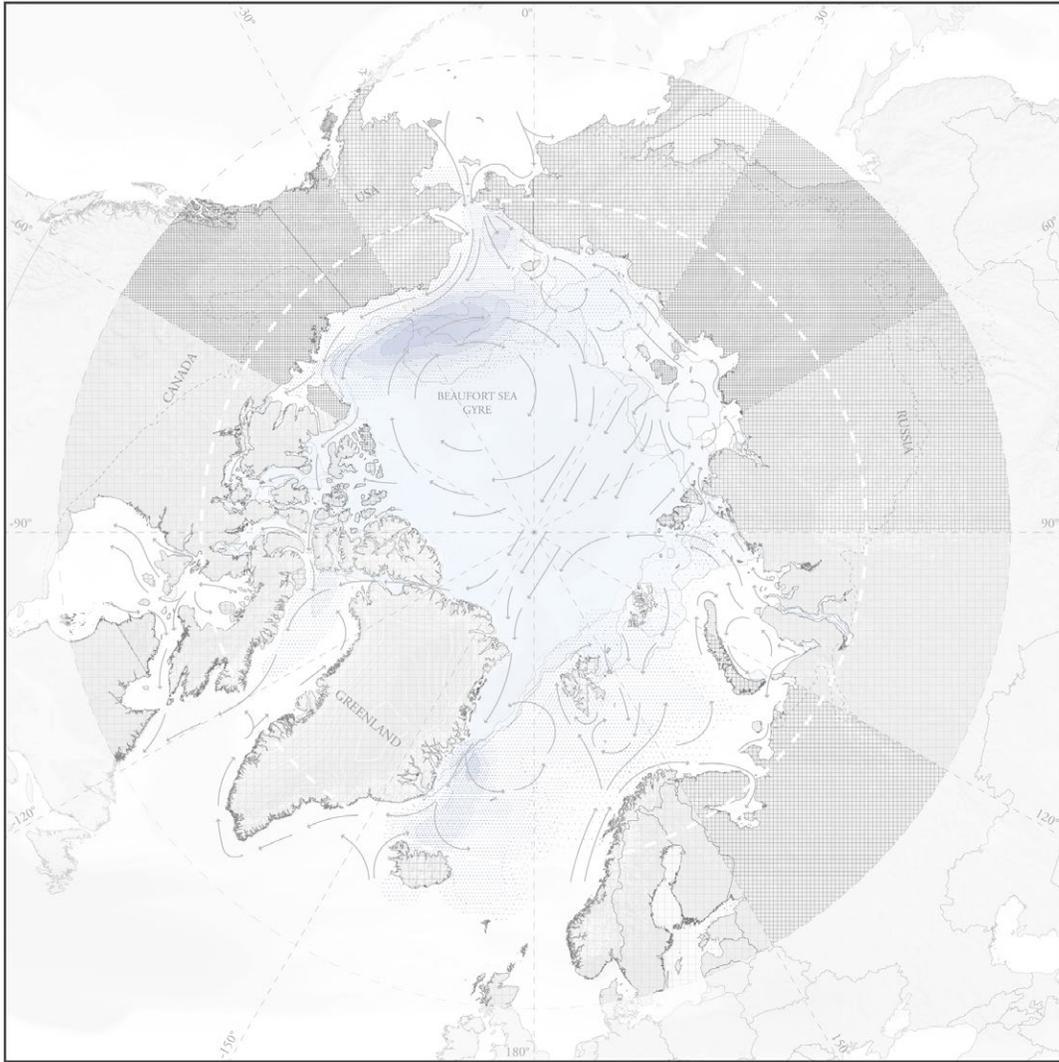


fig. 2.1.1 Arctic Vulnerability Assessment



THE ERODING ARCTIC

The Canadian North's evolutionary history is a compelling illustration of a close connection between climate, ecological surroundings, and human behaviour, where global warming has an adverse weight on the relationship Inuit have with the land. The current transformations in the Arctic exemplify devastation for human morality in which the actions of each individual produce a gigantic outcome with universal effects. The following maps of this chapter mainly focus on introducing the thesis and positioning Tuktoyaktuk in the specific context of coastal erosion.

fig. 2.1.1 The coastal habitat lies where the boundary between sea and ice encounters the land and its inhabitants. Thus, within environmental transformations, the event of a storm excessively erodes the shores. Indeed, the extent of sea ice decreases every decade, where increasingly open waters precipitate violent storms.¹¹ Most of these storms emerge in the Beaufort Sea gyre, where coastlines retain less ice to protect them from erosion.¹²

Most coastal locations in the Arctic are threatened by erosion, simultaneously injuring communities and archaeological sites.¹³ Once ice depletion is revealed, it compromises the environment and the integrity of many villages.¹⁴ Additionally, the changing conditions of the landscape raise a danger for those who may want to travel on the land, a practice part of the traditional heritage.¹⁵

Humans have met at the intersection between land and sea for millennia, yet global warming brings new challenges of social et physical erasure. These transformations transpire in a broader view of economic, cultural and environmental variations. The vegetation and wildlife shifts are disrupting the existing hunting, fishing and harvesting practices. This mapping analysis concludes that the Inuvialuit settlements are the most at risk of coastal erosion in Canada and already suffer great social repercussions.

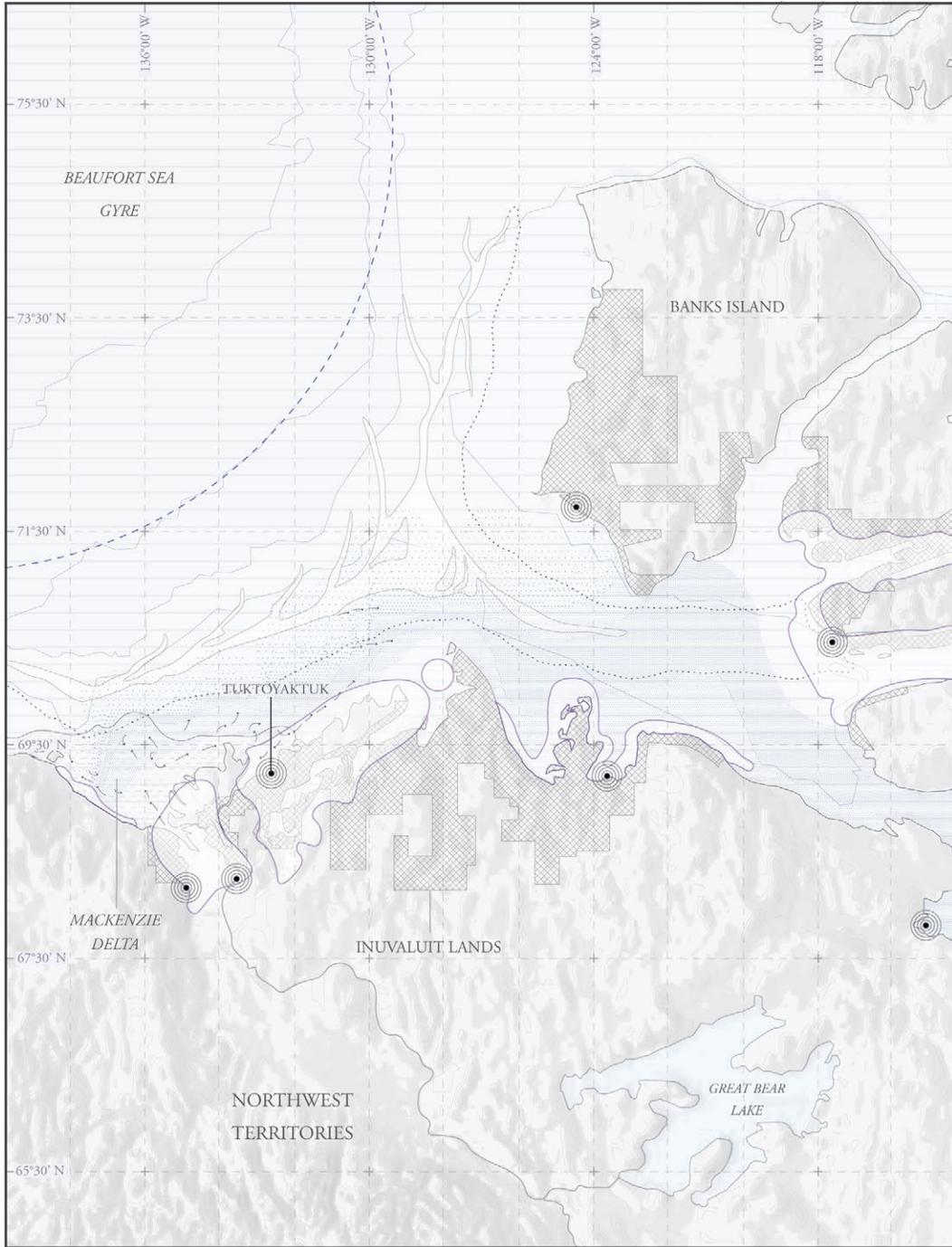


fig. 2.2.1 Offshore Shifts: Consequences on Traditional Knowledge



A DISLOGED TRADITIONAL KNOWLEDGE

fig. 2.2.1 Undeniably, the Beaufort Sea has been recognized for its large biomass production throughout its history. Thus, coastal erosion impacts every life inhabiting the Beaufort Sea ecosystem as the melting sea ice threatens the integral ecosystem, therefore affecting traditional harvesting practices.¹⁶

Consequently, this delicate balance of species declines with a growing proportion of sediment matter caused by the eroding shore.¹⁷ Indeed, the subsiding land and seasonal decrease of ice in the Mackenzie Delta creates a greater sediment movement, altering the marine regions traditionally defined as biodiverse by the Inuvialuit communities.¹⁸

Ever since Inuvialuit inhabited the Arctic, they have identified climatic and ecological sequences rooted from a generation to another. Elders traditionally employed their ability to anticipate environmental conditions. Today, their knowledge of the natural world does not align with the ecological transformations of the marine ecosystem.¹⁹

The changing conditions impact the marine wildlife, forming constant repercussions for the coastal communities of the Inuvialuit territory. The villages are confronted with uncertainty and destructive obstacles as coastal erosion alters the ecosystem.²⁰ Indeed, the erosion continues to damage this shifting landscape undermining the communities' reliance on a primordial diet of hunting and fishing.

The devastating effects of the changing Arctic sea ice, the degradation of the coast, the salinity of the water, and the depletion of animal habitat situate Tuktoyaktuk in an environmental and cultural emergency.

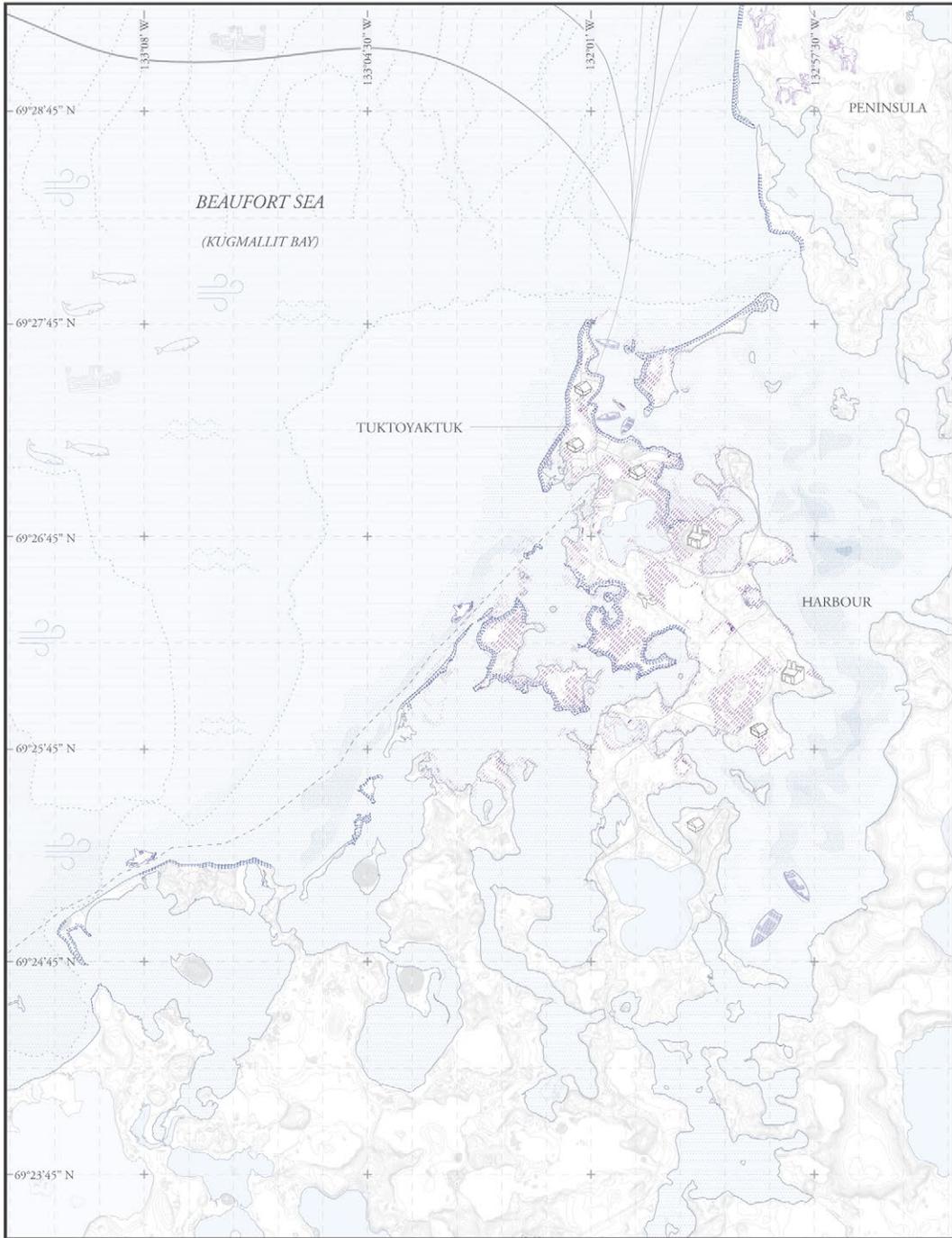


fig. 2.3.1 Natural Forces at the Harbour

TUKTOYAKTUK: A COASTAL COLLAPSE

The Inuvialuit did not occupy land claimed by Settlers due to the territory's intense settings and environments. The earliest contact occurred around the 1820s after sailors recruited Inuits as guides and hunters. The Hudson's Bay Company had a commanding state in the fur markets and assigned the Inuit families to under-utilized hunting and fishing areas to increase trapping results.²¹

Following 500 years of inhabitation, the community of Kittigazuit was relocated partly to Tuktoyaktuk as a stable settlement, selected as a natural harbour from the wind and waves with access to natural fisheries and its desirable location for the fur industry.²²

fig. 2.3.1 Regardless of its resourceful location, Tuktoyaktuk remains a natural wave breaker initiating most of the shorelines at risk of erosion where the retreating ice motions an open path for winter storms.²³ Moreover, Tuktoyaktuk Island is located at the coast of the village, obstructing most of the storm and shoaling waves, subsequently causing the island to lose its shore approximately by two meters per year.²⁴

fig. 2.3.2
fig. 2.3.3 The community will continue to lose its coastline through time, either to current coastal erosion or future flooding. Various approaches and studies in the social and environmental disciplines must comprehend the difficulties experienced in a transforming environment.

For the inhabitants of Tuktoyaktuk, seasonal activities are more than a survival practice, it is an integral part of the regenerative cycle and materializes a cultural relationship between the Inuvialuit and the land they inherited.

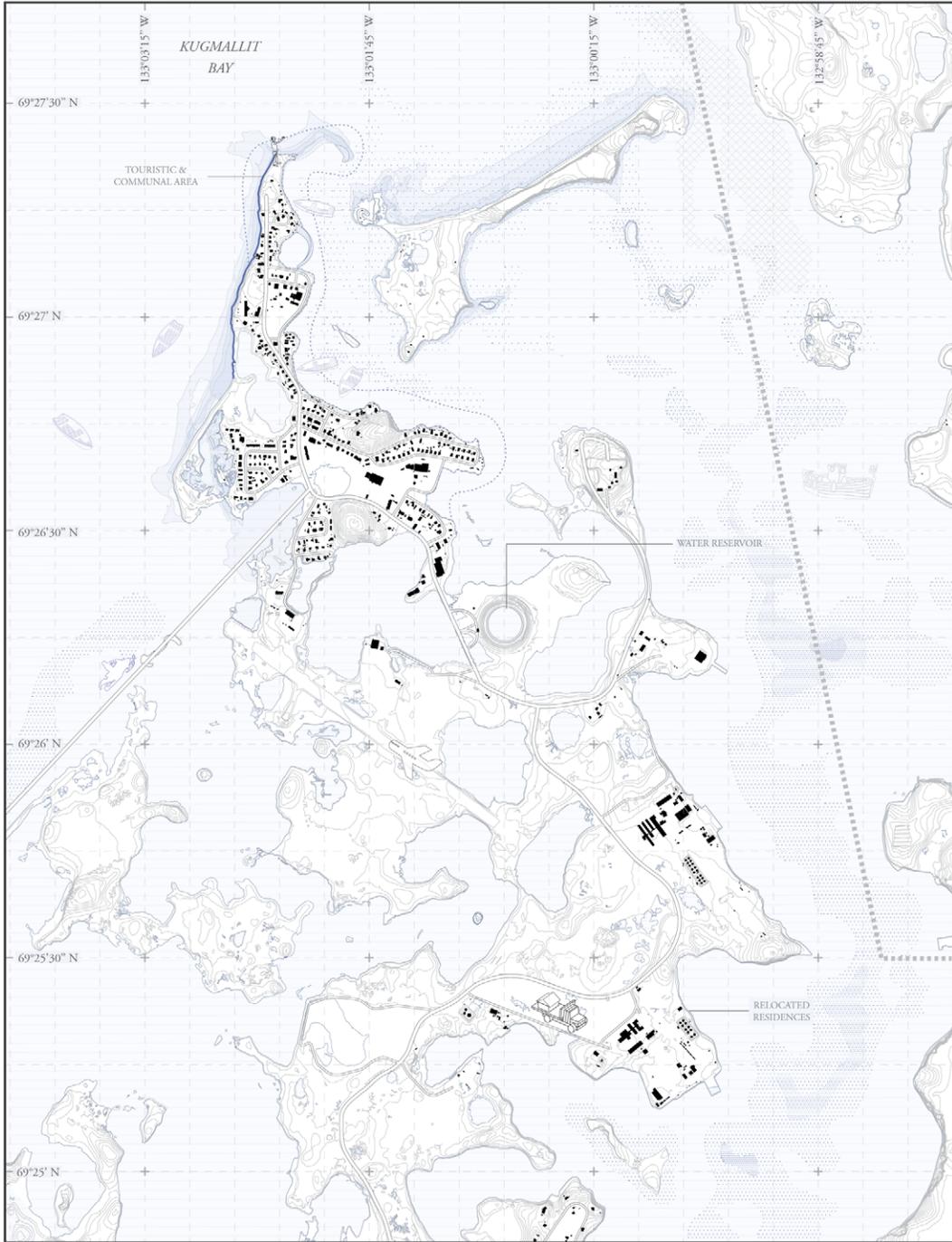


fig. 2.3.2 Past and Current Erosion in Tuktoyaktuk





fig. 2.3.3 Forthcoming Years of Flooding



ENDNOTES

Chapter Two: A Land in Depletion

11. D. Cobb, H. Fast, M.H. Paspst, D. Rosenburg, R. Rutherford and J.E. Sareault, "Beaufort Sea Large Ocean Management Area: Ecosystem Overview and Assessment Report," *Canadian Technical Report of Fisheries and Aquatic Science* 2780 (2008): 19, <https://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/eoar2008march.pdf>
12. Ibid.
13. National, Research Council, et al. *The Arctic in the Anthropocene : Emerging Research Questions* (Washington: National Academies Press, 2014), ProQuest Ebook Central.
14. Ibid.
15. Ibid.
16. Ibid.
17. D. Cobb, H. Fast, M.H. Paspst, D. Rosenburg, R. Rutherford and J.E. Sareault, "Beaufort Sea Large Ocean Management Area: Ecosystem Overview and Assessment Report," *Canadian Technical Report of Fisheries and Aquatic Science* 2780 (2008): 49, <https://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/eoar2008march.pdf>
18. Ibid, 24.
19. Mark Andrachuk and Barry Smith, "Community-based vulnerability assessment of Tuktoyaktuk, NWT, Canada to environmental and socio-economic changes," *Regional Environmental Change* 12 (2012): 880, <https://link.springer.com/article/10.1007/s10113-012-0299-0>
20. National, Research Council, et al. *The Arctic in the Anthropocene : Emerging Research Questions* (Washington: National Academies Press, 2014), ProQuest Ebook Central.
21. David Damas, "Shifting relations in the administration of Inuit: The Hudson's Bay Company and the Canadian Government," *Études/Inuit/Studies* 17 (1993): 13, <https://www.jstor.org/stable/42869878>
22. Peter Usher, "The Canadian Western Arctic: A Century of Change," *Anthropologica* 13 (1971): 177, <https://doi-org.proxy.library.carleton.ca/10.2307/25604848>
23. Mark Andrachuk and Barry Smith, "Community-based vulnerability assessment of Tuktoyaktuk, NWT, Canada to environmental and socio-economic changes," *Regional Environmental Change* 12 (2012): 879, <https://link.springer.com/article/10.1007/s10113-012-0299-0>
24. "Coastal Erosion in Tuktoyaktuk, NT." ArcGIS <https://www.arcgis.com/apps/MapJournal/index.html?appid=75733fd2a1624efdbd83b48334157cda>

CHAPTER THREE:

DICHOTOMIC THEORIES



fig. 3.1.1 Tables and benches represent the bounded landscape of Tuktoyaktuk

INTERPERSONAL SIGNIFICANCE OF A PLACE

fig. 3.1.2 Over the centuries, the Arctic place was professedly viewed as an unbounded landscape where the nature of its settling was confined of fading at the horizon.²⁵ It was a place that was not only a region but an infinite location, enormous without being inexhaustible. The nomadic place, despite its immensity, was a vast area that could not be purely perceived with borders.²⁶

A place for its inhabitants defines the current environments of the sea, the snow, the rivers and the land, assigning names from its bodily characteristics.²⁷ The land and its people remember each other, bounded to one another by their names. "A name was just a word, but words, of a kind, had made the land. I could feel her name, rippling as it coursed through the land. There was strength there, not the strength of a muscle or bone, the strength of the land and name, they recognize each other."²⁸ The place has a role undefined by the Settler measuring paradigm of territories since it forms the foundation of an individual's integral singularity.

There is a clear awareness in the Canadian North that the place is elucidated to a synchrony with its residents in which it cannot be communicated by scientific explanations. While governmental structures dominate nomadic activities, the land inhabitants continue to connect with the delicate configurations and relations of the wind, the snow oscillation, the rumbling of the ice and their sensory properties.²⁹

Since it is not relatively linear or quantified, the place is introduced as an indeterminate concept as its foundations are grounded on the lived bodies, sensing it and understanding it.³⁰ In other words, a place is not modestly described nor portrayed, it is felt. No dimensions can survey its enormity since its sensorial extensions are indefinite.³¹

Today, the notion of place is rarely spoken of among Southerners as we have lost *fig. 3.1.3* connection with this concept in Western culture. Since place is among us, we do not consider it deserving of separate care, consequently taking it for granted.³² The idea that we are emplaced beings on Earth is also counted upon, and as we do not have a say in where we are born, we deem to contemplate the fundamental element of a place.³³

Besides, the concept of universalism is prevalent in Western society, distorting the significance of a place.³⁴ It is evident in the search for new design concepts in which most structures can be emplaced anywhere in the world as a precise somewhere is apparently insignificant. In a universal monoculture, the unique character of a place is abandoned by the Western economical and political frameworks, developing an apathy from a “sameness-of-place” on a specific site.³⁵

Indeed, a place is limited in the Western society by the idea of a site and its inadequate consistent methods of positioning a structure in any other inspired means than a static object on a geometric grid.³⁶ Conversely, a place continually positions an object by emplacing it on the landscape in a non-geometric or mapping form.

The Western urban planning of Inuit villages neglected the significance of a place, colliding with the profound connection the nation has with the land and supporting the functional configurations of Western rationalism. Accordingly, the Inuit villages were implemented initially as a social manipulation rather than a cultural structure and were used to carry Inuits in a Westernized world by imposing new principles.³⁷

Undeniably, the duality of a place professed by the Inuvialuit, as an experienced emplacement and forming an idea of self-identification, was gradually abandoned to give ground to geographical surveying and site plan geometry.

Architectural professionals must grow awareness of a place's history in the Canadian North to be in an appropriate ontological state and must authenticate the current universality of place when designing in a distinct cultural location. This familiarity with history can subsequently improve the epistemology of the architectural language and logic, ethics and politics, and the comprehension of another individual.³⁸ The revelation of a forgotten past returns architecture into a specific notion of place.³⁹

Today, with its universal comprehensiveness, its organization and its dimensional uniformity, space dominates over the idea of place, disregarding its qualitative myriads and specific locations.⁴⁰ Consequently, planning theories cannot be entirely and ethically resolved as long as they are not specifically established on the Inuit's traditional view of the place, a concept not intuitive for Southerners.

Explicitly, this issue has been now prevailing for centuries, exemplified with the designated Inuit villages that disgracefully did not contemplate the placeness qualities and immediacies to a vernacular and sustainable site.⁴¹ Today, the new ecological forces at play are eroding the shorelines and shifting the ancestral ecosystem, consequently greatly impacting the communities' cultural connections to a place.

Recently, professionals in a wide range of fields, including architecture, have been interested in the concept of place. However, this curiosity rests in an unclear concept and an unusual situation in which this issue is shared with a flourishing development and a lack of understanding.⁴²

In present times, research on ethics and politics sustain the concept of universalism and desire, excluding the emplacement of a place.⁴³ Although a place can be considered as an initial concept, the architectural ontology seems to prevail in erasing the place as if the architectural language resists the location where a building is erected.

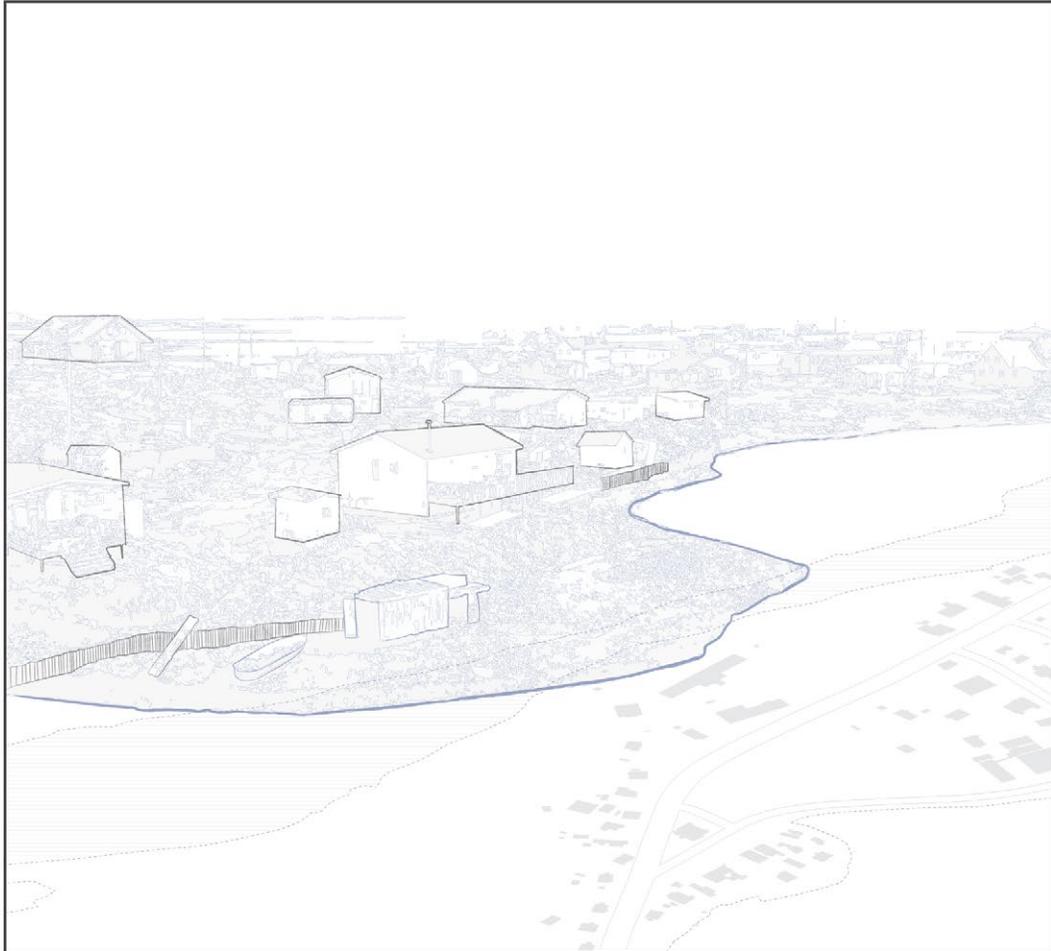


fig. 3.1.3 Tuktoyaktuk today.

LOSS OF PLACE: MODERNITY EXIST IN A NOWHERE

"The relation of the past and present is purely temporal and continuous, the relation of what-has-been is not a progression but an image, suddenly emergent. This relationship lies between topography and the writing of place, between site-identification and self-identification."

- Jane Rendell, architectural historian



fig. 3.2.1 Inuvialuit whalers gather fresh beluga meat.

EXTENSION OF A SPACE

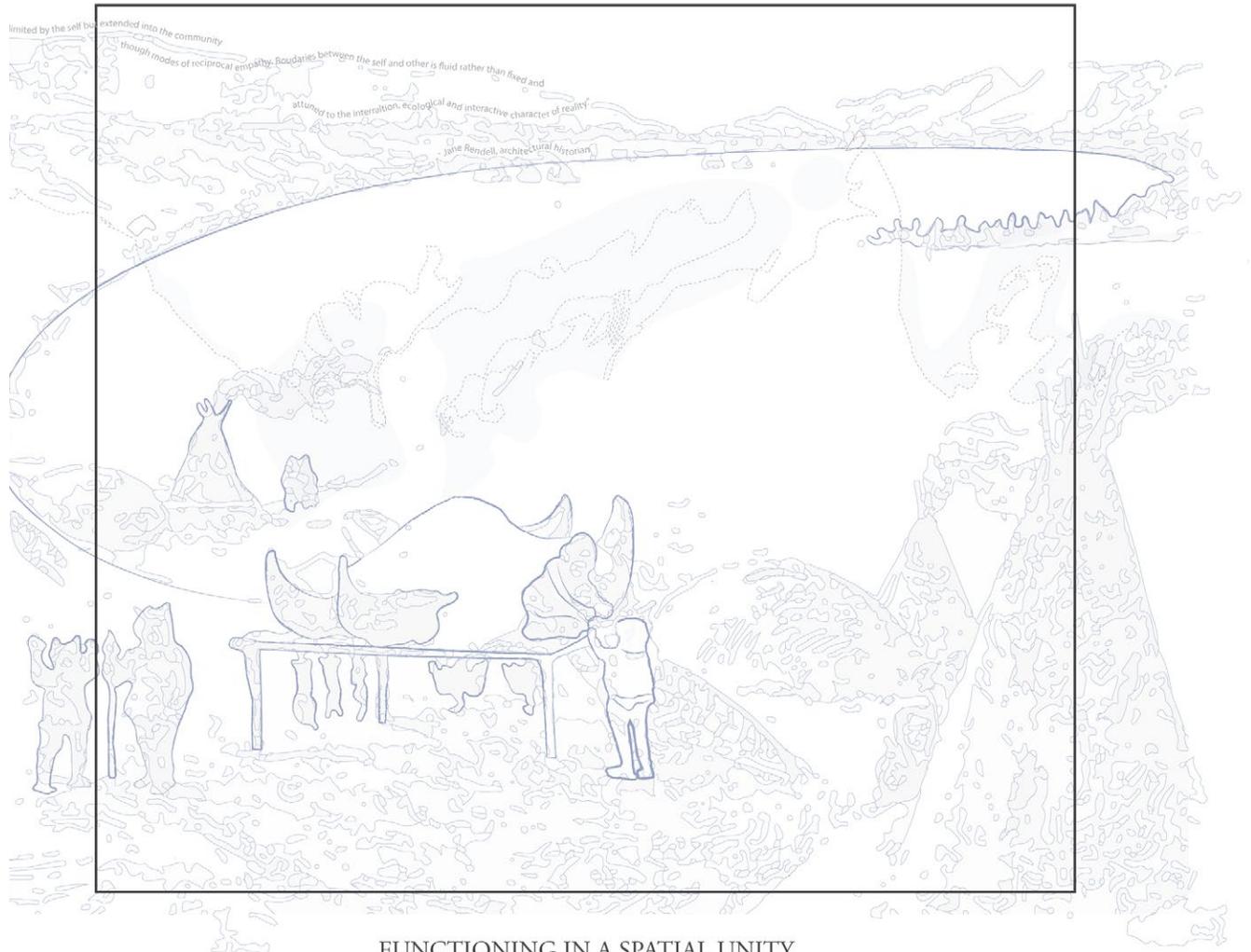
fig. 3.2.2 A space was traditionally comprehended as unconditional. It did not emerge from a specific place as it was characterized as boundless.⁴⁴ A space was sur-imposed on a place where it was experienced as a sequence of activities, extending to the community through empathy. Relations were fluid rather than limited to the self.

Inuit used spatial objects as a tool to experience space rather than to reflect it. Space was not interpreted as an inserted frame on the place but rather as a method to view the place.⁴⁵ In other words, space was expended as a practiced place, expressing a function in a community such as food distribution after a hunt.

The exertion of spatial activities was described as directional rather than dimensional since dimensionality lies in the presence of boundaries, while directionality bears in a fundamental space where communities existed within inherited settings.⁴⁶ These spaces are vital as the individual on land or water is placed within a landscape and its experiential characteristics while practicing a traditional activity.⁴⁷ The relationship between the individual and its surroundings is entwined between a community and

fig. 3.2.3 the environment. Similar to the past ways of life, space remains experienced where community constructions expand beyond their function, depicting, for instance, the same spatial meaning of gathering after fishing.

Abstract and fundamental spaces necessitate resilience to lessen the sense of physical and heterogenized spaces, where the Inuvialuit relationships are Southernly shaped with their surroundings.⁴⁸ Abstract spaces differentiate the resourcefulness of a place from the material world, in which nature and construction are inherent.⁴⁹ In architecture, an abstract space enables the interruption of built externalities and allow the space to be, not consequential to the practiced activities, but ingrained in them.



FUNCTIONING IN A SPATIAL UNITY

fig. 3.2.2 Inuvialuit camp circa 1860.



A CONTEMPORARY PLACE: LIVING MEMORIES

"Since space is related to perceived, conceived and lived, the unitary theory of space is to discover or construct a unity among the moments of space as indistinguishable nor disconnected."

- Henri Lefebvre, French philosopher

fig. 3.2.3 Tuktoyaktuk today.



*fig. 3.3.1 Alice Husky
and Barbra Allen,
Inuvialuit Elders, 2005.*

TIMELY DEVELOPMENT THROUGH SOCIAL MEMORY

The history of the Inuvialuit community is communicated collectively through social memory, in which a collective past is formed by the individual and the cultural settings they shared communally.⁵⁰ The personal narratives are embedded in a societal experience in which memories constitute a personal representation for the listener.⁵¹ This collective memorial history becomes possible by altering intuitively the first person singular (I) and its plural (we), illustrating social experiences as the foundations of social memory.⁵²

Few historical memories were developed in a distinctive paradigm that successively added to the memory as generations iterated in a cyclical system.⁵³ Consequently, social memories transition over time from absolute, to intimate and impersonal, and subsequently become indicative of history.⁵⁴

fig. 3.3.3 The present time is perceived by past memories and places, forming cultural history as the Inuvialuit sense of identity relies on an understanding of the past.⁵⁵ Therefore, the memory of the past represents a traditional and genuine social structure. The future is viewed through the lens of history, as its progression, besides informing on present conditions, assembles the ways that Inuvialuit communities regard forthcoming events.⁵⁶

Moreover, the Inuvialuit narrative reflects on a cultural interpretation of the way to be and live with the natural environment, weather, and seasonality. The rudimentary measure of time was the sun's positioning across the sky through its regular motions, while lunar months and the placement of the stars determined longer cycles as the change of seasons.⁵⁷ Other significant relationships and activities drew from family heritage and their practices in the natural world.

The introduction of modern ideas surrounding the natural environment contributed *fig. 3.3.4* to a new notion of commercialization and industrialization of natural resources, perceived as unlimited in the Canadian Arctic. This Western paradigm had a pervasive sense of power among the colonizers, who retained a degree of control by enforcing Western practices on Inuvialuit, such as the sense of linear temporality.⁵⁸

This period of history is notable by the social differences in the way that individuals remember various experiences. The main similarities were the emphasis on the Inuvialuit nation in which Western written history describes the Inuvialuit as secondary to the protagonist and necessary for the protagonist's scenario to be accomplished.⁵⁹

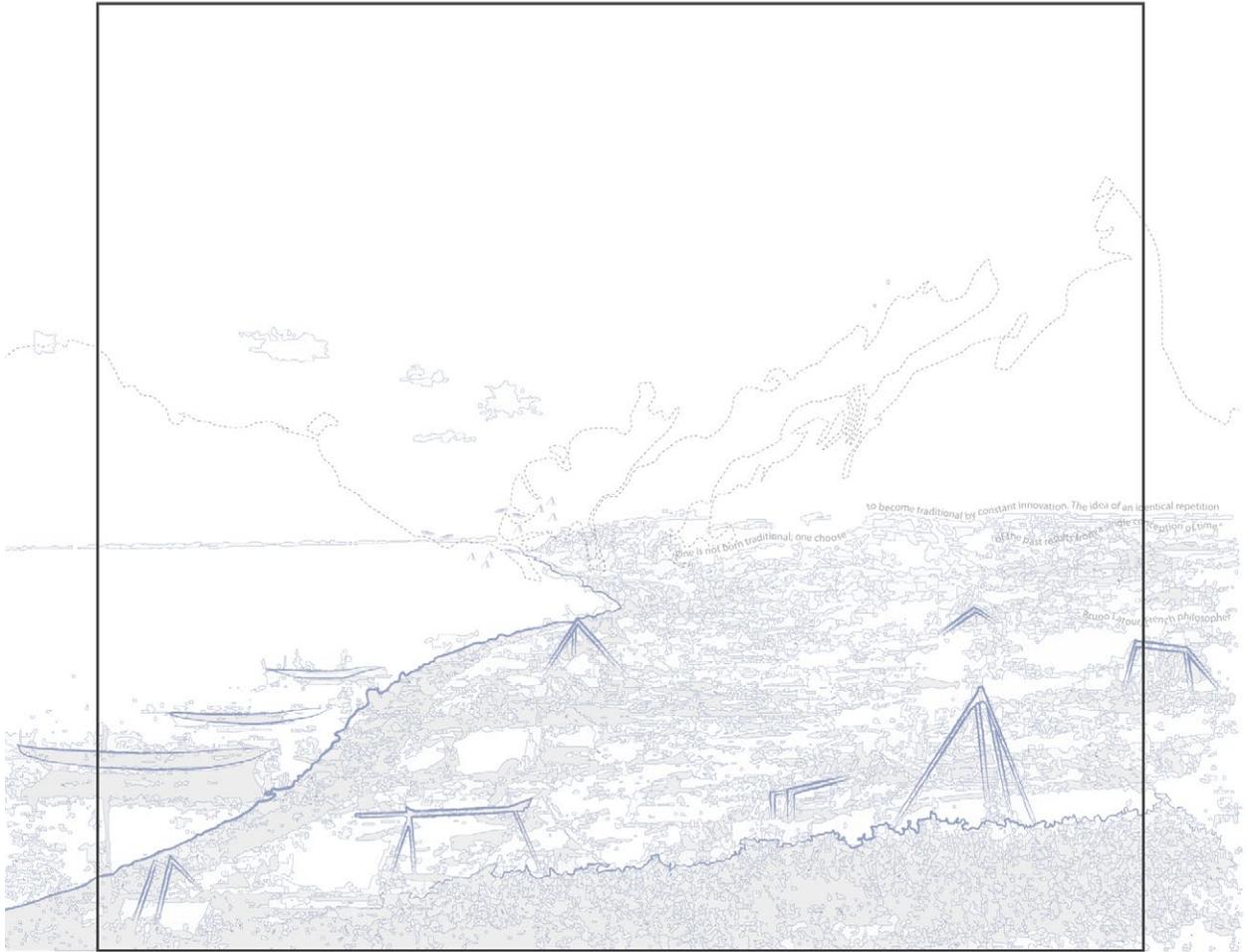
Indeed, colonizers needed the Inuvialuit to achieve their economic objective. Therefore, they established a particular definition of time among other various Western ideas in the Arctic. The Inuvialuit nation traditionally perceived place as being temporal and moving through the seasons. Embedded in a seasonal cycle, the communities adopted a site and later returned it to nature.

The Western concept of time tensioned with the distinct sense of temporality advanced in the Inuvialuit communities over centuries. The sense of linear time was additionally expressed as an exertion of supremacy and reserved for privileged people, prevailing at others' expense without power. Today, the present coastal erosion illustrates a powerful linear time where the shorelines continue to retreat without any sequence.

Regardless of a transformed lifestyle founded on the development of linear temporality in the Inuvialuit culture, the coast continues to depict similar spaces construction belonging to the living memory of the past. Indeed, the nation's oral memory of history mostly derives from lived experience rather than to be structured around a chronological paradigm.

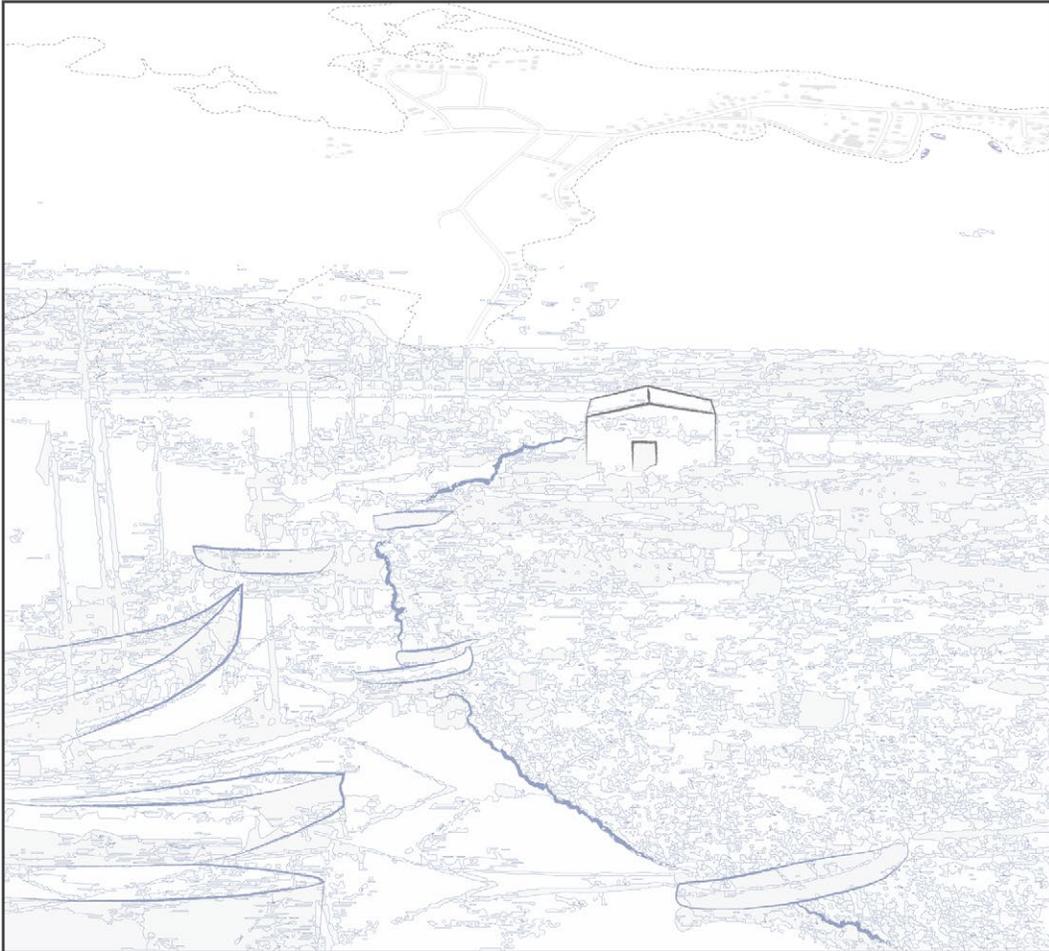


*fig. 3.3.2 Victor Allen,
Inuvialuit Elder, 2005.*



NATURAL PROCESS OF TIME

fig. 3.3.3 Inuvialuit camp circa 1860.



*fig. 3.3.4 Tuktuyaktuk
today.*

LIVING IN A LINEAR TIME AND A SURVIVING PAST

"Sources of evidence defining the past constitute traces of past that have survived in the present so that our appreciation of what is past is always contemporary with ourselves. Until we can establish that our sense of what is past is different from our sense of what is present, the past will survive in us and in our construction of spaces."

- Henri Lefebvre, French philosopher

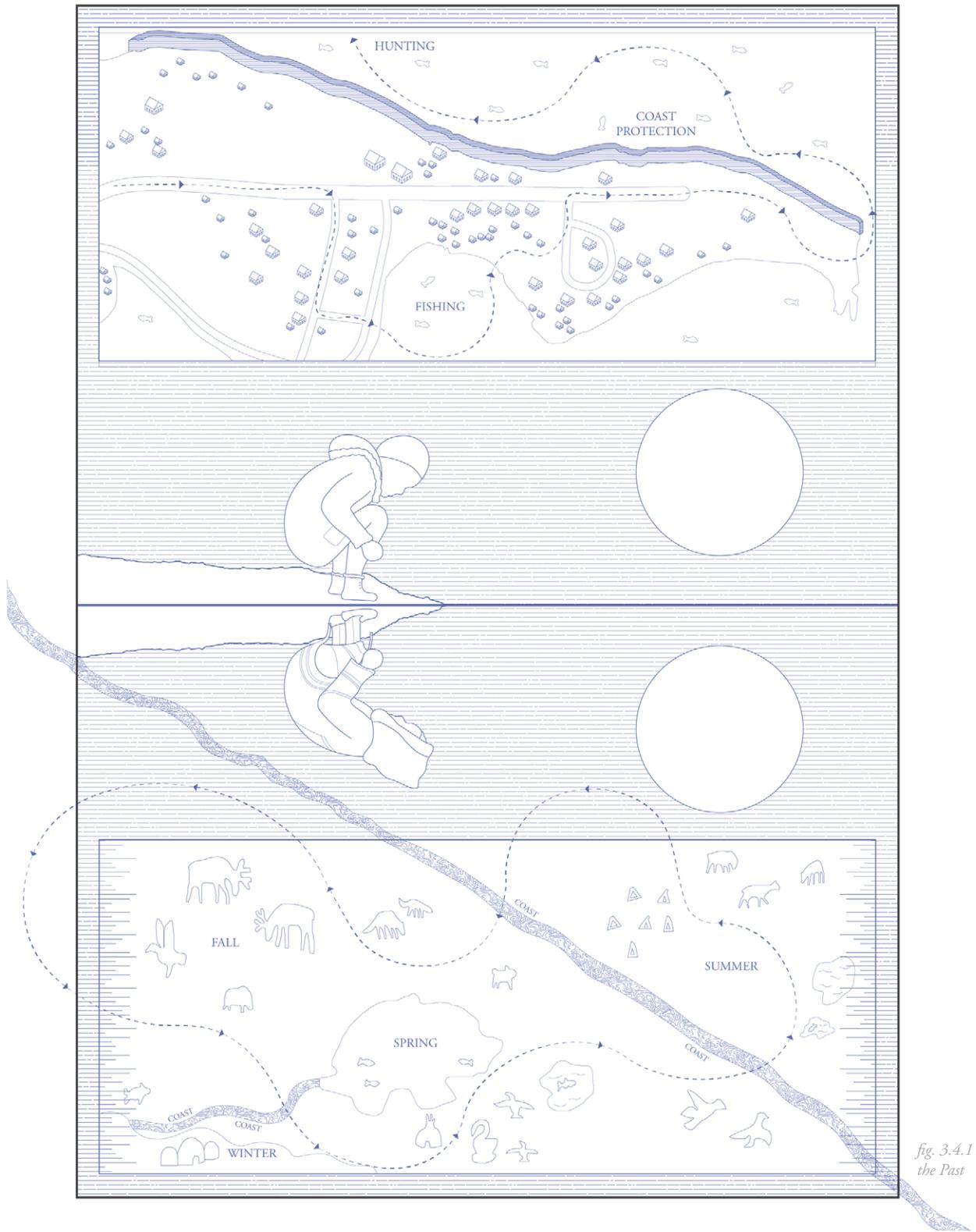


fig. 3.4.1 A Reflection of the Past

A REFLECTION OF THE PAST

People travelled widely along the coast, moving from one location to another and following a constant cycle throughout the years. They continuously depended on the seasons' annual progression to harvest marine animals, ascertaining coastal resources essential to survive. Inspired by an Inuvialuit artist, the base of this narrative drawing depicts the Inuvialuit idea of mapping across the progression of time.

The nation acquired mental mapping abilities as they relied on various places to subsist. In the snow, the ice or the air, Inuvialuit drew imagined maps and gave landmarks to specific places.⁶⁰ The intangible essence of this method reveals the way they memorialized those maps. Today, our mapping senses are fixed to the landscape and do not have a sense of temporality. The map of present times rather illustrates a sedentary life with houses attached to the landscape. This map characterizes the heavy erosion management suppressing the relationship between the land and the sea.

The contrasting periods of fluid and discontinuous nomadic movements force governmental erosion strategies to protect the coastlines, forming a physical and cultural detachment with the shore. Indeed, the issues of social justice within the realm of coastal erosion management become apparent when a property is threatened with destruction.⁶¹ Therefore, it is the federal government's responsibility to intervene.

Nevertheless, this term is systematically disregarded when coastal erosion threatens the cultural heritage. Notably, the existing defences are lacking along with the traditional practiced areas. Additionally, the strategies in place by the government are physically disconnecting the profound relationship the inhabitants have with the shore. In this case, the current strategies are mainly centred on the fairness of the outcomes rather than the ethics of the procedures involved in coastal management.

ENDNOTES

Chapter Three: Dichotomic Theories

25. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central. Referring to “Getting Back into Place”, in Edward S. Casey, ed.
26. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central. Referring to “A Thousand Plateaus” in Gilles Deleuze and Felix Guattari eds.
27. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central.
28. Rachel Qitsualik-Tinsley and Sean Qitsualik-Tinsley, "Rosie" in *This Place: 150 Years Retold* (Winnipeg: Highwater Press, 2019), 126.
29. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central. Referring to “A Thousand Plateaus” in Gilles Deleuze and Felix Guattari eds.
30. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central.
31. Ibid.
32. Ibid.
33. Ibid.
34. Ibid.
35. Ibid.
36. Ibid.
37. Mason White and Lola Sheppard, *Many Norths: Spatial Practice in a Polar Territory* (New York: Actar Publishers, 2017), 33.
38. Edward, *The Fate of Place : A Philosophical History*, ProQuest Ebook Central.
39. Ibid.
40. Ibid.
41. Mason White and Lola Sheppard, *Many Norths: Spatial Practice in a Polar Territory* (New York: Actar Publishers, 2017): 33.

42. Edward, *The Fate of Place : A Philosophical History*, ProQuest Ebook Central.
43. Ibid.
44. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central. Referring to “A Thousand Plateaus” in Gilles Deleuze and Felix Guattari eds.
45. Lyle Dick, “Time after Time: Western and Inuit Time.” *The Franklin Mystery: Life & Death in the Arctic*. https://www.canadianmysteries.ca/sites/franklin/archive/text/TimeAfterTime_en.htm
46. Edward, in *The Fate of Place : A Philosophical History*, ProQuest Ebook Central. Referring to “A Thousand Plateaus” in Gilles Deleuze and Felix Guattari eds.
47. Ibid.
48. Rania Ghosn and El Hadi Jazairy, *GeoStories: Another Architecture for the Environment* (New York: Actar Publishers, 2018), 14.
49. Ibid.
50. Natasha Lyons, “The Wisdom of Elders: Inuvialuit Social Memories of Continuity and Change in the Twentieth Century,” *Arctic Anthropology* 47 (2010): 22, <https://www.jstor.org/stable/25780669>
51. Ibid, 25.
52. Ibid.
53. Ibid.
54. Ibid.
55. Ibid.
56. Ibid.
57. Lyle Dick, “Time after Time: Western and Inuit Time.” *The Franklin Mystery: Life & Death in the Arctic*. https://www.canadianmysteries.ca/sites/franklin/archive/text/TimeAfterTime_en.htm
58. Natasha, “The Wisdom of Elders: Inuvialuit Social Memories of Continuity and Change in the Twentieth Century,” 26.
59. Ibid.
60. Lyle Dick, “Time after Time: Western and Inuit Time.” *The Franklin Mystery: Life & Death in the Arctic*. https://www.canadianmysteries.ca/sites/franklin/archive/text/TimeAfterTime_en.htm
61. Ibid.

CHAPTER FOUR:
INTERWOVEN WITH A VANISHING COAST

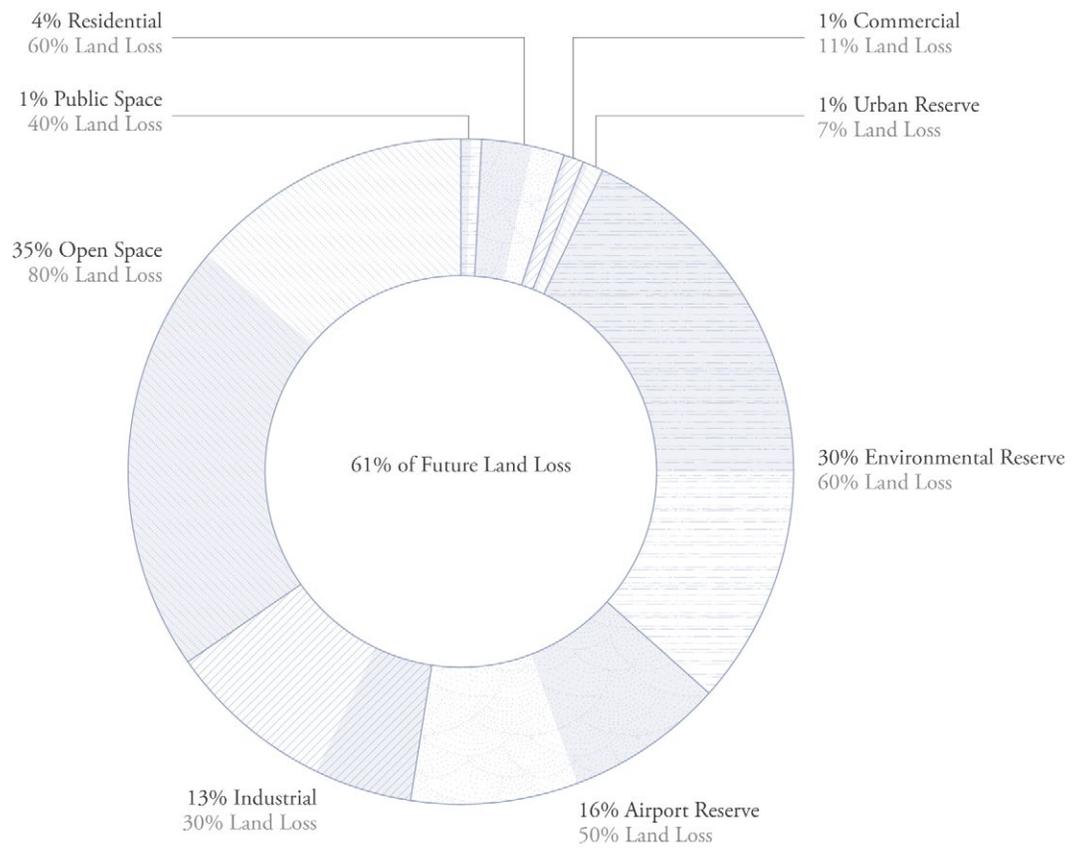


fig. 4.1.1 Diagram of Future Land Loss

COASTAL ANTHROPOLOGY

The Inuvialuit culture relies highly on group activities and participation in various traditional practices, such as hunting, gathering, singing and dancing. For instance, drum dancing provides a platform for the community to exchange personal experiences and memory of the time on the ancestral land.⁶² Today, residents in the community of Tuktoyaktuk are preoccupied with the loss of its shorelines.⁶³ Nevertheless, the local community is equally concerned with the loss of traditional knowledge passed down to the younger generations through different practices occurring on the shore.⁶⁴

fig. 4.1.2 Furthermore, forms of expression, such as singing and dancing, are part of the
fig. 4.1.3 storytelling culture in which Elders pass down Inuvialuit history and memories. Another type of knowledge is also obtained by the active participation in local harvesting, such as net fishing and the preparation of traditional “country” food.

The Inuvialuit education intentions to instruct younger generations in identifying, navigating, and harvesting the land. However, over time, the southern curriculum disadvantaged this cultural and educational significance, leading to a disparity in traditional awareness and traditional practices, affecting younger generations.⁶⁵ In addition, the community’s deep connection to the land brings a predisposition to gather on the coast where the residents of Tuktoyaktuk are engaged in social activities while working and harvesting.⁶⁶

fig. 4.1.1 This diagram illustrates that 61% of the land is anticipated to be lost in Tuktoyaktuk.⁶⁷ The inhabitants mainly utilize the open space for exercising and practicing cultural activities, while hunting and fishing activities benefit from the natural reserve. However, the village's most endangered regions are in these particular locations where assigning coastal erosion mitigation is crucial in those spaces.



*fig. 4.1.2 Sigliit
Traditional Drum
Dancing*



fig. 4.1.3 Learning the Basics of Net Fishing

In June 2019, a group of teenagers from Tuktoyaktuk took part in a filming workshop in which they ultimately filmed a 20-minute documentary about climate change entitled *Happening to Us*.⁶⁸ The group was then invited to present the documentary in December 2019 at the United Nations Framework Convention on Climate Change (COP25) in Chile.⁶⁹

The following lines illustrate the concerns and observations from the residents of Tuktoyaktuk revealed in the documentary. They are forming a few of the indirect testimonies the thesis was able to gather, concurring the impossibility of going on-site and reaching the community. By intervening through (architectural) linguistic and cultural empathy, it enables one to improve his/her understanding of a wound. I will let the residents speak of it by themselves.⁷⁰

Nathan (Muk)
Kuptana

Local Youth
Happening to Us, 16:58

Eriel Lugt
Local Youth
Happening to Us, 17:02

“Does climate change make you sad about the land?”

“It really does make me sad because what people in the South are doing really affects us here and they don’t even know about it [...]. We are getting what they are abusing with the land.”

Mason Kimiksana,
Community Harvester
Happening to Us, 6:57

“Hunting routes have changed overtime, but we learned to adapt, and we did. We don’t take any chances anymore on the ice and water.”

Nathan (Muk)
Kuptana
Local Youth
Happening to Us, 15:44

“The migration of geese is different every year, they go more inland now than the coastal parts [...]. The point used to be the same level of the land but now all is gone because of water.”

Carmen Kuptana
Local Youth
Happening to Us, 11:09
Eriel Lugt
Local Youth
Happening to Us, 11:19

“Climate change is affecting our culture of the future.”

“My biggest fear about climate change is what will our children have when they step outside the door? How kids will grow up living, like we did?”

Eriel Lugt
Local Youth
Happening to Us, 16:38

“There is less beach to walk on. The permafrost is melting in the ocean [...]. The point is getting smaller.”

Natan Obed
President of Inuit
Tapiriit Kanatami
Happening to Us, 13:09

“We are part of nature, we don’t control it, so I think about all the living things, [...] and how important it is that they have the right to their traditional habitats.”

Eriel Lugt
Local Youth
Happening to Us, 18:04

“I want to tell the kids to step outside and see what they have while it’s still beautiful but imagining 20 years when future generations carry on what the South is doing [...]. Where will we go after that? This is our own world, and we need to protect it.”



fig. 4.2.1 Children in traditional durm dancing clothing in front of massive erosion hard-coast management

DIVERGENT DEFINITIONS OF JUSTICE

Social justice and environmental protection are important aspects to explore for an empathic design. Justice aims at responding to the needs of a society, while sustainability preserves the organization of a place.⁷¹ Both concepts may be perceived in terms of cultural justice as corresponding to the protection of traditional activities. They additionally refer to the maintenance of the Inuvialuit place capable of upholding these cultural activities.

Social justice conveys the allocation of rewards and obligations in a society where the methods prevail over its conclusions.⁷² In other words, the integrity of social justice is achieved by the process used to reach the coasts' protection rather than to reach the result itself. When designing for distinct cultural groups, one must carry a greater consideration to the process, requiring sensitivity to the local community.

Environmental justice is founded on the theory that environmental issues are commonly faced by socially disadvantaged and misinterpreted communities.⁷³ Correspondingly, the concept of social justice within the Inuvialuit cultural place has been marginalized by the Southerners when determining the locations and types of coastal erosion management strategies.

There are some considerations for collective actions in coastal erosion approaches when a house is facing erosion.⁷⁴ These arguments should be applied to a cultural and communal place and not only to a private property. In the past decades, architectural and engineering approaches to massive infrastructures have been universally utilized, resulting in a massive anchoring of the coast.⁷⁵ Accordingly, the installation of concrete slabs creates a physical detachment from the shore and a cultural barrier in which suffer the residents of Tuktoyaktuk.



fig. 4.3.1 Concrete slabs and boulders along the coast compared to a human scale and houses

A CONCRETE LINE

A predominant long-term impact of the current coastal protection measures is the narrowing of space available on the coast.⁷⁶ Besides, while much of the erosion results from a physical process such as wave action, some reflection on the sea walls amplifies the changes in sedimentation and deposits.⁷⁷ There is an evident discrepancy between the conservation of the coastline and the sustainability of the marine ecosystem.

fig. 4.3.2 The village's shores stand unreachable in various ways, although cultural and communal activities are crucial to the transmission of knowledge. Indeed, over the last decades, the phenomenon of coastal erosion caused by improperly envisioned infrastructure has been widely recognized.⁷⁸ The thesis asserts that the layouts are inadequately designed for the people of Tuktoyaktuk. The corresponding axonometric images provide an understanding of the proportion of these coastal infrastructures correspondingly to a human scale.

fig. 4.3.3 Furthermore, the waves are rising with increased intensity, resulting in a larger amount of stones being dislodged into the ocean.⁷⁹ Those waves have carved out the land in many locations and left several physical gaps on the shoreline. The drawing study employs a human scale on the coast as an illustrated examination to depict the inhabitant's diminished relationship with the shore, where self-made bridges reveal the upsurge of a distinguishable coastline.

fig. 4.3.4
fig. 4.3.5 The following documentation of erosion strategies demonstrates that these infrastructures were inevitably framed around environmental purposes, biased from a cultural standpoint throughout Tuktoykatuk's history of global warming. Truly, designers have been facing a major obstacle in the multi-sensory absence of geographical imagination and in the sensitivity of the Inuvialuit traditions.

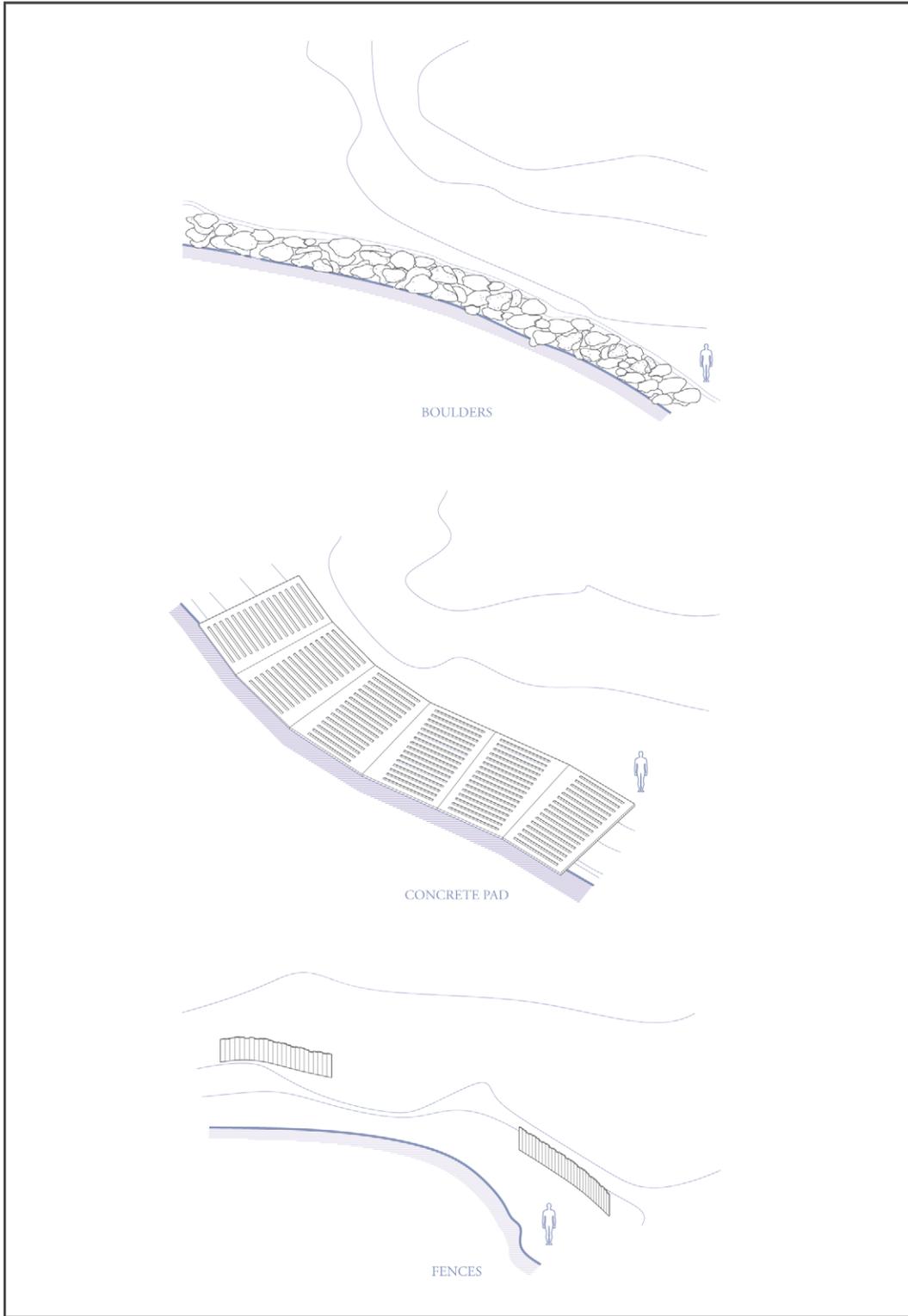


fig. 4.3.2 Scale of Existing Coast Protection

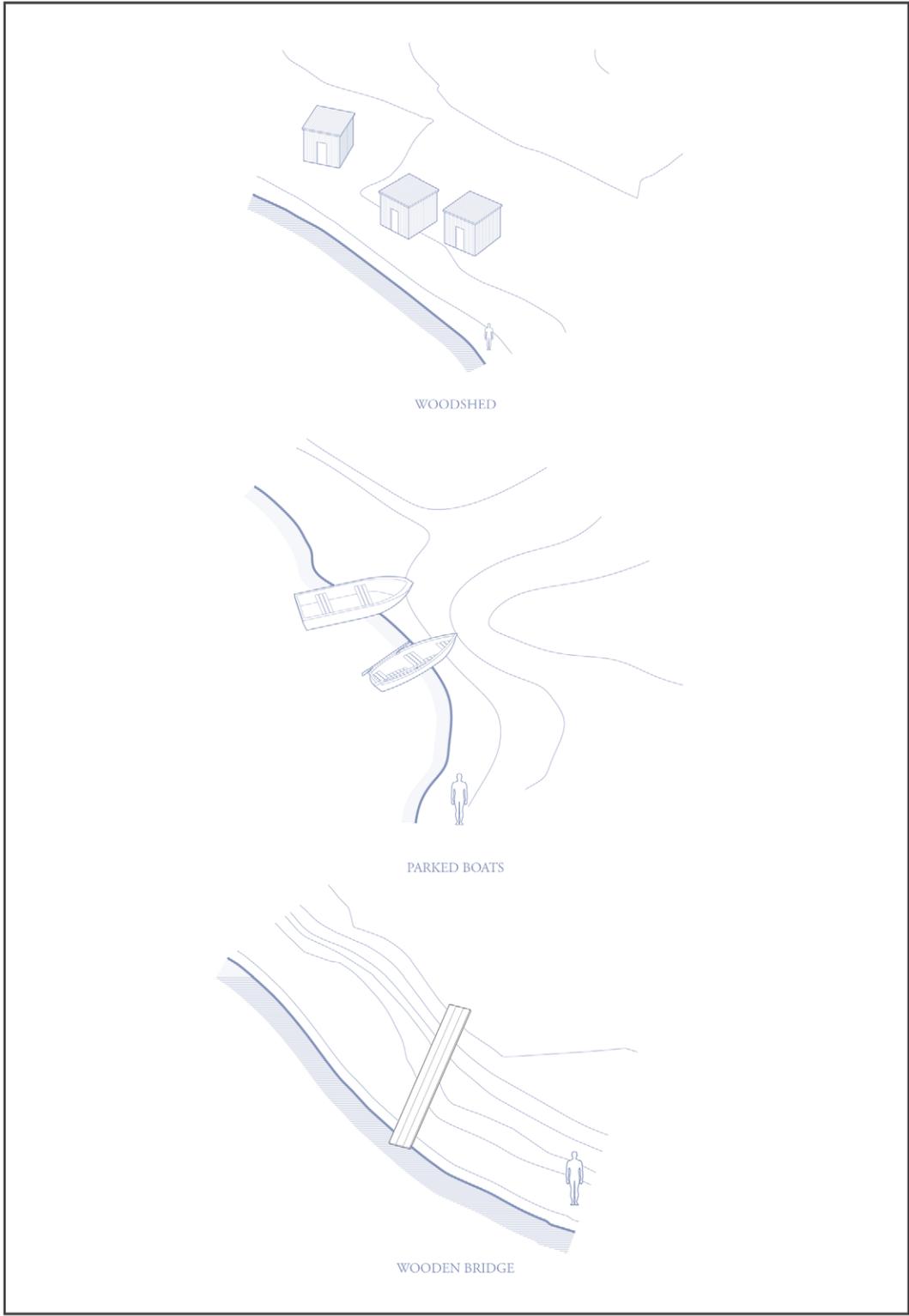
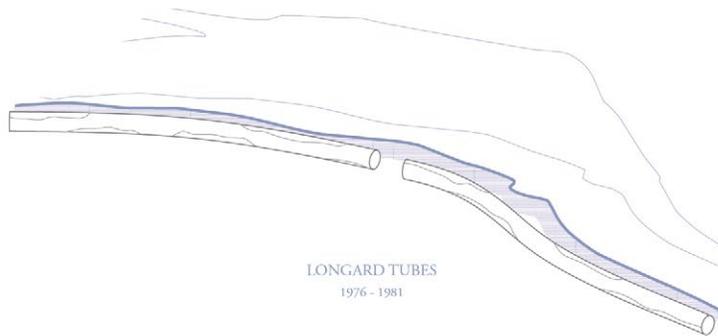
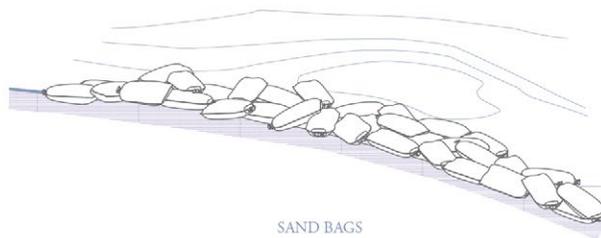


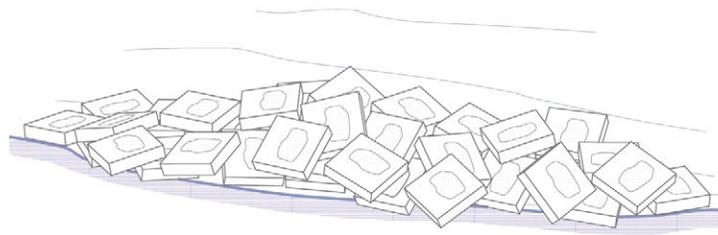
fig. 4.3.3 Coastal
Anthropology



LONGARD TUBES
1976 - 1981



SAND BAGS
1987 - 1993



CONCRETE FOOTINGS
1996 - 1997

fig. 4.3.4 Existing Coast Protection

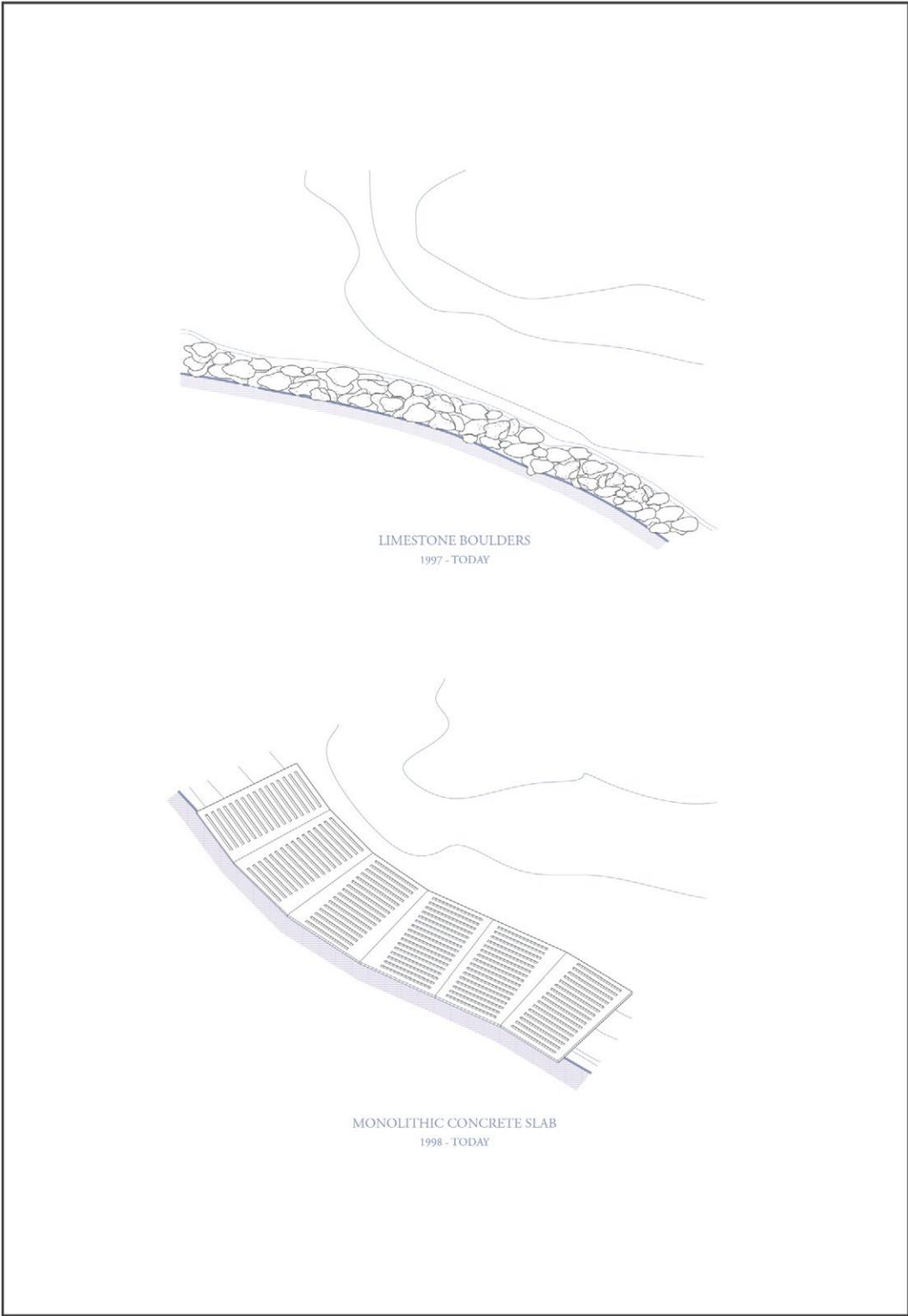


fig. 4.3.5 Existing Coast Protection

ENDNOTES

Chapter Four: Interwoven with a Vanishing Coast

62. Jeffrey J. Walker, "Living Tradition: Supporting the Inuvialuit Community of Tuktoyaktuk Through Productive Cultural Space," (Master thesis, Dalhousie University, 2019), 27, <http://hdl.handle.net/10222/75439>
63. Mark Andrachuk and Barry Smith, "Community-based vulnerability assessment of Tuktoyaktuk, NWT, Canada to environmental and socio-economic changes," *Regional Environmental Change* 12 (2012): 881, <https://link.springer.com/article/10.1007/s10113-012-0299-0>
64. Ibid.
65. Ibid, 876.
66. Jeffrey J. Walker, "Living Tradition: Supporting the Inuvialuit Community of Tuktoyaktuk Through Productive Cultural Space," (Master thesis, Dalhousie University, 2019), 24, <http://hdl.handle.net/10222/75439>
67. Pamela Ritchot, "Tuktoyaktuk: Responsive Strategies for a New Arctic Urbanism," (Master thesis, Massachusetts Institute of Technology, 2011), 29, <http://hdl.handle.net/1721.1/62886>
68. Maéva Gauthier, "Happening to Us: Amplifying Youth Voices from the Arctic." *Terralingua in Landscape Magazine Article*. https://terralingua.org/langscape_articles/happening-to-us-amplifying-youth-voices-from-the-arctic/
69. Ibid.
70. "Happening to Us," YouTube Video, from the documentary presented to COP25 in December 2019, posted by "avarmedia1", December 1, 2019, <https://www.youtube.com/watch?v=Udhyy9sWWL0>
71. J.A.G Cooper and J. McKenna, "Social Justice in coastal erosion management: The temporal and spatial dimensions," *Geoforum* 39 (January 2008): 295, <https://doi.org/10.1016/j.geoforum.2007.06.007>
72. Ibid.
73. Ibid.
74. Ibid, 296.
75. Ibid.
76. Ibid, 301.
77. Ibid.

78. Ibid, 296.

79. "Happening to Us," YouTube Video, 3:46, from the documentary presented to COP25 in December 2019, posted by "avatarmedia1", December 1, 2019, <https://www.youtube.com/watch?v=Udhyy9sWWL0>

CHAPTER FIVE:

THE ARCTIC - FRAMING THE ARCHITECTURAL INDIFFERENCE



fig. 5.1.1 Fish preparation clashing with the rock armature in the background

THE APATHIC ONTOLOGY OF ARCHITECTURE

Amid the previous thesis research regarding the social and cultural implication of coastal erosion, one might wonder why the monolithic concrete slab approach continues to be considered viable for the village of Tuktoyaktuk. In reality, the current coastal erosion management is primarily founded on an economic paradigm in which the decision-making method is rooted in a cost-benefit analysis.⁸⁰

Nonetheless, the federal government has the responsibility to evaluate all potential consequences. Accordingly, the current coastal management strategies do not establish a concern for the impact on the ecosystem, as well as for the social and cultural practices. Introducing the contemplation of social and cultural justice significantly extends the types of analysis in relation to coastal erosion, humanizing the commonly used economic argument.

Furthermore, various spatial and temporal dimensions have a significant extension of repercussions for the sustainability of a place in the issue of coastal erosion. In these circumstances, it would be understood that the federal government would have the duty to compensate the village of Tuktoyaktuk in a form of social and cultural justice.

The situation, in which a distinctive community is considered to be profoundly affected by the real issue of coastal erosion, asks the government to address the resident's concerns on the premise that the same government behaves in that manner.⁸¹ However, the research and implementation of measures regarding policies, assessments and infrastructures are distinctive conclusions for a government to either intervene or abandon the community's worries.⁸² Although, these ethical obligations are defined in social justice, they remain seemingly absent when designing for the Inuvialuit community.

Throughout my academic and working experience, I concluded that Southerners tend to see the natural world as external.

In fact, modern times have led us to develop massive anchoring infrastructures around the coasts. When designing in the Arctic, we have to understand the natural environment as belonging to the living organism in which the Inuvialuit nation resides. Then, we can come closer to the possibility of imagining an appropriate space, an abstracted space, required to sustain the Inuvialuit practices and traditions.

Truly, the view of a place is interchanged by the current Western perception of space. We commonly characterize a site by spatial connections among positions and components, traditionally defined as a sequence or a grid.⁸³ Accordingly, the current era is characterized by objects that are connected through their relationships in space. Indeed, the external space in which we exist is founded on quantity and heterogeneity.⁸⁴

In reality, architecture is part of a major challenge regarding the environmental dialogue in which exists an absence of geographic creativity.⁸⁵ In fact, we are fixed into a pragmatic aesthetic and often do not consider other cultures than the Western one to assist the progress of new spatial and geographic perceptions.⁸⁶ Other representation methods, for instance, could bring different vantage points and increase legibility to the environmental issues such as coastal erosion.

A progressive method of communication is necessary to cope with the environmental concerns of the Inuvialuit and this distinct audience. Correspondingly, the current architectural modes of experiencing and understanding coastal erosion are embedded in the exclusivity of the Inuvialuit community. By rendering the social and cultural implications of coastal erosion into a more sensitive media, the designer can aim to draw care and consciousness in their own work.



fig. 5.1.2 Rows of repetitive houses contrasting with a coastal landscape

Through the thesis process, I realized that existing within a Western and Southern hegemony presents certain limitations to address coastal erosion in another cultural community.

Therefore, the thesis aims to analyze those limitations and initiate alternatives on a progressive and empathic methodology that could be collectively developed among architects and other professionals of the discipline. Hence, it inquires to unfolds a set of comprehensive ideologies when designing in the North. This analysis requires the understanding of what has been inadequate or insensitive to the local communities.

The documentary, *Happening to Us*, previously discussed in this thesis, contains subtleties in which few words signify an elaborate misunderstanding and apathy from the Southerners regarding the community of Tuktoyaktuk. The documentary was in production when the Minister of Environment, Catherine McKenna, and Natan Obed, the president of Inuit Tapiriit Kanatami, came to Tuktoyaktuk to release the National Inuit Climate Change Strategy.⁸⁷ The Inuit Tapiriit Kanatami is an organization that preserves and advances the rights and interests of the Inuit. This documentary analysis emphasizes conflicted statements with Southern and Inuvialuit ontologies.⁸⁸

“How do you feel personally about seeing global warming happening to our traditional land?”⁸⁹

Carmen Kuptana
Local Youth

“That’s a really good question, actually in all of my interviews on the release of the strategy yesterday and today, nobody’s asked me that question. So, I appreciate it. I think of my boys, I have an 11-year-old and a 10-year-old, I want them to grow up and have the ability to net for char, and hunt caribou, and to understand sea ice conditions and live the way that their ancestors have lived, the way that I have lived growing up as well. And I worry about that with climate change [...]”⁹⁰

Natan Obed
President of Inuit
Tapiriit Kanatami

Presumably, one can argue that professionals did not inquire about an inclusive way to address environmental issues regarding local sociologic worries associated with climate change. This demonstrates an ontological concern for the Southern architect and engineer regarding the insensitivity for enquiring a personal, cultural and fundamental question to the president of Inuit rights and interests.

Eriel Lugt
Local Youth

“Like the Elder said, he set up the blueprint for us to take over, to continue to respect our land like he respects our land. He set up the blueprint for that.”⁹¹

Catherine McKenna
Minister of the
Environment

“Well, that is interesting because Elders really understand the importance of the land. They’ve seen many changes, many changes that they might not think are very positive and they understand that we need to protect things and value things that you know focus on jobs and economy, but you might not have jobs or economy if we destroy our environment.”⁹²

Natan Obed
President of Inuit
Tapiriit Kanatami

“Those are the things I got to be worrying about, [...] I want to see the future generations not just grow up the same but marvel at the incredible nature that we have inherited.”⁹³

Throughout the documentary, residents articulated worries about passing down traditional knowledge or engaging in traditional activities, revealing another kind of ideology concerning coastal erosion. Regardless, addressing the issue of economy insinuates the false duality that a robust economy is required for environmental and job protection. However, that dichotomy does not exist in Tuktoyaktuk as this place is not part of the Western paradigm. In this sense, the Minister of the Environment speaks discontinuously of this distinct cultural place from the Western and Southern one where sits Tuktoyaktuk, revealing an inadequate and insensitive ontology regarding the Inuvialuit.

The previous analysis of the statements from *Happening to Us* reveals that Southerners, including Southerners of the architectural profession, need to decolonize their ontological canon by introducing a new vocabulary in architecture and by juxtaposing disciplines and communities' concerns.

Indeed, several other architectural styles have evolved throughout history before the announcement of Western liberalism, consequently forming a universalist architecture where non-Western architectural typologies are categorized and named historical.⁹⁴ When working with the Inuvialuit culture, we must emphasize the structure's typology and ontology rather than the architecture itself, as the concept of architecture emerged from the Classical era from which Renaissance rooted.

In reality, we need to think about our responsibility in architecture and with whom we are engaging. The issue with neoliberal individualism is that it concerns the individual mind, yet there is more to be learned from other disciplines and other cultural communities.⁹⁵ Indeed, by developing a thoughtful architecture that is comprehensive and inclusive of the Inuvialuit society, and by using a methodology of process rather than an appropriation of topology, we have the possibilities to reshape the language of architecture in the North.

In the instance of coastal erosion in Tuktoyaktuk, new insights forming ontological knowledge could originate from the Inuvialuit, allowing the architectural professionals to enhance their empathy and comprehension when designing in the community.

The ethics of architecture are founded on democratic arguments and the prerequisite for collective moral existence.⁹⁶ Thus, the moral foundation on which we recognize and fulfill our moral obligations regarding a community requires an expanded environment of comprehension created and absorbed, both individually and collectively.⁹⁷

*fig. 5.1.3 Carmen
Kuptana interviewing
Natan Obed, president
of Inuit Tapiriit
Kanatami*



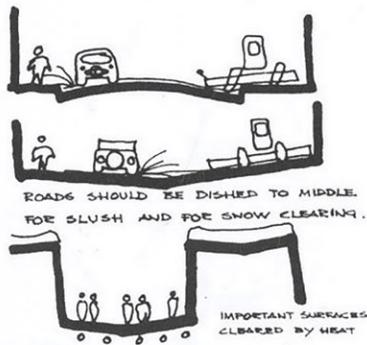
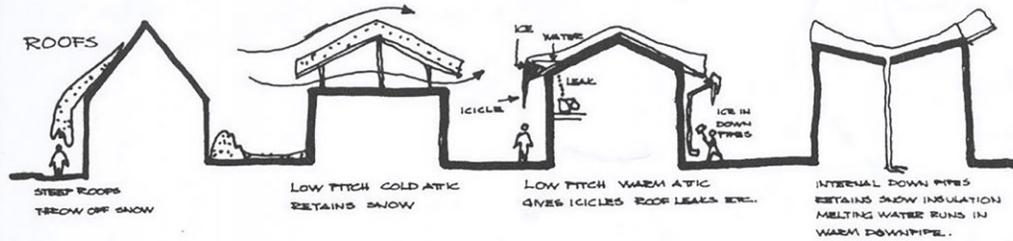
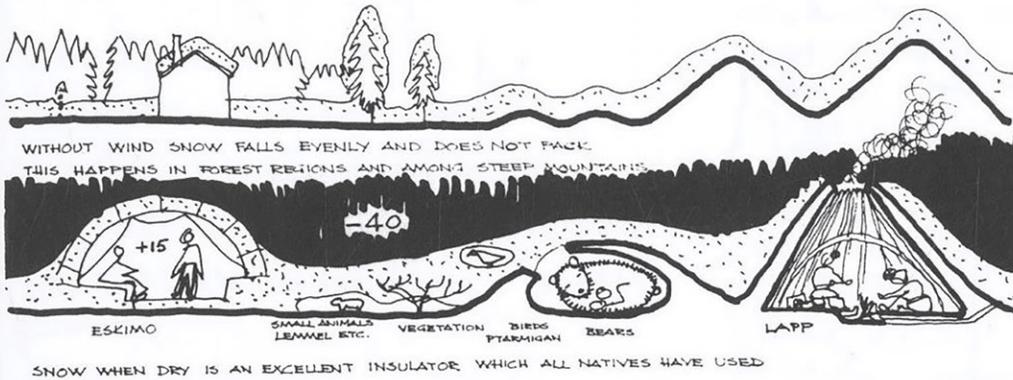


fig. 5.2.1 Architectural diagram for the Arctic by Ralph Erskine, *The Polar Record*

THE EPISTEMOLOGICAL INFLUENCE OF DRAWING

Since Vitruvius, drawing has been a source of fascination in architecture, thus its epistemology can be enriched by seeing representation through different lenses. Architectural professionals must discover the natural environment beyond the limit of architecture and through collectivity rather than solely based on the Western architectural language. In reality, architectural explorations routinely begin with the natural environment.

A drawing performed by an architect is a medium for both communication and conceptualization, which exposes multiple dimensions. Representational mediums must read and rewrite the power of social and natural illustration by shifting the knowledge of architectural drawings from limitation to agglomeration.⁹⁸ This thesis posits that transdisciplinary and multilayered representation can transcend Western misapplication and misinterpretation.

An architectural drawing reflects unobservable and multidimensional scientific understanding as well as diverse environmental problems. It must connect with unaddressed communities and adequately represent its surroundings in an environmental, cultural, and social form. An empathic drawing needs to be both analytical and reflective, and always narrative as illustrations can meaningfully generate other drawings, seen through different vantage points.⁹⁹

Indeed, an understanding of the architectural ontology must involve the human methods of expertise and ethics. I must also include the epistemological and interdisciplinary concepts of consistency and complexity by including collective and traditional knowledge among individuals. Through this view, the architect is to carry the responsibilities of moral obligations of knowledge towards a specific group.

The realm of architecture must ponder the ways that power is associated with the drawing typology of the Western culture, and in what ways invisibilities can be revealed through a new process of representation.

Consequently, this issue inquires a new type of representation to develop empathic concerns and design criteria, and to contribute to knowledge production and ethical architectural practices.

Indeed, architects have the responsibility to deconstruct the attitude towards Western universalism and acknowledge other forms of dissimilarities to initiate the repair of the Southern epistemology. Accordingly, our current perspective on representation is profoundly influenced by the overarching issue of knowledge and power.¹⁰⁰

“The way of the Western episteme, the bodies of knowledge, and our ontological framework, ways of being, made it provisional if not impossible for the African (people without power) [...] to obtain historical consciousness [...]. The discourse of architecture, its representational tools, its historiography, its dependence on state, power and racial capitalism, and its aesthetic and technologies are knotted with this double bind of racialized thinking in representational practices.”¹⁰¹

Visibility and invisibility have a reciprocal connection with cultural and social legitimacy as they depend on which aspects are valued or unrecognized. Therefore, the assertion of control, formed by deeming a place as impaired, demonstrates the manoeuvre of social power in the Southern institutions, workplaces and society.¹⁰²

Social issues associated with coastal erosion may be difficult to comprehend because of its representational detachment produced by the politics of drawing and intertwined with pragmatic reality.¹⁰³



fig. 5.2.2 Inuvialuit
drawing: First White
Man's Ship

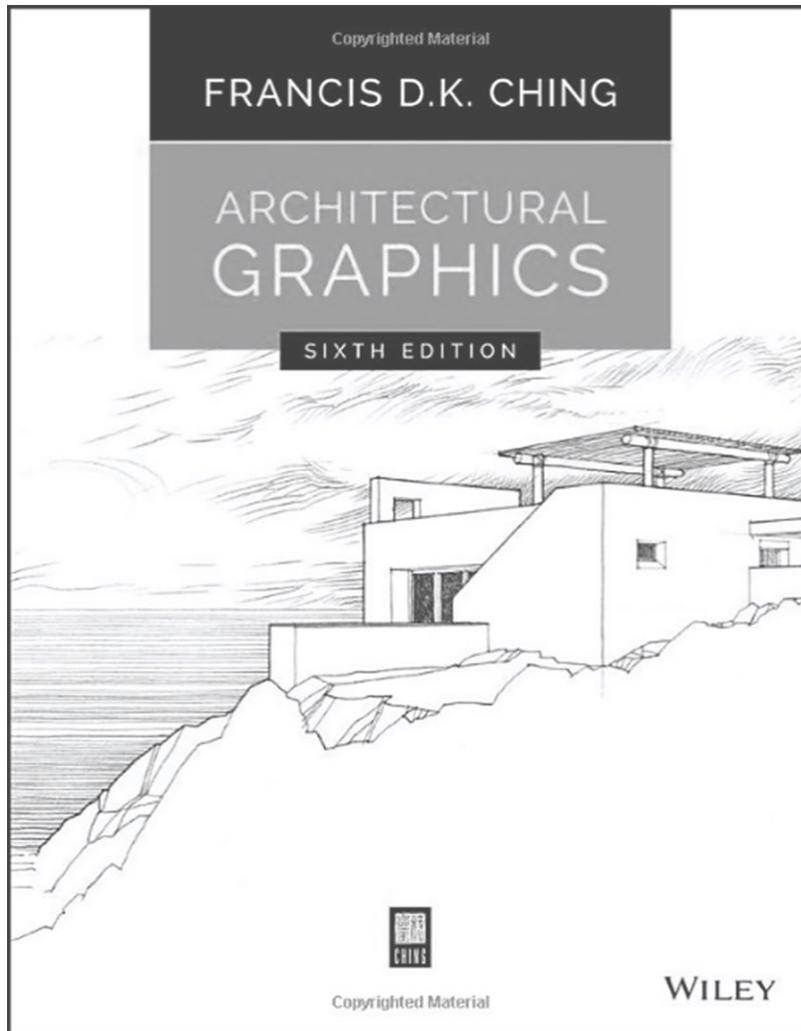


fig. 5.3.1 Cover page of the book Architectural Graphics by Francis D.K. Ching

THE ACADEMIC AND NARRATIVE DICHOTOMIES

Our forms of academic and practical representations are fundamentally unbalanced in architecture. For instance, one might clearly remember the book *Architectural Graphics* by Francis D.K. Ching as being at the core of the architectural drawing education, simultaneously deeply embedded in the Western culture. The book, predestined for an architecture student, reveals in the preface the objective of its initial conception as sharing a clear approach underlying the usage of architectural representation.¹⁰⁴

Nevertheless, this thesis argues that a complementary form of drawing narrative generates a new and empathic observation of existing placeness conditions on a site that are directly entwined to sociology. The architectural profession requires additional content, provided by sociologic architectural representation, when designing on a site where a community is distinct from the Western society. This new drawing type might necessitate some critical creativity and empathy as the representational values of architecture are influential for the discussion of power and knowledge.¹⁰⁵

Consequently, to enhance our sensitivity to the local communities, we must begin to analyze some recurrent elements in the art compositions of a distinct group as drawings always reveal historical, social and cultural context. Then, we must re-draw our scientific and architectural illustrations from another vantage point based on the drawing analysis of a given community.

By distinguishing and extrapolating the process of how those illustrations were originally formed, the thesis intends to not appropriate their art, but rather get new insights on how to adapt a drawing methodology based on another epistemology. The discovery of new perceptions can then include the view of place and space of a specific community to a design in a way that is empathic and sensitive to the inhabitants.

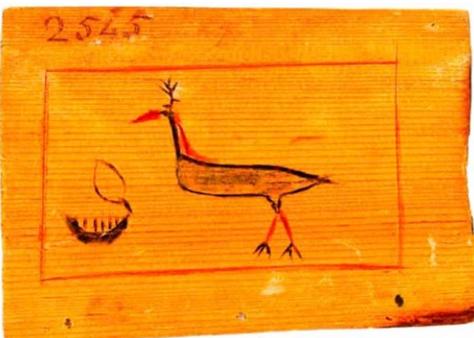
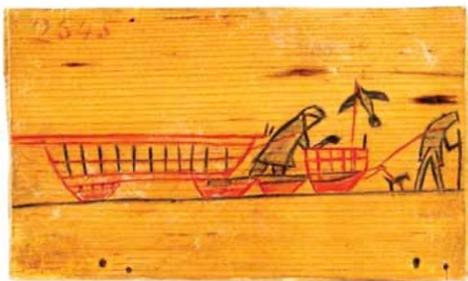
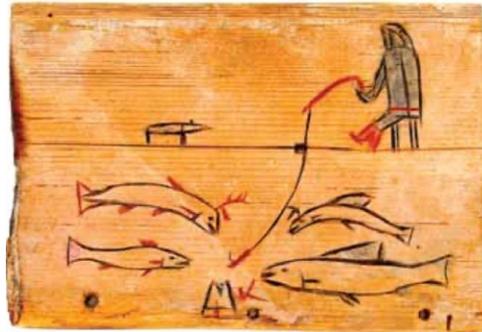
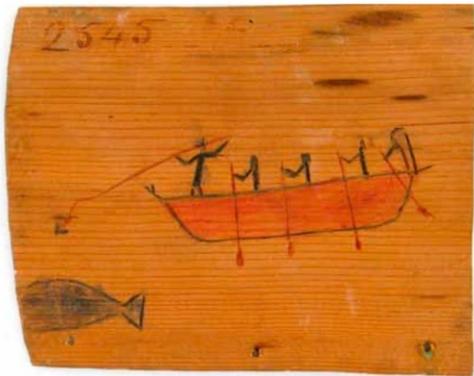
This thesis is a dilemma of translation, not only in terms of language or representation but also of two different societies in which the research aims at understanding local situations. This myriad of complexities translates into a visualized withdrawal and into a different audience than the local one.

(Architectural) literature provides insightful observations into our perception of the relationship with ourselves and the society as well as its history. The thesis discusses the broadening of the Inuvialuit art within the Western society to enhance different vantage points that can contribute to a progressing conversation about architectural representation's dichotomy.

Furthermore, the thesis aims to question the current representation practices and inquires a new drawing convention for architecture by seeking decolonization of the Western drawing. Accordingly, the book *Architectural Graphics* by Ching is utilized as an analysis of the way that traditional architectural drawings are depicted, compared to representations principle based on the Inuvialuit drawing process.

Hence, Inuvialuit drawings are mainly employed for storytelling, they are narrative, while Western drawings are static and fixed. Additionally, their drawing rarely reveals any extra detail or information. Rendering them simple in this manner enables a richer illustration of the elements of significance in the narrative. The shore and the seasons are often drawn with one thick line, inquiring how Inuvialuit traditionally perceived water states and interacted with seasonality. Finally, drawing two-dimensionally allows a clear visualization of the topic illustrated.

The pages that follow serve as initial and experimental drawing inquiries based on the process analysis of the Inuvialuit drawings. The paragraphs are additionally arranged to propose the same logic used when producing these new types of drawings.



Up-Left: fig. 5.3.2
 Up-Right: fig. 5.3.3
 Center-Left: fig. 5.3.4
 Center-Right: fig. 5.3.5
 Bottom-Left: fig. 5.3.6
 Bottom-Right: gif. 5.3.7
 Various Inuvialuit
 drawing circa 1865

THE ARCHITECT'S (RE)DRAWING MANUAL:
INQUIRIES ON REPRESENTATION PRACTICES

FIRST EDITION



fig. 5.3.8 Cover Page

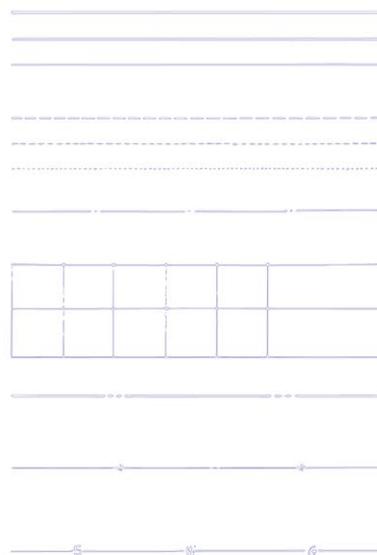
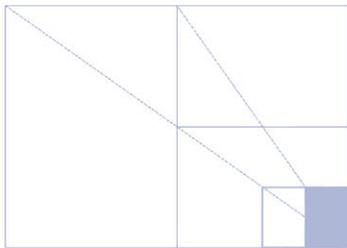
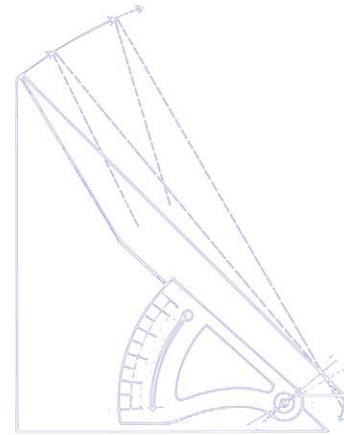
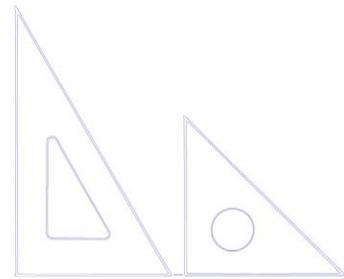
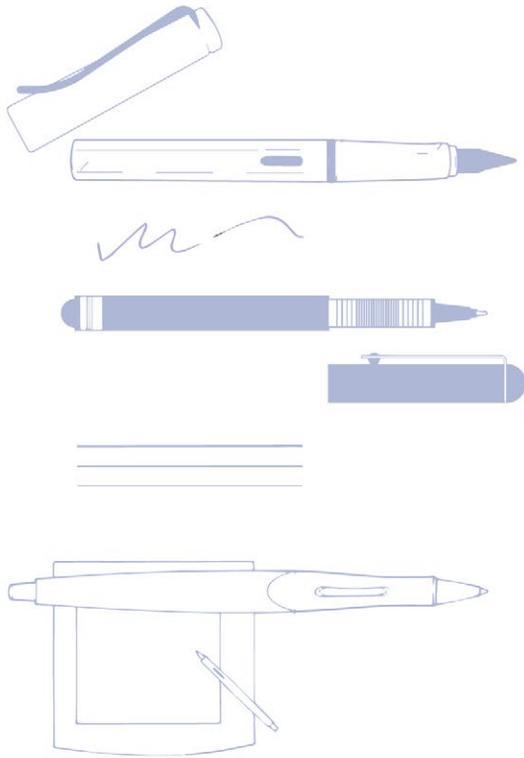


fig. 5.3.9 Typical Drawing Guides

Drawing Materials

1. Tracing Paper: When could it be a suitable option for an overlay application?
2. Pen: Would it be possible to allow optimal hand sketching using a fountain pen, enabling critical creativity?

(One might question why a technical pen is the most common option for drawing and if its rigidity could instinctively be associated with a practical thought.)

3. Initial Illustration: Could it serve as a base layer for a new type of drawing?

Drawing Guides

1. Rulers and Triangles: Would it be best not to require them for this drawing type and rather let the hand free of thinking?

(Is it a cliché statement to argue that the pen is the conductive element between the hand and the brain?)

2. Architecture Scale: When would it possible to disallow scale as a new drawing type could be based on which elements prevail in the issue illustrated, rather than on actual dimensions?

Line Types

1. Continuous and Dashed: Traditionally used to convey different drawing elements, however, would it be possible that a new type of drawing be depicted in a simpler manner in which line types would not be the main priority?



fig. 5.3.10 Drawing Process

Sketch by Observation

1. Is it a better-suited sketching type as it sharpens awareness of the environmental settings?
2. **Inquired Steps:**
 - a) Observation: In what ways could the information in the original drawing be analyzed in a manner to pay careful attention?
 - b) Reflection: When should the imminent thoughts be acknowledged and recorded by a textual or illustrative method?
 - c) Documenting: How could tracing over the traditional architectural drawing and sketching the critical elements complementing the original illustration be a way to record the previous thoughts graphically?

Diagramming Elements

1. Would it be best to begin with a quick diagram based on the reflection from the previous sketch prior to working digitally?
2. How would a comprehension of complex elements be achieved by simplifying their nature into essential components and by isolating a single issue?
3. Should the site remain important if the choice of its components depends on their significance in the issue illustrated rather than predeterminate concepts?
4. Could new design criteria be enabled by being specific to a sociologic response to natural forces rather than by being explicit of a building response to a site?

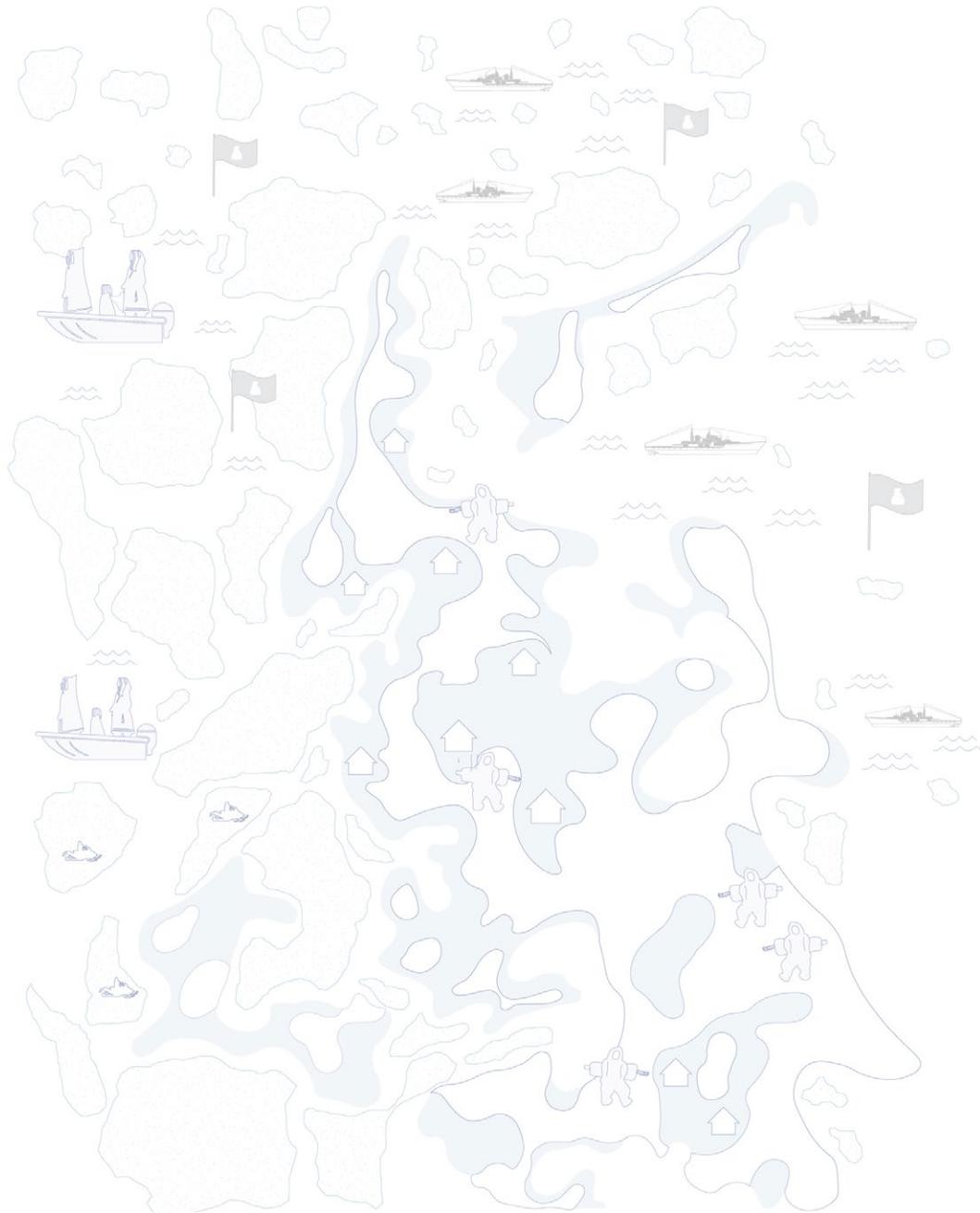


fig. 5.3.11 Juxtaposing Scales on a Site Plan

Architectural Drafting

1. Free Hand Drawing: Should it be recommended as it might allow for critical creativity rather than thinking rigidly on the computer?

Site Plan

1. When should site plan information be included to help to situate the issue?
2. In what way could the temporality of the site be included in the issue?

(Does academic teaching and practical drawing refer enough to sociology in site plan conception?)

Scale

1. In what manner would it be possible to work throughout the diagram process to determine which elements have the most significance?
2. Should the scale shift if various proportions privilege narratives rather than quantifying elements?

(Do invisible narratives and spaces stand at the core of this binary issue?)
3. Could the amount of detail be determined based on observation of the original drawing to discover new spatial insight rather than defining the amount of detail based on the scale of the drawing?
4. Should scale collapse as required to introduce an adequate amount of detail to illustrate a specific issue?

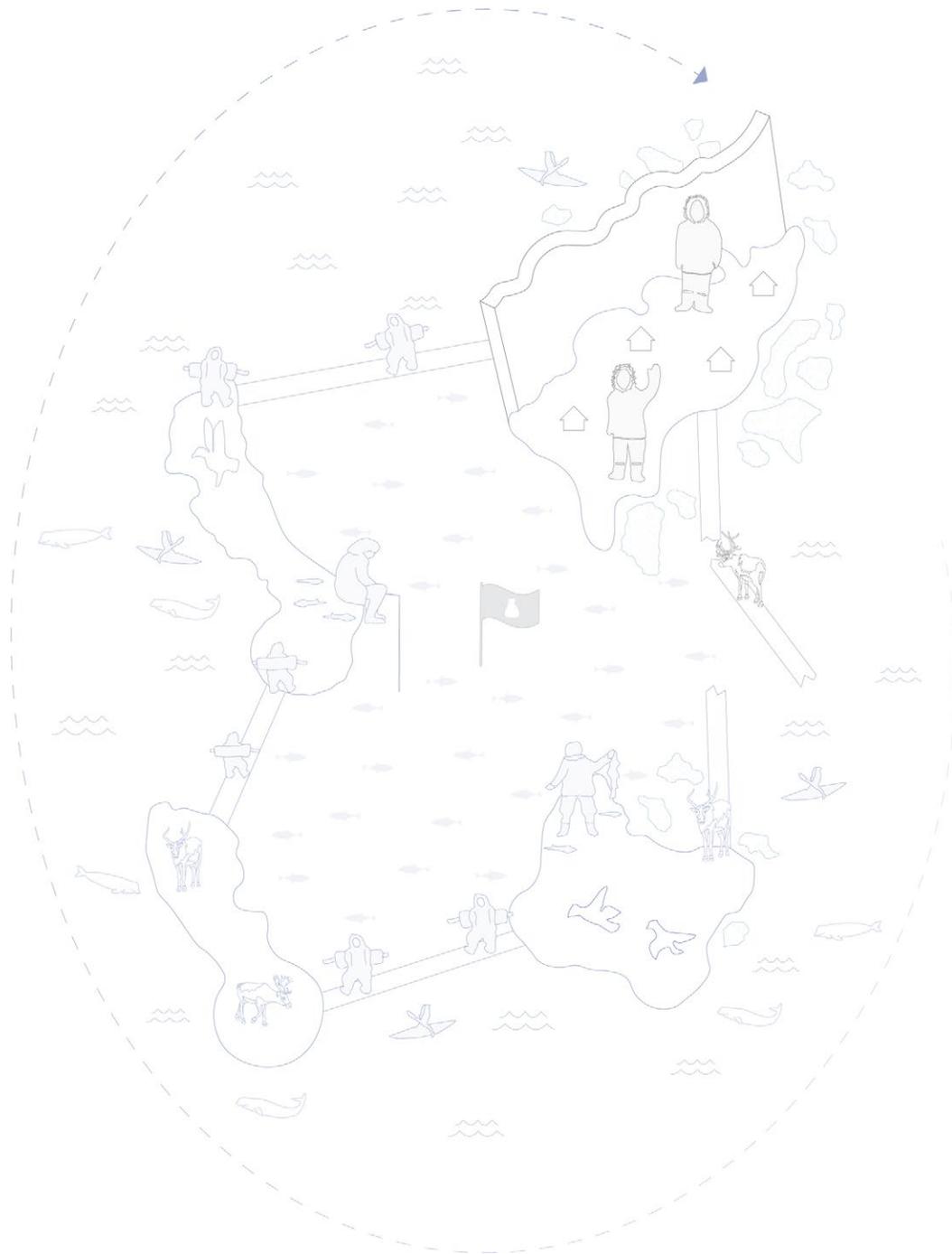


fig. 5.3.12 Juxtaposing Architectural Views with Landscaping

Architectural Presentation

1. When should a frame be used to convey spatial limitation rather than to arrange a drawing for aesthetics?
2. When to determine if an outline is needed, and should the location of the issue be based on the boundaries of the site?

(Does a use of a presentation frame gives the idea of a finalized drawing as thoughts might require a constant evolution in a spatio-sociologic issue?)

Landscaping in the Arctic

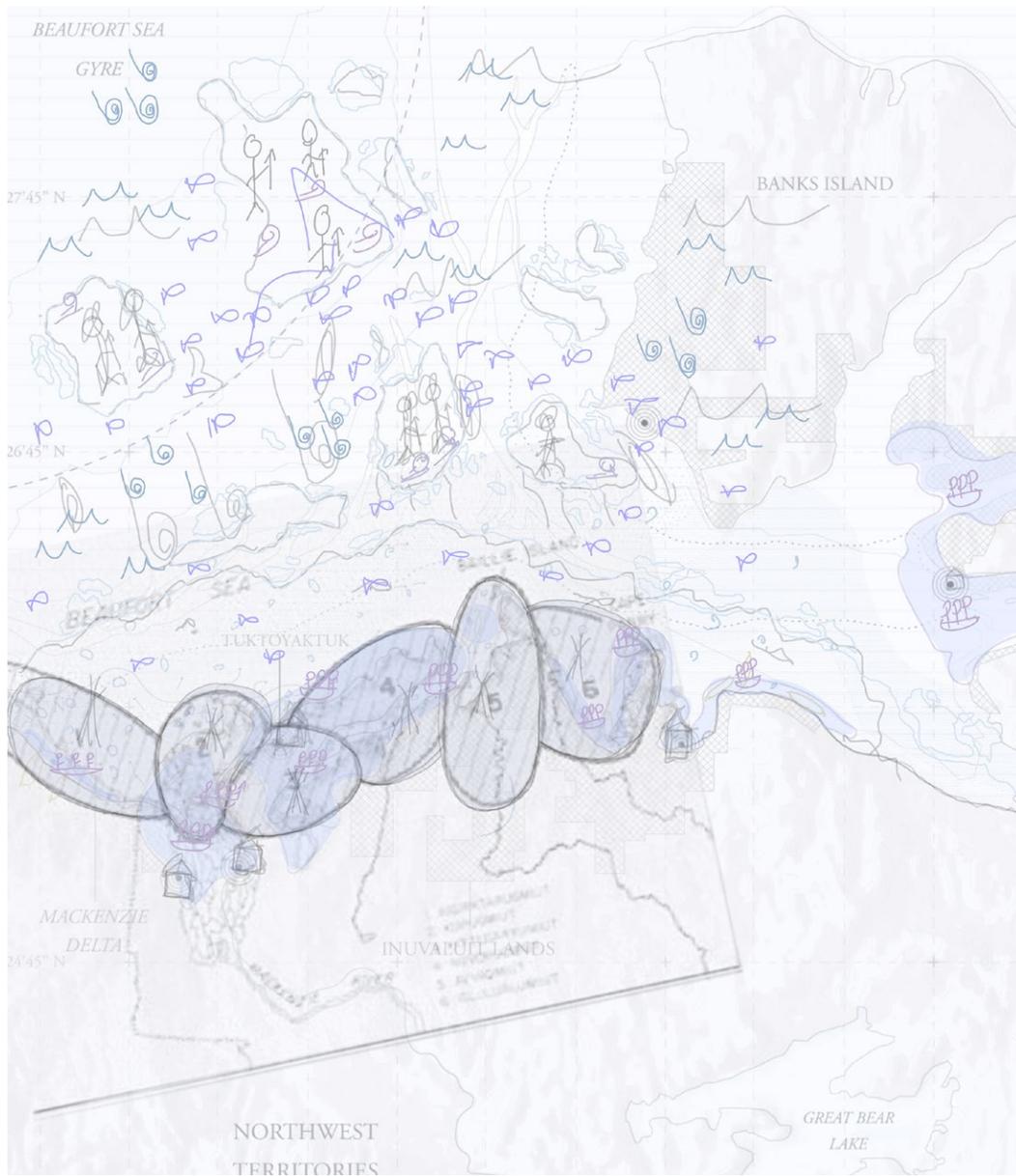
1. In what ways could ice be illustrated to convey a geographical character as trees are not appropriate for the Arctic climate?
2. Should ice's scale be represented according to its importance, rather than focusing on the extent of its details based on the drawing scale?

Plans and Elevations

1. Would a combination of the plan and the elevation into a single drawing reveal critical reading of the issue and enable the discovery of spatial insights?

(Do traditional plans emphasize a horizontal organization? Is a distance created from the drawer's viewpoint? If so, does it form an absence of sensitivity as a plan tends to be founded on quantifying elements?)

(Is a traditional elevation, similar to the plan, decrease sociologic spatial knowledge?)



CONCEPTION OF A NARRATIVE PARADIGM

The thesis carries a comprehensive methodology of adapting a new drawing typology to convey information through the lenses of the Inuvialuit and the Western societies. The following drawings contemplate spatial and social implications revealed by these representational differences, emerging from my own understanding of Tuktoyaktuk. This personal comprehension is based on the research conducted, and the documentaries watched about the Inuvialuit community and the residents of Tuktoyaktuk. The drawings address a way of documenting elements of coastal erosion, not only in a Western epistemology but also in a narrative one.

Accordingly, I began to sketch over the original drawings in a simplified form before drawing digitally. The kinesics of drawing by hand improved the analysis of the original representation topology and enriched a critical observation of which elements can be enhanced spatially. Indeed, hand drawing creates other forms of knowledge production in which our brain meditates differently. This new drawing type necessitates analytical creativity as the representational values of architecture are influential for the discussion of knowledge.¹⁰⁶

Correspondingly, I interpreted the meaning of the initial drawings to entwine this new form of representation with our current understanding of architectural drawings. The drawings that follow include annotations communicating geographic and architectural as well as spatio-temporal and socio-cultural insights in which a place is embedded.

Although this thesis argues for a complementing type of representation to the Western one, these annotations are depicted in a form that the readers can clearly comprehend. Each of the following drawings is part of a comparison arranged where the Western drawing is located on the left page and the new form of drawing, on the right page.

Assessment on coast vulnerability

Clear visualization of the wave height compared to other regions of the Arctic Ocean.

Illustrate the way that water flow influences wave height

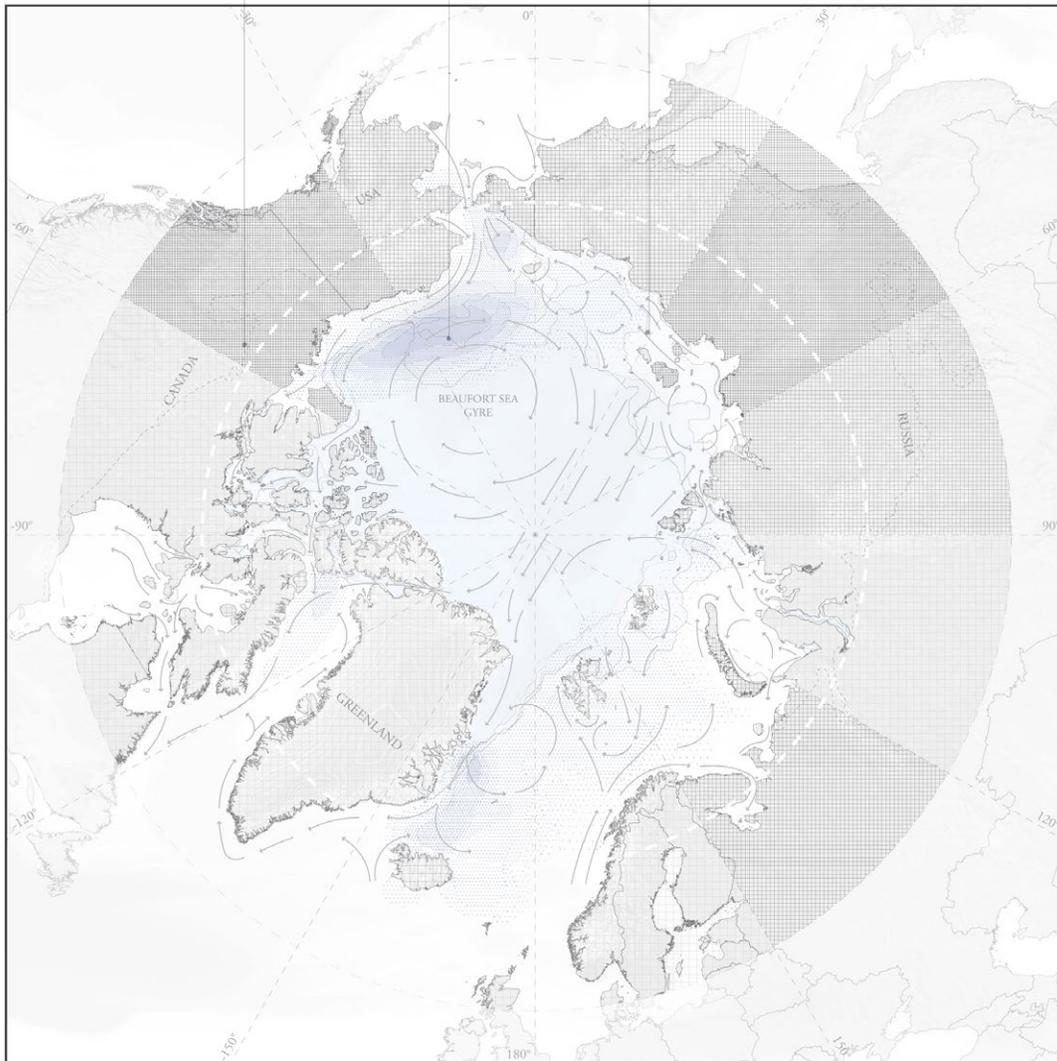


fig. 5.4.2 Traditional Representation of the Drawing: Arctic Vulnerability Assessment



fig. 5.4.3 Narrative Representation of the Drawing: Arctic Vulnerability Assessment

Visualization of sediment movement concentration

Influence of the Beaufort Sea gyre on coastal erosion

Connection between open water and land-fast ice

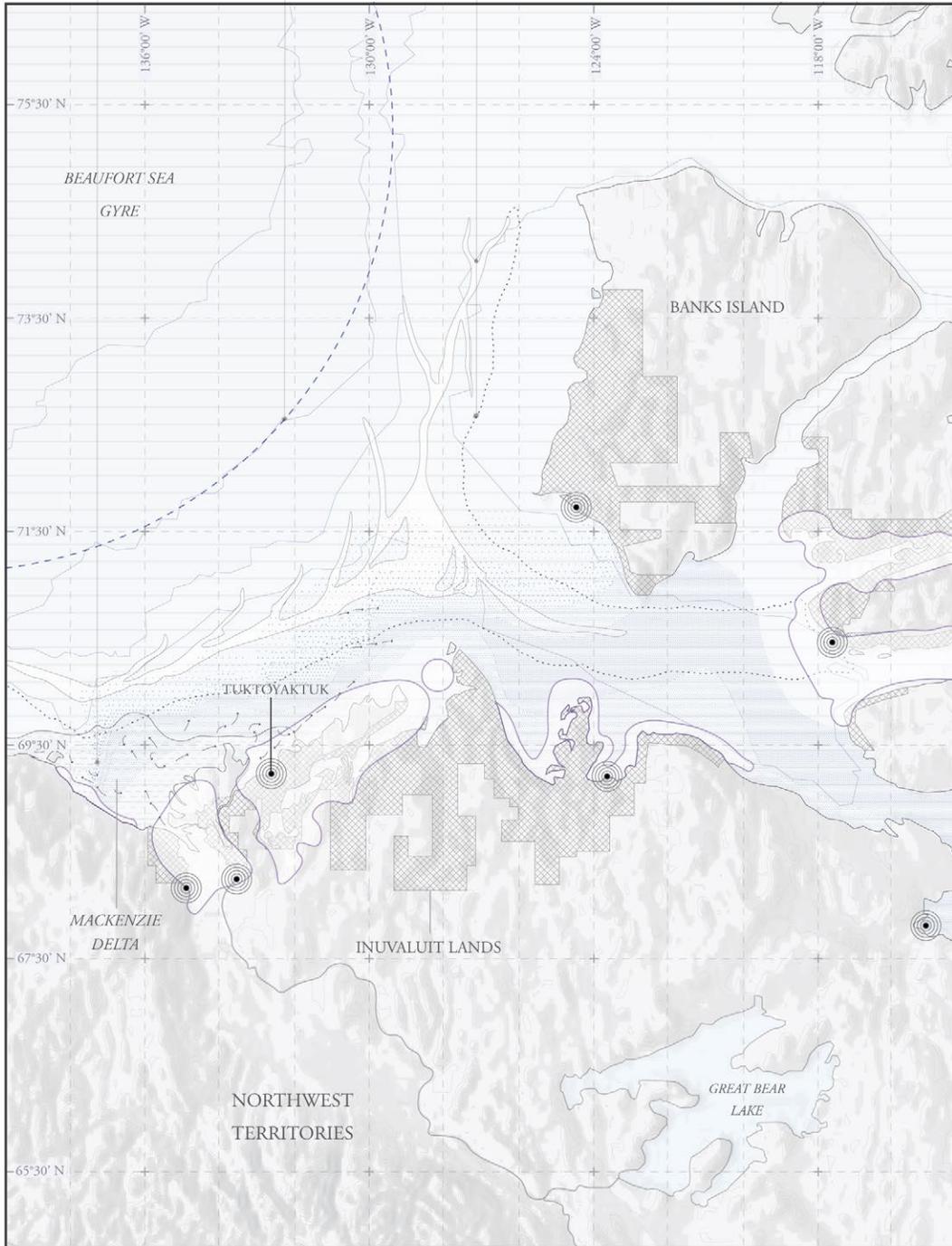


fig. 5.4.4 Traditional Representation of the Drawing: Offshore Shifts: Consequences on Traditional Knowledge

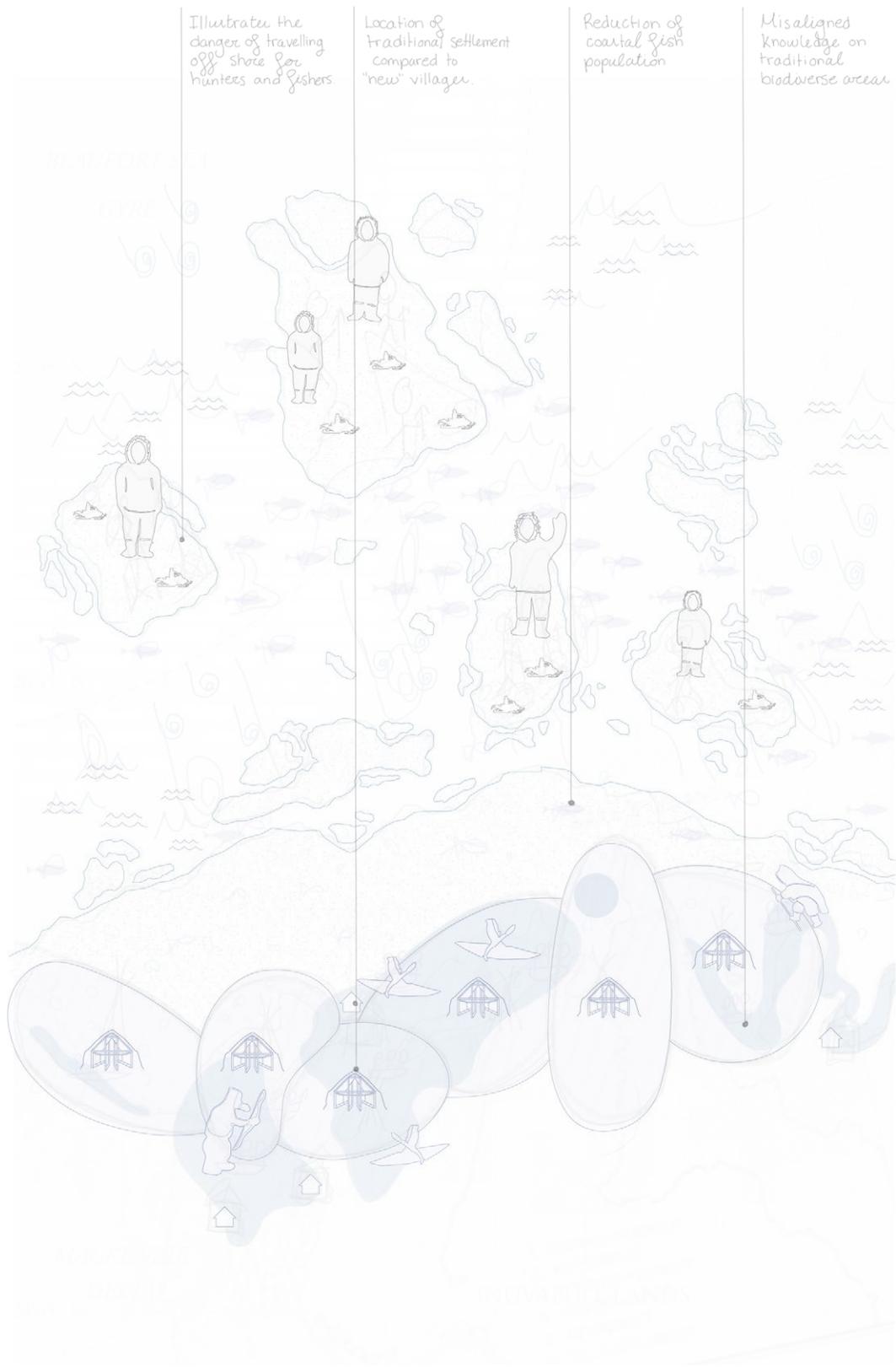


fig. 5.4.5 Narrative Representation of the Drawing: Offshore Shifts: Consequences on Traditional Knowledge

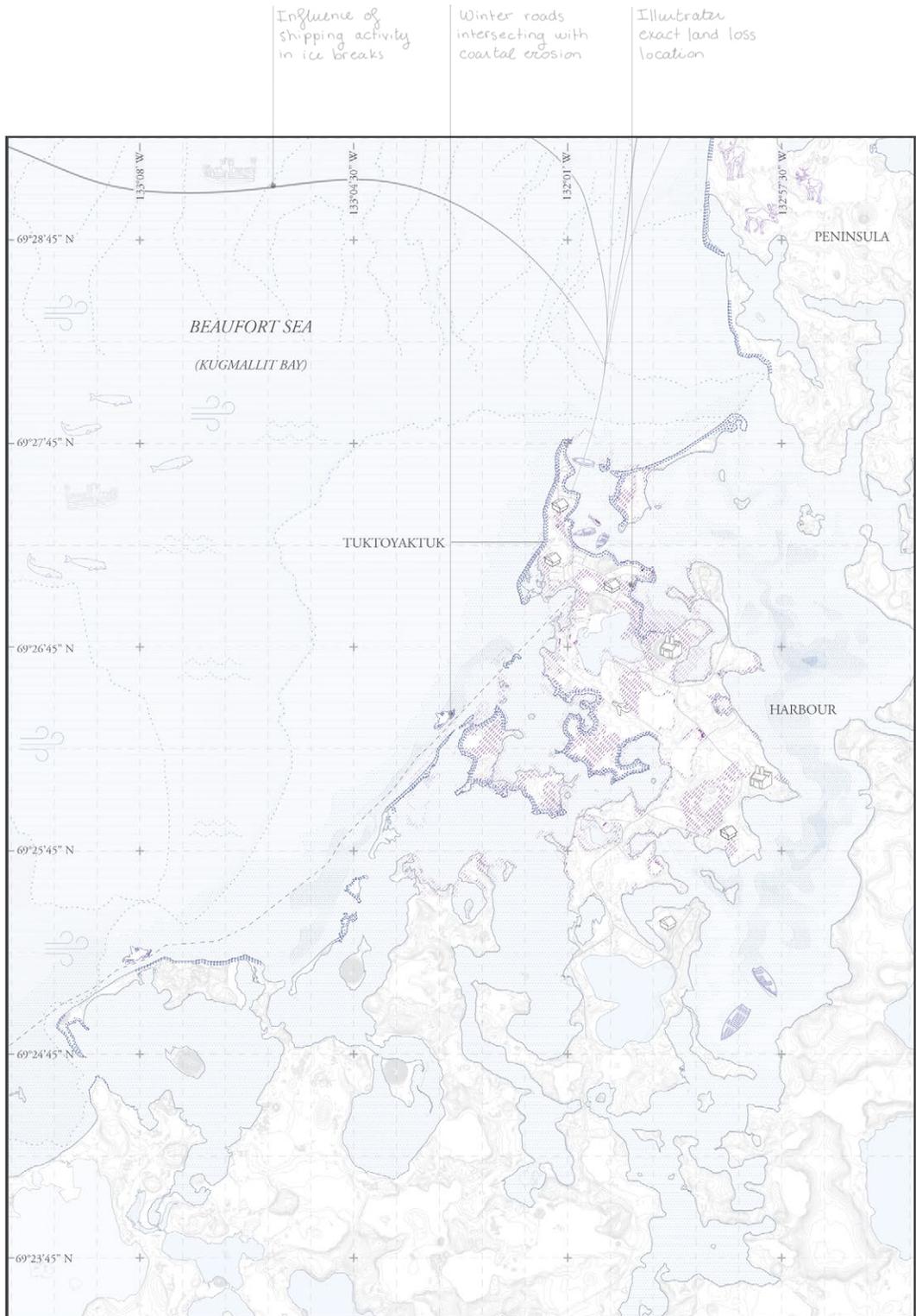


fig. 5.4.6 Traditional Representation of the Drawing: Natural Forces at the Harbour



fig. 5.4.7 Narrative Representation of the Drawing: Natural Forces at the Harbour

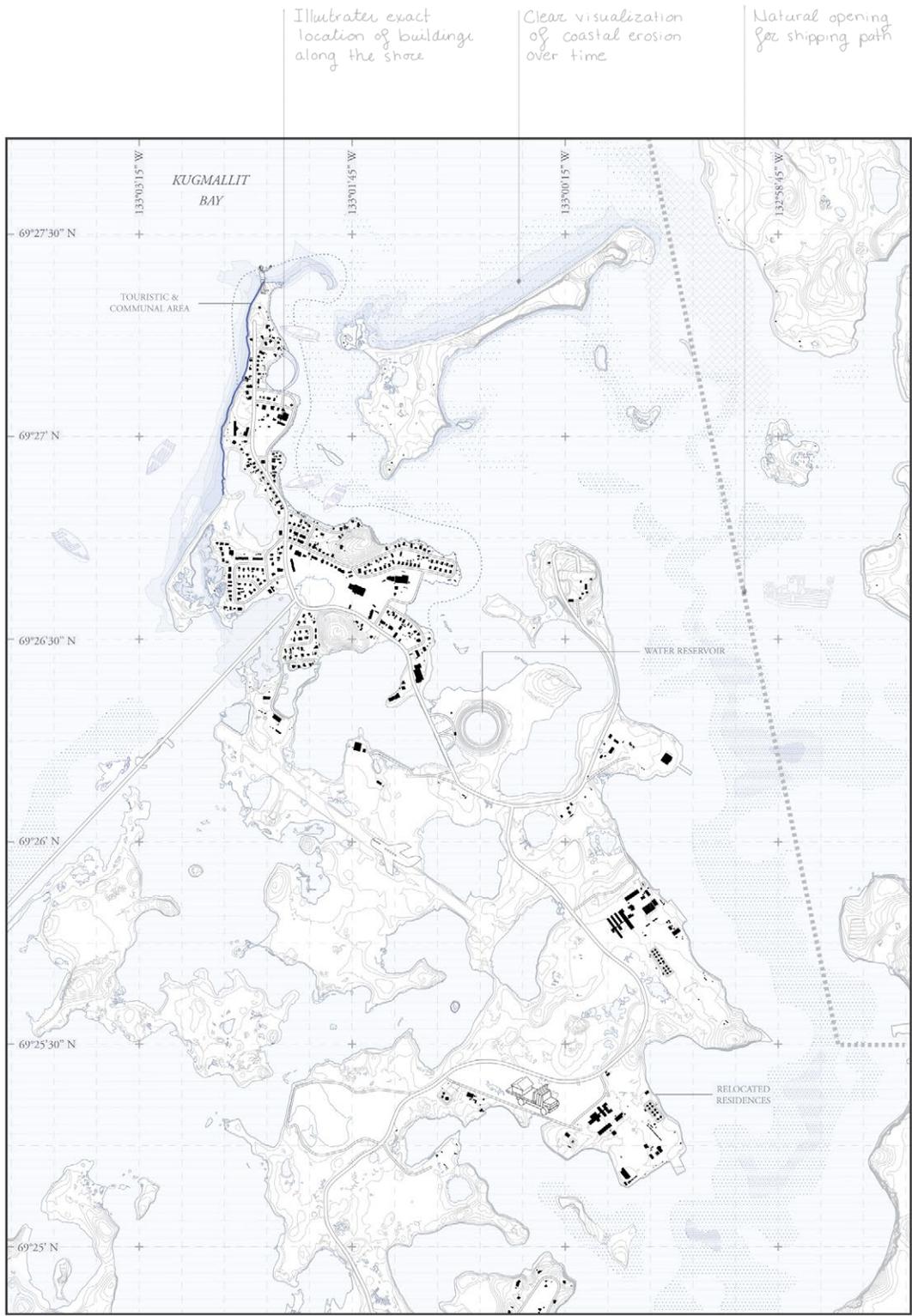


fig. 5.4.8 Traditional Representation of the Drawing: Past and Current Erosion in Tuktoyaktuk



fig. 5.4.9 Narrative Representation of the Drawing: Past and Current Erosion in Tuktoyaktuk

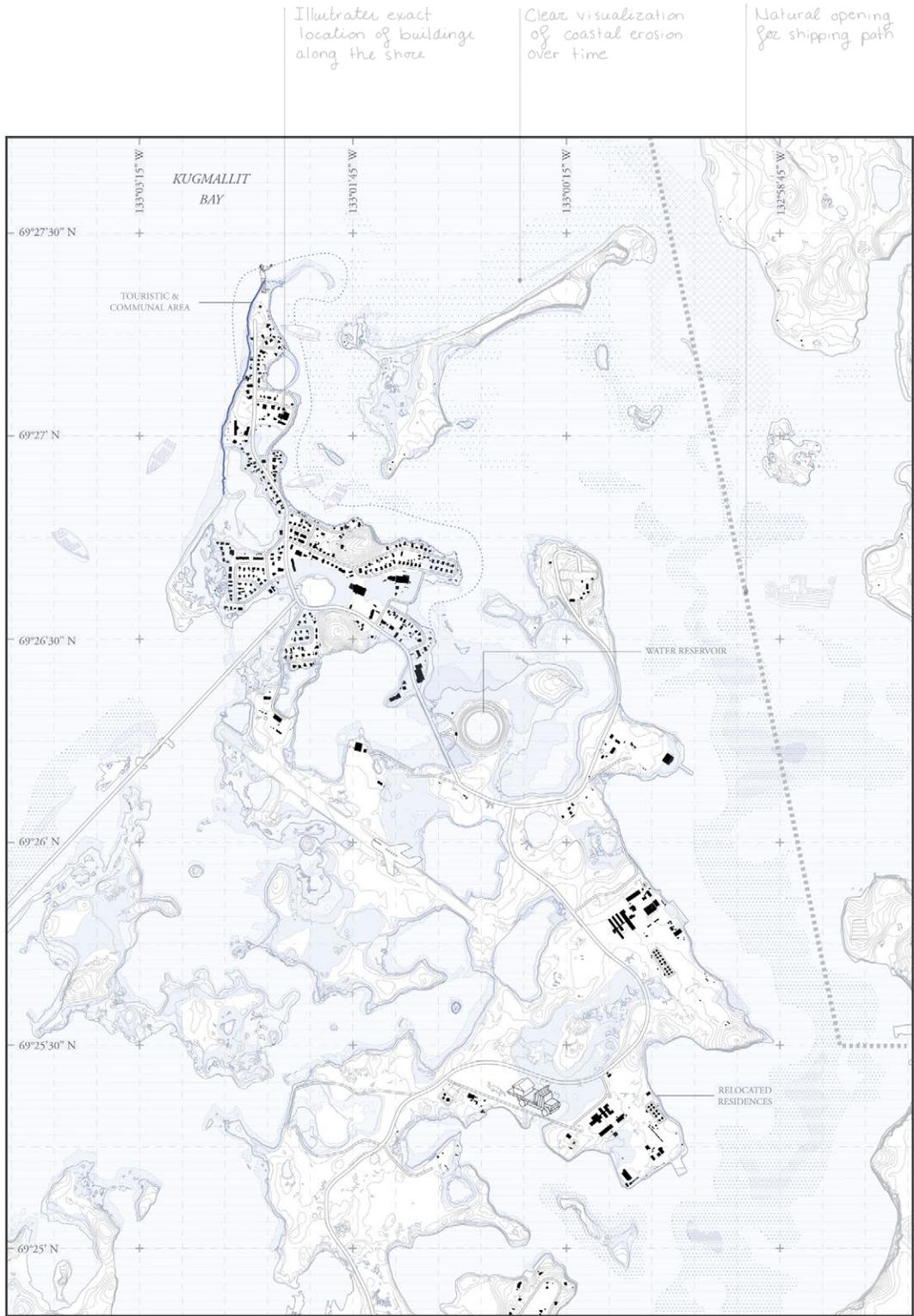


fig. 5.4.10 Traditional Representation of the Drawing: Forthcoming Years of Flooding

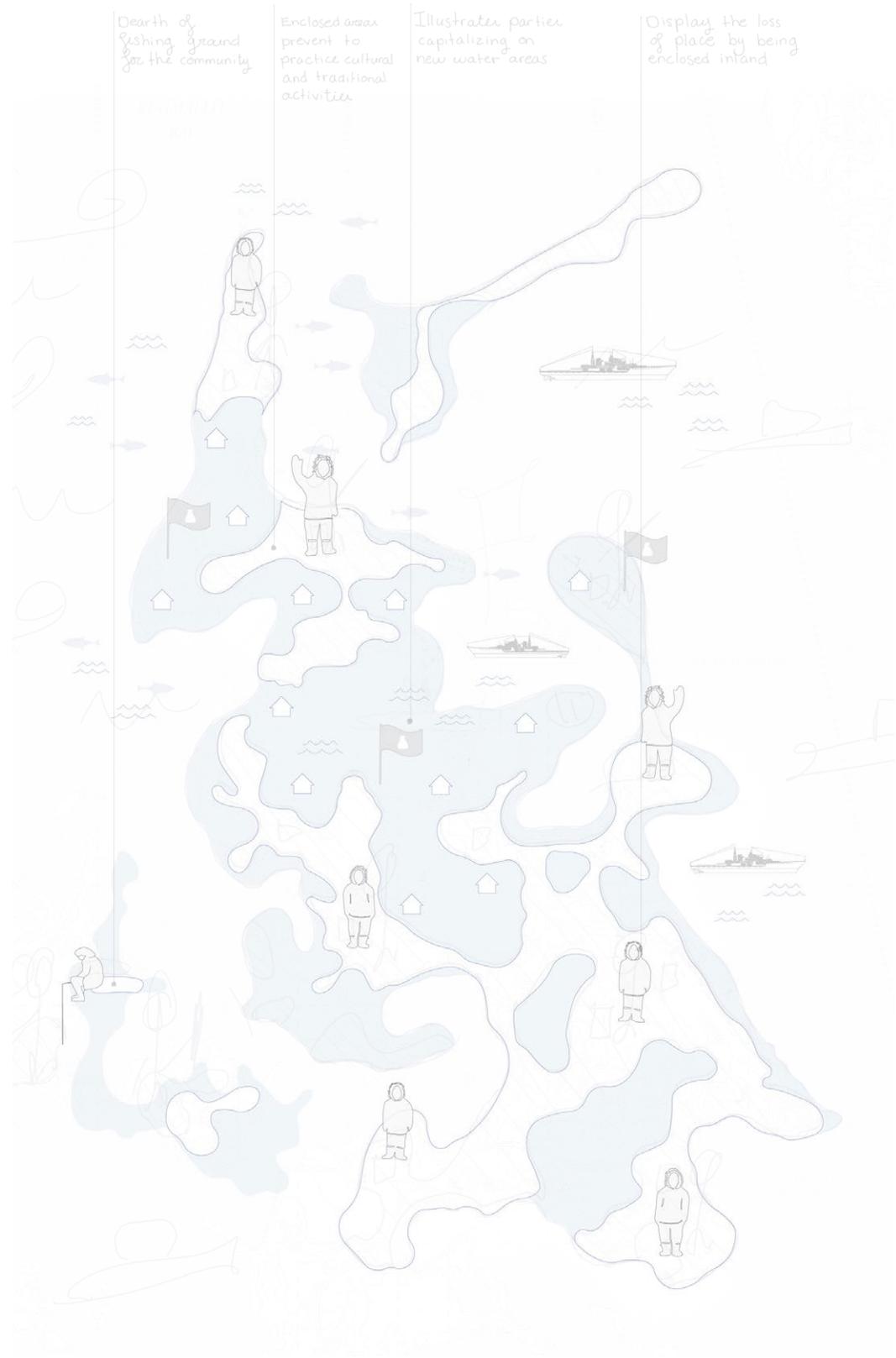


fig. 5.4.11 Narrative Representation of the Drawing: Forthcoming Years of Flooding

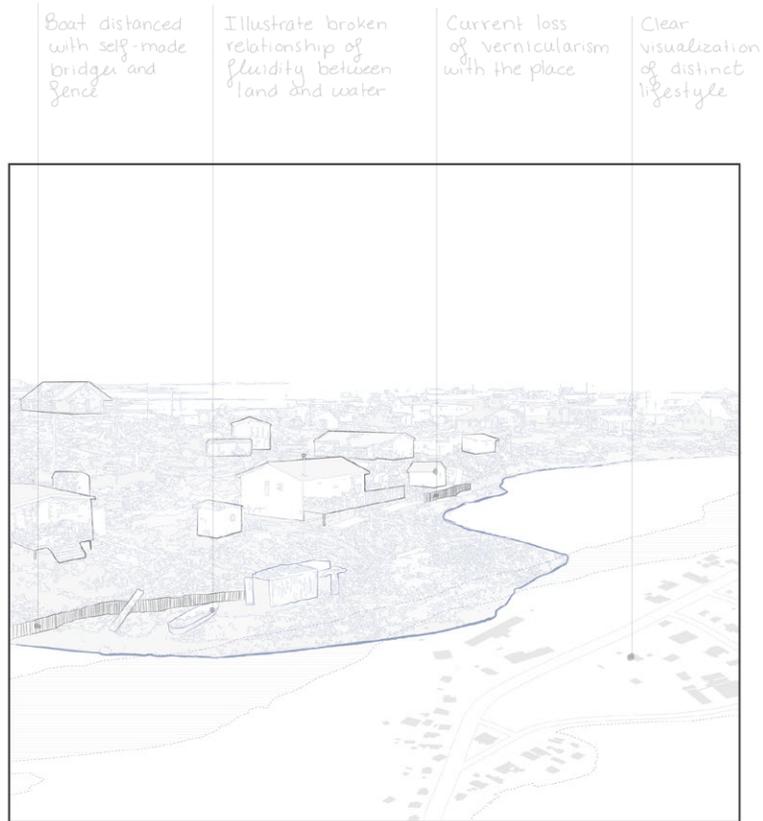
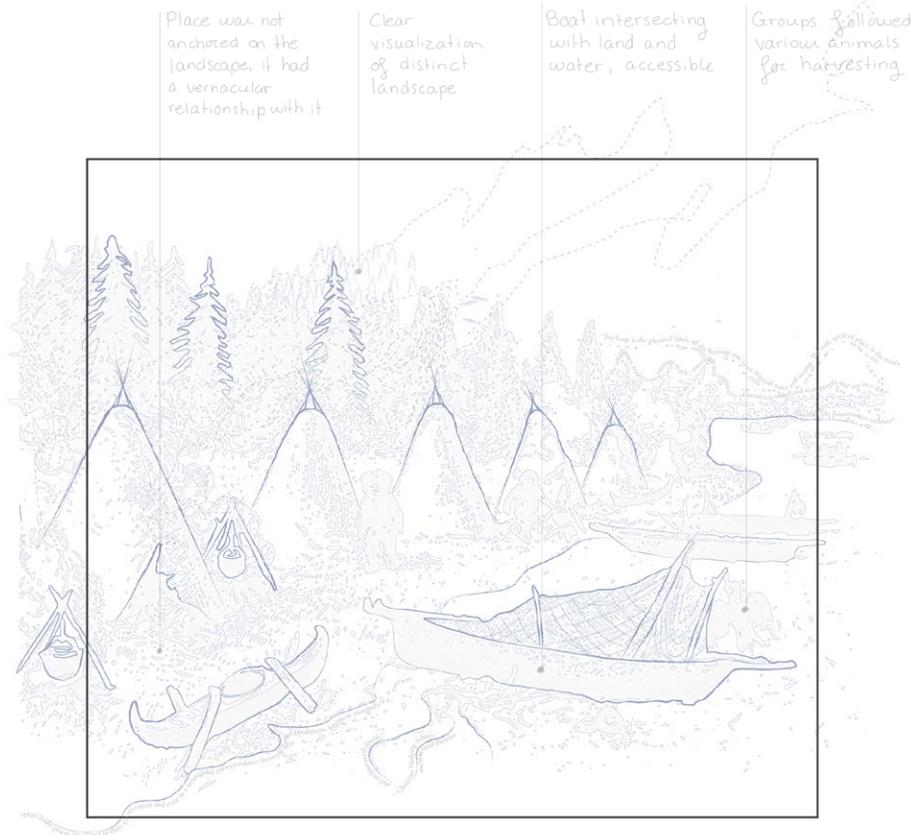


fig. 5.4.12 Realistic Representation of the Drawings: Existential Meanings of Place Identity & Loss of Place: Modernity Exists in a Nowhere

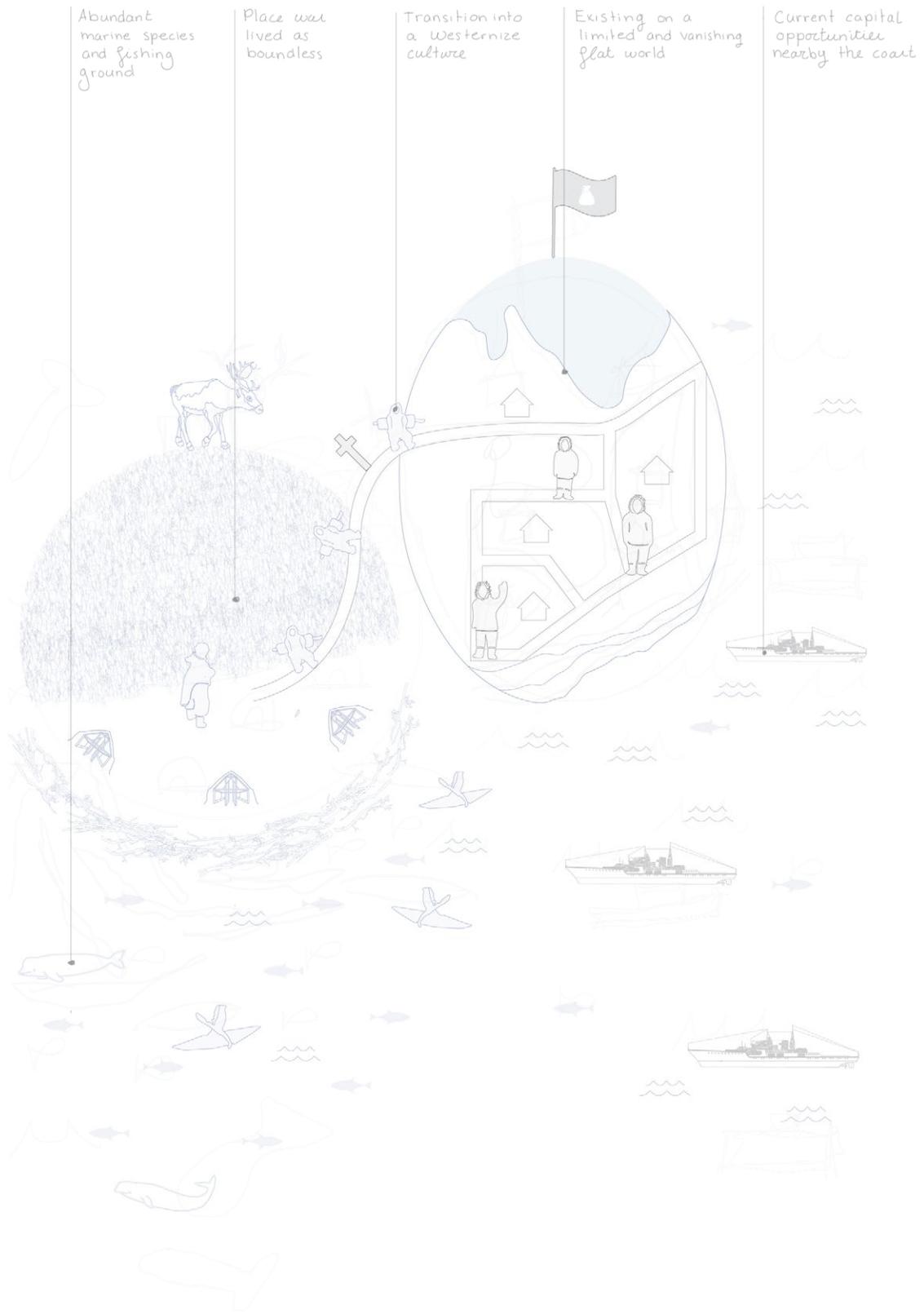


fig. 5.4.13 Theoretical Representation of the Drawings: Existential Meanings of Place Identity & Loss of Place: Modernity Exists in a Nowhere

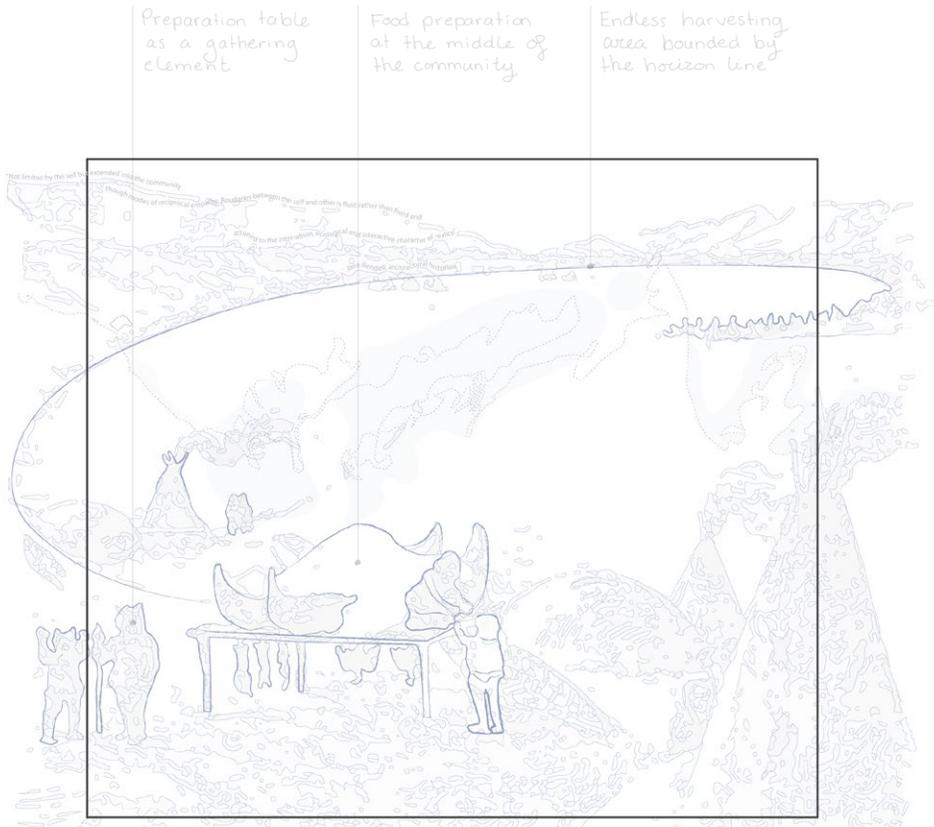


fig. 5.4.14 Realistic Representation of the Drawings: Functioning in a Spatial Unity & Contemporary Place: Living Memories

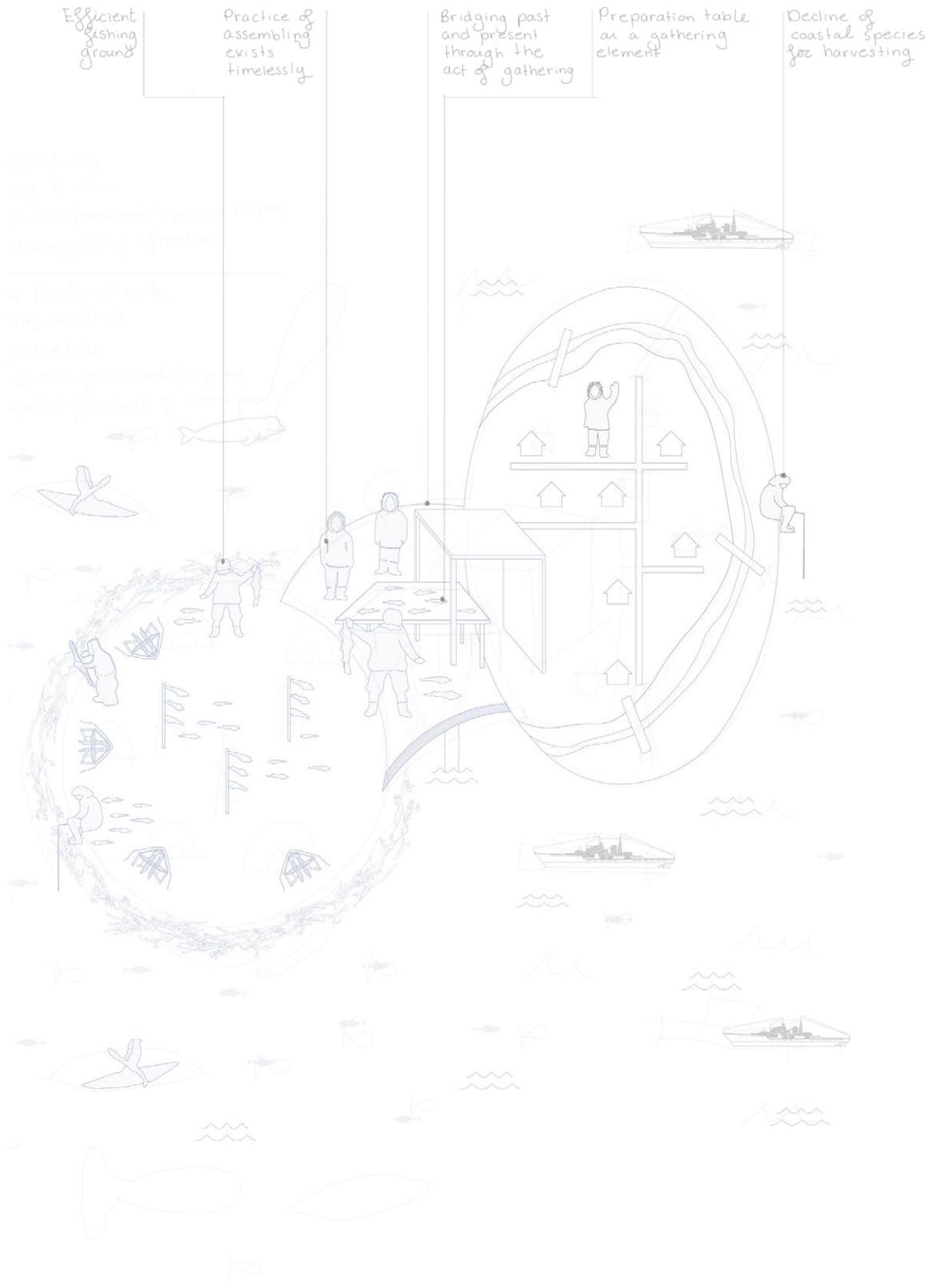


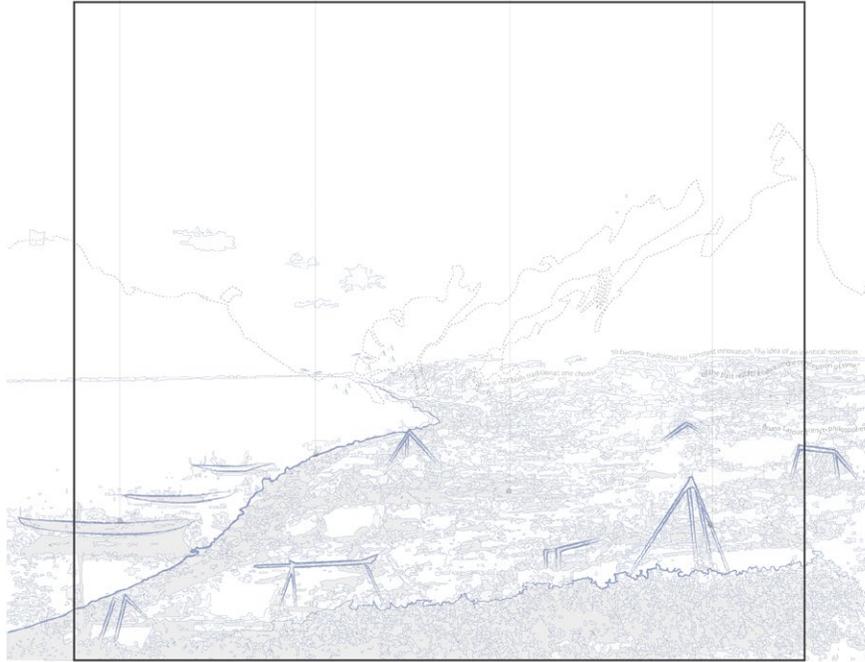
fig. 5.4.15 Theoretical Representation of the Drawings: Functioning in a Spatial Unity & Contemporary Place: Living Memories

Boat adjacents
to houses

Similar function
at the shore

Place seen as
temporal and
moving through
the seasons

Abandoned
constructions
left to the
land



Boat adjacents
to commercial
store

Similar
function at
the shore

Built construction
embedded into
the landscape

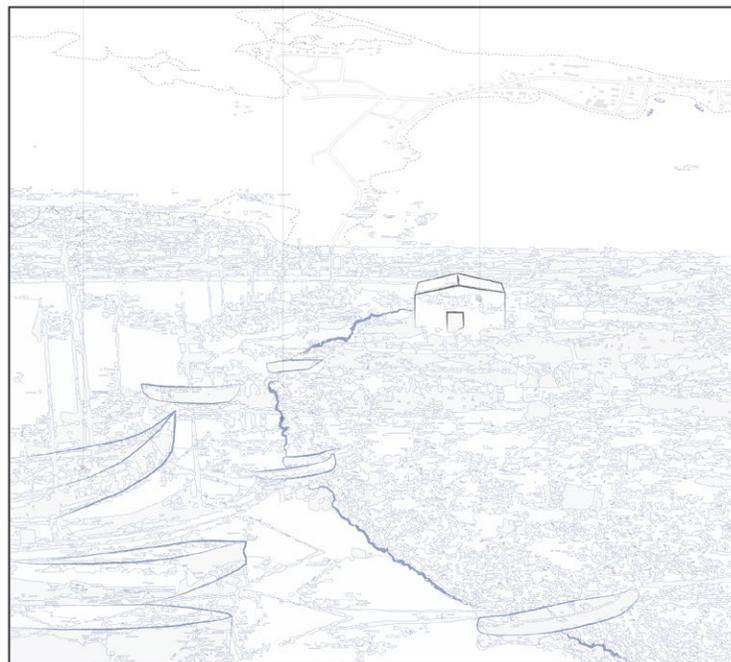


fig. 5.4.16 Realistic
Representation of the
Drawings: Natural
Process of Time &
Living in a Linear Time
and a Surviving Past



fig. 5.4.17 Theoretical Representation of the Drawings: Natural Process of Time & Living in a Linear Time and a Surviving Past

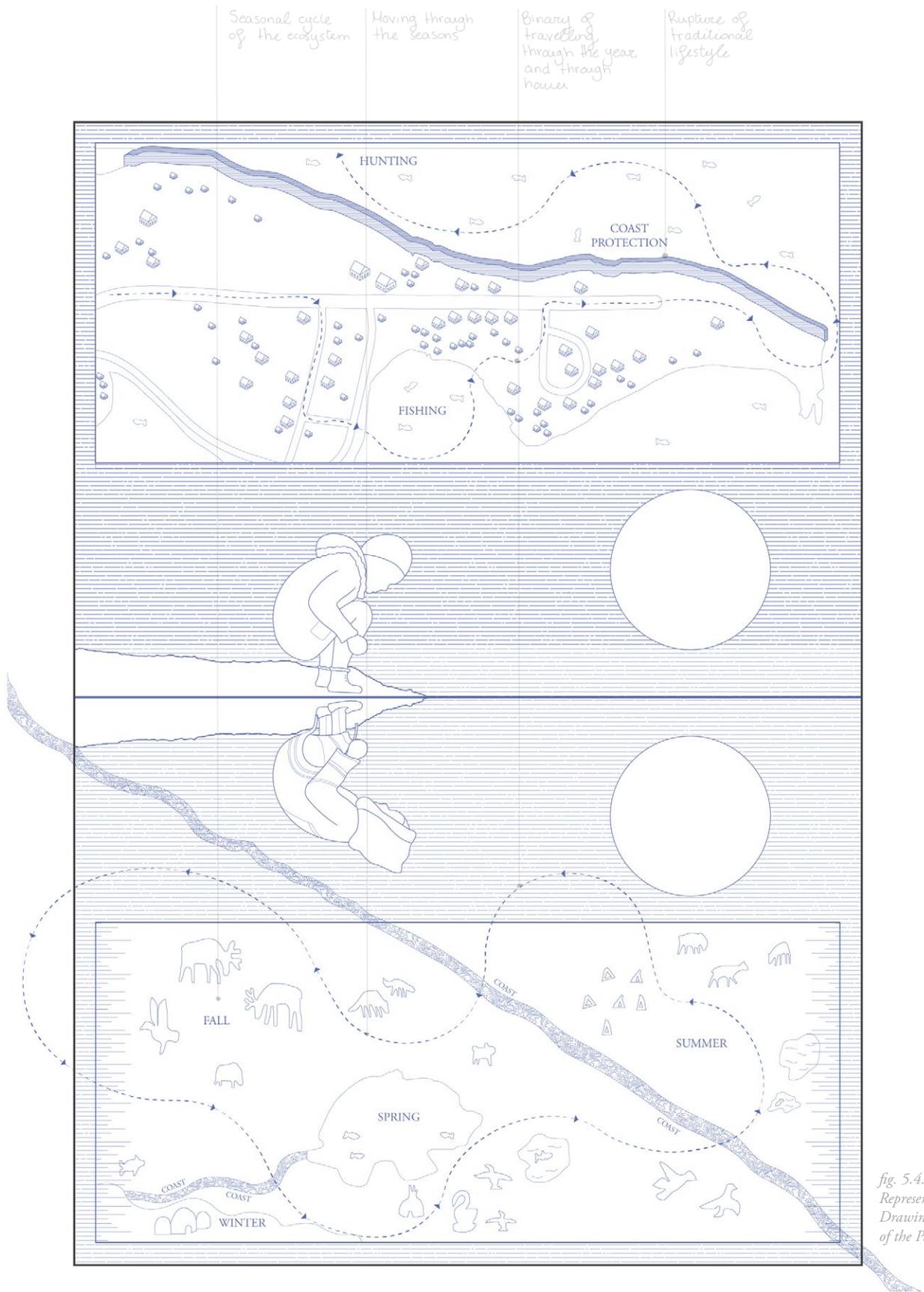


fig. 5.4.18 Traditional Representation of the Drawing: A Reflection of the Past

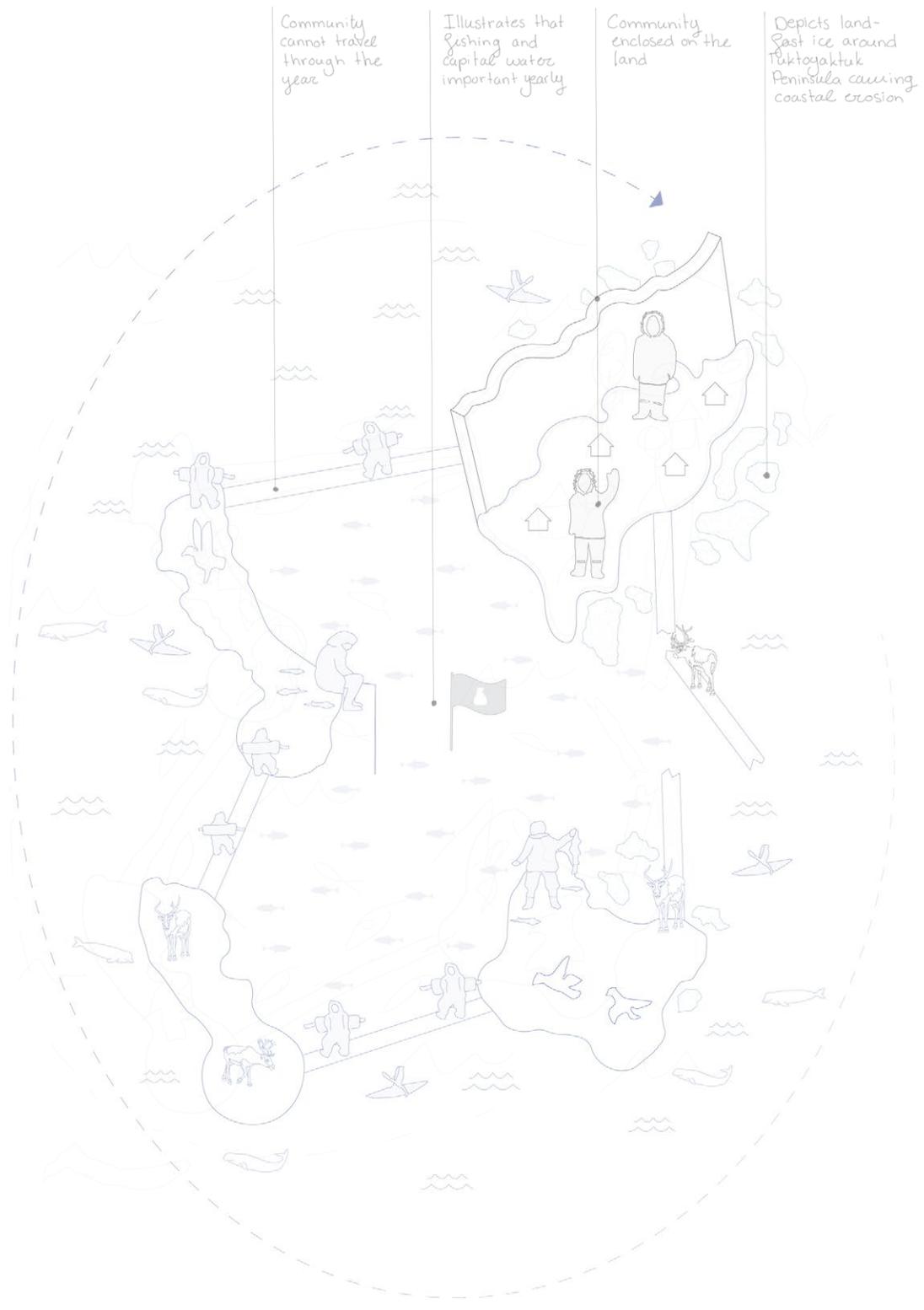


fig. 5.4.19 Theoretical Representation of the Drawing: A Reflection of the Past

Practicing traditional exterior drum dancing nearby pingos

Various group age emphasizing passing down traditional knowledge

Several components forming the landscape

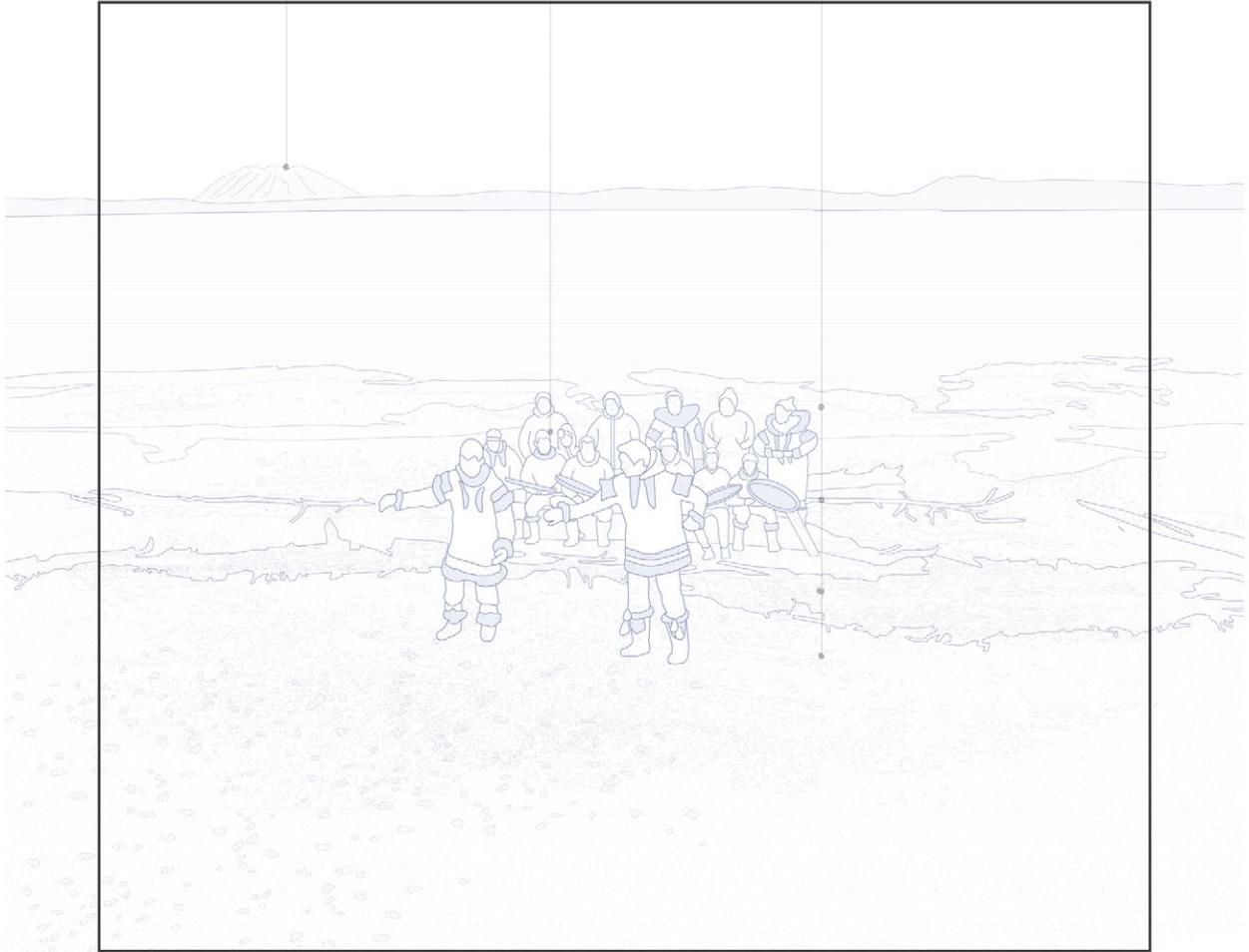


fig. 5.4.20
Representation of
the Drawing: Sigliit
Traditional Drum
Dancing

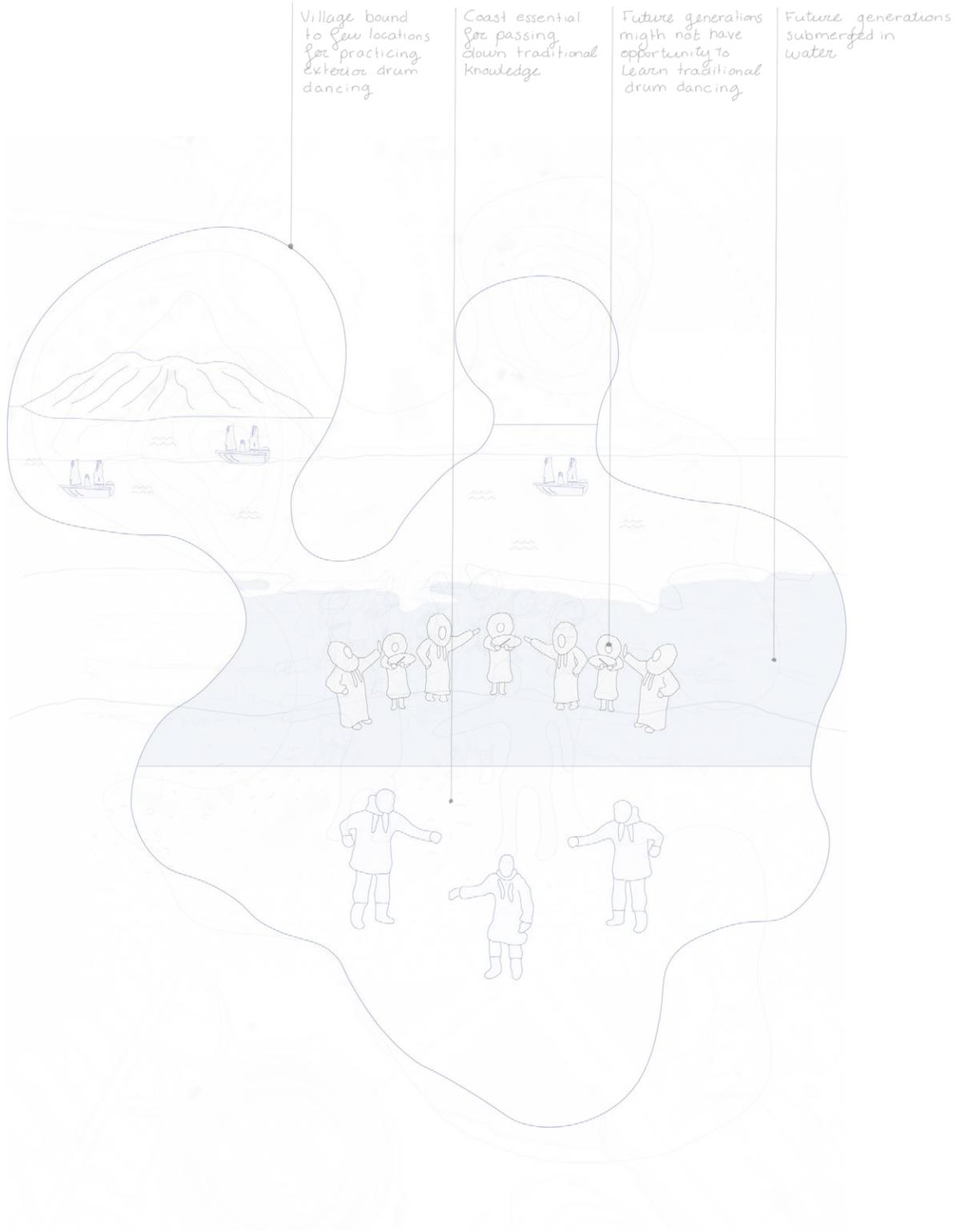


fig. 5.4.21
 Fiction Narrative
 Representation of
 the Drawing: Sigliit
 Traditional Drum
 Dancing

Next generation
learning the basics
of net fishing

Fishing ground
remote from the
house

Land and water
are two site
components for
net fishing

Family
gathering
on the coast



fig. 5.4.22
Representation of the
Drawing: Learning the
Basics of Net Fishing



fig. 5.4.23
 Fiction Narrative
 Representation of the
 Drawing: Learning the
 Basics of Net Fishing

The thesis analyzes the previous drawing comparison, holding distinct spatio-sociological insights, to discern from which elements to root an empathic design and to advance a design experimentation. In each drawing narrative, the actors introduce another dimension, such as a social conflict between the natural world in which exist the Inuvialuit, and the capitalization of extraction, leading to the Arctic depletion. The narratives also incorporate various scales to comprehend better the actors involved in coastal erosion and further identify the social issue. For instance, the scale of the land-fast ice depicts its importance regarding this issue, in which its dispersion impacts the hunting and fishing winter routes, becoming nearly unfeasible to travel during cold seasons. Additionally, the drawing narratives juxtapose different temporalities to illustrate various social impacts, complementing the Western hegemony of drawing.

The narrative mapping typology derives from the original drawings to similarly illustrates geographical information such as shorelines, land-fast ice or ice reduction, wave movement and coastal erosion. Each of the maps on the left complements the narrative one by situating the conflict and providing additional geographic data and specific information, such as assessing coastal vulnerability. Nevertheless, this explicit material generates a busy mapping illustration, forming a detached and objective perspective.

Complementary, the narrative map juxtaposes temporalities such as the original settlement boundary rather than the present Inuvialuit territory and introduces a temporal comparison of the issue demonstrated. The Western geographic illustrations offer clear visualization of the changes in the local ecosystem by illustrating, for instance, the process of sediment movement. Correspondingly, the narrative mapping analysis demonstrates the social impacts of these changes such as a difficulty to harvest animals in which hunters and fishers necessitate to travel further offshore.

Moreover, the series of realistic drawings demonstrates a clear image of the Inuvialuit and Western distinct lifestyles since a realistic representation shifts specifically to a human scale. Contrastingly, the theoretical narrative drawing helps to expose a spatial comprehension of coastal erosion by displaying, for example, the loss of place of being relocated further inland or enclosed within it and by revealing the loss of an abstract relationship with the shore. Additionally, both realistic and theoretical drawings illustrate the vision of space perceived differently through both societies, hence the concept as extending to the community continues to live from their traditions.

Ultimately, although the community of Tuktoyaktuk frequently gathers on the coast, more concrete slabs will be installed in the near future, fortifying physical erasure, simultaneously diminishing the cultural and social activities. Hard-coast management strategy does not enhance socio-cultural events, it decreases them. The narrative fictions of drum dancing and net fishing complement the realistic drawings by illustrating a physical barrier around the land and by representing a clear contrast on the shore. Indeed, these cultural activities are located in limited and vulnerable areas of the village, endangering traditional knowledge communicated to younger generations on the coast.

By collapsing time periods, the narrative fictions additionally illustrate a broader idea behind sharing traditional knowledge, such as the retreat of the coastlines where future generations may not have the opportunity to learn. Complementary, the realistic narrative provides a detailed picture of the present moment and represents the sense of passing down knowledge to younger generations by depicting, for instance, a family gathering on the coast. The realistic drawing additionally represents several components forming the landscape and the shore, while the narrative fictions allow freedom of drawing to depict other hidden aspects of coastal erosion.

ENDNOTES

Chapter Five: Framing the Architectural Indifference

80. J.A.G Cooper and J. McKenna, "Social Justice in coastal erosion management: The temporal and spatial dimensions," *Geoforum* 39 (January 2008): 294, <https://doi.org/10.1016/j.geoforum.2007.06.007>
81. Ibid, 303.
82. Ibid.
83. Edward Casey, *The Fate of Place : A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central. Referring to "Of the Other Space" in Michel Foucault eds.
84. Ibid.
85. Rania Ghosn and El Hadi Jazairy, *GeoStories: Another Architecture for the Environment* (New York: Actar Publishers, 2018), 11.
86. Ibid.
87. Maéva Gauthier, "Happening to Us: Amplifying Youth Voices from the Arctic." *Terralingua in Landscape Magazine Article*. https://terralingua.org/langscape_articles/happening-to-us-amplifying-youth-voices-from-the-arctic/
88. Ibid.
89. "Happening to Us," YouTube Video, 1:19, from the documentary presented to COP25 in December 2019, posted by "avatarmedia1", December 1, 2019, <https://www.youtube.com/watch?v=Udhyy9sWWL0>
90. Ibid, 1:23.
91. Ibid, 11:46.
92. Ibid, 12:03.
93. Ibid, 12:25.
94. "Forum Lecture Series 2021 - Studio& - A Black Study: Mabel O. Wilson", YouTube Video, 1:34:16, from the lecture presented in March 2nd, 2021, posted by "Azrieli School of Architecture and Urbanism", March 3rd, 2021, <https://www.youtube.com/watch?v=NYzx7rLe3Do>
95. Ibid, 1:46:17.
96. Steven J. Jackson, "Rethinking Repair" in *Media Technologies : Essays on Communication, Materiality, and Society* (Boston: MIT Press, 2014), ProQuest Ebook Central.

97. Ibid.

98. Diana Agrest, *Architecture of Nature: Nature of Architecture* (Novato: Applied Research and Design Publishing, 2018), 12.

99. Rania Ghosn and El Hadi Jazairy, *GeoStories: Another Architecture for the Environment* (New York: Actar Publishers, 2018), 20.

100. Steven J. Jackson, "Rethinking Repair" in *Media Technologies: Essays on Communication, Materiality, and Society* (Boston: MIT Press, 2014), ProQuest Ebook Central.

101. "Forum Lecture Series 2021 - Studio& - A Black Study: Mabel O. Wilson", YouTube Video, 15:10 & 17:07, from the lecture presented on March 2nd, 2021, posted by "Azrieli School of Architecture and Urbanism", March 3rd, 2021, <https://www.youtube.com/watch?v=NYzx7rLe3Do>

102. Steven J. Jackson, "Rethinking Repair" in *Media Technologies: Essays on Communication, Materiality, and Society* ProQuest Ebook Central.

103. Rania Ghosn and El Hadi Jazairy, *GeoStories: Another Architecture for the Environment* (New York: Actar Publishers, 2018), 11.

104. Francis D.K. Ching, *Architectural Graphics* (New Jersey: John Wiley & Sons, Inc., 2009), v.

105. Steven J. Jackson, "Rethinking Repair" in *Media Technologies: Essays on Communication, Materiality, and Society* (Boston: MIT Press, 2014), ProQuest Ebook Central.

106. Diana Agrest, *Architecture of Nature: Nature of Architecture* (Novato: Applied Research and Design Publishing, 2018), 12.

107. Edward Casey, *The Fate of Place: A Philosophical History* (Berkeley: University of California Press, 2013), ProQuest Ebook Central.

CHAPTER SIX:

PRODUCING AN ARCHITECTURAL EMPATHY



*fig. 6.1.1 Youth March
in Tuktoyaktuk, N.W.T.*

VERBALIZATION AS AN IGNITION

The design experimentation introduced in this chapter must be founded on the continuities and discontinuities of coastal erosion to enable ontological empathy and sensitivity when designing in a distinct cultural community. Initially, Southern architectural professionals must understand what has been previously misinterpreted or absent throughout the history of a given community, and mostly during present times.

Based on all the research and analysis that did and did not incorporate this thesis, the following paragraphs verbalized what I believe Southern professionals of architecture and engineering have misinterpreted regarding Tuktoyaktuk.

Initially, I understand that there is a miscomprehension of the concerns from the community regarding coastal erosion. Accordingly, it appears that Southern professionals tend to see this issue either as environmental, or social in the instance that a house is relocated. The destruction of a house is devastating for the residents, mostly because several of these houses are multi-generational, and that moving further inland dislocates the notion of place. Nonetheless, we overlook other social and cultural issues than the loss or relocation of a house, evidently tied to the Western notion of concrete and built space. Southerners misread the significance of an abstract space, the fluid one used by the inhabitants to practice traditional activities.

I believe that the difficulty with perceiving coastal erosion, solely environmentally and economically, relates to the argument that the strategy employed to protect the shore will emerge out of the form of problem we associate with coastal erosion. Nevertheless, governments and professionals are compelled to moral and ethical obligations by intervening socially and culturally.

Besides, I acknowledged some subtleties reflecting that Southerners stand indifferent to the planetary location of the place where coastal erosion occurs. I believe that we are committed to elements that we can sympathize with, displaying a lack of empathy.

For instance, when researching online about coastal erosion in Tuktoyaktuk, I noticed that most news articles illustrated the same house being compromised by erosion. They additionally promoted the government's funding for an erosion management project that will anchor the shorelines with massive infrastructures. These big titles demonstrate that we exist in a Southern hegemony in which the dominant Western universal culture exclusively comprehends itself.

Although I contend that we apprehend various cultures in Canada as we live within a multi-cultural Western ontology and epistemology, I discerned that we can difficulty expand our knowledge to the Inuit nation, including the Inuvialuit communities, as it is extremely remote from the Southern cities.

Namely, in every Colloquium meant for the thesis process assessment, a reviewer suggested gaining more knowledge about the Ammassalik wooden maps, a carved piece of wood used by the Greenlandic Inuit to identify a path during nomadic periods. Nonetheless, while every Inuit communities evolved within approximate values and dialects, they all cultivated a distinct culture in which architects should not universalize the Inuit population as it extends on two continents. I believe that the two previous examples are part of many that demonstrate a society requiring fundamental knowledge when designing in an Arctic community such as the Inuvialuit.

Moreover, I understand that Southerners are not necessarily misinterpreting the meaning of place, but rather lack it within them. As Edward S. Casey mentions in his book *The Fate of Place*, the Western culture has counted upon the significance of place

and the importance of our name corresponding to our ancestors.¹⁰⁷ I believe most of us are missing this component within our existence and our design.

This absent piece disables a profound understanding of the Inuvialuit authenticity to the place they inhabit and share with all species as they acknowledge the animals' rights to the land. I comprehend that the forgotten component is a sentimental attachment to the notion of place, leading its misinterpretation, as we do not share the same empathic feeling of what we have inherited, would it be our place or our name.

Finally, I think we are additionally misinterpreting the temporal continuities and discontinuities of coastal erosion as we live in a linear Western time. Southerners must be empathic to the procedure used to force the Inuvialuit into our culture and should not impose a strategy that emphasizes a linear temporality.

For instance, concrete slabs are perceived as linear since they do not account for the seasonal migratory animals such as geese, an important species for the Spring and Fall seasons.¹⁰⁸ By being emplaced in a near-future alongside most of the coastline, the concrete slabs can interrupt the geese's natural habitat and alter their migration as the residents began to realize.¹⁰⁹ Concrete slabs are linear because they only consider the physical impacts of coastal erosion, a linear, powerful and destructive process of time.

-

“We live in a world of jungle discourse, an absence of pause in an absence of reflection. Incomplete sentence is an incomplete communication. The role as an architect and urbanist is to create those pauses in space (empathic) design(s) where we can make sense of the madness of fast living in the society.”¹¹⁰



*fig. 6.2.1 Primitive
Hut: Nature is Mine*

INCLUSIVE DESIGN PROCESS

An inclusive design process must initially incorporate Indigenous architectural thinking to develop an empathic methodology of reflecting on existing information. Fundamentally, current disbelief must be suspended by subtracting vocabulary elements, such as geographical mapping as this colonial language forms a boundary on the land, orients the center of power and positions people in relation to this center.¹¹¹

Colonization remains alive by a continuity of apathic designs. Thus, becoming more empathic would enable the decolonization process, comprehensively disassembling this system.¹¹² Southern professionals in the architectural discipline must be taught and must design with empathy by including other cultures and other ways of perceiving the world.¹¹³

In addition, the coexistence between the Western and Indigenous culture must englobe solely one world view rather than compartmentalizing them, subsequently decolonizing architectural design by standing in harmony with the surroundings.¹¹⁴ Indeed, the intellectual and intuitive forms an entwined methodology to allow the expansion of the diversity in architectural creativity.

Moreover, the Southern architect should not emphasize the shape of a building but rather comprehend in what way the structure comes together and how it will integrate the land.¹¹⁵ Besides, the design of a new structure should not accentuate its sustainability since it relates to the idea of compartmentation and exclusive of the Indigenous ideology.¹¹⁶ Indeed, Indigenous architecture considers a structure to be in constant relationship with the site, humans and animals.¹¹⁷ A building must reside on the landscape as an organic entity by incorporating materials from the place, conveying meaning to the structure and humility to the land and its inhabitants.

The thesis seeks to apply Indigenous thinking to the design by perceiving the structure, not as a living object, as it is thoughtless of Indigenous ideology, but rather as a living organism, where the users solely form a living cell in this complex entity.¹¹⁸ Consequently, the design shifts from individuality into a living organic community in which reciprocity, collectivity and dialogue tie and weave the structure.¹¹⁹

Each part of the design acts as a living cell, ultimately forming an organic connection with the land and the ecosystem within it.¹²⁰ The design process examines each component thoroughly and analyzes interconnections to provide a framework through which the organism emerges.

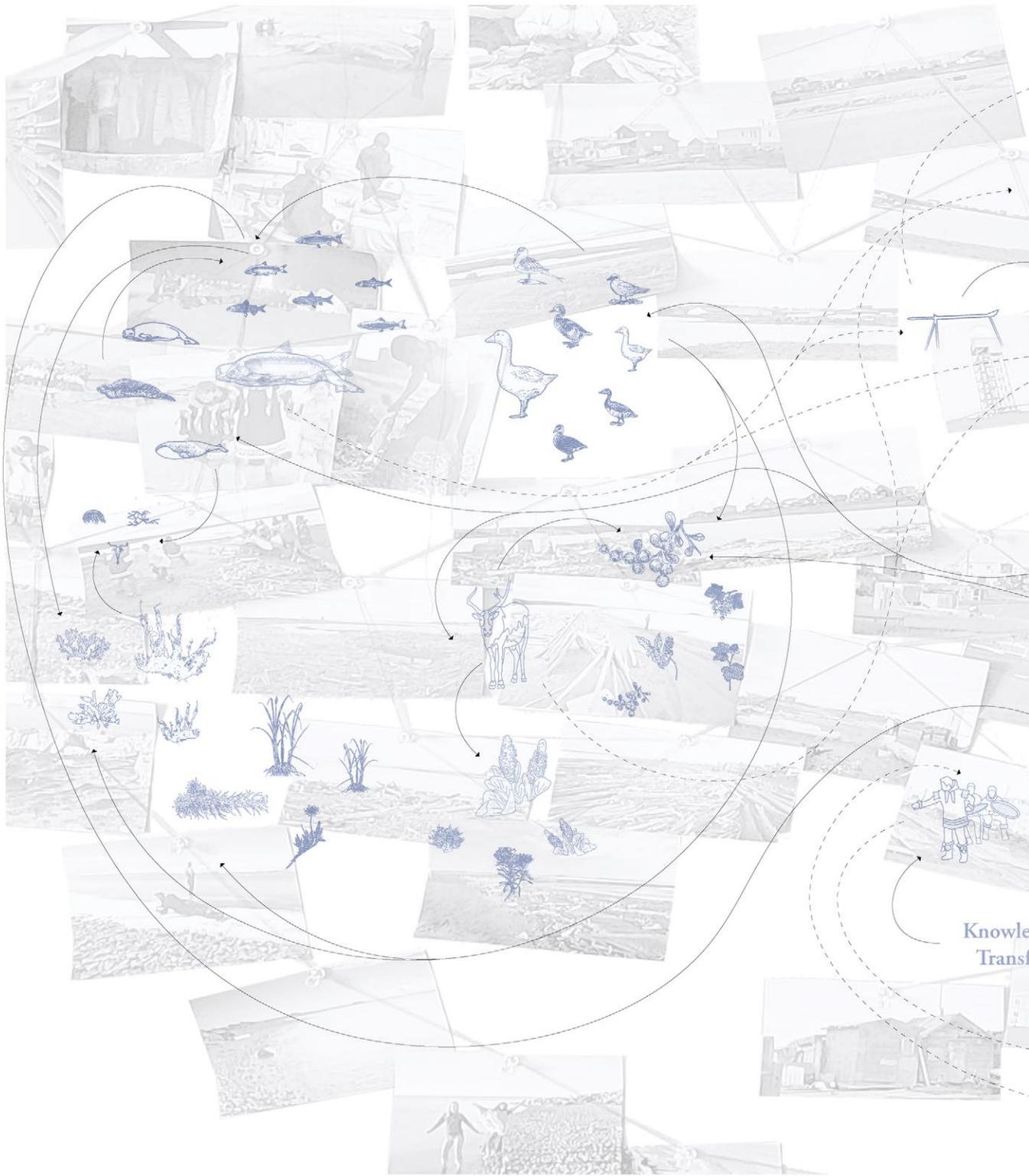
The following diagram acts as a synthesizing tool to comprehend which elements to incorporate into the design, enabling a process of making a constant conversation with Tuktoyaktuk. This diagram is the first step into an approach to design grounded from material learnt in the course of the thesis by analyzing and interweaving information. *fig. 6.2.3*

The diagram belongs to a drawing process in which a design will emerge to serve as small incremental experimentations by initially transforming the narrative drawings into architectural ones. The process drawings act as a tool to refer to various perspectives of the land depicted in the narrative drawings. Hand-drawing will produce the design process and experimentation to test a new design approach emerging from another body of knowledge than the computer hegemony.

The experimentation series aims to formulate a meaningful discussion emerging from knowledge accumulated in the thesis and translated into a new empathic approach to design. Indeed, the design alternative of the concrete slabs will refer to the organic land where Tuktoyaktuk is placed, incorporating cultural practices that take place on the coast, its seasonality as well as all living users introduced in the first diagram.



*fig. 6.2.2 Winter Camp
with Tipi: Nature is Me*



Knowledge
Transfer

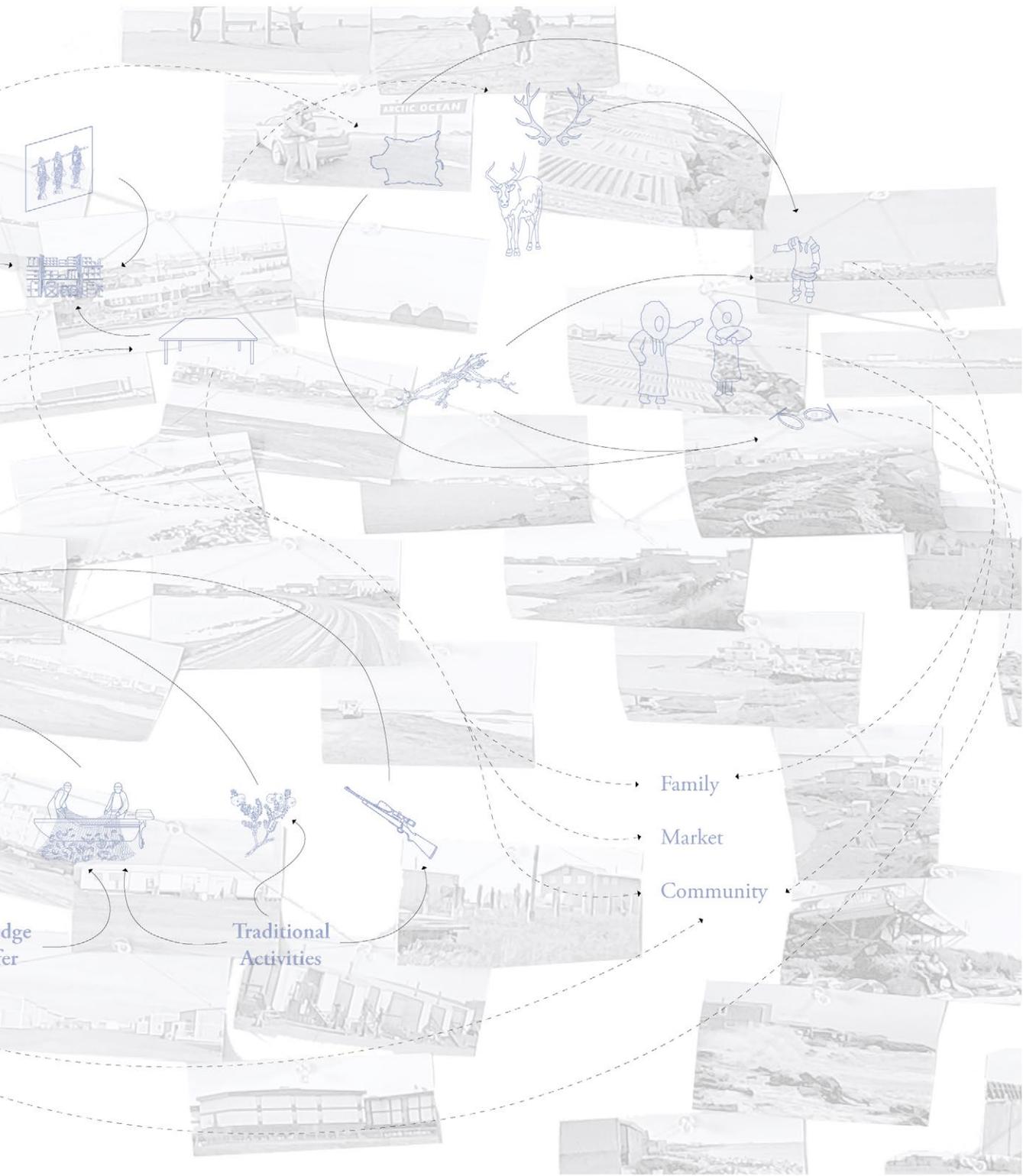


fig. 6.2.3
Organic
Diagram of
Tuktoyaktuk

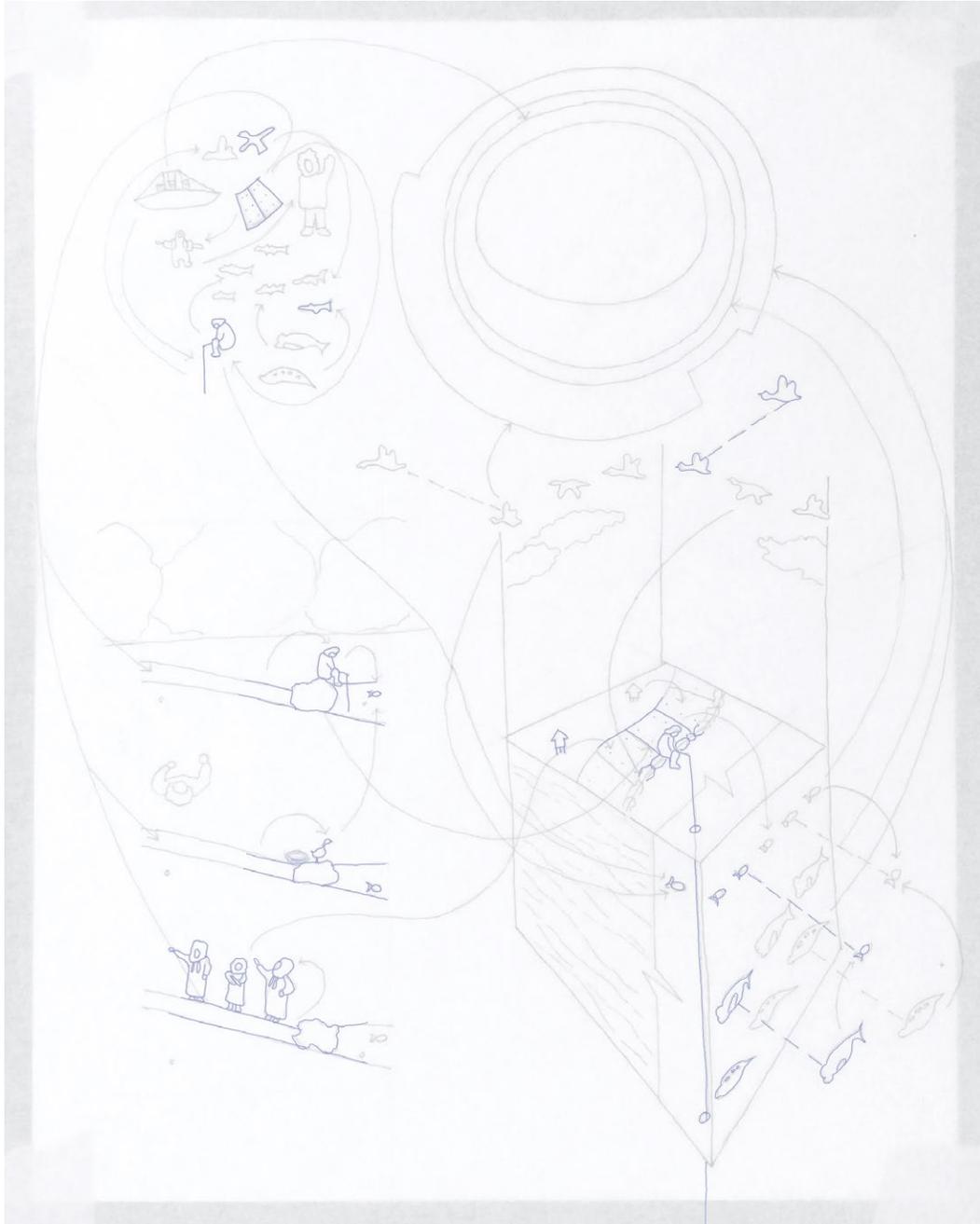
The following process drawings initiate from the organic diagram of Tuktoyaktuk in which the process of translation incorporates the actors and relations. Indeed, the narrative drawings previously discussed in the thesis are translated into a topologic form of architectural drawings. The drawings introduce the seasonality of the place, an elevation view operating with the concern illustrated and a three-dimensional drawing reflecting further its organism within the context of coastal erosion.

The process drawings combine intellectually and intuitively with Southern and Indigenous theories to fully and empathically understand coastal erosion. Subsequently, the drawings are employed to examine the drawing narratives' components and analyze interconnections to provide a framework for an alternative study to concrete pads.

The first drawing reveals a dearth of coastal life as concrete slabs are installed along the shore, impacting traditional activities as marine animals move further offshore and geese further inland. Consequently, fulfilling a traditional diet becomes challenging since fixed habitations limit the community to one location. *fig. 6.2.4*

The second drawing represents meat preparation as a spatial and communal activity. *fig. 6.2.5* The illustration is divided between past and present ways of life in which social formation around the table is a continuously living practice. Complementary, the elevation illustrates the relation between different ages at the table to understand the way that meat preparation is perceived from various heights, therefore various ages.

The final drawing illustrates traditional net fishing lived nomadically and sedentary. *fig. 6.2.6* The images represent past possibilities of travelling to other locations when coastal erosion occurred and following harvested animals, contrasting to the challenge of accomplishing these practices with a sedentary lifestyle. Accordingly, coastal erosion strategies become critical in the way they interact with the ecosystem.



*fig. 6.2.4 Process
Drawing: Translating
Narrative into
Architectural
Representation -
Natural Forces at the
Harbour*

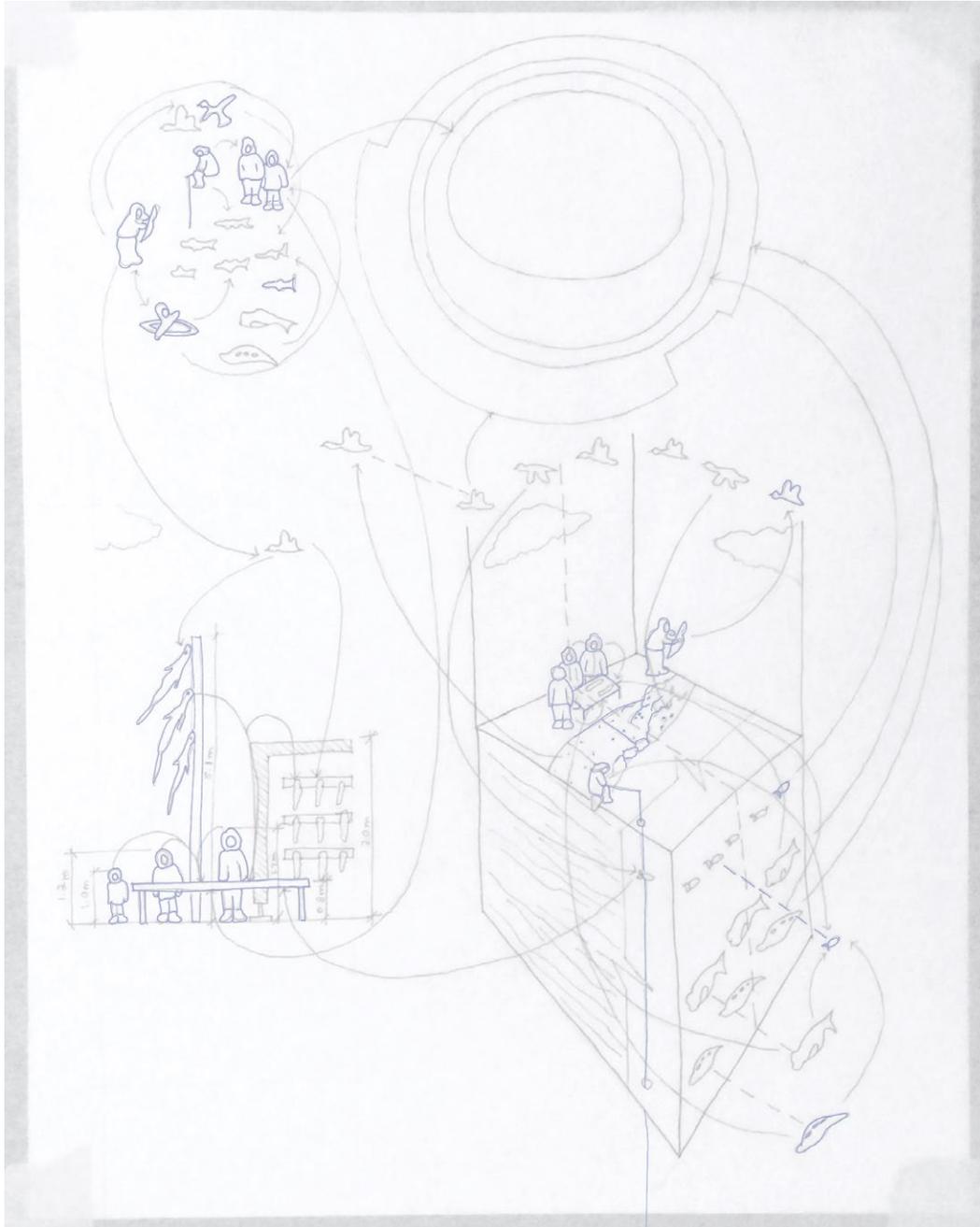


fig. 6.2.5 Process Drawing: Translating Narrative into Architectural Representation - Functioning in a Spatial Unity & Contemporary Place: Living Memories

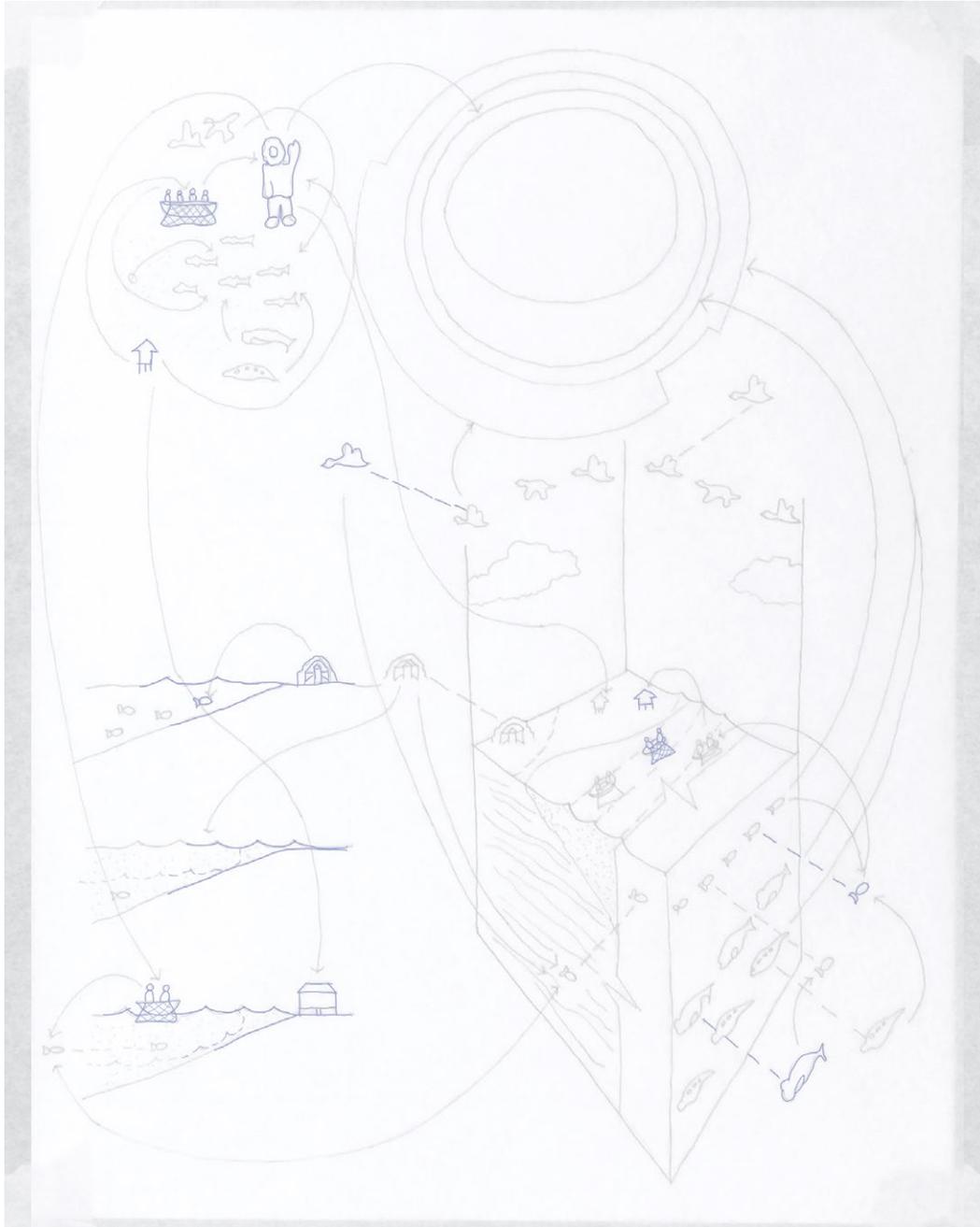


fig. 6.2.6 Process
Drawing: Translating
Narrative into
Architectural
Representation -
Learning the Basics of
Net Fishing

Subsequently, another diagram was necessary to assist the comprehension of the ways *fig. 6.2.7* that coastal erosion strategies can organically function in Tuktoyaktuk. The drawing additionally acts as a visual tool to understand how the implementation of new strategies could inhabit the landscape and could be experienced by all living entities.

The diagram reads as the upper portion representing further offshore, and the lower one, further inland, where a thick line illustrates the coast. The diagram reveals three distinct strategies that could act as an alternative study to the concrete slabs and boulders in which could all carry a constructive influence on the ecosystem and the land.

The strategy further offshore acts as a breakwater that would assist the reduction of *fig. 6.2.8* the waves' magnitude. It would additionally be porous to support sediment retention by employing the existing driftwood on the shore. Accordingly, this approach has the possibility to assist the reduction of storm waves and maintain the marine biome.

The following strategy also performs as a sediment retention tool but contrastingly *fig. 6.2.8* resides closer along the shore. In this instance, the poles operate to prevent the movement of sediments, assisted by local seaweed. The posts would retain the fragile aquatic vegetation to avert their removal during violent storms. Comparably, this approach aims to retain the marine ecosystem.

The inland strategy has already been implemented in the region, but not yet in *fig. 6.2.9* Tuktoyaktuk. It consists of vegetation mats that assist in retaining the thawing of the permafrost. The strategy would employ local vegetation retaining the soil by their high density, therefore functioning as an additional insulation layer. This approach additionally operates with the ecosystem as it gives ground for migratory birds, such as snow geese.

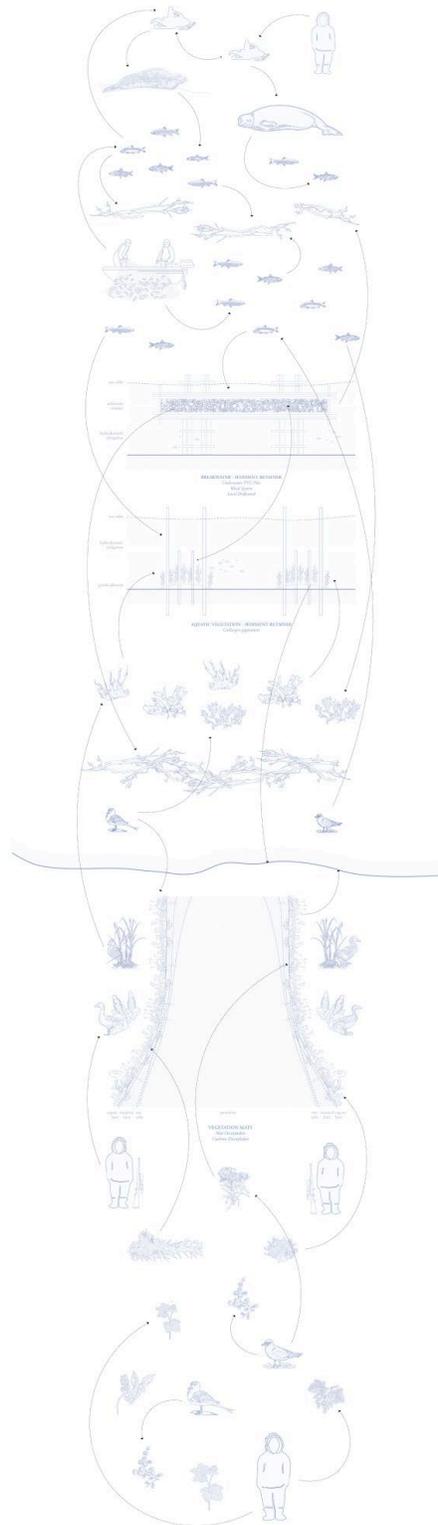


fig. 6.2.7
Implementation
of Strategies in the
Organic Diagram of
Tuktoyaktuk

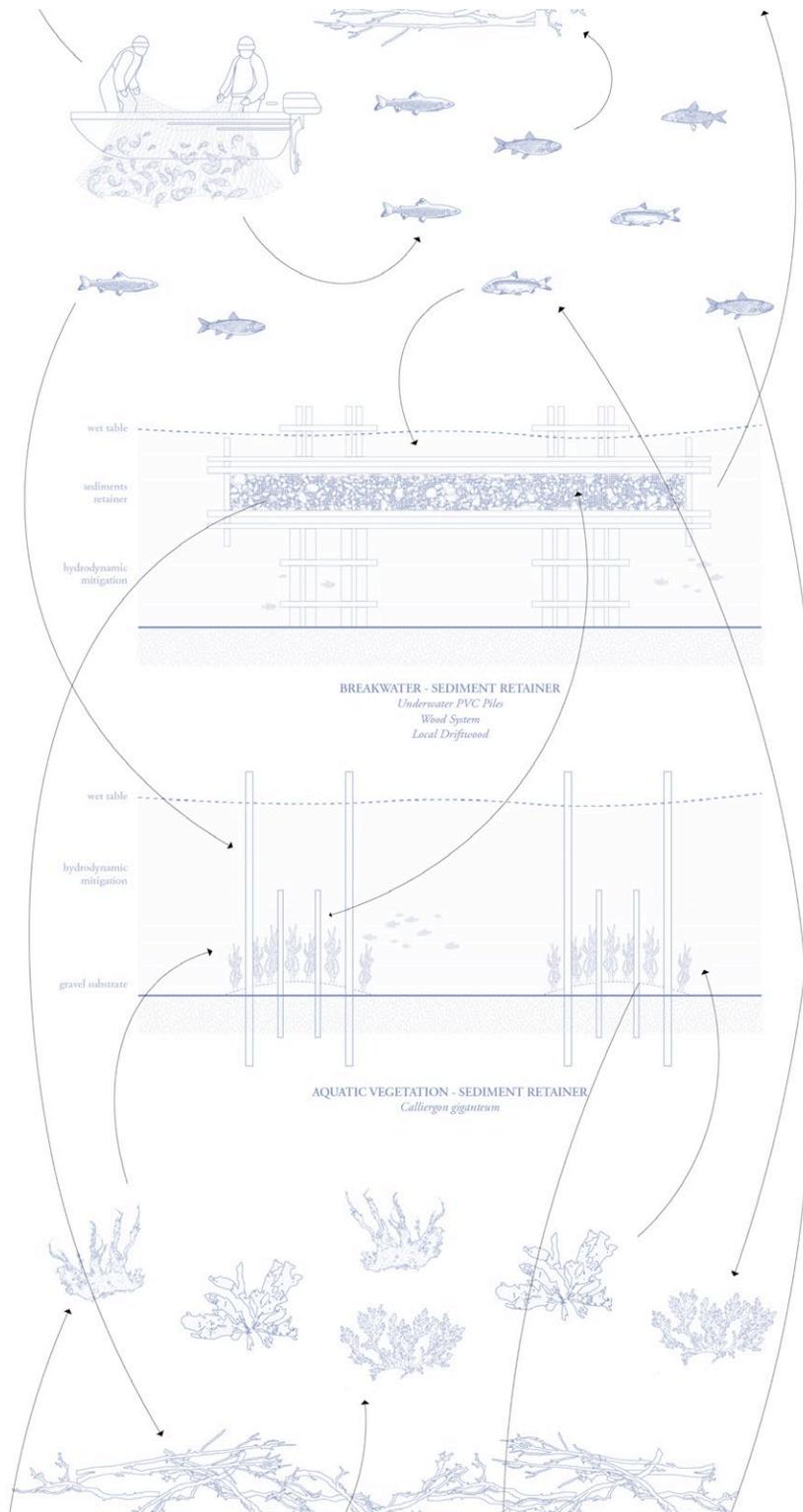


fig. 6.2.8 Close-Up Drawing Illustrating Breakwaters and Sediment Retention Poles

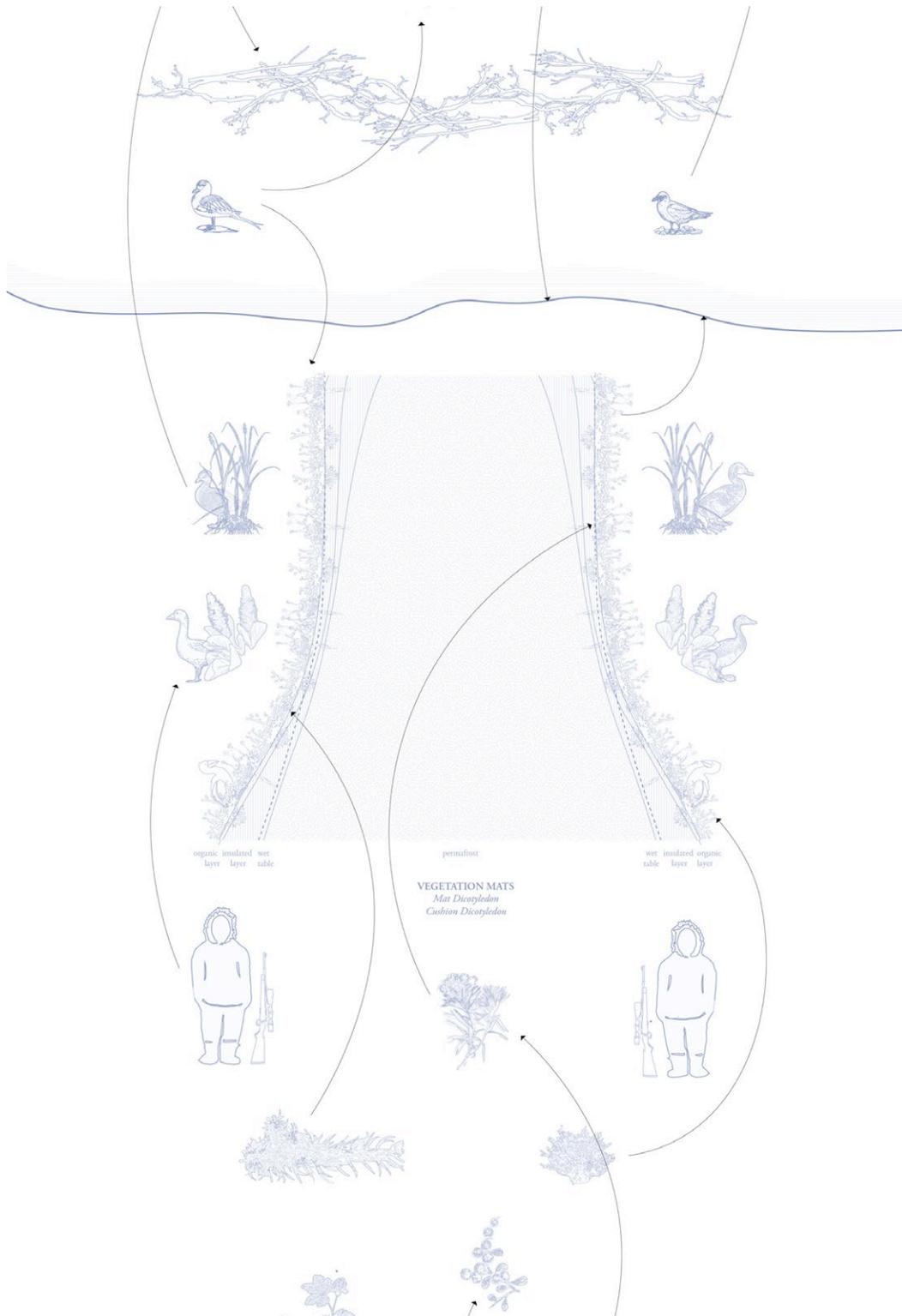


fig. 6.2.9 Close-up
Drawing Illustrating
Vegetation Mats

The coastal erosion approaches must preserve the ecosystem, and the land since the loss of both produce the loss of culture in Tuktoyaktuk. Accordingly, the previously introduced three-dimensional drawings were illustrated on a larger scale to incorporate the strategies in the process drawings. One might observe the introduction of landscape components, such as driftwood as it relates to the breakwaters, or berries, facilitated by the vegetation mats and forming the traditional diet of both inhabitants and animals.

fig. 6.2.10
fig. 6.2.11
fig. 6.2.12

Furthermore, the section view includes an organic sandbank underneath the water that would emphasize the decline of the waves and allow a further inclusive habitat for marine birds. This approach could potentially increase hunting results for both the inhabitants and the birds.

Moreover, the process drawings inform which living entity relates to the strategies and in what ways the approaches could assist in increasing the balance of marine species further. The sediment retention poles additionally begin to act as a dual function of either net fishing hangers or ice thickness calculation for ice fishing.

This dual function of the approach for sediment retention initiated the thoughts on the ways that the strategies can broaden their operation within a seasonal cycle rather than a linear time. The seasonal diagram was introduced to comprehend, for instance, at what time of the year that berries are harvested, relating to bird migration in Tuktoyaktuk. This process diagram ties that berries are essential for both humans and birds, an animal harvest by the inhabitants.

fig. 6.2.13

Besides, the diagram illustrates the dual function of the sediment retention poles and at which moment it interchanges. Additionally, both sediment retention and ice thickness calculation require perpendicular positioning to the waves and the wind direction in which the intensity of annual wind speed is illustrated.

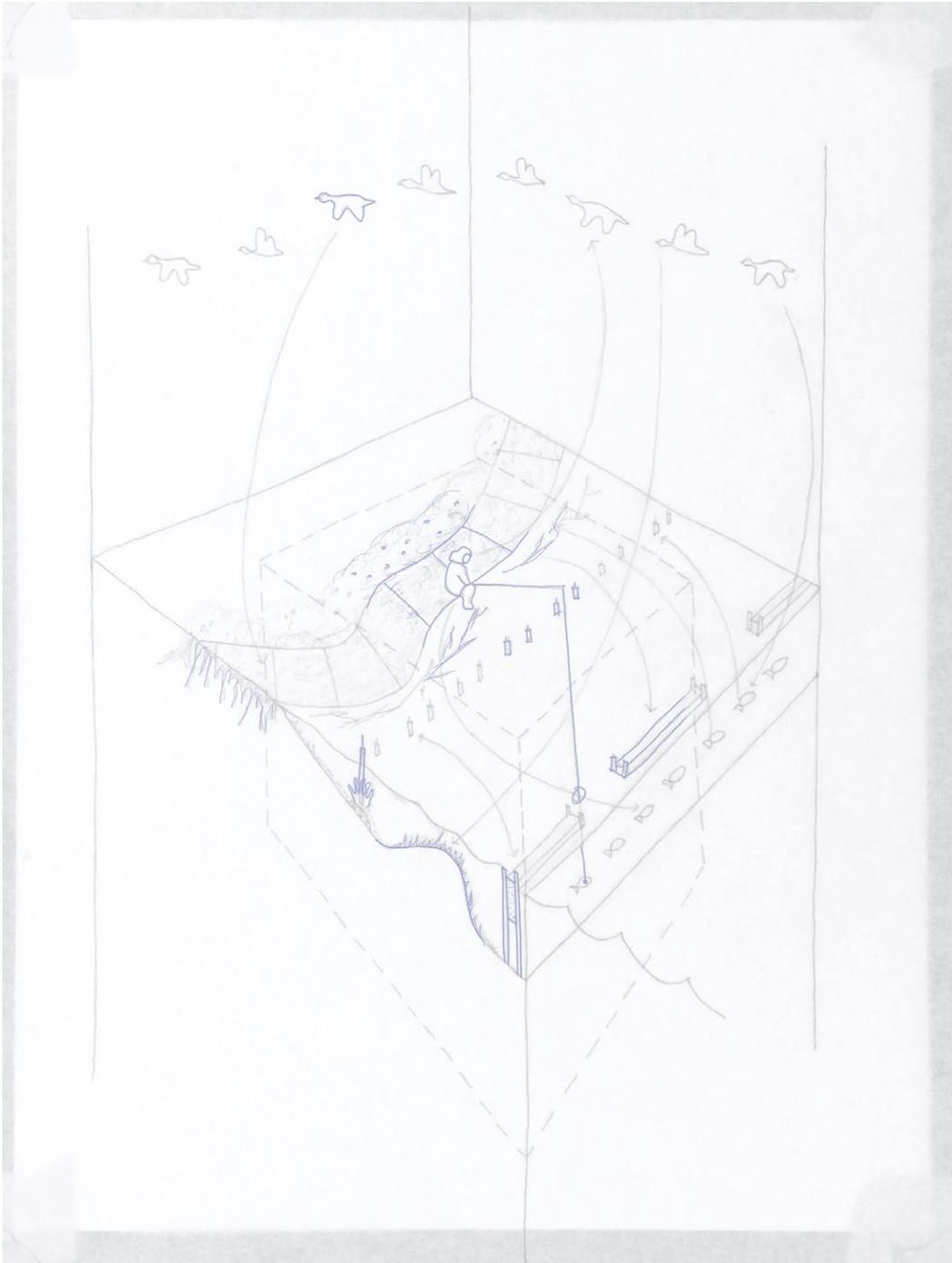


fig. 6.2.10 Process
Drawing: Implementing
Strategies from the
Translated Drawing -
Natural Forces at the
Harbour

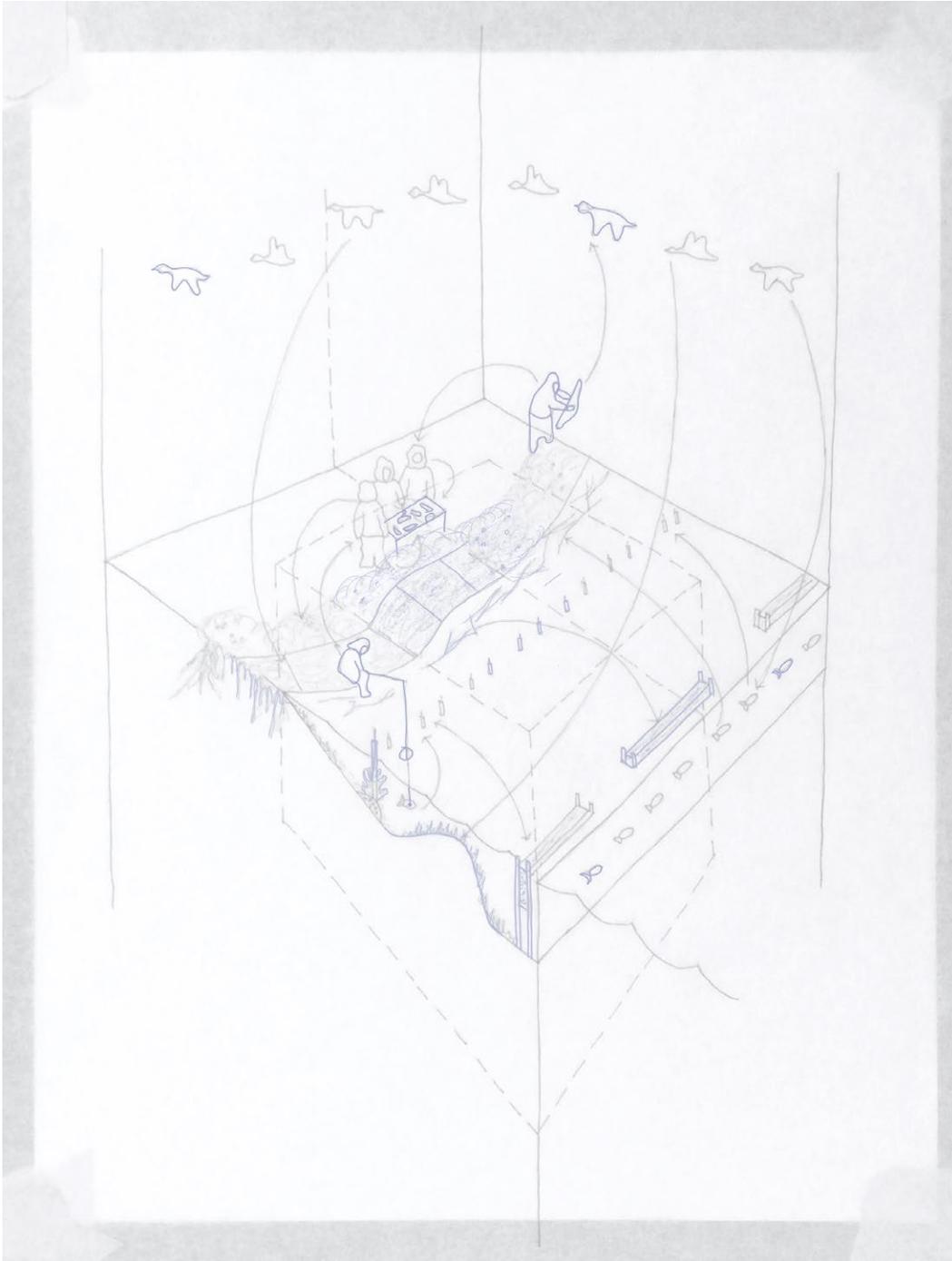


fig. 6.2.11 Process Drawing: Implementing Strategies from the Translated Drawing - Functioning in a Spatial Unity & Contemporary Place: Living Memories

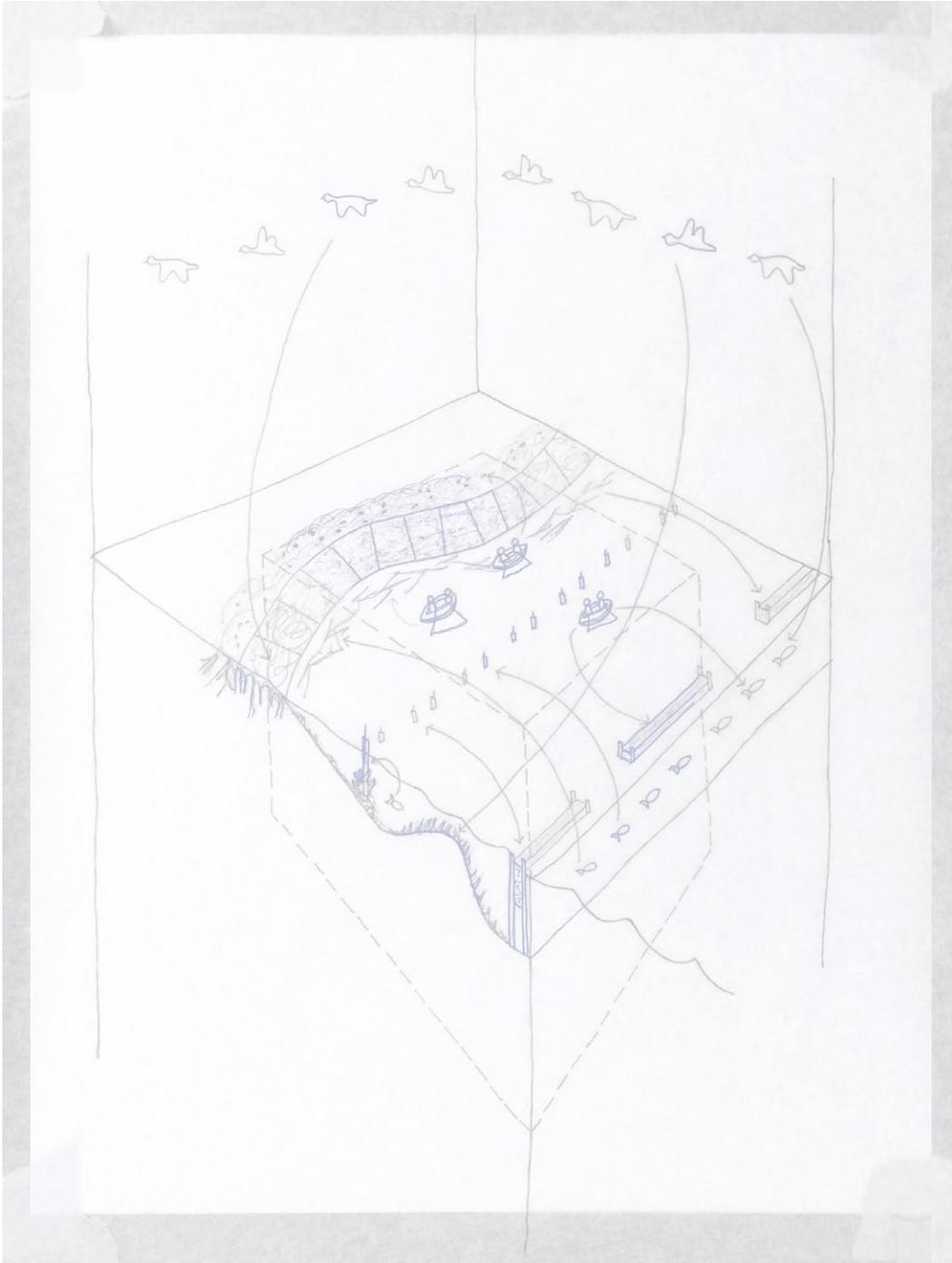


fig. 6.2.12 Process
Drawing: Implementing
Strategies from the
Translated Drawing -
Learning the Basics of
Net Fishing

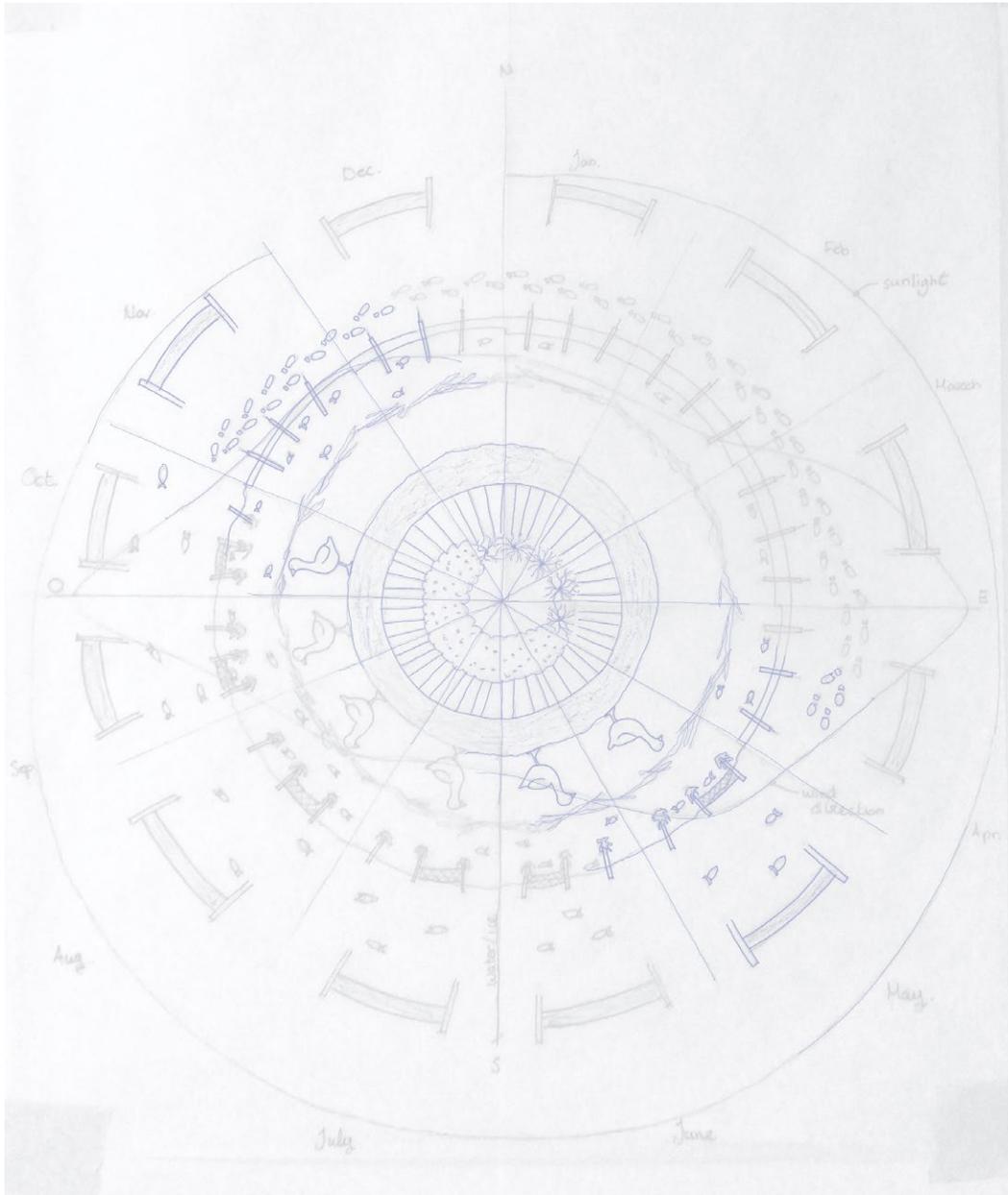


fig. 6.2.13 Seasonal Diagram of Tuktoyaktuk

fig. 6.2.14 According to Indigenous theories that all living bodies interact with the land to form an organism rather than being compartmentalized, the design experimentation perceived the approaches as a living organism. Therefore, the users shape a living cell in this complex entity. This application of theory produces a design process that shifts from individuality into a living organic community in which reciprocity forms the strategies.

The design experimentation studies for an alternative to concrete slabs by referring to the organic land where Tuktoyaktuk is placed. It incorporates cultural practices that take place on the coast, seasonality and all living users introduced in the first diagram discussed in the thesis. Each part of the design acts as a living unit, ultimately forming an organic connection with the land and the ecosystem within it.

The process drawings enabled the development of a fully theoretical design study, relating to the strategies and the cultural activities in which both the approaches and the design experimentation convey the concepts of place, space, and time.

For instance, the landscape components connected in a delicate configuration on the land emphasize place. Indeed, the drawings illustrate the strategies and the design as utilizing vernacular elements of the shore. As discussed previously in the thesis, wind oscillation functions with the sediment retention strategy while driftwood forms the porous layer of the breakwaters, requiring annual maintenance. Consequently, the usage of vernacular elements creates active participation of the community with the strategies in which the community takes pride in preserving their land since the Inuvialuit Final Agreement.

The design study and strategies are utilized to view the place between the community and their surrounding by positioning the proposed spaces, the spatiality of the design

study and the strategies as ingrained in traditional and communal activities. The platform creates a space where the community can gather after hunting or fishing and where it is possible to transmit traditional knowledge to younger generations as the design works with the function of net fishing, deployed by the sediment retention poles.

Additionally, the platform depicts the drying stands and the log benches as assembled from natural elements currently utilized by the community. Their typology could effortlessly be returned to the natural environment, associated with the concept of seasonal time.

The complementary plan to the three-dimension view does not illustrate dimensions on a site, as this would relate to the notion of dimensional space. It rather begins to understand how many people can be fed by a beluga whale, how many birds or fish does the community generally dry simultaneously, or what would be the size of a beluga whale compared to the preparation table. Accordingly, the design study incorporates empathy by seeking to comprehend the ontology and epistemology of meat preparation.

Finally, the strategies begin to illustrate detailed information while concurrently understanding them as part of the organism of Tuktoyaktuk. The final portion of the research study is predominantly a design process founded on a specific methodology developed in this thesis.

The work has been highly self-reflective, and there were multiple occasions where an unlearning of academically thought architecture was necessary. Presently, the platform introduces reasonable original concepts. Nevertheless, it requires to be further related to the notion of an abstracted space.

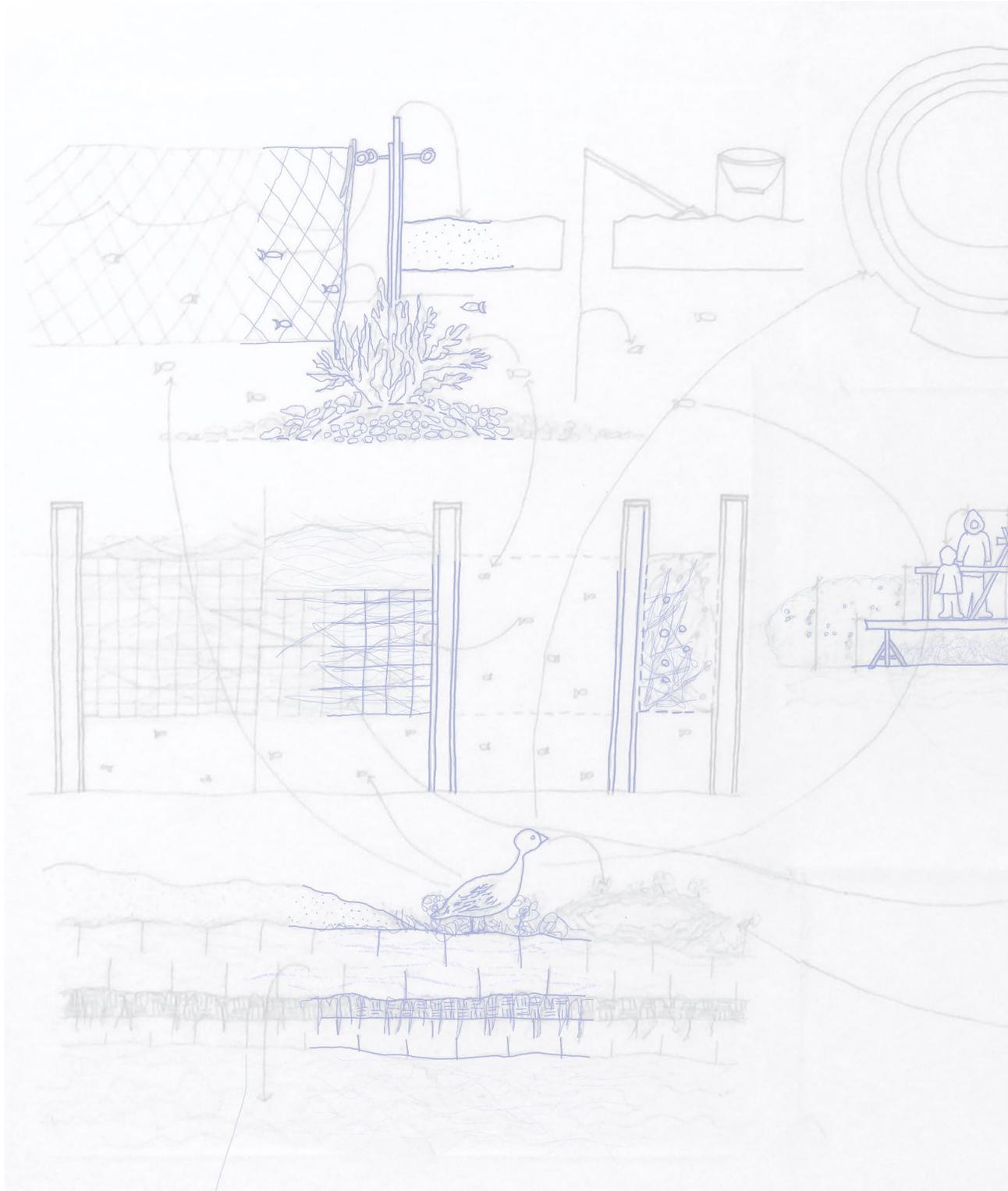
Moreover, an abstracted space differentiates the resourcefulness of a place from the built material where the sequence of activities is not consequential to space but ingrained in them. Regardless, the platform is an instance of built material and is consequential to the activity of meat preparation.

Contrastingly, the abstracted space is rather created in the coastal waters where the strategies are highly entwined in the natural habitat. Furthermore, their vernacular elements demonstrate the resourcefulness of a place where the activities of net fishing, ice calculation or maintenance of the breakwaters are ingrained in the approaches, forming an abstracted space.

This design process is not a concrete alternative for Tuktoyaktuk but rather architectural research on new vantage points of perceiving place, space, and time to craft a dialogue between the Western and Inuvialuit societies.

This design study also seeks to incorporate the ontological and epistemological shortcomings in developing approaches to manage erosion by exploring architectural representation practices that are inclusive of both societies. Therefore, it aims to initiate a comprehensive design process and study to instigate discussions among the architectural professionals.

Finally, a design process constantly inquires further thoughts and research. Studies could be included on the ways that the strategies work with environmental forces, such as coastal erosion, and could have additional concrete data. Western epistemology should perceive a structure from a combined Southern and Indigenous world view. Currently, the design process concentrates primarily on Indigenous theories and combining Western theories could produce a further balanced design by understanding, for instance, the way that the approaches and the design are built within the land.



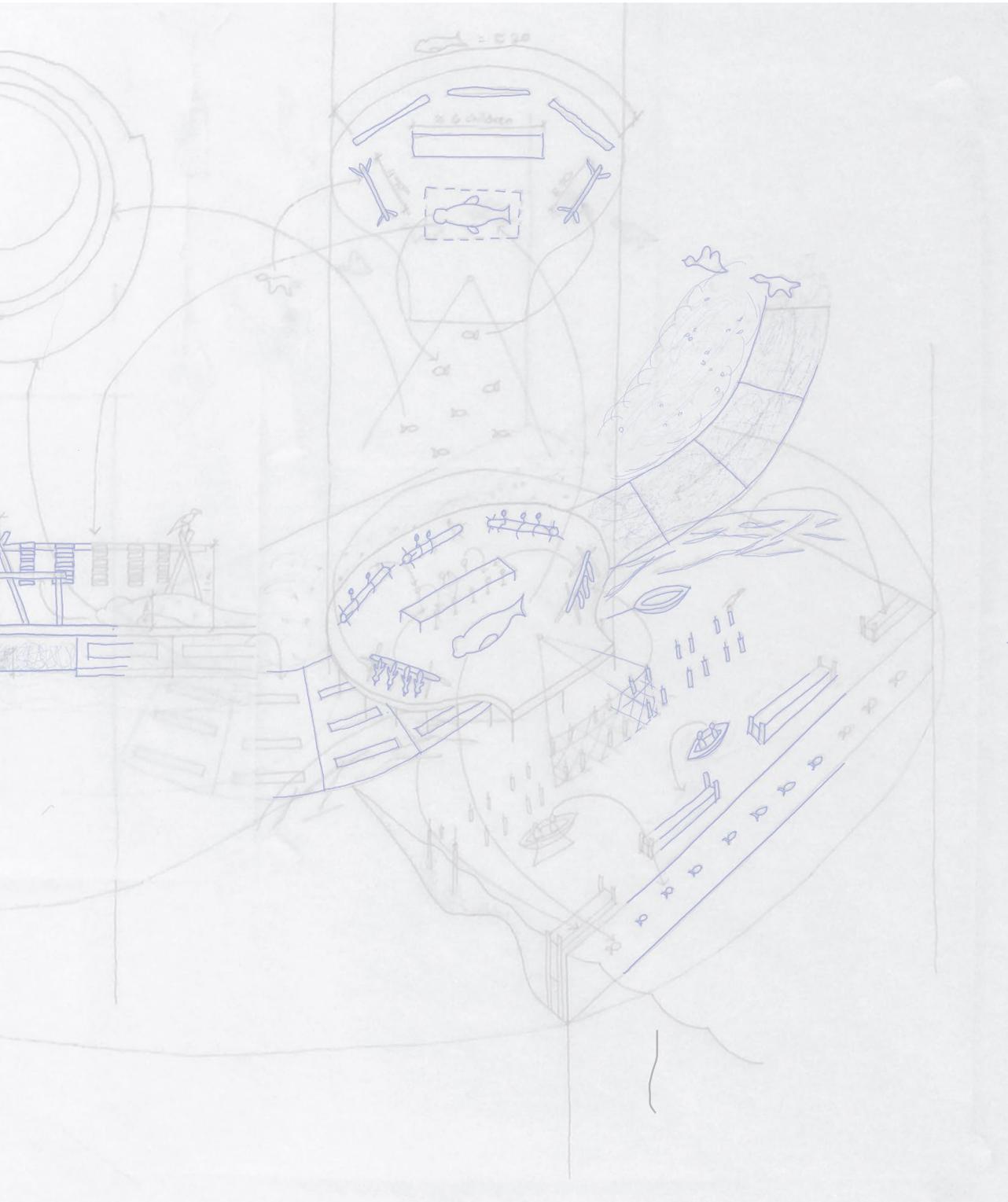


fig. 6.2.14
First Attempt
to a Design
Experimentation

ENDNOTES

Chapter Six: Producing an Architectural Empathy

108. National, Research Council, et al. *The Arctic in the Anthropocene : Emerging Research Questions* (Washington: National Academies Press, 2014), ProQuest Ebook Central.
109. “Happening to Us,” YouTube Video, 15:44, from the documentary presented to COP25 in December 2019, posted by “avatarmedia1”, December 1, 2019, <https://www.youtube.com/watch?v=Udhyy9sWWL0>
110. “Forum Lecture Series 2021 - Studio& - A Black Study: Mabel O. Wilson”, YouTube Video, 1:36:13, from the lecture presented on March 2nd, 2021, posted by “Azrieli School of Architecture and Urbanism”, March 3rd, 2021, <https://www.youtube.com/watch?v=NYzx7rLe3Do>
111. “Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius”, YouTube Video, 46:43, from the lecture presented on February 9th, 2021, posted by “Azrieli School of Architecture and Urbanism”, February 10th, 2021, <https://www.youtube.com/watch?v=4uqmSKZ2raM&t=2450s>
112. Ibid, 48:02.
113. Ibid, 48:41.
114. “Douglas Cardinal: Life in Architecture”, YouTube Video, 1:24:58, posted by “UofTDaniels”, January 14th, 2021, <https://www.youtube.com/watch?v=V0Odg3yAH5g>
115. “Decolonizing Design Lecture Series ft. Chris Cornelius”, YouTube Video, 19:39, posted by “University of Minnesota College of Design”, March 3rd, 2021, <https://www.youtube.com/watch?v=eNw8h5wRaoU&t=3843s>
116. Ibid, 1:09:36.
117. Ibid, 1:23:40.
118. “Douglas Cardinal: Life in Architecture”, YouTube Video, 36:11, posted by “UofTDaniels”, January 14th, 2021, <https://www.youtube.com/watch?v=V0Odg3yAH5g>
119. “Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius”, YouTube Video, 1:37:03, from the lecture presented on March 2nd, 2021, posted by “Azrieli School of Architecture and Urbanism”, March 3rd, 2021, <https://www.youtube.com/watch?v=4uqmSKZ2raM&t=2450s>
120. “Douglas Cardinal: Life in Architecture”, 36:11, posted by “UofTDaniels”.

CONCLUSION

To conclude, the discourse of this thesis carries an investigation to formulate design approaches that are inclusive of the Inuvialuit nation. This research focuses on the traditional view of a place that ultimately speculates on a design experiment, responding with empathy to the environmental and social concerns of Tuktoyaktuk. The thesis aims at emphasizing awareness of a place's history to the architectural professionals to be in an adequate ontological state when designing in the Arctic.

Indeed, Western urban planning of Inuit settlements ignored the importance of a site, conflicting with the nation's deep relation to the land and promoting the practical arrangements of Western rationalism.¹²¹ As a result, Inuit settlements were initially introduced as a social manipulation and were used to carry Inuits in a Westernized society by introducing new principles.

For instance, the Western notion of time contrasted with the distinct sense of temporality developed over centuries in the Inuvialuit culture. The idea of linear time was often articulated as an exertion of power reserved for fortunate individuals, flourishing at the detriment of those without authority.

Nevertheless, the concept of space remains similarly understood as it was in the past, where group constructions extend beyond their function.¹²² In contrast, we define our society by objects that are joined by their mathematical abstractions. In fact, the quantity and heterogeneity of the external space in which we live are fundamental to our existence. Indeed, architecture is part of an environmental dilemma where lives a lack of geographical imagination. Truly, architects are trapped into a pedagogic aesthetic and often fail to acknowledge other communities than the Western one to aid in developing new spatial and geographic conceptions.

We can reshape the vocabulary of architecture in the North by creating thoughtful designs formed from the Inuvialuit community by employing a process approach rather than an appropriation of topology. Thus, the difficulty with our current individualistic ways of life is that this concept focuses on the individual mind, while there is much to learn from other cultural communities.

Consequently, Tuktoyaktuk shorelines remain unreachable in many instances, despite the reality that the coast is vital for cultural and communal practices, forming traditional knowledge.¹²³ When planning for a distinct cultural society, the methods used to achieve coastal erosion management must ensure the dignity of social and cultural justice rather than emphasizing the infrastructural outcomes.

Additionally, other forms of representation may provide expanded perspectives and improve the legibility of environmental problems in a society, such as coastal erosion. In Tuktoyaktuk, new ideas shaping the ontological understanding could originate from the Inuvialuit, enabling architects to improve their empathy while planning in the community.

I believe that Southern architectural professionals must consider what has been historically misinterpreted in another community. In this manner, the design experimentation focused on the environmental organism of Tuktoyaktuk and its deformations caused by coastal erosion, allowing ontological empathy. Subsequently, the architecture transitions from individuality to a living ecological entity.

As mentioned previously, this thesis aspires to invite further constructive thoughts to build knowledge production from all architectural disciplines and all levels of experience. Indeed, the thesis' work is essential to instigate a critical design (representation) discussion of enriching our epistemology when designing in the

North. The thesis also seeks to expand architecture boundaries by including sociology and ecology, enhancing architectural ontology and dismissing individual liberalism.

The thesis argues that new forms of representation are needed to establish empathic considerations and design principles, contributing to knowledge production and ethical architectural practices. Social and cultural issues associated with coastal erosion may be difficult to grasp due to the representational alienation produced by universalism entangled with a pragmatic nature. If some concerns about coastal erosion remain inconceivable in our current representation typology, perhaps these issues should be addressed by an empathic and comprehensive drawing.

Accordingly, this thesis recommends shaping the vocabulary of architecture in the Arctic by employing a process approach rather than an appropriation of typology and by learning from a specific community, such as Tuktoyaktuk. It additionally recommends reconsidering or unlearning the current, confident knowledge by employing new forms of representation and by utilizing a further empathic drawing methodology based on narratives.

The research illustrates that, in Tuktoyaktuk, the methods employed to achieve coastal resilience prevail over the outcomes from the standpoint of social justice. Moreover, the thesis recommends expanding our current knowledge in a transdisciplinary and transcultural discourse rather than focusing on an individualistic design.

I believe that representation can be used as a translation threshold between architectural drawings and various disciplines depicting various issues, such as the social and cultural controversies behind coastal erosion. Only then can we say that we undertook our ethical responsibilities when we, Southerners, are designing in a distinct cultural community as the Arctic.

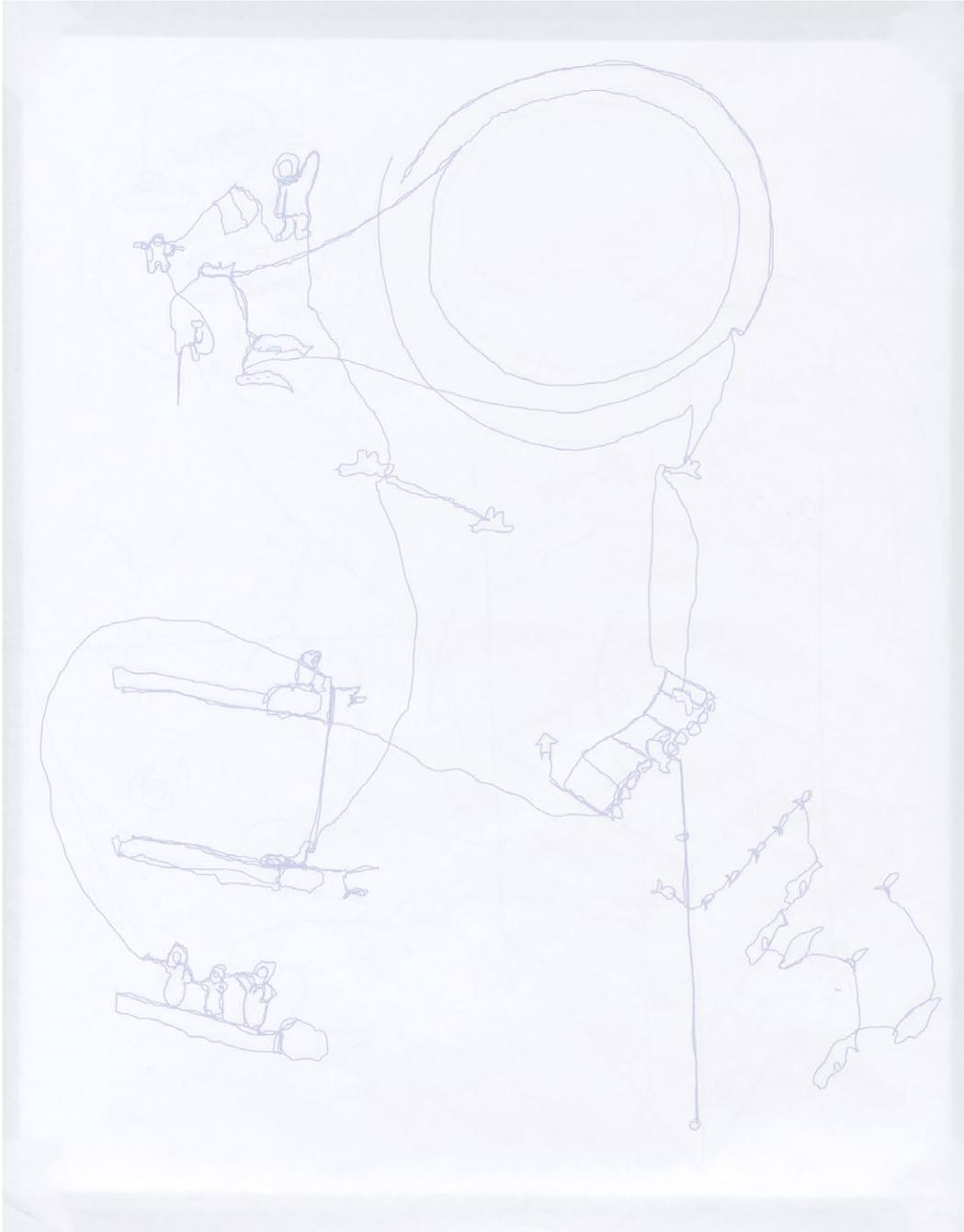
ENDNOTES

Conclusion

121. Mason White and Lola Sheppard, *Many Norths: Spatial Practice in a Polar Territory* (New York: Actar Publishers, 2017), 33.

122. Jeffrey J. Walker, "Living Tradition: Supporting the Inuvialuit Community of Tuktoyaktuk Through Productive Cultural Space," (Master thesis, Dalhousie University, 2019), 24, <http://hdl.handle.net/10222/75439>

123. Mark Andrachuk and Barry Smith, "Community-based vulnerability assessment of Tuktoyaktuk, NWT, Canada to environmental and socio-economic changes," *Regional Environmental Change* 12 (2012): 881, <https://link.springer.com/article/10.1007/s10113-012-0299-0>



*fig. E.1.1 Drawing
Lines from Muscle
Memory: The Initial
Production of an
Abstracted Space*

EPILOGUE

Lines. By looking around my office, I can observe hundreds of them. They are forming the hegemony of the built environment in which we exist. The line that an architectural professional might intuitively think about is the foundation of an architectural drawing. There are as many line types as line weights, and each has an essential role, creating the world that we know.

The abstracted line, on the other side, inhabits the natural environment. The gravel roads of the Canadian North form a network of abstracted lines in which the outline of each stone abstracts the other and where the road gradually fades out on the landscape. While imagining driving to the Arctic on this vanishing path, I think about the blueberry shrub forming the landscape. The contrasting colour of its trunk compared to its leaves might form a boundary, but its bark, made of thousands of lines, evaporates the edge of the trunk among its skin. Each branch composed of a small tree and overlay one another where the trunk becomes abstracted. The blueberry shrub reveals that a line is not naturally concrete, or fixed, but rather composed of multiple elements superimposed on another.

Accordingly, I think that the notion of an abstracted line is intimately related to an abstracted space, formed through a sequence of activities similar to the succession of branches. I imagine directionality as lying in inherited settings, the natural environment, while the built environment, the desk where one might be sitting, comes to existence with dimensionality as it is composed of borders. On the side, the gravel road, experienced as an abstracted line, fades away to give place to the Arctic landscape, part of the ground and lying within it, similarly as the communal activities of an abstracted space, experienced and settled on a place.

I believe the abstracted line and the abstracted space stand parallel to each other as they both frame a place, therefore become a practiced place, experienced by both the community and the blueberry shrub. In the instance of communal activities, I think of the the abstracted space is produced by experiencing the place and extending it through empathy.

The abstracted space is critical for the Inuvialuit community, where activities, such as drum dancing, entail storytelling of the past ways of life on the land. These narratives remain essential to produce social memory in which the Inuvialuit history is formed collectively by individuals and cultural settings. Accordingly, the abstracted space becomes vital for social formation as communal experience shapes, through time, a multi-generational memory. However, current erosion strategies lie in the existence of concrete lines and borders, preventing the creation of an abstracted space.

The understanding of the abstracted space could be produced by considering the formation of an abstracted line in an architectural drawing. Narratives, entwined with directionality, have the possibilities to complement our current form of drawing in an empathic manner by observing cultural settings, such as the formation of social memory, intertwined in social experience or a sequence of activities, both emplaced on an abstracted space.

-

BIBLIOGRAPHY

Books:

Agrest, Diana. *Architecture of Nature: Nature of Architecture*. Novato: Applied Research and Design Publishing, 2018.

Alunik, Ishamel, Kolausok, Eddy D., and Morrison, David. *Across Time and Tundra: The Inuvialuit of the Western Arctic*. Vancouver: Raincoast Books, 2003.

Casey, Edward. *The Fate of Place: A Philosophical History*. Berkley: University of California Press, 2013. ProQuest Ebook Central.

Ching, Francis D.K. *Architectural Graphics*. New Jersey: John Wiley & Sons, Inc., 2009.

Ghosn, Rania, and Jazairy, El Hadi. *GeoStories: Another Architecture for the Environment*. New York: Actar Publisher, 2018.

Jackson, Steven J. "Rethinking Repair" in *Media and Technologies: Essays on Communication, Materiality, and Society*. Boston: MIT Press, 2014. ProQuest Ebook Central.

National, Research Council, and al. *The Arctic in the Anthropocene: Emerging Questions*. Washington: National Academies Press, 2014. ProQuest Ebook Central.

Qitsualik-Tinsley, Rachel, and Qitsualik-Tinsley, Sean. "Rosie" in *This Place: 150 Years Retold*. Winnipeg: Highwater Press, 2019.

White, Mason, and Sheppard, Lola. *Many Norths: Spatial Practice in a Polar Territory*. New York: Actar Publishers, 2017.

Journal Articles:

Cobb, D., Fast, H., Papst, M.H., Rosenburg, D., and Rutherford, R. Beaufort Sea Large Ocean Management Area: Ecosystem Overview and Assessment Report." *Canadian Technical Report of Fisheries and Aquatic Science* 2780 (2008): 1-150.
<https://www.beaufortseapartnership.ca/wp-content/uploads/2015/04/eoar2008march.pdf>

Cooper, J.A.G and McKenna, J. "Social Justice in coastal erosion management: The temporal and spatial dimensions." *Geoforum* 39 (January 2008): 294-306.
<https://doi.org/10.1016/j.geoforum.2007.06.007>

Damas, David. "Shifting relations in the administration of Inuit: The Hudson's Bay Company and the Canadian Government." *Études/Inuit/Studies* 17 (1993): 5-28.
<https://www.jstor.org/stable/42869878>

Lyons, Natasha. "Inuvialuit Rising: The Evolution of Inuvialuit Identity in a Modern Era." *Alaska Journal of Anthropology* 7 (2009): 63-79
<https://www.semanticscholar.org/paper/inuvialuit-rising%3A-the-evolution-of-inuvialuit-in-Lyons/820385e7968597aef5039ecdf8b5c9002bac04e7#paper-header>

Lyons, Natasha. "The Wisdom of the Elders: Inuvialuit Social Memories of Community and Change in the Twentieth Century." *Arctic Anthropology* 47 (2010): 22-38.
<https://www.jstor.org/stable/25780669>

Usher, Peter. "The Canadian Western Arctic: A Century of Change." *Anthropologica* 13 (1971): 169-183.
<https://doi-org.proxy.library.carleton.ca/10.2307/25604848>

Thesis and Dissertations:

Ritchot, Pamela. "Tuktoyaktuk: Responsive Strategies for a New Arctic Urbanism." Master thesis, Massachusetts Institute of Technology, 2011).
<http://hdl.handle.net/1721.1/62886>

Walker, Jeffrey J. "Living Tradition: Supporting the Inuvialuit Community of Tuktoyaktuk Through Productive Cultural Space." Master thesis, Dalhousie University, 2019.
<http://hdl.handle.net/10222/75439>

Web Documents:

Committee for Original People's Entitlement (COPE). COPE: An Original voice for Inuvialuit Rights. (Northwest Territories: Inuvialuit Regional Corporation)
<https://irc.inuvialuit.com/sites/default/files/COPE-Original%20Voice%20for%20Inuvialuit%20Rights.pdf>

Stephenson, Wendy, and Arnold, Charles. Taimain – At that Time: Inuvialuit Timeline Visual Guide. (Northwest Territories: Inuvialuit Regional Corporation, 2011)
<https://irc.inuvialuit.com/system/files/Taimani%20-%20At%20That%20Time.pdf>

5000 Years of Inuit History and Heritage. (Northwest Territories: Inuit Tapiriit Kanatami, November 2004)
https://www.itk.ca/wp-content/uploads/2016/07/5000YearHeritage_0.pdf

Web Pages:

“Coastal Erosion in Tuktoyaktuk, NT.” ArcGIS.
<https://www.arcgis.com/apps/MapJournal/index.html?appid=75733fd2a1624efdbd83b48334157cda>

Brackenbury, Meaghan. “Tuktoyaktuk Confronts Possibility Erosion May Force Community to Move.” Cabin Radio.
<https://cabinradio.ca/47010/news/environment/tuktoyaktuk-confronts-possibility-erosion-may-force-community-to-move/>

Dick, Lyle. “Time after Time: Western and Inuit Time.” The Franklin Mystery: Life & Death in the Arctic.
https://www.canadianmysteries.ca/sites/franklin/archive/text/TimeAfterTime_en.htm

Gauthier, Maéva. “Happening to Us: Amplifying Youth Voices from the Arctic.” Terralingua in Landscape Magazine Article.
https://terralingua.org/langscape_articles/happening-to-us-amplifying-youth-voices-from-the-arctic/

Gignac, Julien. “Catastrophic increase in Arctic wave heights predicted due to melting ice.” The Narwhal.
<https://thenarwhal.ca/increase-arctic-wave-heights-erosion-tuktoyaktuk/>

Online Multimedia:

“Decolonizing Design Lecture Series ft. Chris Cornelius”. YouTube Video, 1:21:51. Posted by “University of Minnesota College of Design”, March 3rd, 2021.
<https://www.youtube.com/watch?v=eNw8h5wRaoU&t=3843s>

“Douglas Cardinal: Life in Architecture”. YouTube Video, 1:38:05. Posted by “UofTDaniels”, January 14th, 2021.
<https://www.youtube.com/watch?v=V0Odg3yAH5g>

“Forum Lecture Series 2021 - Design is Ceremony: Chris T. Cornelius”, Filmed February 9th. YouTube Video, 1:39:29. Posted by “Azrieli School of Architecture and Urbanism”, February 10th, 2021.
<https://www.youtube.com/watch?v=4uqmSKZ2raM&t=2450s>

“Forum Lecture Series 2021 - Studio& - A Black Study: Mabel O. Wilson”, Filmed March 2021. YouTube video, 2:01:52. Posted by “Azrieli School of Architecture and Urbanism”, March 3rd, 2021.
<https://www.youtube.com/watch?v=NYzx7rLe3Do>

“Happening to Us.” Filmed June 2019. YouTube video, 22:30. Posted by “avatarmedia1”, December 1st, 2019.
<https://www.youtube.com/watch?v=Udhyy9sWWL0>

A TROUBLED COEXISTENCE

A boy and a grandmother are living in water
where the horizon appeared unpronounceable,
an infinite extent in which they suffer.

The Southern individual is solely a follower
accomplishing an art ending to persist invisible:
a boy and a grandmother are living in water.

The population will have to answer
to the extinction of a land long presumed unbreakable
Ice is renouncing the North, leaving it in suffer.

Why the moulded individual acts as a viewer?
All types of wrongs will not be excusable,
a boy and a grandmother are living in water.

Few are screaming the destruction we empower,
a life filled with actions justly professed as deplorable.
Shame and disgrace are not enough to suffer.

But at the end, who would share their shelter?
The indulge of selfishness is considered acceptable:
a boy and a grandmother are living in water.
When our journey is over, maybe from regrets, we'll suffer.

RECLAIMING THE LAND:

A NEW PARADIGM FOR THE FUTURE OF TUKTOYAKTUK