

Pride and Prejudice, Practices and Perceptions:
A Comparative Case Study in North Atlantic Environmental History

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Abstract

Due to escalating carbon-based emissions, anthropogenic climate change is wreaking havoc on the natural and built environment as higher near-surface temperatures cause arctic ice-melt, rising sea levels and unpredictable turbulent weather patterns. The effects are especially devastating to inhabitants living in the water-worlds of developing countries where environmental pressure only exacerbates their vulnerability to oppressive economic policies. As climatic and economic pressures escalate, threats to local resources, living space, safety and security are all reaching a tipping point. Climate refugees may survive, but they will fall victim to displacement, economic insecurity, and socio-cultural destruction. With the current economic system in peril, it is now a matter of urgency that the global community determine ways to modify their behaviour in order to minimize the impact of climate change. This interdisciplinary comparative analysis contributes to the dialogue by turning to environmental history for similar scenarios with contrasting outcomes. It isolates two North Atlantic water-worlds and their inhabitants at an historical juncture when the combination of climatic and economic pressures threatened their survival. During the sixteenth and seventeenth centuries, the Hebrideans in the Scottish Insular *Gàidhealtachd* and the Wabanaki in *Ketakamigwa* were both responding to the harsh conditions of the 'Little Ice Age.' While modifying their resource management, settlement patterns, and subsistence behaviours to accommodate climate change, they were simultaneously targeted by foreign opportunists whose practices and perceptions inevitably induced oppressive economic pressure. This critical period in their history serves as the centre of a pendulum that swings back to deglaciation and then forward again to the eighteenth century to

examine the relationship between climate change and human behaviour in the North Atlantic. It will be demonstrated that both favourable and deteriorating climate conditions determine resource availability, but how humans manage those resources during feast or famine can determine their collective vulnerability to predators when the climate changes. It is argued that, historically, climate has determined levels of human development and survival on either side of the North Atlantic, regardless of sustainable practices. However, when cultural groups were under extreme environmental and economic pressure, there were additional factors that determined their fate. First, the condition of their native environment and prospect for continuing to inhabit it was partially determined by the level of sustainable practices. And, secondly, the way in which they perceived and treated one another partially determined their endurance. If they avoided internal stratification and self-protectionism by prioritising the needs of the group over that of the individual, they minimised fragmentation, avoided displacement, and maintained their social and culture cohesion.

Introduction: Climate Change, Capitalism, and Comparative History

'Human history becomes more and more a race between education and catastrophe'
H. G. Wells, *Outline of History* (1920)

Climate Change

The updating and recirculation of a World Atlas is nothing new. Throughout history, societies have evolved their cartography to illustrate political power shifts, draw new borders or assign new names, introduce new towns, insert roads and railways, or add the redirected waterways of industrial engineering projects. Historically, humans have made an indelible impression on the physical landscape and, along the way, they have conscientiously chosen to document it.¹ With the technological advantage of satellite photography, the more recent editions of *The Times Comprehensive Atlas of the World* do much more than visually update anthropogenic restructuring of the earth.² This year alone, amongst nearly 7,000 modifications to the previous edition, *The Times Atlas* will include an unprecedented number of illustrations that highlight changes recently made by nature. For example, in 2006, the island of *Unartoq Oeqertaq* emerged off the east coast of Greenland following the retreat of arctic ice cover.³ With a central location in the North Atlantic, the island's name is a poignant reminder of its origin: *Unartoq Oeqertaq* is an Inuit place name that

¹ See, for example, Peter Whitfield, *The Image of the World: 20 Centuries of World Maps* (London, 2010).

² See John Vidal (environmental ed.), 'New atlas shows extent of climate change,' *The Guardian*, Thursday 15 September 2011. Within days of this publication, a second article appeared in *The Guardian* that revealed a dispute over the suggested rate of ice cover decrease between *The Times Atlas* researchers and the *Scott Polar Research Institute* at Cambridge University. Per *The Times Atlas*, the rate was fifteen percent between 1999 and 2011; per the *Scott Polar Research Institute*, *The Times Atlas* researchers 'confused ice thickness with ice extent,' concluding that the ice decreased by only 'one percent by volume over twelve years.' The permanent appearance of the island, however, was not contested. See, John Vidal (environmental ed.), 'Times Atlas is "wrong on Greenland climate change,"' *The Guardian*, Monday 19 September 2011.

³ It should be noted that updates to the Atlas are only made once researchers deem them permanent features in the landscape, which is why the island was not added to the previous edition between 2006 and 2011. See Vidal, 15 September 2011.

means 'Warming Island'.⁴ Natural changes in the landscape are not limited to new landmasses, however. *The Times Atlas* must also eliminate land that is now gone. During the same year *Uunartoq Oeqertaq* appeared above water, at least 6,000 families were displaced from their island home of Lohachara when it disappeared beneath the rising waters of the Bay of Bengal; their neighbouring island, Ghoramara, fared slightly better by losing only two-thirds of its landmass to the sea.⁵ Yet, water is reclaiming much more than island nations.⁶ Between storm surge, coastal erosion and flooding, the wet and windy forces of nature are also reshaping the continents of the earth.⁷ The 2004 earthquake and tsunami in the Indian Ocean and the 2005 hurricanes Katrina and Rita completely altered the

⁴ Vidal, *Ibid.* In recent years, new masses of land can also be seen in Somalia, Texas, China, the Amazon, around the Dead Sea and Aral Sea, as well as where water from the rivers of the Tigris, Yellow, Colorado, and Rio Grande once flowed. See, for example, Jon Gertner, 'The future is drying up,' *New York Times*, 21 October 2007.

⁵ Hannah Reid, Andrew Simms and Victoria Johnson (eds.), *Up in Smoke? Asia and the Pacific: The Threat from Climate Change to Human Development and the Environment*, on behalf of the New Economics Foundation (London, 2007), p. 44. Increased rainfall combined with melting ice has carried silt to the base of the Himalayas, where newly formed islands are now present in the Ganges and Yangtze rivers. Also, see Geoffrey Lean (environment ed.), 'Disappearing world: global warming claims tropical island,' *The Independent* 24 December 2006. Also, Somini Sengupta, 'Sea's Rise in India Buries Islands and a Way of Life,' *The New York Times*, 11 April 2007.

⁶ On the eve of the Copenhagen summit, the Maldivian government held an under-water cabinet meeting (24 October 2009) to get the international community's attention directed toward the consequences of rising sea levels. See, Mirva Lempiainen, 'Help, My island is sinking!' CUNY Graduate School of Journalism Research Center, *MediaWords: International Reporting*, Capstone Projects (1 December 2009), pp. 1-9.

⁷ For a recent study covering the east coast of the U.S., see for example, Keqi Zhang, Bruce C. Douglas, and Stephen P. Leatherman, 'Global Warming and coastal Erosion,' unpublished paper, Laboratory for Coastal Research and International Hurricane Research Center, Florida International University and Department of Environmental Studies, Florida International University (2011). Waterways in Pakistan now flood annually, having recently affected twenty million people, eliminated 1.6 million homes and hundreds of villages as well as over five million acres of arable that once surrounded them. Oxfam: 'Pakistan Floods Progress Report (July, 2010-July 2011). URL: http://www.oxfam.org.uk/resources/policy/conflict_disasters/downloads/pakistan-progress-report-floods-260711-en.pdf Accessed 19 September 2011. Already home to the world's largest refugee population, Pakistan's floods have created another humanitarian crisis by displacing millions more people, affecting one-fifth of the country's landmass, eliminating over five million acres of arable, causing malnutrition, and leaving behind floodwaters that serve as acqua-incubators for disease. Also, see Declan Walsh, 'Pakistan Flood Crisis as Bad as African Famines, UN says,' *The Guardian* 27-January 2011. The refugees in Pakistan are primarily from Afghanistan.

coastlines of South Asia and the southern United States.⁸ It is still unclear what permanent damage Hurricane Irene will have left behind, but if researchers at *The Times Atlas* see it in a satellite image, chances are it will end up in their next edition.⁹

The earth has undergone many ecological transformations likely visible from space long before a satellite relayed the first image to earth thirty-two years ago. Just since the last ice age, sea levels have significantly risen and then fallen again, temperatures have fluctuated, weather patterns have shifted and, with each phase, the environment on which human survival depends has changed.¹⁰ That period of over 10,000 years following deglaciation is the Holocene, the time when new and comparably stable conditions have allowed human development to flourish despite the many challenges posed by the ebb and flow of natural climate change. However, over the past three centuries, human activity has complicated, if not sabotaged, many natural cycles. The natural balance within the earth's regulatory system has been compromised by carbon emissions, ocean acidification, pollution, deforestation, the loss of biodiversity from over-exploitation or extinction of resources, and human population pressure.¹¹ As a result, the Anthropocene has pushed

⁸ Nobuo Mimura, 'Conclusions: The Rapidly Changing Environment of the Asia and Pacific Region and its Implications for Sustainability of the Coastal Zones,' *Asia-Pacific Coasts and Their Management Coastal Systems and Continental Margins*, 11 (2008), pp. 345-358. Also, Thomas C. Michot, Christopher J. Wells, and Paul C. Chadwick, 'Aerial Rapid Assessment of Hurricane Damages to Northern Gulf Coastal Habitats,' *Science and the Storms: the USGS Response to the Hurricanes of 2005*, Report by the U.S. Department of the Interior, U.S. Geological Survey, National Wetlands Research Center (2006), pp. 86-96.

⁹ In the weeks before submitting this thesis, floods in India had displaced over four million people, and a typhoon hit the Philippines where one million were displaced.

¹⁰ See for example, W. Dansgaard, 'Climate instability during the last interglacial period recorded in the GRIP ice core,' *Nature*, 364 (1993), pp. 203-207.

¹¹ For a scientific explanation of how these factors are effecting current conditions, see L.D. Danny Harvey, *Climate and Global Environmental Change* (Essex, 2000). Also, Johan Rockstrom et al. 'A safe space for humanity: Identifying and quantifying planetary boundaries that must not be transgressed could help prevent human activities from causing unacceptable environmental change,' *Nature*, 461 (24 September 2009), pp. 472-475; Rivonala Razafison, 'Africa's mollusc stocks at risk from ocean acidification,' *Science and Development Network: Agriculture and Environment: Fisheries*, 25 August 2011; Carl Zimmer, 'An Ominous Warning on the Effects of Ocean Acidification,' *Yale Environment 360*, 15 February 2010; 'Integrated Assessment of Black

Holocene conditions aside with consequences that are becoming increasingly obvious.¹² For example, average global temperatures have already risen 1°C since the middle of the twentieth century (Fig. 1), while the ‘tipping point’ for greenhouse gasses was surpassed in 2005 with measurements continuing rapidly on an upward trajectory (Fig. 2).¹³ James Hansen, director of the NASA Goddard Institute for Space Studies, argues that ‘if the present overshoot of this target CO₂ is not brief, there is a possibility of seeding irreversible catastrophic effects.’¹⁴ Should this anthropogenic pressure be reversed, however, Holocene conditions could prevail for several more millennia.¹⁵

Carbon and Tropospheric Ozone: Summary for Decision Makers,’ UN and World Meteorological Organization Report, 2011; ‘Climate Change 2007: Summary for Policy Makers,’ Synthesis Report: An Assessment of the Intergovernmental panel on Climate Change (approved in Valencia, Spain 12-17 November 2007), pp. 1-22; Daniel C. Nepstad, Claudia M. Stickler, et al., ‘Interactions among Amazon land use, forests and climate: prospects for a near-term forest tipping point,’ *Philosophical Transactions of the Royal Society B*, 363 (2008), pp. 1737-1746.

¹² See Paul J. Crutzen, ‘Geology of mankind,’ *Nature*, 415 (3 January 2002), pp. 23. Also, J. Zalasiewicz et al. ‘Are we now living in the Anthropocene,’ *GSA Today*, 18:2 (2008), pp. 4-8. Also, J. Zalasiewicz et al. ‘The New World of the Anthropocene,’ *Environment Science & Technology* 44:7 (2010), pp. 2228–2231.

¹³ For these statistics, see the Office of Science and Technology (OST) Report, ‘Rapid Climate Change,’ 245, *Parliamentary Office of Science and Technology* (London, July 2005). URL: http://www.parliament.uk/parliamentary_offices/post/pubs2005.cfm accessed 20 September 2011.

¹⁴ James Hanson, et al, ‘Target atmospheric CO₂: Where should humanity aim?’ *arXiv.org* (7 April 2008, revised 18 June 2008). Also, see ‘New Report Shows Climate Change Largely Irreversible,’ *National Oceanic and Atmospheric Administration* (26 January 2009). URL: http://www.noaa.gov/stories2009/20090126_climate.html accessed 12 September 2011.

¹⁵ A. Berger and M. F. Loutre, ‘A Very Long Interglacial Ahead?’ *Science*, 297 (2002), pp. 1287-1288. M. Milinski, D. Semmann, H.J. Krambeck, and J. Marotzke, ‘Stabilizing the Earth’s climate is not a losing game: supporting evidence from public goods experiments,’ *Proceedings of the National Academy of Science USA*, 103 (2006), pp. 3994-3998.

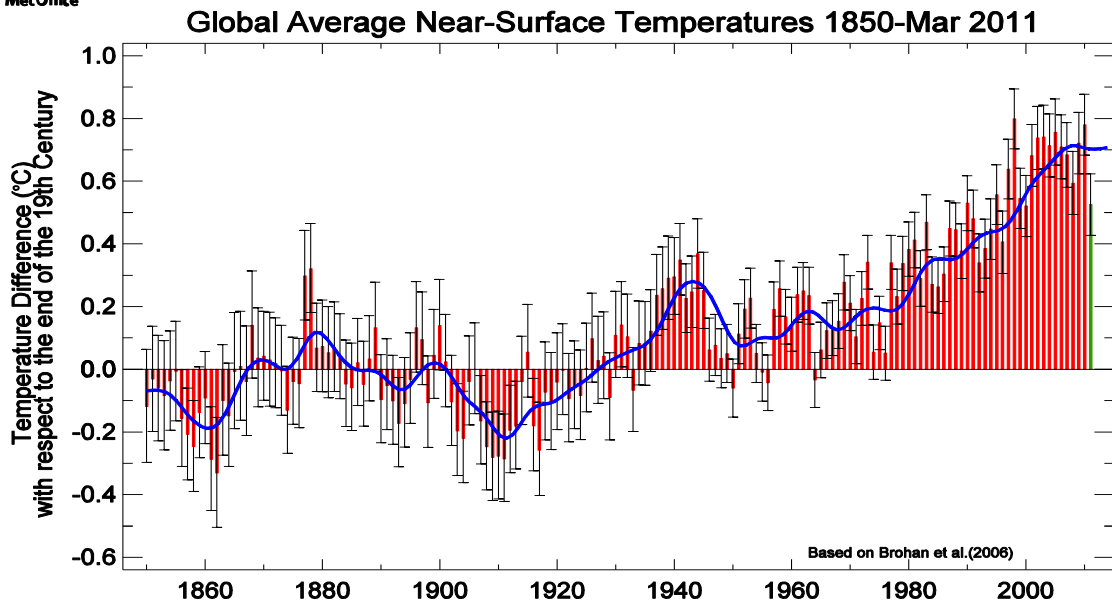


Figure 1. Global Average Temperatures with respect to the end of the 19th century 1850 – March 2011. ©http://www.metoffice.gov.uk/hadobs/indicators/reports/Indicators_01_2011.doc

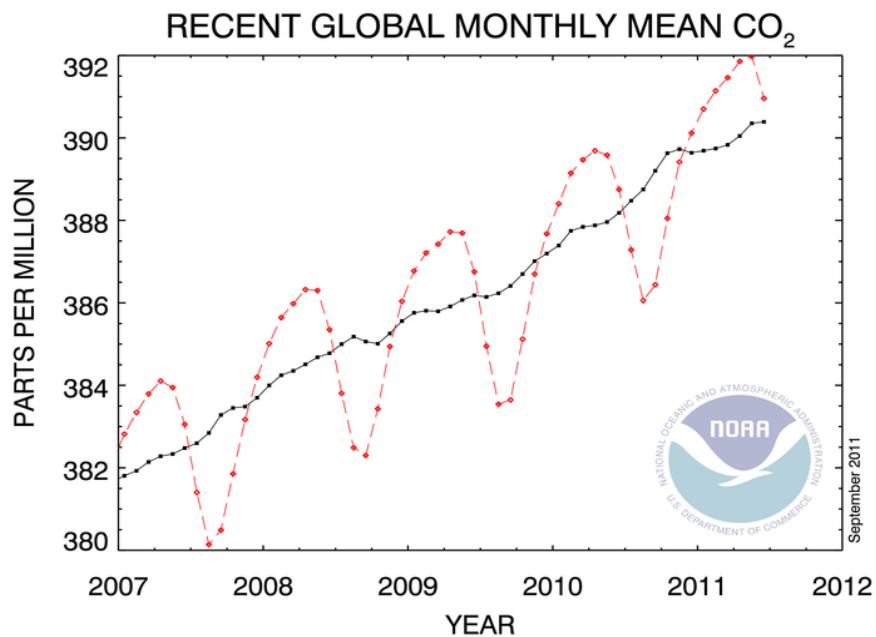


Figure 2. The graph shows recent monthly mean carbon dioxide globally averaged over marine surface sites. © National Oceanic and Atmospheric Administration (NOAA) Report at <http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html>

One of the many results of natural imbalance is the increased frequency and extremity of natural events, including earthquakes, tsunamis, submarine landslides, hurricanes, typhoons, volcanic eruptions, droughts, torrential rains, gale-force winds, and cyclones, all of which overwhelm existing environments and lifeways in a relatively short period of time.¹⁶ A warmer atmosphere also has the capacity to hold more water vapour, and although there is an excessive amount of water vapour due to the combination of warmer temperatures and arctic ice evaporation, the disruption to oscillation patterns prevents rainwater from going where it is most needed.¹⁷ Many regions of the world, like Somalia, are experiencing catastrophic drought, while others, like the United Kingdom, are saturated with water.¹⁸ If arctic ice-melt and subsequent extreme weather conditions persist, there may be as many as 200 million refugees displaced by climate in 2050.¹⁹ Disruptions to food and water supply caused by shorter growing seasons, soil erosion, drought or saturation are already creating

¹⁶ According to Jeff Masters, co-founder and director of meteorology for Weather Underground, Inc., 'years like 2011 may become the new normal ... a warmer atmosphere has more energy to power storms. We've loaded the dice.' Mary Wisniewski, 'Weather disasters keep costing U.S. billions this year,' *Reuters*, 8 September 2011.

¹⁷ 'Arctic sea ice at minimum extent,' National Snow and Ice Data Center, Boulder, Colorado, unpublished report: URL: <http://nsidc.org/arcticseaicenews/> (15 September 2011) accessed 17 September 2011. Per researchers at the University of Bremen in Germany, the ice melt in 2011 is the second worst year next to 2007. See Georg Heygster, University of Bremen Institute of Environmental Physics, unpublished report. URL: <http://www.iup.uni-bremen.de:8084/amsr/minimum2011-en.pdf> accessed 17 September 2011.

¹⁸ In addition to Greenland losing its permanent ice cover, the Larsen B and Wilkins ice shelves have broken up near Antarctica. See Vidal, 15 September 2011. During the past two years, floods in Pakistan, Australia, the central U.S., and China have been some of the worst on record. Molly O'Toole, 'Summer floods threaten record levels as rain predicted,' *Reuters*, 6 July 2011; 'China flood deaths rise to 57, one million evacuated,' *Herald Sun*, 20 September 2011; 'President says rain havoc in Sindh a wake up call,' *Associated Press of Pakistan*, 23 September 2011; 'Australian Floods highlight record rainfall,' *Associated Press and CBC*, 7 January 2011. Although many of the most drastic changes to the planet are appearing near the poles, the impact of global warming, and the erratic weather patterns that come with it, are now present on every continent.

¹⁹ Frank Biermann and Ingrid Boas, 'Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees,' *Global Environmental Politics*, 10:1 (February, 2010), pp. 60-88. This statistic combined 112 million due to sea-level rise, and 50 million from extreme weather like flooding, p. 68. These statistics may be conservative according to findings announced at the annual meeting of the American Association for the Advancement of Science (AAAS), see Tom Bowman, 'Translating Scientific Conclusions about Climate Risk for Public Audiences, AAAS Conference Paper on Climate Literacy, presented 17 February 2010 (not yet published).

panic.²⁰ This insecurity affects the global political economy, not just because too many people rely on an increasingly limited food supply, but because protectionism over natural resources can lead to conflict if not warfare.²¹ Environmental pressure, therefore, only exacerbates other problems.

This is a comparative case study about human practices and perceptions, and the relationship they have created between climate change and economic policy. With the exception of material presented in this introduction, however, it does not consider the period of the Anthropocene, nor does it compare the past to the present. Instead, it explores two North Atlantic regions during the Holocene, before *Uunartoq Oeqertaq* was visible. So, if the focus of this thesis is on the period before economic policy literally changed the climate, why begin with so much detail about the devastating realities of contemporary climate change and the failure of capitalism? Because historical lessons about the way in which human values, attitudes, and behaviours developed from the Holocene into the Anthropocene simply resonate deeper and longer when placed in the context of present-day ramifications.²² As human activity increasingly challenges sustainable

²⁰ The 11 December 2007 issue of *The Proceedings of the National Academy of Sciences in the United States* is dedicated to 'food and forestry in a warming planet.' In particular see Josef Schmidhuber and Francesco N. Tubiello, 'Global food security under climate change, *PNAS*, 104:50 (11 December 2007), pp. 19703-19708. Also, Christine Stebbins, 'In the World's Breadbasket, Climate Change Feeds Worry,' *Reuters*, 6 September, 2011. In this article, Stebbins quotes a concern by Eugene Takle, Professor of Agricultural Meteorology and Director of the Climate Science Program at Iowa State University, 'We don't have a long-term reserve. We have a global food supply of about two or three weeks...It's the extreme events that have brought the vulnerability of agriculture to climate into the forefront. We think about it, and wring our hands for a while.' For the threat posed to the world's water supply, see Nigel W. Arnell, 'Climate change and global water resources: SRES emissions and socio-economic scenarios,' *Global Environmental Change*, 14 (2004), pp. 31-52.

²¹ Solomon M. Hsiang, Kyle C. Meng, and Mark A. Cane, 'Civil conflicts are associated with the global climate,' *Nature*, 476 (25 August 2011), pp. 438-441. Also, Curtis Bell, 'Drought-Driven Conflict: Climate Change, Political Unrest, and Effective Adaptive Policy in Sub-Saharan Africa,' unpublished paper, University of Colorado at Boulder (18 August 2011). Kenneth F. Deffeyes, *Hubbert's Peak: The Impending World Oil Shortage* (Princeton, 2001).

²² Wendy Petersen-Boring discovered this when she developed her curriculum for 'Western Civilization and Sustainability: Narratives of Progress, Decline, and Devastation,' at Willamette University. Wendy Petersen-

development, and nature responds to human-induced agitators with extreme events, access to sustainable levels of fuel, food, and water will continue to deteriorate.²³ Yet, within the global arena of political discourse, this issue remains only secondary to other concerns.²⁴ Statistically, the greatest threat to the greatest number is 'the converging impact of global systemic crises, including climate change, hydrocarbon energy depletion, economic and financial breakdown, and plummeting food production.'²⁵ Inevitably, the elimination or hoarding of natural resources on which people depend will elevate levels of migration, economic hardship, conflict, and competition, while humanitarian crisis management will require more attention and funding on a global scale.²⁶ The uprisings that spread from Tunisia to Egypt, then on to Bahrain, Morocco, Algeria, Lybia, and Yemen, culminated in an empowered demand for democratic representation, but the 'Arab Spring' began with calls

Boring, 'Sustainability and the Western Civilization Curriculum: Reflections on Cross-Pollinating the Humanities and Environmental History,' *Environmental History*, 15 (April, 2010), pp. 288-304. She has now split this into two courses, 'Western Civilization and Sustainability: Beginnings to 1600,' and 'Environmental History and Sustainability: 1600 to the Present,' both of which were funded by the Center for Sustainable Communities. Before delving into issues of 'deforestation, the development of water and wind technology, climate change and civilization, and the effects of Christianity on conceptions of the natural world,' she introduced her students to many of the same devastating contemporary realities I have listed above. *Ibid.*, p. 292. After teaching the course just once, she realised that two changes needed to be made to the curriculum. First, after lesson one, her students needed more time to digest the issues and then discuss 'hope.' She said, 'I noticed that students came in looking like they had been punched in the stomach during the first unit,' and that 'they were having an intense emotional reaction to the material.' *Ibid.*, p. 301. Second, she introduced a service-learning element to the course to provide students with an outlet for addressing and acting on 'real-world issues and problems,' which satisfied their desire to feel like they were making a difference. Unfortunately, this thesis can do neither of them, but I recommend both.

²³ David Lobell, Wolfram Schlenker, and Justin Costa-Roberts, 'Climate Trends and Global Crop Production since 1980,' Policy Brief by the *Program on Food Security and the Environment*, Stanford University (2011). See URL: http://iis-db.stanford.edu/pubs/23212/policy_brief_trends11.pdf accessed 14 September 2011.

²⁴ Despite the time, money and attention devoted to the issue of terrorism, for instance, statistics show it is actually not the greatest threat to global security; it may, in fact, be a fiscal and political distraction. Nafeez Mosaddeq Ahmed, 'Globalizing Insecurity: the Convergence of Interdependent Ecological, Energy, and Economic Crises,' *Yale Journal of International Affairs* (Spring/Summer, 2010), pp. 75-90.

²⁵ *Ibid.*, p. 75.

²⁶ N. Myers and J. Kent, 'Environmental Exodus: An Emergent Crisis in the Global Arena,' an unpublished report for *The Climate Institute* (Washington DC, 1995); and N. Myers, 'Environmental Refugees: Our Latest Understanding,' *Philosophical Transactions of the Royal Society*, B:356 (2001), pp. 16.1-16.5.

for lower food prices.²⁷ The answer to insecurity, therefore, may well be to restructure 'the very social organization of modern industrial civilization itself in its current conjuncture.'²⁸ There are two great obstacles to this approach, however. First, scientific studies show that 'survival instinct' for most humans is to resort to protectionism rather than cooperation, unless they personally experience the consequences or empathise with others who do.²⁹ The second issue is that scientists and educators are often challenged by well-funded lobbyists for the 'climate sceptics.'³⁰ Distorted facts propagandised by wealthy predators have created a milieu of fear and desperation. How well the public manoeuvres their way through the artificial veil concealing the 'inconvenient truth' of climate change may very well influence, if not determine, the path taken by the global community.

Capitalism

The primary incentive behind climate scepticism is economic.³¹ Limiting carbon emissions means eliminating many currently lucrative carbon-based industries, including oil, coal, automobile, and high-end textiles. In addition, the 'free-market' model of speculation needs continuous outlets for investment, and to avoid the constraints of regulation, many multi-

²⁷ Rowena Mason and Gary White, 'After food protests, water protests are next,' *The Telegraph*, 31 January 2011. Also, Alan Bjerga, 'Risks of food riots rising as governments cut food subsidies, UN's Sheeran says,' *Bloomberg News*, 25 January 2011.

²⁸ Ahmed, 'Globalizing Insecurity,' *Ibid.*, p. 76. For a more full examination of climate change, economics, militarisation, food and fuel shortages as a web of inseparable issues, see his *A User's Guide to the Crisis of Civilization and How to Save It* (New York, 2010).

²⁹ Anna Dreber and Martin A. Nowak, 'Gambling for global goods,' *Proceedings of the National Academy of Science USA*, 105:7 (2008), pp. 2261-2262.

³⁰ Kate Sheppard, 'Climategate: What Really Happened? How climate science became the target of "the best-funded, best-organized smear campaign by the wealthiest industry that the Earth has ever known.'" *Mother Jones*, 21 April 2011.

³¹ Liisa Antilla, 'Climate of Scepticism: U.S. Newspaper Coverage of the Science of Climate Change,' *Global Environmental Change*, 15 (2005), pp. 338-352; Maxwell T. Boykoff and S. Ravi Rajan, 'Signals and Noise: Mass-Media coverage of Climate Change in the US and UK,' *European Molecular Biology Organization (EMBO)*, 8:3 (2007), pp. 207-211.

national companies identify locations for resource exploitation and production among the less advantaged populations of the world. As multi-national companies exploit these newly acquired markets by deregulating and liberalising existing finite resources, poorer populations in those countries can no longer afford or consume their own resources, despite the fact that they continue to provide the labour for production.³² Many organisations in the developing world are working together to counter pressure from globalisation, maintain economic independence, and protect traditional social and cultural values.³³ In addition to combatting civil rights violations, they serve as watchdogs where non-regulated industrialisation in some poor countries has created poor sanitation conditions, health threats, and safety concerns.³⁴ There are consequences for vulnerable people living in wealthy countries as well. While multi-national companies are reporting record profits, wealthy countries are experiencing record job loss, as well as rising inflation, food prices, production overheads, and energy prices, some of which can be attributed to the 2005 peak in global oil production.³⁵ While the most vulnerable in society struggle to meet basic needs,

³² According to the recent 'World Disasters Report' published by the *International Federation of Red Cross and Red Crescent Societies*, one-sixth of the world's population are undernourished, 178 million children under five have permanent disabilities from malnutrition. See the September 2011 Report at URL: <http://www.scribd.com/doc/65875175/World-Disasters-Report-2011> Also, see Patnaik, 'Origins of the Food Crisis in India and Developing Countries,' *Monthly Review*, 61:3 (July-August, 2009). The entire issue is dedicated to global food security issues. Finally, Frank Ackerman, *Can We Afford the Future?: The Economics of a Warming World* (Zed, 2009), makes this connection between climate and economics: 'As the climate science debate is reaching closure, the climate economics debate is heating up. The controversial issue now is the fear that overly ambitious climate initiatives could hurt the economy.'

³³ Vijay Prashad, *The Darker Nations: A People's History of the Third World* (New York, 2007).

³⁴ Benjamin Powell and David Skarbeck, 'Sweatshops and third world living standards: Are the jobs worth the sweat?' *Journal of Labour Research*, 27:2 (Spring, 2006), pp. 263-274.

³⁵ Deffeyes, *Ibid* (2001); Simon Roberts (ed.), *The Oil Crunch: A wake-up call for the UK economy*, report from the UK Industry Taskforce on Peak Oil & Energy Security (February, 2010). Also, see the FAO Food Price Index: URL: <http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/> accessed 12 September 2011. This indicates July 2011 had the highest prices on record.

the drive by companies to maintain profits in the face of economic desperation has led to predatory policies. Ahmed notes that

after the Bank for International Settlements brokered worldwide the new Capital Accord in 2000, effectively allowing banks to obtain virtually unlimited leverage, financial institutions had a field day accelerating lending without limits, inadvertently subjugating a large number of people to an enlarging and un-repayable debt that was the basis of self-multiplying profits for a few. By late 2008, total derivatives trades exceeded one quadrillion (1,000 trillion) dollars – a quantity with *no relation to the real economy*: the total GDP of all the countries in the world is only about 60 trillion dollars.³⁶

The problem remains that a finite amount of global resources can not produce an infinite amount of financial growth and profit. Many capitalists realise this, and still insist on promoting the existing model for personal gain, often engaging in corrupt and predatory practices that are detrimental to vulnerable populations.³⁷ Recently, a growing body of investigative scholarship has emerged in an effort to determine whether the current system of capitalism is compatible with conditions created by an anthropogenically altered climate.³⁸ The overwhelming conclusion is ‘no’.

The dilemma at hand is nothing new. In 1968, Garrett Hardin’s ‘Tragedy of the Commons,’ argued that Adam Smith’s ‘invisible hand’ theory had been used by a capitalist

³⁶ Ahmed, ‘Globalizing Insecurity,’ *Ibid.*, p. 84. Emphasis is my own. The topic of ‘real economy’ vs. ‘speculative economy’ is given an historical context in chapters 2 and 5.

³⁷ See Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism* (London, 2007); Noam Chomsky, *Making the Future: The Unipolar Imperial Moment* (FORTHCOMING: December, 2011); and Eliot Spitzer, ‘Predatory Lender’s Partner in Crime,’ *Washington Post*, 14 February 2008.

³⁸ Servaas Storm, ‘Capitalism and Climate Change: Can the Invisible Hand adjust the Natural Thermostat?’ *Development and Change*, 40:6, (November, 2009), pp. 1011-1038; Denis Patrick O’Hara and Alan Abelsohn, ‘Ethical Response to Climate Change,’ *Ethics and the Environment*, 16:1 (Spring, 2011), pp. 25-50; Max Koch, *Capitalism and Climate Change: Theoretical Discussion, Historical Development, and Policy Responses* (Hampshire, 2011); Brett Clark and Richard York, ‘Carbon Metabolism: Global Capitalism, Climate Change, and the Biospheric Rift,’ *Theory and Society*, 34:4 (2005), pp. 391-428; David M. Kotz, ‘The Financial and Economic Crisis of 2008: A Systemic Crisis of Neoliberal Capitalism,’ *Review of Radical Political Economics*, 41:3, (2009), pp. 305-317; Minqi Li, *The Rise of China and the Demise of the Capitalist World Economy* (London, 2008). For a more optimistic view of the possibilities ahead, see Paul Gilding, *The Great Disruption* (New York, 2011), Jeremy

movement to propagate the false premise that individuals who work only for personal gain somehow were guided by an 'invisible hand' that served the greater good.³⁹ During the late eighteenth century when Smith's ideas motivated 'improvers', the Hebridean population was growing rapidly, so the destructive process taking place in the Scottish Insular *Gàidhealtachd* accelerated and culminated in the clearance of the native population. In the twenty-first century, Hardin's gloomy prognostication is a haunting reality. He predicted that the world's exploding population could not sustain itself on a finite resource base specifically because humanity as a whole lacked the ability to practice the moderation, self-restraint, conscience, and empathy required to support it. Eventually, he argued, competition, protectionism, paranoia, conflict, and above all else, self-preservation, would prevail. Now, more than ever, the planet is a 'commons', especially as the globalisation policies of the late twentieth century have interlinked the rich and powerful with what they initially perceived as the endless resource base of developing countries. The 'tragedy' is that many developing countries are home to population pressure, poverty, and humanitarian crisis from a combination of climate change and economic oppression. Meanwhile, the much smaller numbers of rich and powerful countries are not only responsible for fifty percent of the world's carbon dioxide emissions causing anthropogenic climate change, but for up to 250 percent more resource consumption than the latter.⁴⁰ In short, there is now a sustainability tug-of-war between the 'over-producers' and the 'over-consumers'.

Rifkin, *The Empathic Civilization: The Race to Global Consciousness in a World in Crisis* (Cambridge, 2009), and Alastair McIntosh, *Hell and High Water: Climate Change, Hope and the Human Condition* (Edinburgh, 2008).

³⁹ Garrett Hardin, 'The Tragedy of the Commons,' *Science*, New Series, 162:3859 (December, 1968), pp. 1243-1248. Adam Smith, *The Wealth of Nations* (New York, 1937), p. 423.

⁴⁰ For a discussion of the statistical differences between the wealthy and poor nations of the world, see 'Consumption Dwarfs Population as Main Environmental Threat: A small portion of the world's people use up most of the earth's resources and produce most of its greenhouse gas emissions,' which is an abstract of an

In another article written a few years after ‘Tragedy of the Commons’, Garret Hardin offered up the dilemma of ‘lifeboat ethics’ and the concept of humanity being ‘adrift in a moral sea.’⁴¹ He said, ‘each rich nation can be seen as a lifeboat full of comparatively rich people. In the ocean outside each lifeboat swim the poor of the world, who would like to get in.’ In his metaphor, the rich nations in their lifeboats see the large populations of the poor in the water and refuse to let them all in, fearing that the chaos caused by too many in the lifeboat would make it unmanageable to stay afloat. However, because there is some limited room, a small percentage of those swimming in the sea are allowed in. So begins the metaphorical process of deciding which ‘fortunate’ or ‘deserving’ people that might be.

Comparative History

This thesis has four objectives. The first objective is to provide a unique contribution to the field of comparative and interdisciplinary environmental history.⁴² Often embedded with portents of future consequences, comparative climate histories have been primarily the work of scientists and environmental researchers.⁴³ More recent comparative studies,

interview with Stephen Pacala at the Princeton Environment Institute. It can also be found here: URL: http://e360.yale.edu/feature/consumption_dwarfs_population_as_main_environmental_threat/2140/ and in *The Guardian*, 16 April 2009. For an example to the consumption analysis above: one American, on average, consumes more than 4 Chinese, 20 Indians, 30 Pakistanis, 40 Nigerians, or 250 Ethiopians. Ibid.

⁴¹ Garret Hardin, ‘Lifeboat Ethics: the Case Against Helping the Poor,’ *Psychology Today*, 8 (September 1974), pp. 38-43.

⁴² For an overview of some new studies, see Sterling Evans, ‘Recent Developments in Transnational Environmental History: Labor, Settler Communities, and Comparative Histories,’ *Radical History Review*, 107 (Spring, 2010), pp. 195-208.

⁴³ Some of the first publications on climate change came from the Director of the Climatic Research Unit, University of East Anglia, by H. H. Lamb. For example, see his *Climate: Present, Past, and Future*, Volume 2: Climatic history and the future (London, 1977), *Weather, Climate and Human Affairs* (London, 1988), and *Climate, History, and the Modern World* (London, 1982). Others include T.M.L. Wigley, M. J. Ingram, and G. Farmer (eds.), *Climate and History: Studies in past climates and their impact on man* (Cambridge, 1981). This looks at the interdisciplinary evidence for climate change through time, including stable-isotope data, archaeological studies, glaciological evidence, pollen analysis, tree-ring evidence, and historical documents. It also offers regional case studies for climate change in Switzerland, sub-Saharan Africa, and China. An early survey is W. R. Baron, ‘Retrieving American Climate History: A bibliographic Essay,’ *Agricultural History*, 63:2

however, have been produced by environmental historians using interdisciplinary approaches.⁴⁴ As Donald Worster stated, ‘the environmental historian must turn for help to a wide array of the natural sciences and must rely on their methodologies, sources and evidence.’⁴⁵ Therefore, this comparative study integrates history and politics with evidence from several disciplines, including the natural sciences, anthropology, literature, and native traditional knowledge in order to provide a more thorough understanding than may be achieved through documentary records alone.⁴⁶ Despite a thorough interdisciplinary approach, however, the value of comparative history is often dependent on the range of commonalities between comparators. Among many similarities, there are three primary common denominators here: (a) geographical location: both regions experienced a similar cycle of climate change between deglaciation and the eighteenth century; (b) cultural and environmental resemblance: both regional inhabitants developed and cultivated a kin-based clan society highly dependent on water-world resources; and (c) shared imperial experience: both regions were targeted by globalising forces for exploration, economic exploitation, and colonisation and both regional inhabitants resisted imperial control.

(Spring, 1989), pp. 7-35. In Paul Andrew Mayewski and Frank White, *The Ice Chronicles: The Quest to Understand Global Climate Change* (London, 2002), ice core data collected from twenty-five university research teams is compiled to provide evidence for climate change from pre-history to the present day. Also, see Michael Oppenheimer and Gary Yohe (eds.), *Climatic Change: An Interdisciplinary, International Journal Devoted to the Description, Causes and Implications of Climate Change* (2006-present); P.D. Jones, A. E. J. Ogilvie, T. D. Davies, and K.R. Briffa (eds.), *History and Climate: Memories of the Future* (New York, 2001).

⁴⁴ For methodological concerns in writing environmental history, see E. Pawson and S. Dovers, 'Environmental History and the Challenges of Interdisciplinarity: An Antipodean Perspective', *Environment and History*, 9:1, (2003), pp. 53-75. For an example of an interdisciplinary comparative approach, see Thomas R. Dunlap, *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia, and New Zealand* (Cambridge, 1999).

⁴⁵ Donald Worster, 'Transformations of the Earth: Toward an Agroecological Perspective in History' *Journal of American History*, 76:4 (1990), p. 1088.

⁴⁶ For an overview of the many techniques used to detect climate change since deglaciation, see P.D. Jones, et al., 'High-resolution palaeoclimatology of the past millennium: a review of current status and future prospects,' *Holocene* 19:1 (2009), pp. 3-51.

The two regions isolated for this comparison are the Maritime Provinces of Canada and the U.S. state of Maine on the western edge of the North Atlantic, and the Scottish Western Highlands and Islands surrounding the Minch on the ocean's eastern edge. Their place names have changed considerably over the period covered in this thesis. For reasons of simplicity and cultural sensitivity highlighted in the first two chapters, they are referred to respectively as *Ketakamigwa* and the Scottish Insular *Gàidhealtachd*. By the sixteenth century, when imperial invasion threatened environmental, socio-economic, and political conditions, the inhabitants of these two regions were the Wabanaki and the Hebrideans. In short, this thesis compares and contrasts practices and perceptions of the Wabanaki in the water-world of *Ketakamigwa* to that of the Hebrideans in the water-world of the Scottish Insular *Gàidhealtachd* from deglaciation to the eighteenth century, with special emphasis on the 'turning point' period between the sixteenth and eighteenth centuries.

Connections between these two regions and peoples have often been made loosely.⁴⁷

For example, James Hunter made a similar comparison when he remarked about the Hebridean Isle of Skye:

And what was true of North America's native peoples was true also of the island's Gaels. They, too, were thought by all men in authority to be obstructing the advance of something that these same men called progress. And as happened to [them], as happened to so many others in so many different parts of the world, their lands were taken from them and given to strangers. In the phrase that Skye people used to describe the annihilation of their communities, the fires in their houses were put out. And with the generations, another sort of continuity was ended. The links that bound the present to the past were severed

⁴⁷ Colin C. Calloway made a very broad comparison between Highlanders and all native people by exploring their shared imperial experience and demonstrating how well they typically got on with one another as Highlanders found themselves in the native territories of North America. See *White People, Indians, and Highlanders: Tribal people and Colonial Encounters in Scotland and America* (Oxford, 2008).

one by one and a culture which had endured for centuries was soon left as rootless as the people to whom it belonged.⁴⁸

In addition to the many socio-economic and cultural similarities that existed between these two native peoples, there is a poignant irony that lies at the heart of my decision to compare them. While native people throughout North America experienced many waves of forced removal from their ancestral lands, the Wabanaki never left *Ketakamigwa*. They are still there today. However, as a result of environmental, economic and political pressures, many Hebrideans from the Scottish Insular *Gàidhealtachd* were actually removed to *Ketakamigwa*.⁴⁹

The second objective of this thesis is to consider specifically the way in which environmental pressure during the main phases of natural climate change in the North Atlantic influenced human activity, with special attention paid to changes in water-world settlement and subsistence patterns. The continual habitation in both regions over a period of nearly eleven millennia speaks to an incredible amount of human resilience, but it does not indicate a passive human presence. Climate conditions provided preferable settlement locations, but did not dictate where or how people chose to live. Climate dictated the initial resource availability, but it did not determine how humans managed those resources. Humans were not, and never have been, inactive bystanders moulded purely by environmental determinism. But culturally, they have developed different traditions for managing their environment. The inhabitants of *Ketakamigwa* and the Scottish Insular *Gàidhealtachd* were highly intelligent sentient beings who learned how to survive in their

⁴⁸ James Hunter, *Skye, The Island* (Edinburgh, 1986), p. 74.

⁴⁹ By the close of the eighteenth century, past the point of this study, the two peoples actually converged. See Donald Mackay, *Scotland Farewell: the People of the Hector* (Toronto, 2001).

water-world environments, so they undoubtedly acted on instinct and utilised ecological knowledge, but they were also guided by ingenuity, ambition, curiosity and imagination. At times, they were opportunists, and their practices reflected immediate rather than long-term gratification. As they developed cultural, social and spiritual practices, they often engaged in practices that simply flouted sustainable development. At times, they over-exploited resources and when climate change hindered their ability to continue unsustainable practices, they simply moved on to exploit new economies.

The examination of practices on either side of the North Atlantic from deglaciation to the sixteenth century highlights similarities between the inhabitants of both regions. They were initially hunter-fisher-forager communities with similar modes of economic exploitation and, up to the sixteenth century, they both had pre-monetary economies. Therefore, their economic practices revolved around a *real economy* based on the availability and the exchange of local and imported natural resources. When a cash economy was introduced into each region, external demand for local resources depleted much of their real economy and both the Wabanaki and Hebrideans suffered from debt burdens. However, analysis of their practices also highlights stark differences in environment and culture by the sixteenth century. *Ketakamigwa* had a much greater abundance of resources relative to population size with regional inhabitants who lived much more sustainably over time. The Scottish Insular *Gàidhealtachd* had a limited and deteriorating resource base relative to population size. For that reason, over many millennia, its inhabitants were required to recycle resources, but they still incorporated long-term unsustainable practices into their traditions that exacerbated natural pressure. The effects of climate change, therefore, affected each region and people differently.

To fully appreciate the similarities and differences in native practices, analysis of their lifeways is broken into three parts. First, Chapters 1 and 2 trace the way in which native practices evolved between deglaciation and the sixteenth century. Due to the broad temporal range, these chapters are primarily descriptive in style with only references to some historiographical or scientific debates. The purpose of these two chapters is to expose the reader to how the combination of climate change and human behaviour over a period of eleven millennia created two very different representations of cultural and environmental development on either side of the North Atlantic. Second, Chapters 3 and 4 provide outsider observations of the real economy and the ways in which native people interacted with their environment. And, third, Chapter 5 is specific to the changes that came with imperial and environmental pressures between the sixteenth and eighteenth centuries. New regional practices that emerged during this period reflect both resistance and accommodation by native people as they attempted to balance traditional norms with the challenges posed by external forces.

The third objective of this thesis is to infer native perceptions and home in on the external ideologies that came to influence them. Special attention is given to how native people perceived their place in nature, their relationship to one another, and their relationship toward outsiders before and after the point of invasion. To do this, perception is dealt with in the first two chapters only so much as interpretation of the material evidence, early traveller's accounts, and oral stories allow, and it is often interpreted through the lens of anthropological and psychological methodology. Chapters 3 and 4 focus primarily on the personal testimony, descriptions, and external worldviews that came from invaders into each region beginning in the sixteenth century. Traveller's accounts offer up

much about their unique perspectives, but also about the ideologies that shaded the lens through which outsiders to each region observed cultural 'others.'⁵⁰ In Chapter 5, there is analysis of the way native perceptions evolved with the imperial experience. Peering through the 'sixteenth-to-eighteenth-century window,' I identify conflicts between the perceptions of outsider and native, as well as between Wabanaki and Hebrideans. Any attempt to infer exactly what they thought and felt is problematic, but worth some discussion. Wabanaki and Hebridean actions were perpetuated by thoughts, feelings, and beliefs, so their practices were manifestations of their perceptions. This comparative case study argues that three factors played a central role in the development of each cultural group: The way a cultural group perceived their place in the environment determined how they used it; the way a cultural group perceived value among its own members determined how they worked together; and the way in which a cultural group perceived their relationships with outsiders contributed to how they managed external pressure. By the eighteenth century, the Wabanaki and the Hebrideans were both faced with threats to regional and cultural sustainability, but they made very different decisions based on their perceptions.

The fourth and final objective of this thesis is to isolate the differences between Wabanaki and Hebridean practices and perceptions that contributed to the circumstances in which they found themselves by the eighteenth century. Both regions endured the devastating impact of climate change, and both peoples were subjected to socio-economic

⁵⁰ There is a great body of literature on these ideologies, including Karen Kupperman, *Indians and English: Facing Off in Early America* (Ithica, 2000); Anthony Pagden, *Lords of all the world: Ideologies of Empire in Spain, Britain and France c. 1500- c. 1800* (New Haven, 1995); David Armitage, *The Ideological Origins of the British Empire* (Cambridge, 2000); and Martin Daunton and Rick Halpern (eds.), *Empire and others: British encounters with indigenous peoples 1600-1850* (London, 1999).

oppression, cultural engineering, and political take-over. But only one of them remained cohesively intact. A general exploration into why some societies crumble under extraordinary pressure and others manage to preserve their communities is beyond the scope of this study.⁵¹ But there are some lessons to be gleaned from examining just two. I hold the premise that, despite the vast technological revolution undergone by human civilization, human nature itself has not changed. If reasons behind behaviour can be identified, historical scenarios serve as a guide for solving contemporary problems. Like historical societies, contemporary societies are faced with environmental and economic pressures. There is urgency now in identifying how humans reacted to environmental pressure in the past and why their decisions often trumped pragmatic or preventative measures. Some historical decisions affecting the environment and society have had long lasting and unforeseen repercussions (such as industrial pollution, deforestation, and water pollution), but not all cultural groups have made detrimental decisions. In spite of the frustrating lacunae in relation to source material and evidence, there are advantages to examining such scenarios that evolved centuries ago, especially because they are not fraught with the same political baggage as the current disputes over climate and capitalism.

Ketakamigwa and the Scottish Insular *Gàidhealtachd* were not unlike many third world countries today. Already under extreme environmental pressure, the Wabanaki and Hebrideans were targeted by globalising forces, subjected to socio-economic, cultural, and political pressure, and both cultural groups reached a point when their decisions determined the condition in which they would survive. The Hebrideans often worked within the context of a very finite resource base that could not create enough surplus or profit to pacify

⁵¹ See, for example, Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (London, 2005).

external economic demands, and during the fur trade especially, the Wabanaki shared that experience. Contemporary societies are faced with some of these same challenges. As islands disappear, rivers dry up, crops are lost, animal populations dwindle, storms wipe out coastlines, and population pressure challenges over-consumption, the composition of the planet will change. Some cultural groups may weather the storm better than others because of the decisions they make, based on the beliefs they hold and what they do with the surplus of available natural resources. Their attitudes, values and behaviours may allow them to prioritise in a way that maintains their cultural identity and sense of community. That is, of course, if they still have a place to live.

Like many academic circles, environmental historians are increasingly looking to the past in order to address present and future problems.⁵² If the great divide between academic knowledge and public understanding about environmental and economic pressures is not bridged, it will no doubt have a grave impact on public practices and perceptions.⁵³ The consequences of academics doing nothing may also be great. Following a recent earthquake in L'Aquila, Italy, scientists were charged with manslaughter for failing to 'adequately evaluate, and then communicate, the potential risk to the local population.'⁵⁴ This might be an isolated and extreme case, but it illustrates one way in which public anxieties over catastrophe can lead to conflict, if not hysteria. There are many avenues for heading off such anxieties about contemporary conditions and working collectively toward best practices for sustainable development.

⁵² One example is the 2011 *Geological Society of America* whose Annual Meeting is entitled, 'Achaean to Anthropocene: *The past is the key to the future.*' <http://www.geosociety.org/meetings/2011/> accessed 19 September 2011.

⁵³ Nichola Raihani and David Aitken, 'Uncertainty, rationality and cooperation in the context of climate change,' *Climate Change*, 208 (2011), pp. 47–55.

In some small way, this thesis is an attempt to trace patterns in the human-nature relationship as it evolved differently on either side of the North Atlantic. By the middle of the eighteenth century, much of the Hebrideans' resource base was exhausted, they were socially and economically splintered, and though many were still fighting imperial invaders, they were enduring a process of political absorption into the British Empire. The Wabanaki were demographically thinning, but by solidifying the Wabanaki Confederacy, they managed to protect their populous, maintain their cultural cohesiveness, and stay in *Ketakamigwa*. Considering the state of current climate and economic conditions, this comparative study might be a cautionary tale: if nature is the real economy, and nature is threatened, global security is dependent on identifying practices and perceptions that accommodate both the people in and out of Hardin's metaphorical life boat. Some of that responsibility falls to the environmental historian. In 1995, Alfred Crosby wrote,

The ideology of environmental historians is at its root biological. They doubt the ultimate sense of many of the choices that humanity has made, especially in the last few hundred years, in exploiting the earth. They are worried about the durability of the intricate organic and inorganic relationships that support us all. Their guiding principles are not those of the boosters, Adam Smith and Karl Marx, but those of the worriers, Thomas Malthus and George Perkins Marsh, whose ideas we are all currently testing.⁵⁵

Perhaps this is why environmental historians often make comparisons between the past and the present. As we slowly put the pieces of the historical puzzle together, the picture becomes increasingly clear. Humans in the past have made mistakes in the way they have responded and contributed to environmental pressure and how they have treated one another under that pressure, mistakes from which those of us at present might learn.

⁵⁴ Stephen S. Hall, 'At Fault?' *Nature*, 477 (15 September 2011), pp. 264-269. Quote from p. 266.

Humans have also been resilient and learned from those decisions that adversely affected their ability to maintain cultural continuity and protect their communities. It is from both the mistakes and successes that we must learn. Reflecting on 10,000 years of North Atlantic environmental history while maintaining sincere concern for the future highlights one of the greatest lessons to be learned and passed on: the earth is not just inherited from our ancestors but it is borrowed from our children.

⁵⁵ Alfred Crosby, 'The Past and Present of Environmental History,' *The American Historical Review*, 100:4 (October, 1995), pp. 1177-1189, quote from p. 1189.

The Water-World of *Ketakamigwa* And 'The People of the Dawn'

For over 11,000 years, people have made *Ketakamigwa* their home.¹ A product of geological evolution, glacial erosion, and sea level rise, *Ketakamigwa* became the land between 'the salt-water sea' in the east, mountains in the west, and a large river watershed in the north. Boundaries forged by nature provided its inhabitants protection from, and connection with, the rest of the world. It was the belief of the people in 'the big land on the seacoast' five centuries ago, that their place was only the small eastern shore of a large island, an island that was home to all people.² Today, *Ketakamigwa* is often referred to as the 'Maritime Peninsula,' and is comprised of the three Canadian provinces of Nova Scotia, New Brunswick, and Prince Edward Island, as well as a portion of the Gaspé Peninsula of eastern Quebec and the American region of Northern New England. The eastern sea is universally identified as the Atlantic Ocean, the northern gulf is the drainage of what is now called the St. Lawrence River, and the western mountains are the Northern Appalachians. (Fig. 3) Biogeographically, the region is a combination of the Atlantic Maritime Ecozone and the northernmost territory in the Atlantic Marine Ecozone. (Fig. 4) On the eve of the sixteenth century, however, imaginary lines and names were not yet penned on territorial maps, dividing *Ketakamigwa* and creating new regional and national identities. Names of European origin were not yet assigned to the physical terrain, permanently replacing and essentially erasing native identification and representation of the inhabitant's 'sense of place.' (Fig. 5)

¹ Sebastien Rasle, 'A Dictionary of the Abenaki Language in North America 1690-1722', in John Pickering (ed.), *Memoirs of the American Academy of Arts and Sciences*, New Series, Vol. 1 (Cambridge, 1833), p. 533. Rasle defined '*Ketakamigwa*' as 'La grande terre sur le bord de la mer.'

² George Popham, 'Letter to King James I, December 13, 1607,' in *Collections of the Maine Historical Society*, 5 (1857), pp. 359-60. In addition to the Wabanaki, many Amerindians refer to North America as 'Turtle Island.' See Jane Louise Curry, *Turtle Island: Tales of the Algonquian Nations* (New York, 1999).



Figure 3. *Ketakamigwa* on a modern google map with state, provincial and international borders.

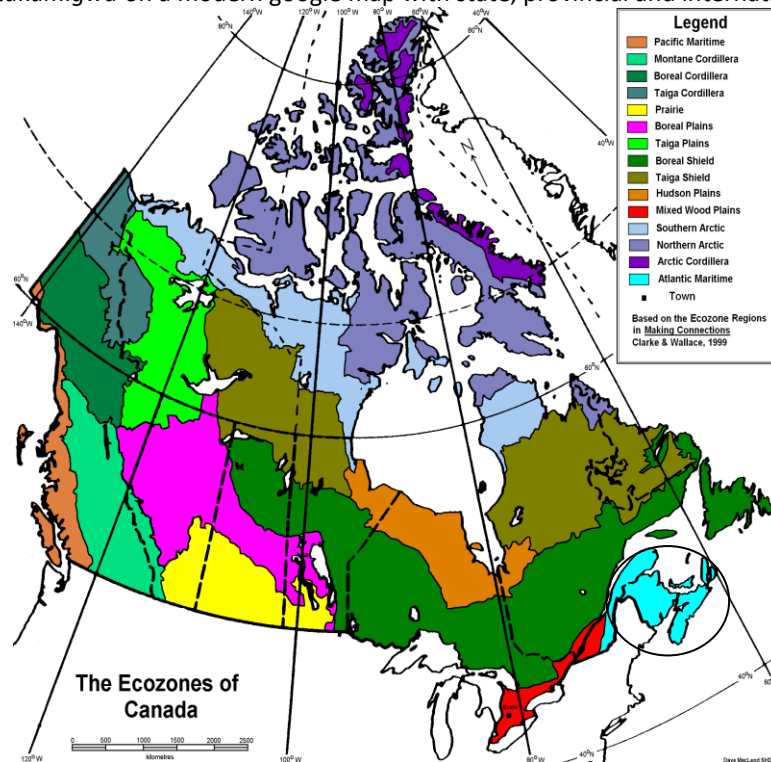


Figure 4. Ecozones of Canada © Bruce W. Clark and John K. Wallace, *Making Connections: Canada's Geography* (Toronto, 1999). The Atlantic Marine Ecozone extends south from Maine in the U.S.



Figure 5. The natural borders of *Ketakamigwa*.

Common ecological conditions and natural borders defined *Ketakamigwa* as a unique *space*, but it was the cultural practices and spiritual perceptions infused into that *space* by its inhabitants that made it a unique *place*. Over eleven millennia, the inhabitants in this water-world environment exhibited a great amount of resilience by realising new economic opportunities to ensure their preservation when faced with dynamic natural changes in climate, flora, and fauna. By the eve of the sixteenth century, *Ketakamigwa* was home to a shifting mosaic of indigenous people whose group identity revolved, in part, around a shared economy based on similar resources and climate conditions. Culturally, they were connected through multiple dialects of Algonquian tongue, extended familial ties of kinship, and common spiritual practices that included the shared belief they all descended from a hero called *Gluskap*.³ Politically, they were loosely affiliated through a tradition of rotating

³Like most Algonquian words transmitted orally, manipulated slightly by each dialect, and then written in both French and English by multiple authors, *Gluskap* has many spellings, including *Klose-kur-beh*, *Kluscap*, *Glooscap*, *Kuloskap*, ranging widely between temporal range, region and Algonquian dialect. See, Bruce G.

meetings among their leaders who sought to keep peace and maintain security. Collectively, they identified as the Wabanaki, a title formulated through the combination of the Algonquian words *waban*, which means the 'white' or 'light' of the dawn, and *aki*, which means 'land.'⁴ Each and every day, on the eastern shores of the sea, these were the first inhabitants of the 'large island' to see the rising sun, and so they considered themselves to be the 'Dawnland People' or 'The People of the Dawn.'

The northern half of *Ketakamigwa* was home to the largest linguistic group of the Wabanaki. They were called *Souriquois* by early French explorers, *Gaspesiens* by missionaries, *Tarrantines* by English travellers, and *Micmac* by their English colonisers, but they called themselves *Lnu'k* ('the people').⁵ The territory of the *Lnu'k* was called *Mi'kmaq'*, and it was divided into seven district kin groups: (1) the *Unama'kik*, or 'the land of fog,' which is today Cape Breton Island, (2) *Epekwitk*, or 'the land lying in the water,' which is Prince Edward Island and *aq Piktuk*, or 'The Explosive Place,' which is today Pictou County, (3) *Eskikewa'kik*, or the 'Skin Dressers Territory,' which is the northeast coastline and northern mainland of Nova Scotia, (4) *Sipekni'katik*, or 'wild potato area,' which is much of central mainland Nova Scotia, (5) *Kespukwik*, or 'last flow,' which is the southern region of Nova Scotia that borders the Bay of Fundy, Gulf of Maine, and the Atlantic Ocean, (6) *Siknikt*,

Trigger (ed.), *Handbook of North American Indians*, Vol. 15: *Northeast*, Smithsonian Institute (Washington, 1978), pp. 109, 116, and 132.

⁴ Harald E. L. Prins and Bunny McBride, *Asticou's Island Domain: Wabanaki Peoples at Mount Desert Island, 1500-2000*, Vol. 1, Acadia National Park Ethnographic Overview and Assessment (Boston, 2007), p. 1.

⁵ Ruth Holmes Whitehead, *Stories from the Six Worlds: Micmac Legends* (Halifax, 1988), p. 1. The English term 'Micmac' was used until the last few decades during which time the native spelling of 'Mi'kmaq' came into favour as one way to reclaim and celebrate native identity. 'Mi'kmaq' means 'the family' or 'kin group' and was a form of introduction: 'These are my relatives, nogomaq,' see Stephen Augustine, 'Presentation to the Royal Commission on Aboriginal Peoples', Big Cove, New Brunswick (20 October 1992); Ruth Holmes Whitehead, 'Atlantic Coast,' in *The Spirit Sings: Artistic Traditions of Canada's First Peoples*, Glenbow Museum (Toronto, 1987), p. 18. Bourque argues that the use of 'Souriquois' by Samuel Champlain refers to the Souricoa

or ‘drainage area,’ which is the region around the northern Bay of Fundy and the connecting land of Nova Scotia and New Brunswick, and (7) *Kespek*, or ‘last land,’ which is the northern most region of New Brunswick and eastern Gaspé Peninsula. (Fig. 6) Universally governed by *Kji-Niskam*, or ‘the Great Spirit,’ each regional kin group of *Lnu’k* recognised a chief or *sagamore* who represented them when multiple districts congregated, and who worked internally to maintain peace and stability within their own regions.⁶

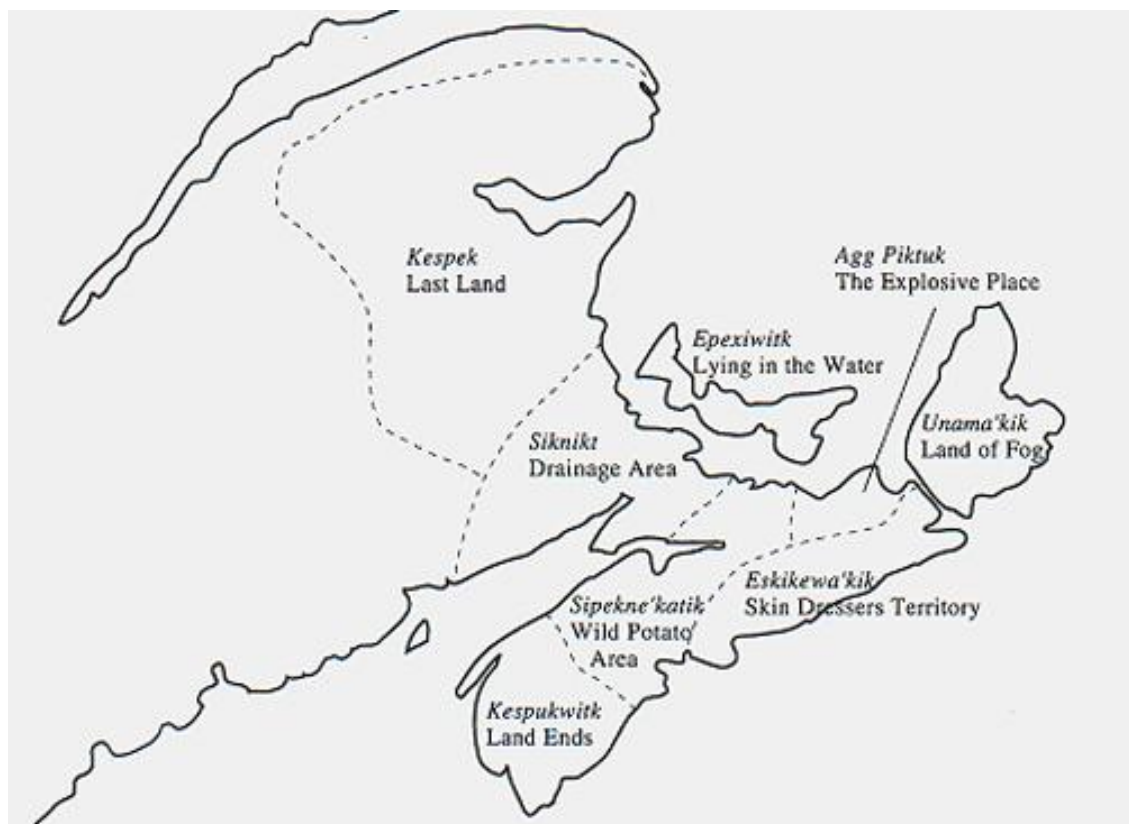


Figure 6. The Seven districts of Mi'kma'ki. © Daniel M. Paul, *We Were Not The Savages: Collision between European and Native American Civilizations* (Halifax, 2006).

To the west of *Lnu’k* and *Mi’kma’ki* was the *W’olastiquiyik*, or the ‘people of the sparkling water,’ who lived along the *Aroostook*, the ‘good and beautiful river,’ which is today the St.

River that runs from the Gulf of the St. Lawrence to the Bay of Fundy. See Bruce J. Bourque, ‘Ethnicity on the Maritime Peninsula, 1600-1759,’ in *Ethnohistory*, 36:3 (Summer, 1989), p. 262.

⁶The seven districts and their etymologies, as well as connection to *Kji-Niskam* provided by the Native Council of Nova Scotia (eds), *Mi’kmaw Resource Guide*, 4th Edition, Courtesy of NCNS Language Program (Truro, 1994), p. 3.

John River watershed of New Brunswick. Their *Lnu'k* neighbours called them *Maliseet*, meaning 'those who speak badly,' 'broken talkers' or 'lazy speakers,' which reflected both the *Lnu'k* pride in their own Algonquian dialect as well as a prejudice toward their neighbours, but it became a label used often as a proper name by Europeans.⁷ Neighbouring the *W'olastiquiyik* to the west of the *Aroostook* lived the *Peskotomuhkat*, 'the people who spear pollock' or 'those of the place where pollock are plentiful'.⁸ The territory of the *Peskotomuhkat* included a vast number of islands from what is today St. John River in the east, to Mount Desert Island in Penobscot Bay to the west, as well as their many tributaries that ran into the sea. Further south and west of *Peskotomuhkat* territory lived the *Penawapskewi* people whose domain was the Penobscot River, 'the rocky part' or 'descending ridges' of the river they still make their home. With a length of 240 miles, 322 streams, 625 lakes and ponds, and a total drainage of approximately 7,760 square miles, the Penobscot River was a water-world of its own.⁹ Traditionally, the *Penawapskewi* congregated in three primary villages for trade, meetings, and ceremony during the warmer months, including *Panawa'bskik*, or 'the white rocks place,' and 'where the river broadens out,' which is today called 'Indian Island' and where the Penobscot Nation currently resides. Twelve miles further up river was *Welama'nesuk*, where red ochre was once collected, and thirty-six miles further north was *Matna'gak*, or 'Long Island.'¹⁰ The *W'olastiquiyik*,

⁷ Vincent O. Erikson, 'Maliseet-Passamaquoddy', Bruce G. Trigger (ed.), *Handbook of North American Indians*, Vol. 15: *Northeast*, Smithsonian Institute (Washington, 1978), pp. 123-136, especially p. 135.

⁸ *Ibid.*

⁹ Harald E. L. Prins, 'Children of Gluskap,' Emerson W. Baker et al (eds.), *American Beginnings: Exploration, Culture, and Cartography in the Land of Norumbega* (Lincoln and London, 1994), p. 97.

¹⁰ Frank G. Speck, *Penobscot Man* (Orono, 1997), pp. 24-26. Also, see Fannie Hardy Eckstorm, *Indian Place-Names of the Penobscot Valley and the Maine Coast* (Orono, 1960), p. 46 where she breaks down 'Olamon' (the current name of the village of *Welama'nesuk*) to show the etymology behind it: 'pretty' or 'fine' 'vermillion,' 'red paint,' 'heaps of red paint.'

Peskotomuhkat, and *Penawapskewi* were often referred to by Europeans as *Etchemin*, a French translation of the Algonquian term for ‘canoe people.’¹¹

Together the *Lnu’k*, *W’olastiquiyik*, *Peskotomuhkat*, and *Penawapskewi* were the Wabanaki who inhabited the water-world of *Ketakamigwa* on the eve of the sixteenth century. Further south and west from them, in what are today the American states of Vermont and New Hampshire, were the *Abenaki*, who joined with them in the seventeenth century to create the Wabanaki Confederacy in response to colonial and intra-tribal pressures affecting their security. The *Abenaki*, as well as the *Kennebec*, *Arosaguntacook*, and *Pequawket* shared the Algonquian language and similar beliefs with the water-world Wabanaki, but they were not necessarily water-world peoples. They were horticulturalists whose corn, beans, and squash production meant they lived a more sedentary village life where hunting, fishing, and gathering merely supplemented farming. Their place was as far north as the upper Kennebec River, and as far south as the upper Saco River, spreading west with small pockets of arable land along the waterways, through southern Maine, New Hampshire, and Vermont, to the Great Lakes Region.¹²

¹¹ Eckstorm traces the origin of ‘Etchemin’ to *Skidjim*, which translates in Passamaquoddy to ‘Men.’ See Fannie Hardy Eckstorm, *Indian Place-Names of the Penobscot Valley and the Maine Coast* (Orono, 1960), p. xxvi. Bourque and Whitehead attribute the ‘canoe people’ to Samuel Champlain, in H. H. Langton and W. F. Ganong (eds.), *The Works of Samuel de Champlain*, Vol. 2, for The Champlain Society (Toronto, 1922), pp. 263-327. See Bruce J. Bourque and Ruth H. Whitehead, ‘Trade and alliances in the contact period,’ in Baker et al (eds.), *American Beginnings: Exploration, Culture, and Cartography in the Land of Norumbega* (Lincoln and London, 1994), p. 136. Lescarbot also used the term ‘Etchemin’ to describe the Wolastoquiyik and Passamaquoddy, and he included phonetic numerals for 1-10 in his journal (3:114), but these sounds have been found to match numbers in several Algonquian dialects of New England, and belong to no one specific tongue. See Ives Goddard, ‘Eastern Algonquian Languages’ in Bruce G. Trigger (ed.), *Handbook of North American Indians*, Vol. 15: ‘Northeast’ (1978), pp. 70-71.

¹² Langton and Ganong (eds.), *The Works of Samuel de Champlain*, Vol. 1, p. 321.

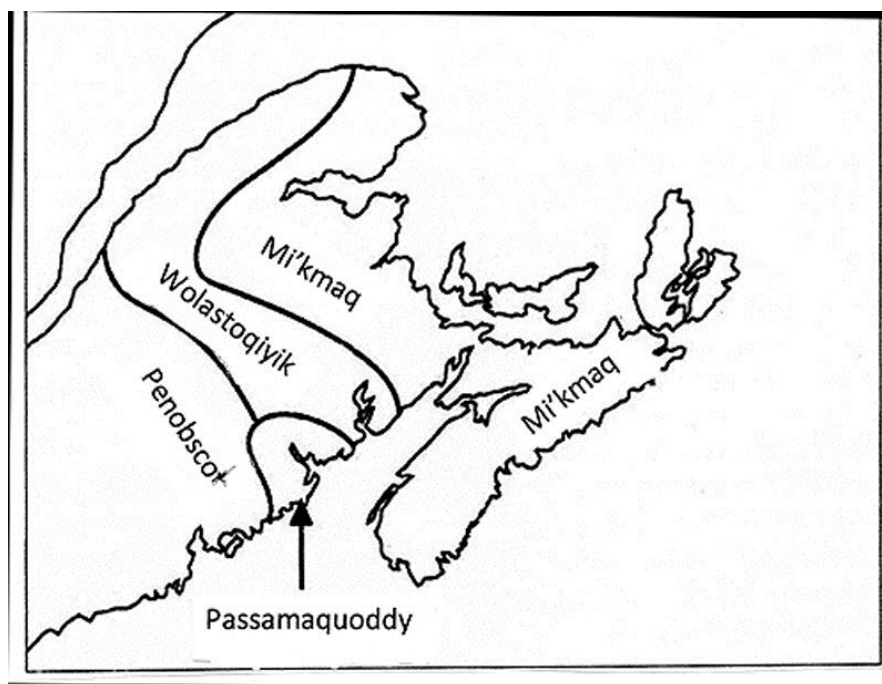


Figure 7. Native territories of *Ketakamigwa*.

The people on the western edge of the North Atlantic isolated for comparative purposes in this thesis are the Wabanaki who inhabited the water-world of *Ketakamigwa*. Today, they call themselves the Mi'kmaq, Wolastoqiyik, Passamaquoddy, and Penobscot.¹³ (Fig. 7) On the eve of the sixteenth century, they were not farmers. They were hunters, fishers, and foragers, some of whom participated in semi-annual migrations downriver to the coasts where they exploited numerous salt-water resources, and others who lived a primarily coastal lifestyle and only moved slightly inland during the colder months of winter. Their socio-political territories were associated with traditional management of the many river drainages, coastal inlets, and scattered islands of *Ketakamigwa*, and their beliefs were infused with lessons that defined their perception of an environment dominated by water. Therefore, their practices reflected the intimate relationships they cultivated with the creatures and resources of their water-world. Like all of the people who made *Ketakamigwa*

their home between deglaciation and European colonisation in the seventeenth and eighteenth centuries, the Wabanaki continuously navigated their way through the changing tides of environmental restraints, abundance, and threats. To ensure sustainable economic security and social coherence under environmental pressures, the Wabanaki were required to hone, adapt, and establish best practices. In the sixteenth century, when balance was compromised by external factors like European opportunists, new technologies, and deadly pathogens, the traditional practices and perceptions of the Wabanaki were threatened. Their increasingly volatile conditions were exacerbated by climate change during the 'Little Ice Age,' and then further complicated by internal factors within Wabanaki society, including protectionism, competitive self-interests, and desperation. Facing possible extermination or removal, the Wabanaki eventually made concessions and adjustments in order to salvage their collective cultural identity and to maintain their presence in *Ketakamigwa*.

The primary focus of this first chapter is the environmental history of *Ketakamigwa* from deglaciation to the eve of the sixteenth century. The etymology of the name 'Wabanaki' intimately connects the native people of the sixteenth century to the place of *Ketakamigwa*. Although previous inhabitants may not have called themselves 'Wabanaki,' their practices and perceptions were also a result of the relationship they developed with their evolving physical environment. By sifting through and merging together paleo-climatological evidence, archaeological finds, fragments of historical documents written during early Native-European encounters, and traditional knowledge passed down in oral stories, testimonials, and place names, it is possible to recreate some semblance of the dynamic physical and human maritime landscape that was sculpted by eleven millennia of

¹³ From this point further, I will refer to them as Mi'kmaq, Wolastoqiyik, Passamaquoddy, and Penobscot.

natural and anthropogenic forces. Reconstructing the water-world of *Ketakamigwa* up to the sixteenth century then provides the context and opportunity for a more thorough analysis of Wabanaki identity, water practices, and sense of place on the eve of European invasion. Against the backdrop of a dynamically evolving climate, great change was to come once the Wabanaki discovered the Europeans off the coast of *Ketakamigwa*. This chapter highlights changes to the environment and the corresponding human responses before those new psychological, physical, socio-economic, and political challenges flowed into *Ketakamigwa* with travellers from across the sea.

The First People and the New Environment

Between 15,000 and 13,000 years ago, temperatures increased and the Wisconsinan Laurentide Continental Ice Sheet receded to reveal parts of the Gulf of Maine and Bay of Fundy.¹⁴ As the land emerged from the retreating weight of the ice, the isostatic lift threw off the sea that once covered it.¹⁵ The deglaciation of *Ketakamigwa* revealed numerous ice-sculpted rock features, carved out ridges, and canyons of glacial melt-water that eventually proved influential to human settlement patterns. But life existed there well before people. Trapped in sedimentary deposits and layers of clay along the coast were the fossils of both vertebrate and invertebrate animals such as walrus, bearded seal, shellfish, and mammoth. By 11,000 years ago, with temperatures still about 6°C cooler than present day, the glacial ice sheet had fully retreated from *Ketakamigwa* where a new blanket of treeless tundra vegetation, including grass, moss, and lichen, covered a land mass that extended at least

¹⁴ R. R. Stea and R. J. Mott, 'Events of the Late Wisconsinan-Holocene transition in Nova Scotia,' *Abstracts, Geological Survey of America, 23rd Annual Meeting, 18031 (1988)*, p. 72.

¹⁵ This is typically referred to as the 'Paleo-Indian' period in archaeology: 12,000-10,000 years before present.

seventy-five metres further toward the sea than it does today.¹⁶ This rising of the land and falling of the sea exposed the Grand Banks, Continental Shelf, and created a land-bridge between Prince Edward Island and the mainland.¹⁷ It was into this very new, hostile, and still rapidly changing environment, that people came from a south-westerly direction, following the wandering grazing animals on which they were most dependent: the bison, caribou, mastodon, and mammoth.¹⁸

Because, over time, the acidic soil of the region poorly preserved organic tissue evidence, archaeological studies have relied on interpreting such finds as fluted spear points, drills, endscrapers and sidescrapers, all indicative of work with hides, bone, antler, and wood. Excavations such as the Vail site along the Magalloway River in northern Maine and the Debert site in Nova Scotia, indicate the presence of several encampments and animal kill sites strategically located down wind and on higher ground, where sandy soils provided the drainage for the vegetation that attracted the large grazing mammals.¹⁹ Responding to a changing environment, many of these people followed herds as they migrated north over the next two millennia, establishing settlements like the Jones Site in St. Peter's Bay on Prince Edward Island, as well as sites on both Les Iles de la Madeleine in the Gulf of St.

¹⁶ In addition to ice core data, beetle fossils from the region provide evidence for temperatures. Donald McAlpine and Ian Smith (eds.), *Assessment of Species Diversity in the Atlantic Maritime Ecozone* (Ottawa, 2010), pp. 17-20.

¹⁷ David L. Keenlyside, 'The Prehistory of the Maritimes,' *Canada's Visual History*, No. 65, National Museum of Man (Ottawa, 1984). Also, see P. Gareau, M. Lewis, J. Shaw, T. Quinlan, A. Sherin, and R. Macnab, *Digital paleo-elevation modelling for reconstruction of Late Wisconsinan and Holocene paleogeography of the Atlantic Canada and Great Lakes Regions* (Quebec, 1998).

¹⁸ Robson Bonnicksen, David Keenlyside, and Karen Turnmire, 'Paleoindian Patterns in Maine and the Maritimes,' in Michael Deal and Susan Blair (eds.), *Prehistoric Archaeology in the Maritime Provinces: Past and Present Research*, Reports in Archaeology, No. 8, New Brunswick Archaeological Services, Cultural Affairs, Department of Municipalities, Culture and Housing (Fredericton, 1991), pp. 1-36.

¹⁹ For overviews of these two sites, see George F. MacDonald, *Debert: A Paleo-Indian Site in Central Nova Scotia*. National Museum of Man, Anthropology Paper, No. 16 (Ottawa, 1968) and Michael R. Gramly, *The Vail Site: A Paleo-Indian Encampment in Maine*. Buffalo Society of Natural Sciences Bulletin, No. 30 (Buffalo, 1982).

Lawrence and the southern coast of Labrador.²⁰ Populations were relatively small, extremely mobile, and the diverse composition of materials used to make tools with fluted points indicates they were part of an inter-connected network of trade throughout the region, from as far south as modern New York and Pennsylvania, to the northernmost region of Nova Scotia.²¹ Although they most likely supplemented their diet with regionally available small mammals, fish, birds, and plants, these first peoples were primarily game hunters who were skilled in working with bone and stone and moved seasonally to find their prey. It is impossible to understand their values to any insightful degree, but their settlement behaviours indicate they were social beings who purposely surrounded their large ceremonial and social gathering sites with many smaller familial encampments, creating a tight network of relations that established a sense of community.²²

Archaeological studies for this period of 'Paleo-Indian' history have produced multiple settlement sites, hundreds of tools, and large animal bones. However, scholars debate whether this evidence represents the ancestral heritage of the Wabanaki or a people who simply came to *Ketakamigwa* following their prey, only to follow it back out of the region before another people replaced them altogether.²³ Wabanaki oral tradition acknowledges an ancestral link with the 'Paleo-Indian' people through several stories recorded well before archaeological studies in *Ketakamigwa* commenced.²⁴ As illustrated by Joseph Nicolai in his

²⁰ David L. Keenlyside, 'Glimpses of Atlantic Canada's Past', originally published in *Revista de Arqueologia Americana*, No. 16 (1999), p. 6.

²¹ For instance, the lustrous chert used in a fluted point held at the Maine State Museum is not from the region. Gramly, *Ibid.*, pp. 54-58; and Michael R. Gramly, 'Kill Sites, Killing Ground and Fluted Points at the Vail Site,' *Archaeology of Eastern North America*, 12 (1984), pp. 184-191.

²² Bruce J. Bourque, *Twelve Thousand Years: American Indians in Maine* (London, 2001), p. 35.

²³ Bonnichson et al, (1991), pp. 6-7, 22-23.

²⁴ Many Passamaquoddy stories tell of 'the time when the water went backwards' and the Lenox Island Band of Mi'kmaq on Prince Edward Island have a story about the time when their island was part of the mainland. The

1893 publication, *The Life and Traditions of the Red Man*, Klose-kur-beh (Gluskap)

encountered the mammoth, confronted him, and predicted his demise. First, the mammoth boasted to Klose-kur-beh:

Even the trees bend when I touch them; I can break the branches with my long lip and tear up the earth when I choose; and when I meet your children, they can only save themselves by running out of my way; ... Seven of your children can I hang on my two teeth and go my way to meet more. Their weapons I do not fear, because my skin is so thick and hard even the hair will not grow out of it ... Enemies we entered the land and enemies let us live in it.²⁵

Then Klose-kur-beh responded:

Woe unto you 'Par-sar-do-kep-piart,' mammoth, for in a little while, your pride will fall with your body. This will show my children that there is a power somewhere which is far greater than your power that can protect them from any violence you can press against them. There will be no need of teaching a lesson to those that will come after you, because there will be none, because when the power does its work, it will be final, none of your kind will escape, but will all perish alike. My children shall stand around and gaze upon your bones; and the bones will last as long as the world stands, but your skin and flesh that give you so much pride will never be seen by any of my children.²⁶

Human Adaptation to an Evolving Water-World Environment

Between 11,000 and 3,000 years ago, the environment of *Ketakamigwa* underwent an ecological metamorphosis that created and cultivated the water-world conditions to which its inhabitants became oriented.²⁷ Climatic conditions, over the long term, evolved from

Passamaquoddy oral tradition tells of when 'the time the ice retreated north, when summer pushed it away.' See Gunnar Hansen, Bing Miller, and Jeff Dobbs, *N'tolonapemk: Our Relatives' Place*, Tribal Historic Preservation Office (2006). Also, Frank Speck retold a Penobscot story about a beast with 'teeth long enough to pierce seven hunters, a lip long as 'seven paces' and an unconquerable strength until destroyed by the will of Gluskabe. See his discussion in 'Mammoth or "Stiff-Legged Bear"' in *American Anthropologist*, New Series, 37, 1:1 (January-March, 1935), pp. 159-163.

²⁵ Annette Kolodny (ed.), *The Life and Traditions of the Red Man by Joseph Nicolai* (Durham, 2007), p. 119. This was originally published in Bangor, Maine by C.H. Glass & Co. in 1893.

²⁶ Ibid.

²⁷ Referred to as the 'Archaic Period' in North American archaeology and anthropology, this is a complex period of culture broken into three stages: 'Early' from 10,000-8,200 before present; 'Middle' from 8,200 to 5,400

severe cold and dry (11,600 to 8,200 BP) to warm and wet (7,900 to 5,250 BP), then to very warm and dry (5,000-4,000 BP), and finally transitioned to cooler and wetter by 3,000 BP.²⁸ During the first two millennia, cold water poured into the sea from the melting ice north of *Ketakamigwa*. These decreased water temperatures limited marine biodiversity, which is why the earliest inhabitants of the region remained hunters. Despite the long-term rising air temperatures, vegetation records indicate a drastic three-century cooling period between 8,200 and 7,900 BP, as well as a number of short-term temperature fluctuations, including a marked dryness after 5,250 BP and then extremely high levels of winter precipitation around 3,000 BP.²⁹ New economic opportunities arose from the long-term warming of the climate, growth of vegetation, and immigration of new terrestrial and marine species. However, extreme weather patterns during the three-century severe cooling trend as well as the later short-term climate fluctuations would have resulted in economic insecurity by limiting or simply changing ecological biodiversity that made existing practices unpredictable.³⁰ For

before present; and 'Late' from 5,400 to 3,000 before present. The word 'archaic' should not be used in the traditional sense as 'primitive' or 'unsophisticated,' but instead as a reference to an 'early' period of great cultural development, much in the way the period of 'Archaic' Greek history is viewed.

²⁸ See Samuel E. Munoz, Konrad Gajewski, and Matthew C. Peros, 'Synchronous environmental and cultural change in the prehistory of the northeastern United States,' *Proceedings of the National Academy of Science*, 107:51 (21 December 2010), pp. 22008-22013. NOTE: Where an estimated number of calendar years are indicated, I simply say 'approximately' so many 'years ago.' Where dates have been determined by radiocarbon decay, BP (for 'before present') is utilised. With 1950 providing the bench mark, a scientific calibration scale converts radiocarbon ages to calendar dates. These calibrated dates will also be present in the accompanying referenced scientific studies. The calibration process is described in detail by Richard G. Fairbanks, Richard A. Mortlock, Tzu-Chien Chiu, Li Cao, Alexey Kaplan, Thomas P. Guilderson, Todd W. Fairbanks and Arthur L. Bloom, 'Marine Radiocarbon Calibration Curve Spanning 0 to 50,000 Years B.P. Based on Paired ²³⁰Th/²³⁴U/²³⁸U and ¹⁴C Dates on Pristine Corals,' in *Quaternary Science Reviews*, 24 (2005), pp. 1781-1796.

²⁹ This climate anomaly is considered by anthropologists and archaeologists to be the transition between the 'Early' and 'Middle Archaic' periods. See Munoz et al., *Ibid.*, Fig. 2, p. 22010.; McAlpine and Smith (eds.), *Assessment of Species Diversity in the Atlantic Maritime Ecozone*, p. 20; and R. B. Alley, P. A. Mayewski, T. Sowers, M. Stuiver, K. C. Taylor and P. U. Clark, 'Holocene climatic instability: A prominent, widespread event 8,200 yr ago,' *Geology*, 25:6 (1997), pp. 483-486; and D.C. Barber et al., 'Forcing of the cold event of 8,200 years ago by catastrophic drainage of Laurentide lakes,' *Nature*, 400 (1999), pp. 344-348.

³⁰ B. Shuman, P. Newby, J.P. Donnelly, 'Abrupt climate change as an important agent of ecological change in the Northeast U.S. throughout the past 15,000 years,' *Quaternary Science Review*, 28 (2009), pp. 1693-1709.

example, around 5,400 BP, a pathogenic outbreak devastated hemlock throughout the region.³¹ This drastic decline of hemlock would have increased soil erosion and runoff, both of which would have resulted in more frequent flooding. That these consequences were realised is indicated in the geoarchaeology where extremely high levels of alluvium are present for the period up to 5,250 BP.³² Despite this type of vegetation and soil data, however, there is simply not enough surviving physical evidence to fully analyse the direct impact of each short-term fluctuation on human settlement and subsistence patterns. This is due, in part, to the rise in sea level that became more rapid following the warm and wet conditions of the 'Middle Archaic' when the warm and dry conditions at the beginning of the 'Late Archaic' shortened winters and decreased precipitation in *Ketakamigwa*.³³ Between 5,000 and 4,000 BP, temperatures eventually rose to a regional optimum that averaged 2°C higher than present day.³⁴ The significant population increase during this millennium may be linked to the extraordinary growth and diversity in woodland habitat that stimulated cultural development and extended communications between the people of *Ketakamigwa* and other

³¹ K.D. Bennett and J.L. Fuller, 'Determining the age of the mid-Holocene *Tsuga canadensis* (hemlock) decline, eastern North America, *Holocene*, 12 (2002), pp. 421-429; T.D. Allison, R.E. Moeller, and M.B. Davis, 'Pollen in laminated sediments provides evidence for a mid-Holocene forest pathogen outbreak,' *Ecology*, 67 (1986), pp. 1101-1105; and D.R. Foster, W.W. Oswald, E.K. Faison, E.D. Doughty, and B.C.S. Hansen, 'A climatic driver for abrupt mid-Holocene vegetation dynamics and the hemlock decline in New England, *Ecology*, 87 (2006), pp. 2959-2966.

³² D. Sanger, H. Almquist, and A. Dieffenbacher-Krall, 'Mid-Holocene cultural adaptations to central Maine,' in David G. Anderson, Kirk A. Maasch, and Daniel H. Sandweiss (eds.), *Climate Change and Cultural Dynamics: A Global Perspective on Mid-Holocene Transitions* (London, 2007), pp. 435-456, hemlock analysis on p. 448. For data regarding flooding events, see D.E. Putman, 'Vertical accretion of flood deposits and deeply stratified archaeological site formation in central Maine, U.S.A.,' *Geoarchaeology*, 9 (1994), pp. 467-502. For alluvium reports, see A.R. Kelley and D. Sanger, 'Post-glacial development of the Penobscot River Valley: implications for geoarchaeology,' in D. Creameens and J. Hart (eds.), *Geoarchaeology of Landscapes in the Glaciated Northeast* (Albany, 2003), pp. 119-133.

³³ Munoz et al., *Ibid.*

³⁴ *Ibid.*; Also, E. C. Pielou, *After the Ice Age: The Return of Life to Glaciated North America* (Chicago, 1992) and Hélène Jetté et Robert J. Mott, 'Vegetation and Climate of Maritime Canada 6000 Years BP: A Synthesis.' *Géographie physique et Quaternaire*, 49:1 (1995), pp. 141-162.

regions on Turtle Island via trade and immigration.³⁵ However, as the warm and dry conditions turned cooler and wetter, winters saw a significant increase in snowpack corresponding with evidence for a subsequent population decline.³⁶ Despite the great amount of evidence stolen away by rising seas and acidic soils, a glimpse of *Ketakamigwa's* transformation and the response of its inhabitants to natural changes in their environment between 10,000 and 3,000 BP will be traced here through the available scientific data.

Around 10,000 BP, warming weather brought with it substantial vegetation growth. New species of oak, beech, and hemlock began to grow among the already existent birch, poplar and spruce.³⁷ This rapidly growing and diversifying woodland replaced the previous tundra vegetation and provided the timber from which native watercraft would eventually be made. While the increase in forests brought new fauna, including deer, moose, and bear, as well as many small mammals, it also forced the larger mammals north where trees would not hinder their movement or ability to graze. The people who lived in *Ketakamigwa* at the time, adapted to change by evolving their tool technology for more advanced woodworking to produce dugout canoes, food vessels and fish weirs.³⁸ These archaeological finds correspond to the warmer water temperatures that eventually increased marine biological productivity to make river and coastal resources ripe for exploitation. This was not simply a

³⁵ Munoz et al., pp. 22010-22011. Also, M.C. Peros, S.E. Munoz, K. Gajewski, and A.E. Viau, 'Prehistoric demography of North America inferred from radiocarbon data,' *Journal of Archaeological Science*, 36 (2010), pp. 656-664.

³⁶ Munoz et al., pp. 22010-22011; S.J. Fiedel, 'What happened in the Early Woodland?' *Archaeology of Eastern North America*, 29 (2001), pp. 101-142.

³⁷ B. Shuman et al., *Ibid.*

³⁸ Brian S. Robinson, 'Early and Middle Archaic Period Occupation in the Gulf of Maine Region: Mortuary and Technological Patterning,' in Brian S. Robinson, James B. Petersen, and Ann K. Robinson (eds.), *Early Holocene Occupation in Northern New England*, Occasional Publications in Maine Archaeology, No. 9. Archaeological Society and Historic Preservation Commission (Augusta, 1992), p. 96. James B. Petersen, Brian S. Robinson, Daniel F. Belknap, James Stark, and Lawrence K. Kaplan, 'An Archaic and Woodland Period Fish Weir Complex in Central Maine,' in *Archaeology of Eastern North America*, 22 (1994), pp. 197-222.

regional event. Evidence for a global rise in temperature has been identified in the Greenland glacial ice cores where fluctuations are present in both the oxygen and carbon isotope values.³⁹

Over more than six millennia, the drainage of the land and gradual warming of the climate that cultivated woodland and marine ecosystems significantly altered the lifeways of the people living in *Ketakamigwa*. Each generation that adapted to change in their water-world environment not only responded physically, but psychologically, and their knowledge and understanding passed along to the next generation. The Mi'kmaq still tell the story of 'how summer was brought back to the land,' when two young boys collected warm air, birds and new vegetation in a bag, brought it back to their families, and opened it.⁴⁰ They also tell of the battle between Kluskap and the 'God of Winter.'⁴¹ Kluskap lost the battle, which resulted in winter conditions all year round. When the 'Goddess of Summer' returned the four seasons, she left one bit of ice in the Cobequid Mountains to melt slowly and runoff down the mountain.⁴² Geological studies reveal that the Cobequid Mountains were the last range in the province to lose their ice sheet.⁴³

Included in this ecological metamorphosis was sea level rise from the continuing northern deglaciation, with the subsequent submerging of coastal shorelines and significant

³⁹ Daniel F. Belknap, Douglas C. Kellogg, Bruce J. Bourque, and Steven L. Cox, 'Geological Stratigraphy at the Sebasticook Lake Fish Weir from Core Samples,' held in the Maine State Museum (Augusta, 1994). Also, Graeme Wynn, *Canada and Arctic North America: An Environmental History* (Oxford, 2007), p. 23.

⁴⁰ Marion Robertson, *Red Earth: Tales of the Mi'kmaq* (Halifax, 1996), pp. 49-50.

⁴¹ n.a. 'The Story Begins,' in *Kekina'muek: Learning about the Mi'kmaq of Nova Scotia*, Confederacy of the Mainland Mi'kmaq (Truro, 2007), p. 2.

⁴² Ibid.

⁴³ Harold W. Borns, 'Late Glacial Ice-Wedge Casts in Northern Nova Scotia, Canada,' *Science*, 148:3674 (28 May, 1965) pp. 1223-1226; also see 'Glaciation, Deglaciation and Sea-Level Changes,' T3.3, Vol. I, *Natural History of Nova Scotia*, Vol. I, Nova Scotia Museum of Natural History Digital Edition. URL: <http://museum.gov.ns.ca/mnh/nature/nhns/t3/t3-3.pdf> accessed 9 July 2011.

drops in interior lake levels throughout *Ketakamigwa*.⁴⁴ This slow process eliminated many 'Early' and 'Middle Archaic' settlements, but the region's inhabitants adjusted to the encroaching sea by establishing new coastal sites where the eventual warmer water conditions favoured small marine resources like oyster and quahog, and new inland sites along waterways that provided habitat for alewife, whitefish, shad, brook trout, and eel. Many of the submerged coastal and lakeside sites have been identified via under-water archaeological research.⁴⁵ As a result, artefacts have been discovered off the coasts of Mount Desert Island, Eastern Blue Hill Bay, Digby Neck, and Campobellow Island in Passamaquoddy Bay.⁴⁶ Eventually, warmer water temperatures in both the ocean and inland waterways encouraged opportunistic settlement patterns as people became more dependent on new water resources. Tool technology for the 'Early' to 'Middle Archaic' periods include a variety of utensils for trapping the smallest of sea creatures to hunting larger sea prey like the swordfish, porpoise, and Atlantic Cod.⁴⁷ Near Deer Isle, on the eastern side of Penobscot Bay in the Gulf of Maine, several under-water artefacts and extraordinarily large oyster shell finds indicate the presence of an ancient estuary. Submerged for at least four thousand years and several miles in length, this drowned

⁴⁴ D. Sanger, 'Some thoughts on the scarcity of archaeological sites in Maine between 10,000 and 5,000 years ago,' in D. Sanger (ed.), *Discovering Maine's Archaeological Heritage*, Maine Historic Preservation Commission (Augusta, 1979), pp. 23-34.

⁴⁵ John G. Crock, James B. Petersen, and Ross M. Anderson, 'Scalloping for Artifacts: A Biface and Plummet from Eastern Blue Hill Bay Maine' in *Archaeology of Eastern North America*, 21 (1993), pp. 179-192. Brent Murphy, *Researching the Early Holocene of the Maritime Provinces*, Paper presented to the Canadian Archaeology Association 30th Annual Conference (Saskatoon, Saskatchewan, 1997). David Sanger, 'Maritime Adaptations in the Gulf of Maine,' *Archaeology of Eastern North America*, 16 (1988), pp. 81-99.

⁴⁶ M. J. Stright, 'Archaeological Sites on the North American Continental Shelf,' *Geological Society of America, Centennial Special*, 4 (1990), pp. 439-465; D. W. Black, 'A Native Artifact from the ocean floor near Indian Island,' *Fieldnotes: The Newsletter of the New Brunswick Archaeological Society*, 3:2 (1997), pp. 5-7; D. L. Kennylside, "'Ulus" and Spearpoints; Two New Archaeological Finds from Prince Edward Island,' *The Island Magazine*, 16 (1984), pp. 25-27.

channel between Lazygut Island and Deer Isle is believed to have once been a coastal estuary where people living on the surrounding islands and bays harvested oysters.⁴⁸ Finds from Taft's Point, Frenchman and Blue Hill Bays, as well as a 5,000-year continuously inhabited site at Turner Farm, all provide evidence that people fashioned their weapons from swordfish bills, stone and bone. Their refuse reveals a diet of cod, swordfish, seal, and birds, supplemented by deer in the late fall and winter. Marine life was obviously influential in their daily lives, an inference further supported by the stone figurines found in burial remains.⁴⁹ These people lived in villages that were multi-seasonal, and they invested their energy and spiritual inspiration in the creation of effigies, symbols and artistic imitations of marine-mammals that represented their intimate connection with the water-world environment.

Using watercraft fashioned from wood, travel through *Ketakamigwa* would have been much quicker and easier during the 'Archaic' period than it was on foot during the 'Paleo-Indian' period. Ease of water-travel would have also established a strong topographical knowledge and enabled trade networks to operate throughout, and eventually extend beyond, the region. Excavations in modern Maine, like the burial at Passadumkeag and the settlement at Blackman Stream, both reveal toolkits with ground and chipped stone, bone hooks, and a faunal collection of catadromous fish, turtle, small terrestrial mammals, snake

⁴⁷ Bruce J. Bourque, *Diversity and Complexity in Prehistoric Maritime Societies: A Gulf of Maine Perspective* (New York, 1995), pp. 1-7, 219-220.

⁴⁸ Arthur E. Spiess, Bruce J. Bourque, and Steven L. Cox, 'Cultural Complexity in Maritime Cultures: Evidence from Penobscot Bay, Maine,' in Ronald J. Nash (ed.), *The Evolution of Maritime Cultures on the Northeast and the Northwest Coasts of America*, Publication No. 11, Department of Archaeology, Simon Fraser University (1983), p. 93.

⁴⁹ *Ibid.*, pp. 95-97.

and bird.⁵⁰ Although many coastal sites from the period are below water, riverine and lacustrine inland sites also contained sea mammal bones among their assemblages, an indication that the people of *Ketakamigwa* travelled down their rivers to exploit coastal resources or traded with the people who lived there.⁵¹ Warming conditions initiated biological productivity in the Gulf of Maine well before the waters north and east of Penobscot Bay, but archaeological evidence indicates marine habitat was also exploited as far north as the Bay of Fundy, Northumberland Strait, and Cape Breton Island. Dredged materials from submerged sites around Prince Edward Island, and the coasts of New Brunswick and Nova Scotia, reveal a tool technology for the hunting of walrus and seal made from common materials.⁵² For example, harpoons, projectile points, and bayonets fashioned from the same type of slate were found in southern Nova Scotia, along the Bay of Fundy, and in many inland waterways including the Mersey River and Barren Lake.⁵³ This not only supports that there was a regional dependence on marine resources, but that slate was exchanged along maritime routes.⁵⁴ Indications are that, during this 'Early' and 'Middle Archaic' period, most stone was quarried regionally, but there is evidence of imported

⁵⁰ B. Robinson, 'Early and Middle Archaic Period Occupation in the Gulf of Maine Region: Mortuary and Technological Patterning,' in B. Robinson, J. Petersen and A. Robinson (eds.), *Early Holocene occupation in Northern New England*, Occasional Papers in Maine Archaeology, No. 9, Maine Historic Preservation Commission (Augusta, 1992), pp. 63-116; D. Sanger, W.R. Belcher, and D.C. Kellogg, 'Early Holocene Occupation at the Blackman Stream Site, Central Maine,' in B. Robinson et al (eds.), *Ibid.*, pp. 149-162.

⁵¹ B.M. Murphy, *Researching the Early Holocene of the Maritime Provinces*, Masters Thesis, Department of Anthropology, Memorial University of Newfoundland (St. John's, 1998). Murphy examined remains from over thirty locations.

⁵² Keenlyside, p. 7.

⁵³ S. A. Davis, 'Yarmouth Coastal Survey,' in S.A. Davis, C. Lindsay, R. Ogilvie, and B. Preston (eds.), *Archaeology in Nova Scotia 1987 and 1988*, Nova Scotia Museum, Curatorial Report 69 (Halifax, 1991), pp. 69-88. Also see S.A. Davis and David Sanger, 'Preliminary Report on the Bain site and the Chegoggin Archaeological Project,' in S.A. Davis et al (eds.), *Ibid.*, pp. 165-171.

⁵⁴ Bourque sees the long slate bayonets as imitations of swordfish bills. See 'Evidence for Prehistoric Exchange on the Maritime Peninsula,' in J.E. Ericson and T. Baugh (eds.), *Prehistoric Exchange Systems in North America* (New York, 1994), p. 27.

minerals from beyond the boundaries of *Ketakamigwa*. For example, copper artefacts from Lake Superior were present in a number of Maine coastal burial excavations.⁵⁵

The ecological transformation that took place during the 'Early' and 'Middle Archaic' periods established *Ketakamigwa* as a water-world environment. By 5,000 BP, the evidence supports that the inhabitants of *Ketakamigwa* revolved their settlement patterns and subsistence behaviours around a mixed economy of terrestrial and marine resources located in coastal, riverine, and lacustrine locations. The period between 5,000 and 4,000 BP further altered practices as climate conditions reached an optimum that complicated marine ecosystems while stimulating inland economies that in turn stimulated material culture.⁵⁶ During this particular millennium, air and water temperatures favoured terrestrial and vegetational biological productivity. Warm temperatures also aided the growth of new wetland habitat and the expansion of hardwood forests that created the vast woodland-wetland homes for beaver and muskrat.⁵⁷ This increase in the woodland resource base appears to have encouraged regional cultural productivity, population growth, and immigration of new peoples into *Ketakamigwa*. Excavations of over 400 'Red Paint People' cemeteries between the Kennebec and Penobscot Rivers have unearthed decorative ceremonial items and highly designed tools from this period.⁵⁸ Further north, above the

⁵⁵ Brian S. Robinson, 'A Regional Analysis of the Moorehead Burial Tradition: 8500-3700 B.P.' *Archaeology of Eastern North America*, 24 (1996), pp. 95-148.

⁵⁶ McAlpine and Smith (eds.), *Assessment of Species Diversity in the Atlantic Maritime Ecozone*, p. 20.

⁵⁷ Heather Almquist-Jacobson and David Sanger, 'Holocene climate and vegetation in the Milford drainage basin, Maine, U.S.A., and their implications for human history,' *Vegetation History and Archaeobotany*, 4:4 (1995), pp. 211-222.

⁵⁸ The 'Red Paint' label was assigned due to the presence of red ochre in burials. See David Sanger, 'Some thoughts on the scarcity of archaeological sites in Maine,' *Ibid.* Some anthropologists refer to this as the 'Moorehead Phase' named for Warren K. Moorehead who carried out the original excavations. See his *A Report on the Archaeology of Maine* (Andover, 1922); further work has been done by Bourque, *Diversity and Complexity*, *Ibid.*, p. 140, and Bruce J. Bourque and Harold W. Krueger, 'Dietary Reconstruction from Human

Penobscot River and into modern New Brunswick and Nova Scotia, excavations have produced evidence of a cultural trend diffusing in from the Lower Great Lakes and Upper St. Lawrence Valley regions.⁵⁹ Meanwhile, excavations from Hirundo in Maine, Magaguadavic Lake in New Brunswick, and several river and lake sites in Nova Scotia have produced similar toolkits dating to between 5,000 and 4,000 BP.⁶⁰ These tools correspond to bone assemblages of anadromous fish, including salmon, shad, and alewife.⁶¹ This increase in woodland and inland water biodiversity enhanced the mixed economy of people who lived and traded along the many waters and lakes of the region. For those along the coast, however, it meant something different.

The climate optimum between 5,000 and 4,000 BP complicated existing coastal economies. Initially, the bone assemblages of coastal inhabitants included sturgeon, swordfish, and sea mammals, while their toolkits included harpoons.⁶² As the millennium continued, however, the climate optimum combined with changes in tidal amplitude affected swordfish, sturgeon, sea mammals, and soft shell clam populations.⁶³ As a result, by 4,000 BP, midden deposits show a sharp decrease in swordfish and sturgeon bone but a significant increase in clamshells.⁶⁴ People living along the coasts of *Ketakamigwa* during

Bone Isotopes for Five New England Coastal Populations,' in Kristin D. Sobolik (ed.), *Paleonutrition: The Diet and Health of Prehistoric Americans* (Carbondale, 1994), pp. 195-209.

⁵⁹ This has been termed the 'Vergennes Phase' in Anthropology and Archaeology. See S.L. Cox, '95.20 and the Vergennes Phase in Maine,' *Archaeology of Eastern North America*, 19 (1991), pp. 135-161.

⁶⁰ Cox, *Ibid.*, and D.E. Rutherford, 'Continuity of Moorehead Phase Populations in New Brunswick and Maine,' *Proceedings of the 1990 Algonquian Conference* (St. John's, 1991), pp. 329-336.

⁶¹ D. Sanger, R.B. Davis, R.G. MacKay, and H.W. Borns, 'The Hirundo Archaeological Project – An Interdisciplinary approach to Central Maine Prehistory,' in W.S. Newman and B. Salwen (eds.), *Amerindians and their Paleoenvironments in Northeastern North America*, *Annals of the New York Academy of Sciences*, 288 (1977), pp. 457-471.

⁶² Speiss, *Ibid.*

⁶³ D. Sanger, 'Culture Change as an Adaptive Process in the Maine-Maritimes Region,' *Arctic Anthropology* 12:2 (1975), pp. 60-75, statistics and discussion of tidal amplitude on p. 61.

⁶⁴ *Ibid.*

this time began hunting inland for moose and deer, and their toolkits held stone knives, awls, needles, and scrapers.⁶⁵ But this did not mean they abandoned their coastal habitations altogether. Rather they seem to have adjusted their practices in response to their changing environment. The loss of swordfish and sturgeon, as well as a decrease in seals, forced the inhabitants of *Ketakamigwa* to adjust existing fishing strategies and increase their hunting time. As a result, their orientation appears to have shifted during the period more toward the woodland environment. Deer, moose, bear, nuts (primarily acorn), and birds became more central to both their diet and daily comforts.⁶⁶ In addition to inland resources, middens dated to the centuries just before and after the climate peak reveal greater numbers of shellfish apart from the large numbers of clam. Not only was shellfish collected for food and bait, but burial mound excavations reveal the inhabitants of *Ketakamigwa* were engaging in new practices that involved processing shellfish for dye and fashioning them into ornaments.⁶⁷

During the centuries that followed the climate optimum, people still exploited fewer coastal resources and either moved inland during hunting or freshwater fishing seasons or simply lived more permanently along the many rivers that drained into their sea. As the number of settlements along inland rivers and lakeshores increased, evidence from bone assemblages and refuse indicates a mixed and vibrant economy as well as a growing population in *Ketakamigwa*.⁶⁸ In addition, hunters and fishers advanced their tool kits to accommodate a growing variety of water-woodland mammals like otter, beaver, and

⁶⁵ Bourque, 'Diversity and Complexity,' pp. 225-231.

⁶⁶ Spiess et al., 'Cultural Complexity in Maritime Cultures,' pp. 89-99.

⁶⁷ Ibid.

⁶⁸ Peros et al., p. 660.

muskrat, while the evidence supports a more diverse diet of freshwater fish including numerous species of trout, beyond the original shad and alewife.⁶⁹ The inhabitants of *Ketakamigwa* also designed new implements for exploiting these under-water river and lake resources, including fishing equipment made from Carolinian quartz, local woods, beaver incisors, and antler, while they fashioned pelts from small fur-bearing animals into clothing and accessories.⁷⁰ Although dugouts were still in use for difficult open ocean travel, the natural spread of hardwoods during the climate optimum made possible the construction of more versatile inland watercraft made from a combination of existing softwoods and new hardwoods.⁷¹ The growth and diversity in forest also encouraged stronger and more efficient river weirs for catching fish in rapid waters as well as a variety of new designs for weaving domestic containers of bark.⁷²

Following the climate optimum, temperatures began to decrease again. Between 4,000 and 3,000 BP, as the dynamic climate in *Ketakamigwa* gradually became cooler and wetter, people adapted and accommodated that evolution with adjustments to their subsistence behaviour, technology, and ceremonial practices. Cultural development still occurred organically, while influences also diffused into *Ketakamigwa* from as far north as the St. Lawrence River basin and as far south as the Carolinas. For example, by 3,600 BP, elements of the Susquehanna culture (possibly carried by small immigrant groups) diffused

⁶⁹ Arthur E. Spiess, Bruce J. Bourque, and Steven L. Cox, 'Archaic Period Subsistence in New England and the Atlantic Provinces,' in Brian S. Robinson et al., *Early Holocene Occupation in Northern New England*, Ibid., pp. 163-185.

⁷⁰ Ibid.

⁷¹ Sanger, 'Culture Change as an Adaptive Process,' Ibid.

⁷² Ibid.

into *Ketakamigwa*, bringing cremation burial practices, steatite bowls, and broadspears.⁷³

This influence has been identified at numerous sites in *Ketakamigwa*, including Turner Farm, the Fox Islands, the Goodard site, the Stanley site, Hirundo, Eddington Bend, the Young site, Deer Island, Teacher's Cove, Diggity, Mud Lake Stream, Ruisseau-des-Caps, and Tusket Falls.⁷⁴ These particular site locations are all river outlets, on large lakes, or at the headwaters to the sea. (Fig. 8)

⁷³ The name *Susquehanna* was attributed to these anthropological/archaeological finds because of the first sites excavated in Pennsylvania and New York along the Susquehanna River, but the culture is not believed to have originated there. The origin of the Susquehanna tradition is still debated by anthropologists and archaeologists. Most agree the people who spread the traditions came from southern New England, but they may have earlier ties to the southeast U.S. See, Bourque, *Prehistory of the Central Maine Coast* (New York, 1992), p. 39-43; Bourque, *Diversity and Complexity*, pp. 252-253, 247; D. Sanger, 'Culture Change as an Adaptive Process,' *Ibid*; and J. A. Tuck, *Maritime Provinces Prehistory* (Ottawa, 1984) and 'The Archaic Period in the Maritime Provinces,' in M. Deal and S. Blair (eds.), *Prehistory of the Maritime Provinces: Past and Present Research*, Council of Maritime Premiers (Fredericton, 1991), p. 53. Despite a healthy academic debate about what happened to the Susquehanna, there is no consensus.

⁷⁴ See, for example, the excavation report by C. L. Borstel, *Archaeological Investigations at the Young Stie, Alton, Maine*, Occasional Publications in Maine Archaeology, No. 2, Maine Historic Preservation Commission (Augusta, 1982). Also, M. Deal and D. Rutherford, *The Distribution and Diversity of Nova Scotian Archaic Sites and Materials: A Reexamination*. Paper presented at the annual meeting of the Canadian Archaeology Society (St. John's, 1991).

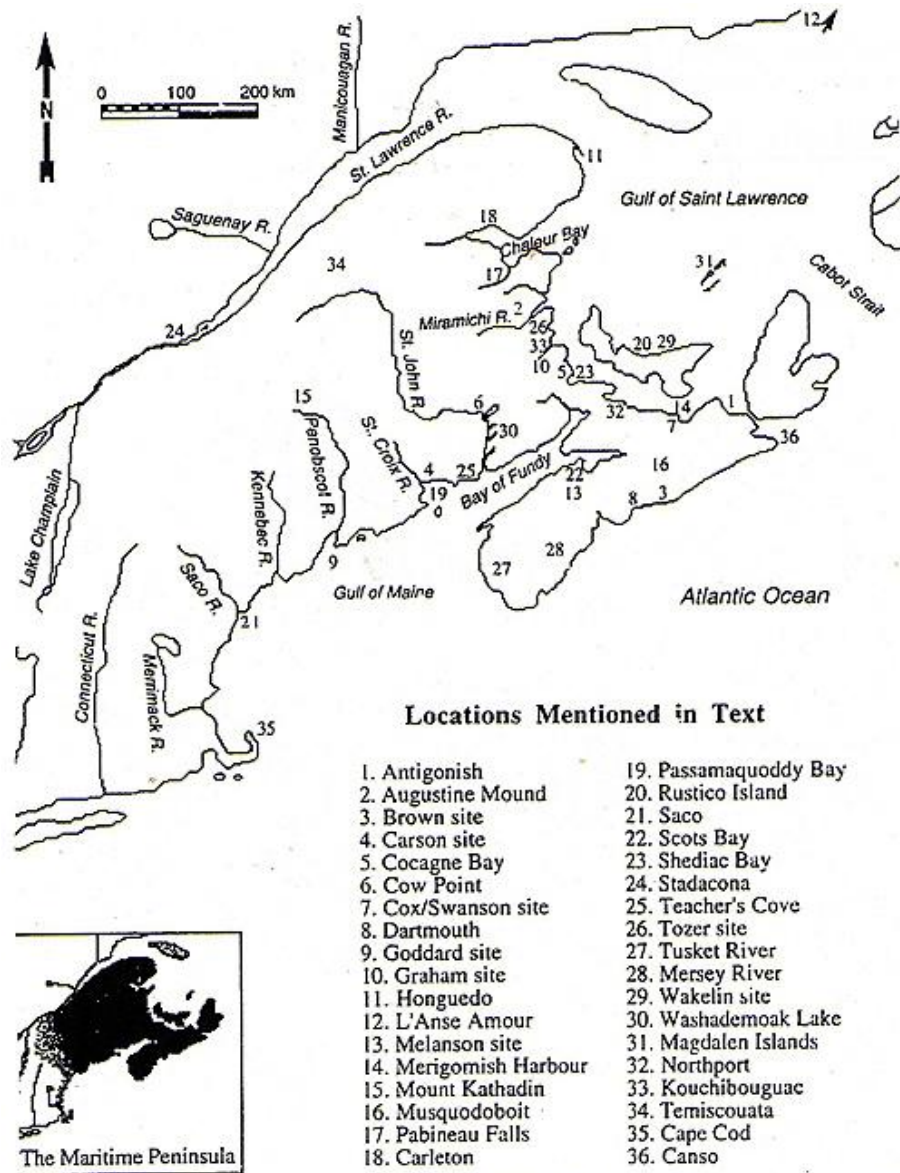


Figure 8. Archaeological sites, settlements and rivers mentioned in the chapter.

Archaeological evidence that Susquehanna culture flourished in riverine and lacustrine ecosystems during the first half of the fourth millennium BP includes their fishing equipment as well as the remains of their weirs.⁷⁵ Some of the largest Susquehanna influenced settlements have been located along the Mersey River in Nova Scotia where stone v-shaped fish weirs caught female eels in the autumn as they swam downstream from the interior

lakes after maturing.⁷⁶ Some of the smaller weirs might have caught mackerel, smelt, and gaspereau or the male eels that remained up-stream through spring.⁷⁷ The centuries around 3,500 BP, however, appear to be a peak in this inland-oriented mixed economy. Soon after, the Susquehanna influence seems to have waned with the climate.⁷⁸ The gradual decrease in temperatures and increase in precipitation between 3,500 and 3,100 BP saw a gradual decline in both people and some tree species. The increasingly damp and cold conditions complicated existing lifeways that may have influenced emigration, while it prevented the annually occurring natural fires that previously rejuvenated pine seedlings throughout the forests.⁷⁹ Cultural diffusion during the 'Archaic' period ebbed and flowed with changing environmental conditions as populations entered and exited the region, leaving behind remnants of distinct cultural practices. It is impossible to know specifically how each influence from climate and culture affected diet, settlement location, technology, daily practices, beliefs, modes of transportation, and community interaction, let alone why exactly people entered and left the region to begin with. Existing models that speculate about behavioural patterns rely on a limited amount of archaeological evidence, scientific data, and no historical documentation.⁸⁰

⁷⁵ Broadspears are much more like knives than the projectile points used in hunting large terrestrial and marine mammals, which indicates an upsurge in broadspear knives for processing fish. See, Jay F. Custer, 'Notes on Broadspear Functions,' *Archaeology of Eastern North America*, 19, (Fall, 1991), pp. 51-73.

⁷⁶ R. Ferguson, 'Archaeological Sites in the Kejimikujik National Park, Nova Scotia,' Masters Thesis, held at Mi'kmaq Resource Centre, Cape Breton University (1986). Also, Roger Lewis, Ethnology Assistant Curator, Nova Scotia Museum, personal communication (2008).

⁷⁷ Lewis, *Ibid.*

⁷⁸ Bourque, *Twelve Thousand Years*, pp. 69-72.

⁷⁹ D. Sanger, 'Mid-Holocene Cultural Adaptations,' *Ibid.*, p. 444.

⁸⁰ Yet there are nagging questions that arise from the existing physical evidence. For example, at a time when coastal habitation and exploitation diminished more than any time previously, why did sea mammal ornaments have such a significant presence in the archaeology? The remains of Great White shark's teeth hollowed out or carved into weapons by the inhabitants at Cow Point in New Brunswick likely have cultural or spiritual significance. Keenlyside, p. 9. Were teeth amulets used to prevent shark attack, trophies to celebrate the

With so little physical evidence on which to base analysis of practices and perceptions during the 'Archaic' period, it is difficult to infer specifics. But the evidence which has been provided highlights how resiliently the inhabitants of *Ketakamigwa* appear to have adapted to rather dramatic changes in their environment. They consistently took advantage of new economic opportunities, cultivated their arts and crafts, and adjusted settlements to accommodate water levels. As the climate optimum waned, sea levels were still rising rapidly in the Bay of Fundy and the Gulf of Maine.⁸¹ Therefore, it is likely that the majority of settlements and material culture from the period may lie beneath the sea. If the surviving tools, debris, and elaborate burials are any indication of cultural development, the people who inhabited the water-world of *Ketakamigwa* were clearly ecologically intelligent, creative, and capable of resiliently navigating their way through the tides of environmental change.

capture, or a means of transferring power from the shark to the holder? Were they representational of a celebration of power displayed by this sea creature, only later to be eclipsed by that of the Killer Whale? Were they artistic creations for aesthetic purposes or simply physical leftovers from a hunt or beached corpse that were put to practical use rather than discarded? In this case, perhaps the oral record provides a morsel for contemplation. Tradition holds that the shark, called *Webetŭmĕkw'* *Webetŭmâk* for 'the tooth-armed fish,' was the greatest danger of the sea and was 'looked upon as a great omen' because it did not sing like the whale but was quiet and snuck up on its prey. Rev. Silas Tertius Rand, *A First Reading Book in the Micmac Language* (Vancouver, 2006), p. 54. This was originally published in 1875 in Nova Scotia. Rev. Silas Tertius Rand, *Legends of the Micmac* (London, 1894), p. 246. During a time when marine resources were at a minimum, perhaps the rare occurrence of capturing one, especially so revered as the Great White, inspired its immortalisation.

⁸¹ D.B. Scott, R. Boyd, M. Douma, F.S. Medioli, Y. Yuill, E. Leavitt and C.F.M. Lewis, 'Holocene relative sea-level changes and Quaternary glacial events on a continental shelf edge: Sable Island Bank,' in D.B. Scott, P.A. Pirazzoil and C.A. Honig (eds.), *Late Quaternary Sea-level Correlations and Applications* Conference Proceedings (NATO Science Series: C: Mathematical & Physical Sciences, 1989). Their research indicates that sea levels stabilised along the continental shelf by 4,500 BP, but that the Bay of Fundy and Gulf of Maine experienced more rapid rise until 2,500 BP before stabilisation occurred.

Continuity and Change, Culture and Climate

The water-world of *Ketakamigwa* between 3,500 and 500 BP exhibited some elements of continuity.⁸² During the first millennium of the period, marine biodiversity increased once again and sea levels stabilised. Therefore, many of the sacred places, settlements, workstations, and foraging sites established along the coastlines and inland waterways by previous inhabitants were still in use when the Wabanaki first discovered the Europeans. This long-term continuity in settlement behaviour, however, was greatly complicated by the many changes that occurred in their climate, flora and fauna. Dynamic changes in the environment meant some native groups were unable to cope with new environmental pressures. Their successes and failures may be indicated by sharp fluctuations in population and material culture that corresponded with climate change. Subsistence patterns also appear to have been influenced by environmental determinism. Broad settlement continuity among inhabitants of the region between 3,500 and 500 BP, therefore, belie quite substantial environmental pressures. Implementation of best practices inevitably allowed for advances in technology, greater mobility for exploitation of a mixed economy, and the development of a culturally and socially vibrant way of life over the long-term. Although a synthesis of all available evidence has not been done before, there is a substantial amount with which to create a tapestry for this transitional period.⁸³

The gradual return to a cooler and wetter climate during the latter half of the fourth millennium BP brought with it adjustments in marine biodiversity which saw many

⁸² The final stage prior to European contact is typically called either the 'Ceramic Period,' 'Maritime Woodland,' or 'Eastern Woodland' period in American archaeology, and the 'Palaeo-Eskimo Dorset' in Canadian archaeology. The transition begins about 3,500 BP, and the period runs roughly from 3,000 BP to European contact around 500 BP, but there does not seem to be a solid consensus on exact dates.

inhabitants of the region adopt a marine-oriented diet. For example, excavations at the Goddard site in Blue Hill Bay reveal that the marine protein intake of its inhabitants rose again within a few centuries of the waning climate optimum.⁸⁴ In addition to a growth in marine biodiversity, renewed exploitation of coastal resources may have been a response to decreasing deer populations that favoured the warmer and dryer weather of the previous climate.⁸⁵ New species also arrived with the rain. The increase in precipitation between 3,500 and 3,000 BP resulted in rising lake levels that supported large deepwater fish. The long rainy seasons also contributed to the growth of moisture-dependent vegetation like chestnut that was incorporated into the diet, soaked for dyes, and employed in new arts and crafts.⁸⁶ However, by 3,000 BP, climate instability and extreme weather appears to have greatly affected the inhabitants of *Ketakamigwa*. This climate deterioration between 3,000 and 2,500 BP has been identified as a global occurrence.⁸⁷ For example, as far south as the Mississippi river basin, flooding from the rain and extreme weather along the river, its tributaries, and the coastline severely disrupted settlement patterns and caused the 'mass migration' of climate refugees.⁸⁸ The degree to which the people of *Ketakamigwa* were devastated is not entirely clear.⁸⁹ However, the dearth in carbon-based archaeology

⁸³ Like previous sections of this chapter, I am weaving together the science and oral tradition. However, because of the plethora of evidence compared to earlier periods, the picture is much clearer and complicated.

⁸⁴ Spiess et al., pp. 99.

⁸⁵ D. Sanger et al., 'Mid-Holocene Cultural Adaptations,' *Ibid.*, p. 448.

⁸⁶ Bryan Shuman, Paige Newby, Yongsong Huang, Thompson, 'Evidence for the Close Climatic Control of New England Vegetation, *Ecology*, 85:5 (May, 2004), pp. 1297-1310, statistics on p. 1306.

⁸⁷ Munoz, p. 22009. Also, see V.A. Dergachev, M. Oleg, Bas van Geel Raspopov, and G. I. Zaitseva, 'The "Sterno-Etrussia" Geomagnetic Excursion around 2,700 BP and Changes of Solar Activity, Cosmic Ray Intensity, and Climate,' *Radiocarbon*, 46 (2004), pp. 661-681.

⁸⁸ Tristram R. Kidder, 'Climate Change and the Archaic to Woodland Transition (3000-2500 Cal B.P.) in the Mississippi River Basin,' *American Antiquity*, 71:2 (April, 2006), pp. 195-231.

⁸⁹ There is definitely a lacunae in the research on this particular time and topic for Maine and the Maritimes. Perhaps one of the most intriguing oral stories of the Passamaquoddy is about their cousins, the Ojibwe, who

indicates a sharp population decline following 3,000 BP at the exact same point in the climate proxy record when cooling temperatures in the region combined with extreme storminess, unprecedented levels of cold weather precipitation, increased lake levels, and deeper winter snowpack.⁹⁰ In addition, the archaeology for the period between 3,000 and 2,500 BP lacks previous levels of cultural development, and the existing remains appear to be leftover or survival oriented.⁹¹ Those who survived environmental threats and chose to stay in *Ketakamigwa* after 2,500 BP would have had to adjust their practices and perceptions in many ways. They would have had to accommodate long winter hunting in deep snow, they would have learned to manage significantly higher spring water runoffs, and they must have adjusted exploitation regimens to accommodate shorter summers. By responding appropriately to environmental change, those who survived salvaged the ability to recuperate their economic and cultural stamina over the long-term.⁹²

once lived in *Ketakamigwa*. Traditional belief is that the Ojibwa people left the region to move north to modern Montreal, from where they later moved west to Lake Huron and Lake Erie. They continued to return to *Ketakamigwa* in good weather for summer gatherings each year. Linguistic and anthropological studies confirm a close connection between these two peoples, and archaeological findings at N'tolonapemk on Meddybemps ('plenty of alewives') Lake, Maine, have revealed a shared technology dating back to 3,000 BP. *N'tolonapemk: Our Relatives Place, The Passamaquoddy People and the St. Croix River Watershed*, produced by Acadia Film, Tribal Historic Preservation Office (2006).

⁹⁰ For population decline, see Stuart J. Fiedel, *Ibid.*; for climate proxy data, see Munoz et al., *Ibid.*, p. 22010-11; Also, B. Shuman and J.P. Donnelly, 'The influence of seasonal precipitation and temperature regimes on lake levels in the northeastern United States during the Holocene,' *Quaternary Research*, 65 (2006), pp. 44-56; Y. Huang, B. Shuman, Y. Wang, and T. Webb III, 'Hydrogen isotope ratios of palmitic acid in lacustrine sediments record Late Quaternary climate variations,' *Geology*, 30 (2002), pp. 1103-1106; B. Shuman et al., 'Late Quaternary water-level variations and vegetation history at Crooked Pond, Southeastern Massachusetts,' *Quaternary Research*, 56 (2001), pp. 401-410; G.P. Nicholas (ed.), *Holocene human ecology in Northeastern North America* (New York, 1988), pp. 137-166. Dean Snow also supports a population decline in *The Archaeology of New England* (New York, 1980).

⁹¹ Munoz, pp. 22011.

⁹² B. Shuman et al., 'The influence of seasonal precipitation,' p. 54. They indicate that, although 3,000 BP marked a tipping point in precipitation, the cooling trend has continued to the present day (from Northern Maine to Nova Scotia) with the exception of very slight fluctuations during the 'Medieval Warm Period.'

Relative sea levels stabilised by 2,500 BP, permitting continual use of settlement and exploitation sites during the next 2,000 years.⁹³ This event alone made available a substantial amount of archaeological evidence for contemporary analysis. For example, comparisons between fired ceramic carbon dates, sediment deposition rates, and existing ceramic styles throughout the Northeast, have established that the Minas Basin site on the St. Croix River was occupied from 2,300 BP to the seventeenth century.⁹⁴ Permanent seasonal homes connected by deeper inland waterways provided further mobility for economic opportunities and cultivated long-term customs and trade networks that extended beyond *Ketakamigwa*. As early as 2,700 BP, climate refugees may have immigrated to *Ketakamigwa* bringing with them new labour-intensive and fragile ceramic pottery resembling styles from the Mississippi River Valley region they left behind.⁹⁵ New styles of ceramics also occurred organically from that point through to 500 BP, as periods of sedentary life provided more time for technological and aesthetic improvements to native creations of clay they mixed with crushed searock and seashell.⁹⁶ Habitation site consistency may have allowed several ceramic styles to evolve over the long-term, resulting in a

⁹³ Spiess et al., 'Cultural Complexity,' pp. 99.

⁹⁴ D.I. Godfrey-Smith, M. Deal, and I. Kunelius, 'Thermoluminescence dating of St. Croix Ceramics: Chronology Building in Southwestern Nova Scotia,' *Geoarchaeology: An International Journal*, 12:3 (1997), pp. 251-273.

⁹⁵ I am simply matching up the 'mass migration' in Kidder with the entrance of the same material culture into *Ketakamigwa*. See his 'Climate Change and the Archaic to Woodland Transition (3000-2500 Cal B.P.) in the Mississippi River Basin,' *Ibid.* This ceramic style is called the 'Vinnete 1' and normally holds about four litres of liquid. See, William A. Ritchie, *The Archaeology of New York State*, 3rd Ed. (Harrison, 1980), p. 190. For the expansion of these ceramics throughout the wider Northeast during the 3,000-2,500 BP window, see Michael W. Spence, Robert H. Pihl, and Carl Murphy, 'Cultural Complexes of the Early and Middle Woodland Periods,' in Chris J. Ellis and Neal Ferris (eds.), *The Archaeology of Southern Ontario to A.D. 1650*, Occasional Publications, No. 5, Ontario Archaeological Society (London, 1990), pp. 125-137.

⁹⁶ James B. Petersen and David Sanger, 'An Aboriginal Sequence for the Maine and the Maritime Provinces,' in Michael Deal and Susan Blair (eds.), *Prehistoric Archaeology in the Maritime Provinces: Past and Present Research*, Reports in Archaeology, No. 8, Archaeological Services, Cultural Affairs, Department of Municipalities, Culture and Housing (Fredericton, 1991), pp. 121-78.

millennium of artistic variety that included pseudo-scallop shell stamp, rocker-stamp, and cord-wrapped-stick decoration.⁹⁷

Another cultural phenomenon that coincided with the climate deterioration peak around 3,000 BP and intensified leading up to European discovery was the use of petroglyph imagery. A form of spiritual expression, a way of preserving historical occurrences, a means of signposting waterways for travellers, or simply an artistic outlet, petroglyphs appear in the hundreds throughout *Ketakamigwa*. While petroglyphs are scattered in all of the eastern American states and Canadian provinces, they are often located on mountaintops or cliffsides. In the water-world of *Ketakamigwa*, they were strategically placed along rivers, lakes, and coastal beaches. Petroglyphs in Machias Bay include carvings of moose that were hunted nearby and several anthropomorphic figures that may represent social gatherings of kin groups.⁹⁸ Similar figures, also in Maine, like Holmes Point, Hog Island, and Birch Point have been dated to sometime between 3,000 and 2,200 BP.⁹⁹ At Holt's Point in Bocabec, New Brunswick, pebbles with geometric symbols dating just as early have been located along the water, while at Meductive Flat in New Brunswick, carvings are of the more recent

⁹⁷ David Sanger, 'Pre-European Dawnland: Archaeology of the Maritime Peninsula,' *New England and the Maritime Provinces: Connections and Comparisons* (Montreal and London, 2005), pp. 23-28. However, there were later imports to the region as well. Corresponding with another severe dip in temperatures, around 600 BP, new pottery designs with spheroid bodies, cylindrical collars, and geometric decoration diffused into *Ketakamigwa* from the St. Lawrence Valley. Bruce J. Bourque, *Twelve Thousand Years: American Indians in Maine* (Lincoln and London, 2005), p. 80. Bourque notes that this style 'appeared suddenly and without clear transitional forms from the earlier style.' He also notes that it appears to originate in the St. Lawrence Valley and can be found as far as southern New England. However, Bourque, nor any of the other sources I consulted, make the connection between the introduction of new pottery and temperature fluctuations. Because the 2,700 BP influx of ceramics coincides with the 'mass migration' of climate refugees from the Mississippi River Valley, I find it plausible that this ceramic design came with people from the St. Lawrence Valley as the 'Little Ice Age' conditions affected them. In some locations, fired earthenware for cooking came into use, but this did not entirely replace traditional practices. For example, at the riverine, lacustrine, and coastal sites shared seasonally by fisher and forager families, their existing hollowed out tree stumps were still filled with fresh water and hot stones from the campfire for boiling.

⁹⁸ Edward F. Lenik, *Picture Rocks: American Indian Rock Art in the Northeast Woodlands* (London, 2002), pp. 44-45.

'peaked cap' designs reminiscent of those worn by the Wabanaki in the eighteenth century.¹⁰⁰ The early designs at McGowan and Kejimkujik Lakes in Nova Scotia have eight-point stars within a circle as well as several anthropomorphic figures, while the later images at Yarmouth include Mi'kmaq language symbols characteristic of the mnemonic devices recorded by Father Chretien LeClerc in the seventeenth century.¹⁰¹ Each of these engravings on pebbles, rocks or slate slabs were strategically located on the banks of bodies of water and appear to either serve a pragmatic purpose or indicate a spiritual and symbolic relationship to place.¹⁰² In addition to the widespread use of petroglyphs and the evolution of ceramic pottery, many materials connected to sedentary and in-home activities appear to have increased in the years just before European discovery. These include copper beads, stone smoking pipes, and miniature vessels that circulated between settlement sites.¹⁰³ By 500 BP, severe climate change was once again affecting the cultural development of the Wabanaki. In addition to the limitations cold temperatures created, the longer and colder winters that came with the 'Little Ice Age' may have provided additional downtime in the home for specialised craftwork.¹⁰⁴ Finally, the presence of miniature vessels in several

⁹⁹ Ibid., pp. 45.

¹⁰⁰ Ibid., pp. 36-38.

¹⁰¹ Ibid., pp. 29, 32-33.

¹⁰² Ibid., p. 25 and 37. Also, Bourque, *Twelve Thousand Years*, p. 97.

¹⁰³ Ibid., pp. 76-83.

¹⁰⁴ Michael E. Mann, 'Little Ice Age,' in Michael C. MacCracken and John S Perry (eds.), 'Vol. 1: The Earth system: physical and chemical dimensions of global environmental change,' in Ted Munn (ed.), *Encyclopedia of Global Environmental Change* (Chichester, 2002), pp. 504-509. Also, P.A. Mayewski, L.D. Meeker, M.S. Twickler, S. Whitlow, Q. Yang, and M. Prentice, 'Major features and forcing of high latitude northern hemisphere atmospheric circulation using an 110,000-year-long glaciouchemical series,' *Journal of Geophysical Research*, 102:26 (1997), pp. 345-366. Also, Loren D. Meeker and Paul A. Mayewski, 'A 1400-year high-resolution record of atmospheric circulation over the North Atlantic and Asia,' *The Holocene*, 12:3 (2002), pp. 257-266, especially p. 263; and for general reading on the topic of the 'Little Ice Age,' see Jean M. Grove, *The Little Ice Age* (New York, 1988); H.H. Lamb, "Climatic Fluctuations", in H. Flohn (ed), *World Survey of Climatology. Vol.2. General Climatology* (New York, 1969), p. 236; and S.H. Schneider and C. Mass, 'Volcanic dust, sunspots, and temperature trends,' *Science*, 190 (1975) pp. 741-746.

burials may indicate a growing spiritual insecurity caused by climate change that pacified mourners who supplied the dead with symbolic items for the afterlife without sacrificing practical vessels.¹⁰⁵

Cultural development between 2,500 and 500 BP extended beyond artistic expression, however. It was during this period that a common means of housing, tools, and water transport came into use throughout *Ketakamigwa*. Remnants of wigwam-style shelters have been identified in riverine, lacustrine, and coastal settlements. Consisting of circular pole frames, covered with woven mats and sheets of birch bark to protect from the wind and moisture, family-size wigwams were often erected above a surface that was slightly dug below ground level. Excavations have produced postholes near shell midden where analysis of the refuse indicates that these subterranean wigwams were not necessarily annual habitations, but generally used during winter as protection from the harsh elements.¹⁰⁶ Tool technology eventually replaced by European metals also evolved during this period. These include bone projectiles attached to a three-pronged fish spear and stylized knives made from beaver incisors for woodworking. Unlike the heavy dugouts, new ocean-going birch bark canoes, even when large, were still light and could be easily carried by one or two individuals. This enhanced mobility and opportunity for expanding the existing continental trade network. Archaeological findings indicate that up to twenty percent of artefacts still

¹⁰⁵ Archaeologists refrain from interpreting these miniature vessels past the possibility of them being children's toys. Bruce J. Bourque, 'Evidence for Prehistoric Exchange on the Maritime Peninsula,' in J.E. Ericson and T.G. Baugh (eds.), *Prehistoric Exchange Systems in North America* (New York, 1994), pp. 23-46; also, see Bourque, *Prehistory of the Central Maine Coast* (New York, 1992). However, in many ancient civilizations, grave goods were actual size until external conditions prevented them from being disposable. Therefore, I infer that the unpredictability of climate change may have made the actual utensils more valuable and less likely to have been buried with the dead. This is especially plausible because it is the first time since sea-level stabilisation that actual sized goods were no longer placed in the burials.

¹⁰⁶ William R. Belcher, 'Prehistoric Fish Exploitation in East Penobscot Bay,' *Archaeology of Eastern North America*, 17 (1989), pp. 175-191.

came from outside *Ketakamigwa*.¹⁰⁷ Meanwhile traders from *Ketakamigwa* were travelling into the St. Lawrence Valley or down the Atlantic coast, carrying with them native furs, exotic lithics like chert and rhyolite, and copper.¹⁰⁸

The period following 3,000 BP is pivotal in the history of the region for a number of reasons. Not only do archaeologists find a cultural continuity in the evidence, but it was also during these two millennia that the Eastern Algonquian languages developed independently from their Western counterparts, evolving with a diverse and expanded terminology that was in use throughout the Northeast by 500 BP.¹⁰⁹ By using an interdisciplinary approach to this evidence, it becomes clear that sometime between 3,000 and 2,500 BP, solid separations evolved between Algonquian speakers in *Ketakamigwa*, Iroquoian speakers, and Algonquian speakers west and south of the region.¹¹⁰ I find it extraordinarily important to then connect the climatological data to the puzzle. That this the Wabanaki ancestors were struggling to establish their cultural cohesion during a time when the continental climate was deteriorating, and that archaeologists have determined not only a cultural link, but a lacunae in cultural development, may very well indicate the presence of trade and communication barriers, hostilities, or local protectionism under environmental pressure.¹¹¹ Following 2,500 BP, cultural centres for social and political gatherings and ceremonies appear to have developed along linguistic lines, expanding in size by 500 BP, while the

¹⁰⁷ Bourque, (2005), p. 93.

¹⁰⁸ Timothy G. Baugh and Jonathon E. Ericson, *Prehistoric Exchange Systems in North America* (New York, 1994), pp. 19, 29, and 46.

¹⁰⁹ Ives Goddard, 'Eastern Algonquian Languages,' in Bruce G. Trigger (ed.), *Handbook of North American Indians*, Vol. 15: *Northeast*, Smithsonian Institute (Washington, 1978), p. 70.

¹¹⁰ Stuart J. Fiedel, 'Algonquian Origins: A Problem in Archaeological-Linguistic Correlation,' *Archaeology of Eastern North America*, 15 (Fall 1987), pp. 1-11.

¹¹¹ This is my own hypothesis based on my synthesis of the evidence; there is no apparent research into this particular issue.

people of each region within *Ketakamigwa* further expressed their individuality through unique artistic designs and cultural decoration.¹¹² Although material culture reached great heights by 500 BP, it was not all organic. Cultural influences seeped in from the St. Lawrence River and Ohio Valley regions. This was the case in the north-western corner of *Ketakamigwa* where close proximity to the waterways of the St. Lawrence and Great Lakes allowed for people, practices and perceptions to move there more so than elsewhere. For example, excavations at Metepenagiag in New Brunswick, with its 2,500 year-old 11.5 metre burial mound, multiple cremation sites, twenty burial pits and plethora of artefacts, reveal sophisticated burial practices diffused with elements from the St. Lawrence and Ohio Valley.¹¹³ Alongside shell necklaces and flint knives, thousands of copper beads buried in the remains served to counteract the acidic soil conditions, preserving birch bark body wrappings, basketry, woven fabric, and even hair fibres. Now referred to as the 'Augustine Mound,' this site belongs to a cultural complex of ceremonial mounds scattered throughout the eastern half of the continent.

An analysis of large and continuously occupied sites like this one provides a window into both continuity and change in annual subsistence behaviour between 2,500 and 500 BP. It also reflects ways in which climate determines changes to the economy. Continuity is evident at Metepenagiag. This large village is centrally located near seasonally available

¹¹²Sanger (2005), p. 26.

¹¹³ This is New Brunswick's most prolific site. Sources consulted for the history and excavations of this site include Vincent Bourgeois and Patricia Allen, 'The Mitchell Site: 1998 Heritage Impact Assessment Project at Metepenagiag Mi'kmaq First Nation' in *New Brunswick Manuscripts in Archaeology 38*, Archaeological Service, Heritage Branch (Fredericton, 2005). Madeline Augustine, Christopher Turnbull, Patricia Allen and Pamela Ward, 'To Hold It In My Hand,' in *New Brunswick Manuscripts in Archaeology 43*, Archaeological Service, Heritage Branch (Fredericton, 2006). Patricia Allan, 'The Oxbow Site 1984 Metepenagiag Mi'kmaq First Nation Miramichi, New Brunswick,' in *New Brunswick Manuscripts in Archaeology 39*, Archaeological Service, Heritage Branch, (Fredericton, 2005). Patricia Allen, *Metepenagiag: New Brunswick's Oldest Village*, Red Bank First Nation and Goose Lane Editions (Fredericton, 1994).

resources and only a canoe trip from marine resources in the many tidal estuaries along the northern coast of New Brunswick between Caraquet and Kouchibouguac. (Fig. 9) As freshwater from the Miramichi River flowed out to mix with tidal saltwater coming in from the sea, fishers along the many river drainages speared, netted or caught in their weirs, numerous anadromous fish species such as salmon, sturgeon, alewife, striped bass, and eel, all of which moved up the estuaries on a seasonal basis.¹¹⁴

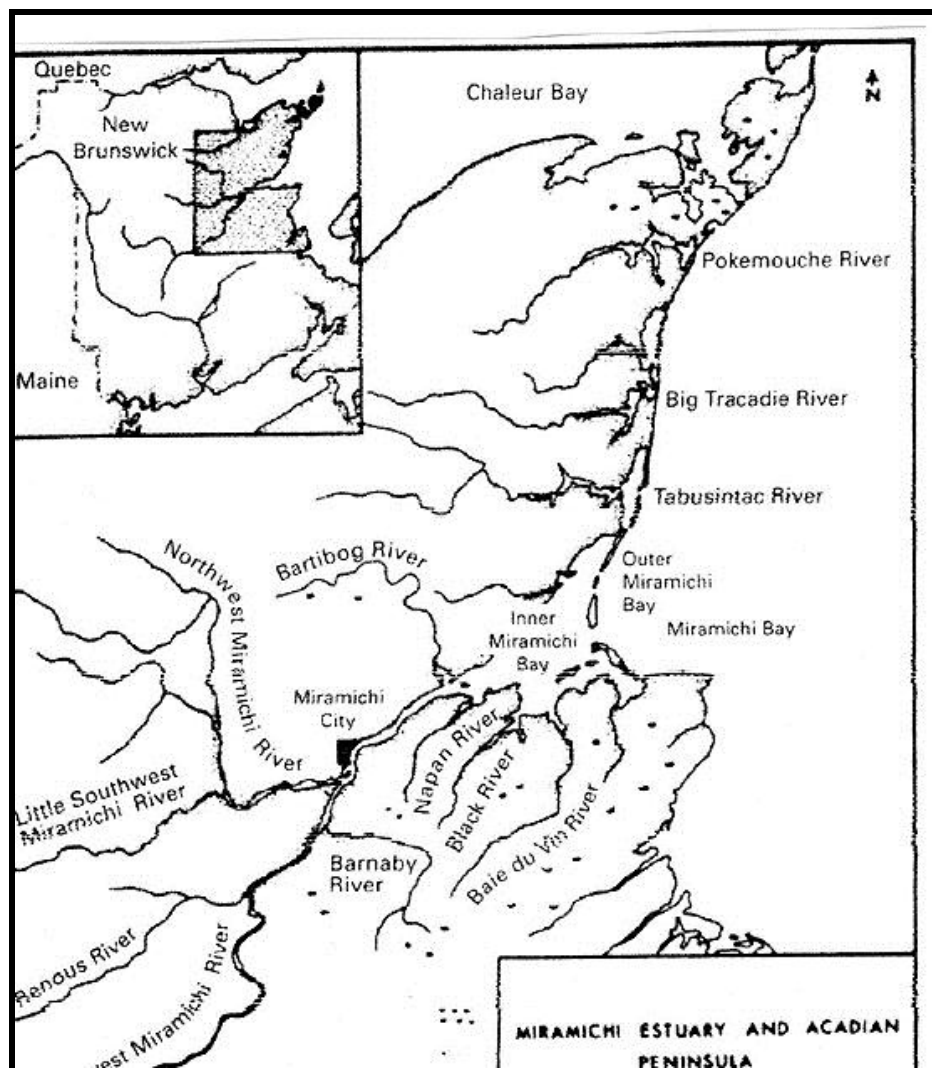


Figure 9. Miramichi tidal estuaries along the northern coast of New Brunswick.

¹¹⁴ Patricia Allan, 'The Oxbow Site,' pp. 10-14.

Similarly, along the St. John River, a traditional spring gathering place called *Aukpaque* or 'head of tide' is strategically located where large numbers of people could acquire enough food to sustain themselves for long periods.¹¹⁵ At a tidal weir site on the Bliss Islands in Passamaquoddy Bay, shell midden evidence reveals a 2,500-year continual presence where sea urchins, horse mussels, scallops, periwinkles and barnacles were collected in the spring and summer each year.¹¹⁶ Evidence in the refuse of deer and moose acquired during fall and winter are an indication that this may have been an annual encampment.¹¹⁷ And, finally, excavations near tidal mudflats on the northern coast of Nova Scotia in Merigomish Harbour produced eighteen shell-heaps, in addition to a cemetery, summer camp, and a number of workstations.¹¹⁸ Each of these sites sustained large populations of people for over two millennia because they were strategically placed for optimum annual exploitation.

If continuity in settlement patterns marked one defining feature of Wabanaki culture that was largely wrought by climatic factors, another was their peripheral incorporation of maize cultivation. Therefore, at times, alterations in climate enhanced economic opportunity. For example, by 1,000 BP, while inhabitants of the water-world of *Ketakamigwa* moved between habitation sites on the coast and along the river valleys, their horticulturist neighbours to the south and west were cultivating maize.¹¹⁹ This development

¹¹⁵ Petersen and Sanger, 'An Aboriginal Sequence for the Maine and the Maritime Provinces,' *Ibid.*

¹¹⁶ David W. Black and Christopher J. Turnbull, 'Recent Archaeological Research in the Insular Quoddy Region, New Brunswick, Canada,' *Current Anthropology*, 27:4 (August-October, 1986), pp. 400-402.

¹¹⁷ *Ibid.*, p. 400. Black and Turnbull noted evidence of 'shellfishing, fishing for codfish and herring, sealing, hunting and trapping of deer, moose, beaver, and marten, and the capturing of migratory birds. Both warm- and cold-season Middle Woodland occupations are inferred.'

¹¹⁸ Harlan I. Smith and W. J. Wintemberg, *Some Shell-Heaps in Nova Scotia*. National Museum of Canada. Bulletin No. 47 Anthropological Series, No. 9. (Ottawa, 1929).

¹¹⁹ D. Demeritt, 'Agriculture, climate, and cultural adaption in the prehistoric northeast,' *Archaeology of Eastern North America*, 19 (1991), pp. 183-202. Also, Jeffrey C. M. Bendermer, and Robert E. Dewar, 'The Advent of Prehistoric Maize in New England,' in Sissel Johannessen and Chritine A. Hastorf (eds.), *Corn and Culture in the New World*, University of Minnesota Publications in Anthropology, No. 5 (Minneapolis, 1994), pp.

corresponded to the most significant increase in regional population since the 'Archaic' climate optimum and marks the transition from 'Middle' to 'Late Woodland'.¹²⁰ The centuries surrounding 1,000 BP also mark a phenomenon present in the global climate proxy data referred to as the 'Medieval Warm Period'.¹²¹ Evidence supports the existence of maize-trade between the inhabitants of the water-world and their horticulturalist neighbours, but regional vegetational records and lake sediments also show this period of natural global warming did not affect the water-world of *Ketakamigwa* in the same way.¹²² Winters might have been warmer, but precipitation continued to increase during the period.¹²³ Furthermore, a recent reconstruction of seawater temperatures over the past millennium reveals a long-term increase in annual shellfish but a twenty-one percent reduction in seawater temperature seasonality during the 'Medieval Warm Period' which indicates the presence of warmer winters but colder summers.¹²⁴ The eight-rowed variety of maize grown below *Ketakamigwa's* ecological barrier matured fast enough for regionally

369-93; David Sanger, *The Carson Site and the Late Ceramic Period in Passamaquoddy Bay, New Brunswick*, Canadian Museum of Civilization, Mercury Series, Paper No. 135. Also, see his 'Maritime Adaptations in the Gulf of Maine,' *Archaeology of Eastern North America* 16 (1988), pp. 81-99.

¹²⁰ Munoz et al., *Ibid.*; Fiedel, *Ibid.*

¹²¹ It is also referred to as the 'Medieval Climate Anomaly.' See Michael E. Mann, Zhihua Zhang, Scott Rutherford, Raymond S. Bradley, Malcolm K. Hughes, Drew Shindell, Caspar Ammann, Greg Faluvegi, and Fenbiao Ni, 'Global Signatures and Dynamical Origins of the Little Ice Age and Medieval Climate Anomaly,' *Science* 27, Vol. 326, No. 5957 (November, 2009), pp. 1256-1260. Also, Wallace S. Broecker, 'Was the Medieval Warm Period Global?' *Science*, 291:5508 (23 February 2001), pp. 1497-1499; N.E. Graham, C.M. Ammann, D. Fleitmann, K.M. Cobb, and J. Luterbacher, 'Support for global climate reorganization during the "Medieval Climate Anomaly" *Climate Dynamics*, 37:5-6 (2011), pp. 1217-1245.

¹²² D. Sanger, 'Maritime Adaptations,' p. 95. He notes that 'frost-free days' are essential to maize cultivation and acknowledges that the water-world of *Ketakamigwa* simply had too few of them for growing.

¹²³ B. Shuman et al., 'The influence of seasonal precipitation,' p. 54.

¹²⁴ Alan D. Wanamaker Jr., Karl J. Kreutz, Bernd R. Schöne, N.R. Pettigrew, H.W. Borns, Douglas S. Introne, D. Belknap, K.A. Maasch, and S. Feindel, 'Coupled North Atlantic slope water forcing on Gulf of Maine temperatures over the past millennium,' *Climate Dynamics*, 31:2-3 (2008), pp. 183-194; Alan D. Wanamaker Jr., Karl J. Kreutz, Bernd R. Schöne, Douglas S. Introne, 'Gulf of Maine shells reveal changes in seawater temperature seasonality during the Medieval Climate Anomaly and the Little Ice Age,' *Palaeogeography, Palaeoclimatology, Palaeoecology* 302 (2011) pp. 43-51. They suggest that this was due to increased stratification of the coastal waters, p. 19. This has much to do with the extraordinary tides of the Gulf of Maine

short summers, but the environment above the barrier dividing hunter-fisher-foragers from horticulturalists simply did not provide enough frost-free days for harvesting conditions.¹²⁵

A final component of climate change that affected the Wabanaki in the centuries prior to European contact was species elimination. Following the 'Medieval Warm Period,' the rapidly cooling climate that culminated in the 'Little Ice Age,' appears to have greatly affected faunal populations. Archaeological refuse indicates higher levels of moose, flounder, longhorn sculpin, harbour seal, gray seal, and quahog, all of which are cold-weather animals.¹²⁶ Still present in Merigomish Harbour and Passamaquoddy Bay were oysters, mussels, and snails. However, following 1,000 BP, the sea mink succumbed to cold-water temperatures, replaced by increasing populations of cold water beaver that were hunted for their meat, pelts, and incisors.¹²⁷ Colder temperatures that came with the 'Little Ice Age,' would have hampered agriculture below the ecological barrier, subsequently limiting regional maize-trade by 600 BP.¹²⁸ More than any other factor affecting economy, predictability was most essential. Climate variability in the early stages of the 'Little Ice Age,' however, affected annual subsistence and settlement behaviours because it obstructed growing seasons of all kinds, including the terrestrial, marine, and vegetation on which the Wabanaki depended.¹²⁹ By the end of the period, the people of *Ketakamigwa* were living comfortably in larger communities connected to one another by water. They were familiar with every river, creek, lake, and bay, having networked and signposted the waterways like

and Bay of Fundy, the ranges of which are the largest in the world. Over the period of one day, water levels can change up to 15 metres.

¹²⁵ Sanger, *Ibid.*; Demeritt, p. 187;

¹²⁶ Arthur E. Spiess, 'Faunal Remains: They May Hold Enough Information to be Called Archaeological Guidebooks,' *Northern Raven* (Winter, 1987-88), pp. 14-23.

¹²⁷ Speiss et. al. 'Cultural Complexity,' *Ibid.*

¹²⁸ Demeritt, 'Agriculture, climate, and cultural adaption in the prehistoric northeast,' pp. 190-192.

an advanced highway system that carried them from one end of *Ketakamigwa* to the other. They were travelling further and faster on their rivers than ever before, and they had created communication networks, shared stories, traded, and developed a social system of kinship through marriage alliances. With more disruptive climate change and Europeans on the way, these deep connections were to be vital to their survival.

The Water-World of Ketakamigwa on the Eve of Discovering the Europeans

By 500 BP, the Wabanaki were distinguishable regional groups whose Eastern Algonquian tongue had evolved into distinct dialects, whose oral stories created intimacy with local geography in their water-world environment, and whose pride in kin permeated through unique subtleties in cultural style and social cohesiveness. Despite the slight differences between them, the Wabanaki shared similar seasonal patterns, material culture, and daily practices because they shared the ecological conditions of *Ketakamigwa*. Their water-transport accommodated their desire to gather seasonally for trade, celebration, and political discussion and they preserved their values and behaviours by cultivating their group identity. On the eve of European discovery, above all other elements of their shared experience, was the rhythm of their annual economic activities that cultivated the practices and perceptions they valued most. Through combining critical interpretation of the earliest traveller's accounts with contemporary archaeology and Wabanaki oral tradition, I have created a snapshot of life on the eve of the sixteenth century.¹³⁰

¹²⁹ Ibid.

¹³⁰ I fully realise the complications of using traveller's accounts to create an ethnohistory of the Wabanaki, but after profiling the proto-Wabanaki and *Ketakamigwa* from deglaciation to the point of contact without using

The way the Wabanaki dressed, decorated themselves and designed their hair often affiliated them with their cultural and linguistic group, and represented their social status among their peers. Women made the leggings, mantles, robes, breechclouts, and moccasins from hides and furs, rubbed them with sea-bird oil, and often ornamented them with the embroidery of flattened porcupine quills or dyed moose hair.¹³¹ Round copper buttons and studs were typically decorated with animal totems or artistic patterns.¹³² Men and women wore winter mantles made from deerskin, white moose hide, or bear, while children wore the smaller furs of wolves, beaver and raccoon.¹³³ Accessories included dyed moose hair, feathers and porcupine quills, as well as shell jewellery.¹³⁴ Artisans carved animal totems on pendants, while feathers or rabbit tails were woven into earrings and hair.¹³⁵ The horticulturalist neighbours living south of them preferred to shave parts of their head and leave their hair long in back, but most Wabanaki men wore theirs in topknots tied with leather lace that hung loose, while women and boys wore hair hanging down or in 'tufts'

historical documentation, I found it easier than expected to identify that content in the accounts which provided continuity.

¹³¹ Nicolas Denys, *The Description and Natural History of the Coasts of North America*, in William F. Ganong (ed.), for The Champlain Society (Toronto, 1908), p. 411; William Wood, *New England's Prospect: A True, Lively, and Experimentall Description of that parte of America commonly called New England* (London, 1634), p. 108; Morton, *New English Cannan*, p. 201.

¹³² Denys, *The Description and Natural History*, pp. 407 and 411, and 413; Burrage (ed.), *Rosier's Relation*, p. 121; Pierre Biard, 'Relation of New France, of Its Lands, Nature of the Country, and of Its Inhabitants,' in Reuben Gold Thwaites (ed.), *Jesuit Relations and Allied Documents*, Vol. 3 (Cleveland, 1896), p. 75; Wood, *New England's Prospect*, p. 101; Biard, 'Relation,' in Thwaites (ed.), *Jesuit Relations*, Vol. 3, p. 75. Both Champlain and Biard note red copper mines in Nova Scotia. See Champlain, *Voyages*, p. 77; also, see Biard, 'Relation,' in Thwaites (ed.), *Jesuit Relations*, Vol. 3, p. 296.

¹³³ Wood, *New England's Prospect*, pp. 73 and 108; Denys, *Description and Natural History*, pp. 370, 407, 411 and 413; Morton, *New English Canaan*, pp. 201, 207, 209, 210; Biard, 'Relation,' in Thwaites (ed.), *Jesuit Relations*, Vol. 3, p. 75.

¹³⁴ Ruth H. Whitehead wrote a very thorough overview based on primary sources and archaeology in 'Every Thing They Make and Wear,' unpublished manuscript, n.d., held at the Provincial Museum of Nova Scotia, Halifax.

¹³⁵ Wood, *New England's Prospect*, p. 74; Denys, *Description and Natural History*, p. 414; J.P. Baxter (ed.), *Documentary History of the State of Maine*, Vol. 10, for the Maine Historical Society (Portland, 1910), p. 463.

(braids) wrapped in leather cords.¹³⁶ In addition to a topknot, Sagamores often adorned their heads with black kingbirds to signify the authority bestowed upon them by their kin-group.¹³⁷ Body paint was also an important cultural practice. The most popular colours were red, black, and white, but each kin-group honoured different designs and colour combinations.¹³⁸ For instance, the Mi'kmaq painted their eyebrows white while the Wolastoqiyik and Passamaquoddy mixed blue with their black and red face paint.¹³⁹ Some paint was permanent. For instance, Mi'kmaq women tattooed their male partners as a sign of affection.¹⁴⁰

The water-world of the Wabanaki was full with animate and inanimate entities that played a reciprocal part in maintaining the sacred relationship between humans and non-humans. Like Wabanaki ('the people of the dawn') and *Ketakamigwa* ('the big land on the sea coast'), the descriptors they used to identify themselves, their environment, and the creatures they shared it with, were symbolic, pragmatic, and reflective of the intimate nature of their relationship. As the Wabanaki assigned labels to the water-world of *Ketakamigwa*, they employed their oral stories to mark special places. Storied landscapes

¹³⁶ Lescarbot, *History of New France*, Vol. 3, pp. 133-134; Gabriel Archer who travelled with James Rosier in 1602 also recorded the top knot on the men's head. See his notes in *Massachusetts Historical Society Collections*, 3rd Series, Vol. 8, pp. 73-74. Denys, *Description and Natural History*, p. 414. For the 'Armouchiquois' shaven hair style, see Champlain, *Voyages* (New York, 1907), pp. 61-63 and Lescarbot, *History of New France*, Vol. 3, p. 135.

¹³⁷ Wood, *New England's Prospect*, pp. 31 and 74; Thomas Morton, *The New English Canaan* (Amsterdam, 1637), p. 197.

¹³⁸ Wood, *New England's Prospect*, p. 95.

¹³⁹ Rosier, in H.C. Porter, *Inconstant Savage: England and the North American Indian 1500-1660* (London, 1979), p. 270; John Josselyn, 'An Account of Two Voyages to New-England (1674)', in Paul J. Lindholdt (ed.), *John Josselyn, Colonial Traveler, A Critical Edition of Two Voyages to New England* (Hanover and London, 1988), pp. 297-298; see Brereton, in Louis B. Wright, *Elizabethan's America* (Harvard, 1966), p. 137-138.

¹⁴⁰ Abbe S. Maillard, *An Account of the Customs and Manners of the Micmakis and Maricheets Save Nations, Now Dependent on the Government of Cape Breton* (London, 1758), p. 55; Sieur N. de Diereville, *Relation of the Voyage to Port Royal in Acadia or New France*, in J.C. Webster (eds), for The Champlain Society (Toronto, 1933), pp. 169-170.

emerged around them, serving as narrative sources for their history and cultural identity. Understanding the land meant knowing the stories of the most important figure in the Wabanaki belief system, for it was he who shot an arrow into the ash tree and created the people, then taught them how to hunt whale, how to build fish weirs, and how to make canoes.¹⁴¹ The Wabanaki honoured his dwelling places above others. To the Mi'kmaq, 'Fairy Hole Cave' on Cape Breton Island was sacred because it was where Glooscap once lived.¹⁴² The three large rocks in front of the cave were his table, and the islands nearby represented the broken stone canoe Glooscap threw in the water after having rescued two girls from an evil enemy.¹⁴³ For the Penobscot people, Gluskabe also made his mark on the physical world.¹⁴⁴ Traditionally, he created the river by destroying the monster frog that had consumed all of the water. The bursting frog resupplied the river and its tributaries, but it also saved the people, and because of that, they became the aquatic and terrestrial family totems still recognised today by clan affiliation: eel, lobster, crab, sturgeon, whale, yellow perch, sculpin, frog and toad.¹⁴⁵

Place names also provided very practical instructions for gathering food, such as *Asukadich*, or 'place of clams' on Cape Breton Island, *Agoomâkunuk*, or 'where they catch herring' on the Sand River in Nova Scotia, and *Amâkuncheech*, or 'where they shoot birds on

¹⁴¹ Nicolai, *The Life and Traditions of the Red Man*, chapters 1 and 2; Charles G. Leland, *The Algonquin Legends of New England: Myths and Folk Lore of the Micmac, Passamaquoddy, and Penobscot Tribes* (Charleston, 2007), pp. 34-44.

¹⁴² This is the Mi'kmaq tradition spelling for him. I have attempted to use the appropriate spelling of his name as each corresponds to a regional dialect.

¹⁴³ Stephen A. Davis, *Mi'kmaq: Peoples of the Maritimes* (Halifax, 1997), p. 43.

¹⁴⁴ This is the Penobscot traditional spelling for him.

¹⁴⁵ Katherine L. Frederick, *Resurrecting a River and Its People* (Orono, 2006), p. 7. Also, James Neptune, personal communication (July, 2009).

the wing' at Porter Lake.¹⁴⁶ Travelling down the Aroostook River, the W'olastiquiyik arrived at *Matawaskiyak*, or 'place of the porcupine,' on their way to Lake *Temiscouata*, or 'the place where the river enters another with watergrass.' Some place names indicated where resources for making tools were found, like *Tesogwode* or 'place of flakes,' and *S~sooguloomin*, or 'abounding in quartz crystal.' Other labels were given to locations where work was done, such as *Sebulogwokun*, which is 'where skins are stretched' and 'the drying place,' or *Nabuskanuk* in New Brunswick, which means 'the place for stringing beads.'¹⁴⁷ The Passamaquoddy from *Monikpatik* in Letang River, New Brunswick, travelled by canoe to 'take the bark of the tree' in an area traditionally known for the cedar they used to make rope.¹⁴⁸ Some descriptors were navigational tools like *Spahsiw* or 'halfway place,' at Hardwood Island, New Brunswick, which was halfway between the inner Bay of Fundy and Passamaquoddy Bay, and *Kiluwapomak* or 'the looking place' which has a grand view of the bay.¹⁴⁹

Other descriptors were employed as warnings about possible dangers, such as *Edal-Skowasi'muk* which was 'where you must wait', *Kulad'amitch'wan* which had 'mixed rapids,' and *Panawamske* which was an 'opening out upon a ledgy place.' *Pentagwet* was the 'falls of the river,' and *Sep'sisedalapskitahan'sit* was a petroglyph that explained 'where the bird is

¹⁴⁶ William P. Anderson, *Micmac Place-Names in the Maritime Provinces and Gaspé Peninsula Recorded Between 1852 and 1890* by Rev. S. T. Rand, Geographic Board of Canada, printed at the Surveyor General's Office (Ottawa, 1919), pp. 11-13.

¹⁴⁷ *Passamaquoddy Landscapes, Legends and Language*, Tribal Historic Preservation Office, Joint Tribal Council. Skicin Records, (2004).

¹⁴⁸ *Ibid.*

¹⁴⁹ *Passamaquoddy Landscapes, Legends and Language*, Tribal Historic Preservation Office, Joint Tribal Council. Skicin Records, (2004).

punched in the rock.¹⁵⁰ *Medawomkek*, or ‘the water flows turbulently,’ is in the Ragged Islands of Nova Scotia, and *Noolaktooch*, or ‘place jammed with ice,’ is at Cow Bay on Cape Breton Island.¹⁵¹ At *Matawamketook*, or ‘rocky at the mouth of the river,’ the place name warned the many travellers who gathered annually in a large seasonal village for celebration that they should watch for rocks under the water. It was common to name a place for what lived there. Particular resources could be found at *Kenduskeag*, or ‘the eel-weir place,’ and *Cobossecontee*, or ‘the place where sturgeon could be found,’ and *E’sik*, or ‘clam place.’¹⁵² But names could also represent what resources were not likely to be found there, like *Madji’bigwa’dos*, which literally means ‘bad supply of game.’

Memorising such names and knowing where each was located, created a river roadmap for travel throughout the region.¹⁵³ Knowledge of the winter terrain was also important to the Wabanaki who made their way through the snow or over the frozen rivers during their hunts or when returning to collect game. Leaving broken branches or markings on trees was common, but knowing the stories of the landscape made their journeys easier and safer under difficult conditions.

All of the symbols, beliefs, sentient beings, and physical materials that cultivated Wabanaki culture were observed or gathered during their seasonal activities, and with each season came opportunities for them to replenish the old and experience the new. Spring marked the advent of new life. As the Wabanaki came out from the protection of their winter wigwams, the run-off from the snow flooded their inland waterways, encouraging

¹⁵⁰ William A. Haviland, *At the Place of the Lobsters and Crabs: Indian People and Deer Isle Maine 1605-2005* (Solon, 2009), p. 9.

¹⁵¹ *Ibid.*, pp. 45 and 51.

¹⁵² Prins, ‘Children of Gluskap,’ pp. 109-110. He gives many additional examples.

their migration toward spring fishing and foraging locations along the many rivers and coastal bays. Many strategically chosen winter camps were dismantled as families transported their blankets, woven mats, sleeping robes, bark containers with cooking utensils, and other personal items, to the homes they would inhabit until nearly the first frost. Abandoned for up to eight months of the year, remains left behind in winter camps were only the hemlock twigs and balsam fir needles that once covered the wigwam floors beneath their soft deer or sealskin mats.¹⁵⁴ Once spring camps were erected near falls, rapids, or coastal inlets, the Wabanaki pulled their resilient birch bark canoes from their winter resting places where they had been submerged in the deep, cold, and often frozen, waters of the river.¹⁵⁵ Old canoes were repaired with spruce or white cedar roots, and new canoes were made from fresh birch bark and cedar poles.¹⁵⁶ These fishing traditions were passed down to them from previous generations. *Klose-kur-beh* told the Penobscot how to make their fishing equipment and the fishing techniques that worked best.

...you must kill a bird, and take from the bird's breast next to the neck, a small bone you shall find which is bent, and having two prongs, -- rub one prong upon a stone so it will wear to a sharp point; and you shall strip the bark of a small bush of the Wik-a-bee kind, and work it into fine strings, and twist the strings so it will make a long line, and the line you shall fasten unto the blunt end of the bone, and you shall cut a small pole of the hard wood tree, and fasten the other end of the line on to the small end of the pole, and you shall put fragments of meat on the sharp point of the bone, and go and cast the meat into the water, and the fish shall bite the meat and shall pull the meat, line and pole, then...draw him unto the land. And when the time comes that you need a vessel to bear you upon the water, you shall first cut from the soft wood tree, strips of it so small you can easily bend, and the strips shall be in length according to the vessel wanted; both ends shall come to a point, so it will cut the water when you make

¹⁵³ This was typical of native people throughout the continent. See William Cronon, *Changes to the Land: Indians, Colonists, and the Ecology of New England* (New York, 1983), p. 65.

¹⁵⁴ Denys, *The Description and Natural History*, p. 405.

¹⁵⁵ *Ibid.*, p. 340.

¹⁵⁶ Josselyn, 'An Account of Two Voyages to New-England (1674)', p. 102.

it go. The vessel must be propelled by the power of your arms and hands with a paddle made from the hard wood tree.¹⁵⁷

Stuffed with bone fishhooks, basswood fibre nets, and flint knives, fishing kits were ready for the first prey of the season: the black salmon trapped beneath the winter ice cover.¹⁵⁸ By day, wooden fish weirs were raised and inspected to ensure that the stakes were solidly embedded in the soil of the riverbeds and tidal bays.¹⁵⁹ Late spring meant spawn-filled smelt, alewife, and winter flounder, raced upriver on their annual run before heading back to saltwater during the late summer and early autumn. While young boys scooped them into baskets and brought them back to camp where they were prepared for smoking and roasting, young girls sought out the type of firewood that flavoured the fish as it hung above the campfire on racks.¹⁶⁰ Large stacks of firewood for cooking on the open fire, or for use in the smokehouses, were scattered throughout each camp. Women and small children gathered the wild spring vegetables and wild mustard that was ground and used to spice the fish. Packed into birch bark containers or sweet grass baskets, collections of fresh spring fiddlehead from local ferns and cattail shoots were eventually added to salmon stew.¹⁶¹

Spring was also a time for collecting waterfowl eggs and hunting birds in the many coastal inlets where Bustard eggs were especially prized for their size.¹⁶² Children, carrying snares and bags, found hunting grouse made easy by the loud noises of wildly flapping wings during egg-laying. Sneaking up to the flock, young Wabanaki hunters simply noosed their

¹⁵⁷ Nicolai, *The Life and Traditions of the Red Man*, p. 116. The description of how to make a canoe is quite lengthy, but includes a mixture of soft and hard woods., p. 116-117.

¹⁵⁸ Denys, *The Description and Natural History*, pp. 436-437.

¹⁵⁹ Marc Lescarbot, *History of New France*, Vol. 3 (Toronto, 1914), pp. 236-237.

¹⁶⁰ William F. Ganong (ed.), *Chrestien LeClercq's New Relation of Gaspesia* (Toronto, 1910), p. 119. Also, for fish weir construction, see Denys, *The Description and Natural History*, p. 437.

¹⁶¹ Patricia Allan, 'The Oxbow Site', p. 63.

prey with ease and gathered the eggs in baskets or bags to bring back to camp.¹⁶³ At night, men lying down in their canoes, glided silently until they drifted into large gatherings of floating gray and white geese that were caught off guard and easily captured by hand or knocked down with rocks, and killed at the neck.¹⁶⁴ Wild geese grazing in the inland water meadows were easily snared by the quiet arrival of hunters lying in wait at the base of their drifting canoes in the afternoon sun.¹⁶⁵

For many Wabanaki, late spring and early summer was time dedicated to the Atlantic sturgeon, salmon and sea trout catch. While burning birch bark fuelled by seal-oil to provide evening light for their canoes, men and older boys quietly floated the waterways, their torchlight attracting and gathering scores of fish beneath them. Once a large fish was successfully harpooned, the harpoon cord was tied to the bow of the canoe, and the fish dragged until it stopped resisting. Due to the tremendous size and weight of some fish, especially the sturgeon which could weigh up to 360 kg and measure twelve feet in length, the catch was not always brought into the canoe. Instead, it was tied with slipknots at both ends and held close to the side of the boat where it was pulled until the crew reached the shore.¹⁶⁶ Women gutted the fish, harvested the eggs, processed the meat for smoking or drying, and then carefully preserved meat not immediately eaten in bark storage containers.¹⁶⁷

¹⁶² Biard, 'Relation,' in Thwaites (ed.), *Jesuit Relations*, Vol. 3, pp. 79-80. He says bustard eggs could measure nearly five times the size of hen eggs.

¹⁶³ LeClercq, *New Relation of Gaspesia*, p. 281.

¹⁶⁴ Denys, *The Description and Natural History*, pp. 435-436.

¹⁶⁵ Lescarbot, pp. 230-231.

¹⁶⁶ Denys, *The Description and Natural History*, pp. 353-354.

¹⁶⁷ For a Jesuit perception of gender roles, see Biard, 'Relation,' in Thwaites (ed.), *Jesuit Relations*, Vol. 2, p. 77.

While men travelled on fishing expeditions for days at a time, women also made short seasonal journeys to collect the maple sap, summer berries, spices, medicinal leaves and bark, as well as roots for dyes found throughout their region.¹⁶⁸ Strawberries, cranberries, huckleberries, raspberries, blueberries, hog-peanuts, squashberries, pond lily, wild cherries, wild beans, mountain ash berries and other plant foods were all collected in season. Back at camp, the berries were preserved by boiling them for three to four hours, packing them in round cakes, and drying them in the sun as they lay on pieces of birch bark. Turned in the sun every two to three hours, after four days, they were dry and ready for storage.¹⁶⁹

For other Wabanaki, the coastal resources of spring and summer were a priority. Whelks, clams, scallops, lobster and crabs served many purposes: the soft meat was eaten, while the harder shells contributed to artwork, tools, utensils, and shell beads. White shell beads came specifically from whelks, and purple from quahog clams. The combination of the two formed the sacred 'wampum' that was instrumental in relaying messages along intra-tribal trade networks and recording important historical events.¹⁷⁰ Usually found in shallow and warmer water, or buried in the mud flats along beaches, shellfish provided a social activity for many women and their children, an experience that extended into the colder months.¹⁷¹ Though much of the work was done by hand, three-metre staffs were fashioned by older boys to strike lobster in deeper water.¹⁷² Once old enough, these boys would look forward to accompanying the men during the colder months on hunts for whales, porpoises, walruses, and seals, but during the late summer and early autumn, they

¹⁶⁸ Regarding sap and medicines see Denys, *The Description and Natural History*, pp. 380-381.

¹⁶⁹ Patricia Allan, 'The Oxbow Site,' pp. 65-66.

¹⁷⁰ Wampum is described by Denys, *The Description and Natural History*, pp. 414-415.

¹⁷¹ Denys, *The Description and Natural History*, pp. 171, 359.

would join in the easy hunt for young squid.¹⁷³ Naturally drawn to the light of evening fires set on the beach at high tide, young squid were stranded and caught as the tide ebbed.¹⁷⁴

Summer was also a time for communion and celebration. As opposed to the much smaller winter habitations, gatherings during summer continually swelled with visitors for feasts, marriages, games, conversation, ceremony, and exchange.¹⁷⁵ While eating, dancing, and singing were commonplace, the youth spent time learning through imitation of their older siblings and extended family. They learned how to use a bow, knife, or spear, and listened to the elders in order that they know their history and the moral lessons that came to them through stories and song.¹⁷⁶ While gatherings were mostly celebratory in nature, they were also time for business and politics. The male elders dealt with conflicts, troublesome news, or regional concerns, and the decisions that were made were carried from gatherings throughout the region by carefully chosen messengers.

During the late summer months, grasses were burnt in the Penobscot River Valley and on Cape Breton Island so that deer had new grass to eat annually.¹⁷⁷ At the first sign of autumn, winter was already a concern. Men ensured the remaining salmon and sturgeon were caught as they raced back to the sea, and a large store of geese and duck were brought back from the migratory bird-hunting expeditions on the coastal marshes. Hunting on and

¹⁷² Josselyn, 'An Account of Two Voyages to New-England (1674)', p. 100.

¹⁷³ Several testimonials from early travellers about seal, walrus, cod, bass, and whale sightings can be found in See Bernard G. Hoffman, *Cabot to Cartier* (Toronto, 1961); James Rosier describes a whale hunt in Henry S. Burrage (ed.), *Rosier's Relation of Waymouth's Voyage to the Coast of Maine, 1605* (Portland, 1887), p. 158.

¹⁷⁴ Denys, *The Description and Natural History*, p. 355. Denys points out the adult squid were not so easily tricked, but this practice worked well to trap the younger squid.

¹⁷⁵ Denys, *The Description and Natural History*, pp. 408-411; Malliard, pp. 528.

¹⁷⁶ Denys, *The Description and Natural History*, p. 418.

¹⁷⁷ Samuel Purchas, 'The Description of the Country of Mawooshen,' in Hakluytus Posthumus (ed.), *Purchas, His Pilgrimes, Contayning a History of the World, in Sea Voyages, and Lande-Travells, by Englishmen and Others*, Vol. 19 (Glasgow, 1906), p. 400. Also, Denys, *The Description and Natural History*, p. 377.

near water was almost as busy in the fall months as it was in the spring and summer with an increase in bird species, access to beaver, and the upstream spawning run of the catadromous eel. Nets and baskets attached to fish weirs were simply reversed to catch eel, then returned to their original position to snag the fish still heading downstream.¹⁷⁸ In preparation for winter, much of the autumn catch was smoked, dried, and stored in bark containers.

Women collected fall berries and nuts for storage, and made sure to amass the shells, plants, and bark necessary for their winter crafts, dyes, and medicines. As winter approached, men built storage houses on protected terraces above the riverbeds to shelter and preserve food, while women began transporting family belongings and temporary food stores to their winter lodgings. Wood gathering was intensive as the campfires during winter burned continually. Eels, trout and tom cod were fished from the ice, while rabbit, beaver, lynx, and fox were trapped for their meat and pelts. Along the coasts, where many Wabanaki simply moved away from the water's edge for winter habitation, harbour and gray seals were pursued mostly in the colder months as they whelped on the coastal rocks. Not only did seals provide a considerable amount of meat, but their oil was a precious commodity to all Wabanaki people as it was used in cooking, as a hair and skin product, and as fuel for lamps and torchlights, while their skins provided the means for blankets, moccasins, and small purses for carrying sacred items.¹⁷⁹

¹⁷⁸ Denys, *The Description and Natural History*, p. 437.

¹⁷⁹ For whale fat and seal oil as principal features of a Mi'kmaq feast, see Pierre-Antoine-Simon Maillard, 'Lettre de M l'Abbe Maillard sur les missions de l'Acadie, et particulierement sur les missions Micmaques,' in *Soirees Canadiennes*, 3 (1863), p. 303. Also, Denys, *The Description and Natural History*, pp. 349-351, 403, 447. That all of the Wabanaki in the water-world of *Ketakamigwa* shared similar subsistence culture, especially with regard to oils, see Abbe J.A. Maurault, *Histoire des Abenakis depuis 1605 jusqu'à nos jours* (Quebec, 1866), p. 9. Wood also describes their use of it on their bodies and in their hair, *New England's Prospect*, p. 71.

Winter days were filled with activities that involved making everything from fur pouches, clothing, snowshoes, and toboggans, to tools and weapons for future use. Bows were carefully polished using oyster shells or specially flaked stones and then strung with moose sinew, while ash and alder branches were patiently crafted into arrow shafts, tipped with bone or flint points, and then fixed at the opposite end with flight-stabilising eagle feathers.¹⁸⁰ Fishing kits were diligently resupplied during the winter months of scraping and shaping stone, widdling wood, and refining bone, in preparation for the long seasons of hunting on water. Each individual had a chosen craft, whether it was working with bone, shell, antler, wood, skin, or stone. The winter fire and oil lamps provided the light for artistic creations such as porcupine quill and leather works, woven moose hair, shell jewellery, feather headdresses, and stone smoking pipes, many of which were inspired by animal spirits that found their way into the decoration of customised utensils and sculpture. Winter was also time for games of bone dice.¹⁸¹

Winter was also a time for hunting moose, deer, and caribou. Tired out and brought down in the heavy snow by snowshoe-wearing men who glided above the crust with their bows and arrows, and hunting dogs that were light enough not to break the crust, these large mammal corpses were then left for the women to gather and transport back to camp on toboggans where they were then skinned.¹⁸² Skins provided new blankets, clothing, and pouches, while the meat was added to the camp stew or stored in the snow for a future meal. The cold and darkness of winter provided much idle time in the warm wigwam spent playing games, gambling, and telling stories by firelight or oil lamp. It was during these quiet

¹⁸⁰ Denys, *The Description and Natural History*, pp. 419.

¹⁸¹ Lescarbot, *History of New France*, Vol. 3, p. 734.

months that the stories about the ancestors and lessons of life were woven into the fabric of Wabanaki identity, and it was during this season before spring that anticipation for another year was cultivated through their preparation and diligent work.

Wenooch: New People, New Names, New Stories

For more than 11,000 years, the environment of *Ketakamigwa* determined the resources upon which the inhabitants relied for their survival, pleasure, and development.

Environmental change dictated modifications in their behaviour, while ecological familiarity, population growth, and cultural development meant responding to change had great meaning. By 500 years ago, the Wabanaki in the water-world of *Ketakamigwa* were a diverse, complex, and advanced people who thrived in a familiar and dynamic environment. Their opportunism and resilience reflected the ambition with which they manoeuvred their way through a challenging and, at times, treacherous environment. Their relationship with the animals, trees, waterways, plants, and land was learned and then taught through a system of place names and cultural oral stories that were both pragmatic and symbolic.

By establishing ecological familiarity, they enhanced their ability to withstand the environmental pressures that came their way. At the same time, they established a traditional sense of place that served as a cohesive element in their cultural identity.

Traditional knowledge provided a mental cartographical and historical image for the Wabanaki that was challenged by the new people they found on their shores. True to form, the Wabanaki pragmatically called them *Wenooch*, or 'strangers.' As the Wabanaki became familiar with them, they called them *mistekoushou*, for 'boat-men,' or *chauquaquock*, for

¹⁸² Denys, *The Description and Natural History*, pp. 404-405, 430-431.

‘knife-men,’ to reflect the new modes of transportation and technologies that had such a tremendous impact on their way of life.¹⁸³ The *Wenooch* did not enter an ‘uncivilised’ place with the ‘barbaric’ people they described in their writings, but rather an ecologically managed and culturally complex place with a rich and cultivated people who had for many millennia resiliently navigated their way through the ebb and flow of environmental pressure. During a century when the Wabanaki needed to respond to a rapidly deteriorating climate, their discovery of the Europeans made for their greatest challenge yet.

¹⁸³ Prins, ‘Children of Gluskap,’ p. 114.

The Water-World in the Scottish Insular *Gàidhealtachd* and the Hebrideans

For nearly 10,000 years, humans have made the water-world in the Scottish Insular *Gàidhealtachd* their home.¹ Like the inhabitants of *Ketakamigwa*, they participated in a shifting human mosaic that adapted to changes in sea level, climate, vegetation, and fauna. Like those of *Ketakamigwa*, their economies, socio-cultural development, and settled communities depended almost exclusively on their resilience, a characteristic best exemplified by their self-preservation and enhanced by their complex modes of cultural expression. But unlike the people of *Ketakamigwa*, those who inhabited the Western Highlands and Islands of Scotland did so with far more ecological limitations. Over time, their *space* was characterised by diminishing woodland, spreading peat, and the presence of arable and domestic animals. These differences alone exacerbated environmental pressure that forced creative innovation as people culturally developed their *place* with unique homes, foods, fuel, tools, and daily comforts. By no means were these the only dissimilarities, however. While *Ketakamigwa* was home to a plethora of large game, the environment of the Scottish Insular *Gàidhealtachd* simply could not sustain them in any great number. And while the people of *Ketakamigwa* were accustomed to a water-world evenly divided between fresh water tributaries and the inlets of the sea, the people in the Insular *Gàidhealtachd* were more exclusively a sea people.

¹ Karen Hardy and Caroline Wickham-Jones, 'Scotland's First Settlers: the Mesolithic seascape of the Inner Sound, Skye and its contribution to the early prehistory of Scotland,' in their *Mesolithic and later sites around the Inner Sound, Scotland: the work of the Scotland's First Settlers Project 1998–2004* (2007), Section 4.5. Also, Kevin J. Edwards and Steven Mithen, 'The colonization of the Hebridean Islands of Western Scotland: evidence from the palynological and archaeological records,' in *World Archaeology*, 26:3, Colonization of Islands (Feb: 1995), pp. 348-365.

Despite the many differences between them, a comparison of these peripheral lands at the edge of the North Atlantic and the people who inhabited them illustrates how intimacy with a water-world environment nurtured similar practices and perceptions regardless of locale. It also substantiates the argument that human development and technological advancement are historically born out of an intimate relationship between humans and nature, especially when ecological knowledge passes from one generation to the next. Both water-worlds were part of an extended society, intertwined through immigration and trade. In addition to organic development, therefore, both were subject to cultural diffusion from the outside world. New beliefs, technologies, and people ebbed and flowed through them, their influences modifying culture and often challenging regional sustainability. However, threats to economic and cultural security did not always come from anthropogenic pressure. Both water-worlds were, and still are, part of a dynamic North Atlantic climate system. Even in *Ketakamigwa*, where the population-to-resource ratio favoured sustainability, climate change still had the power to determine levels of cultural development and survival.² Because the Scottish Insular *Gàidhealtachd* did not always have a favourable population-to-resource ratio, its vulnerability to anthropogenic pressure was much greater. For that reason, unsustainable lifeways in this water-world led to much greater consequences.

² The best example here is the period between 3,000 and 2,500 BP when population and material culture in *Ketakamigwa* hit an all-time low. See Samuel E. Munoz, Konrad Gajewski, and Matthew C. Peros, 'Synchronous environmental and cultural change in the prehistory of the northeastern United States,' *Proceedings of the National Academy of Science*, 107:51 (21 December 2010), pp. 22008-22013.

This chapter seeks to identify environmental practices and perceptions in the Scottish Insular *Gàidhealtachd* between deglaciation and the sixteenth century. It emphasizes how important best practices were to the economic and cultural security of a water-world environment with a strained population-to-resource ratio. Like the previous chapter, it also highlights points in time when climate change determined cultural development and survival. The attitudes, behaviours and values of any cultural group dictate the way in which humans perceive and interact with their environment. During times when resources are limited, competition for self-preservation often takes precedent over previously held beliefs. In the Scottish Insular *Gàidhealtachd*, many decisions made about resource management were detrimental to long-term sustainability, but it was the self-interests of external players that ultimately threatened regional stability. This outside pressure stimulated more competition and created irreparable social stratification. While agriculture revolutionised spiritual, economic, and social practices, resource exploitation to the point of exhaustion created a boom or bust economy. Finally, the introduction of a non-regional cash economy sabotaged regional stability based on a real-resource economy when speculation did not correspond to reality. On the eastern North Atlantic, this level of anthropogenic pressure, on top of dynamic changes in climate, made for grave long-term consequences not yet experienced in the west.

Spanning three degrees of latitude, the ecologically diverse water-world in the Scottish Insular *Gàidhealtachd* reaches into the west coastal highlands from Cape Wrath in the north, and runs south through the territory west of the Moine Thrust, parallel to the coastline. This includes west Sutherland, Wester Ross, the western coast of

Inverness-shire, and the beaches of Loch Linnhe where the Great Glen naturally divides the mainland in two. From Fort William, through North Lorn, and west along the coast to Oban, the water-world then stretches further west and north to include a series of archipelagos comprised of over six hundred islands and twice as many rock islets and reefs. It extends from the southern beaches of Islay and Jura, to the remote island of St. Kilda forty miles west of the Sound of Harris, and finally to North Rona, another forty miles beyond the Butt of Lewis. (Fig. 10) Divided in half by one body of water with three names (the Sea of the Hebrides, The Little Minch, and the North Minch), the islands to the west are the Outer Hebrides, and those closer to the mainland, the Inner Hebrides. (Fig. 11) While many of the Inner Hebrides are widely scattered, the narrow and compact body of the Outer Hebrides divulges evidence of just how much environmental change has taken place since deglaciation. They were originally combined to make one island, a fact celebrated by their traditional name, *An t-Eilean Fada*, Gaelic for ‘The Long Isle.’

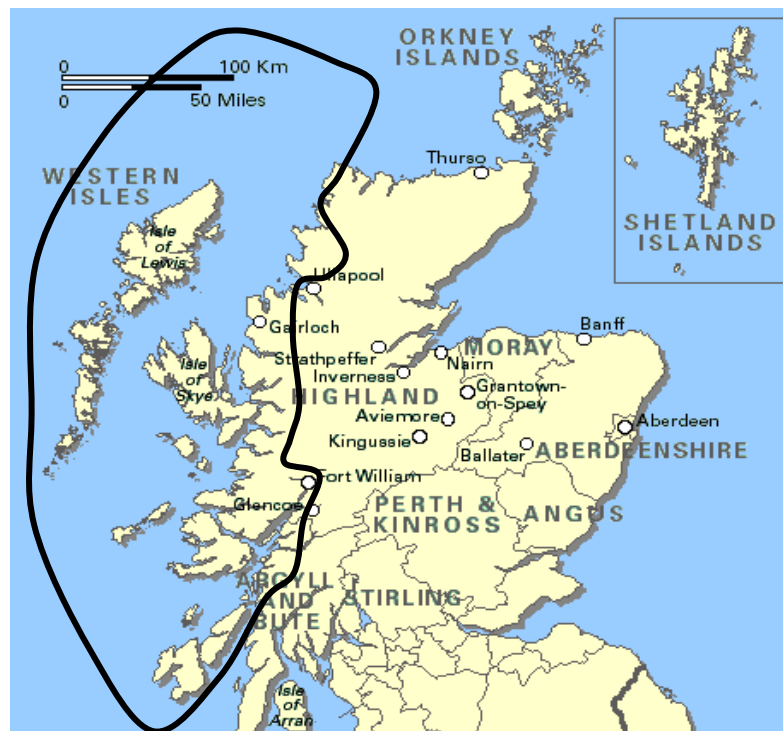


Figure 10. The Scottish Insular Gàidhealtachd

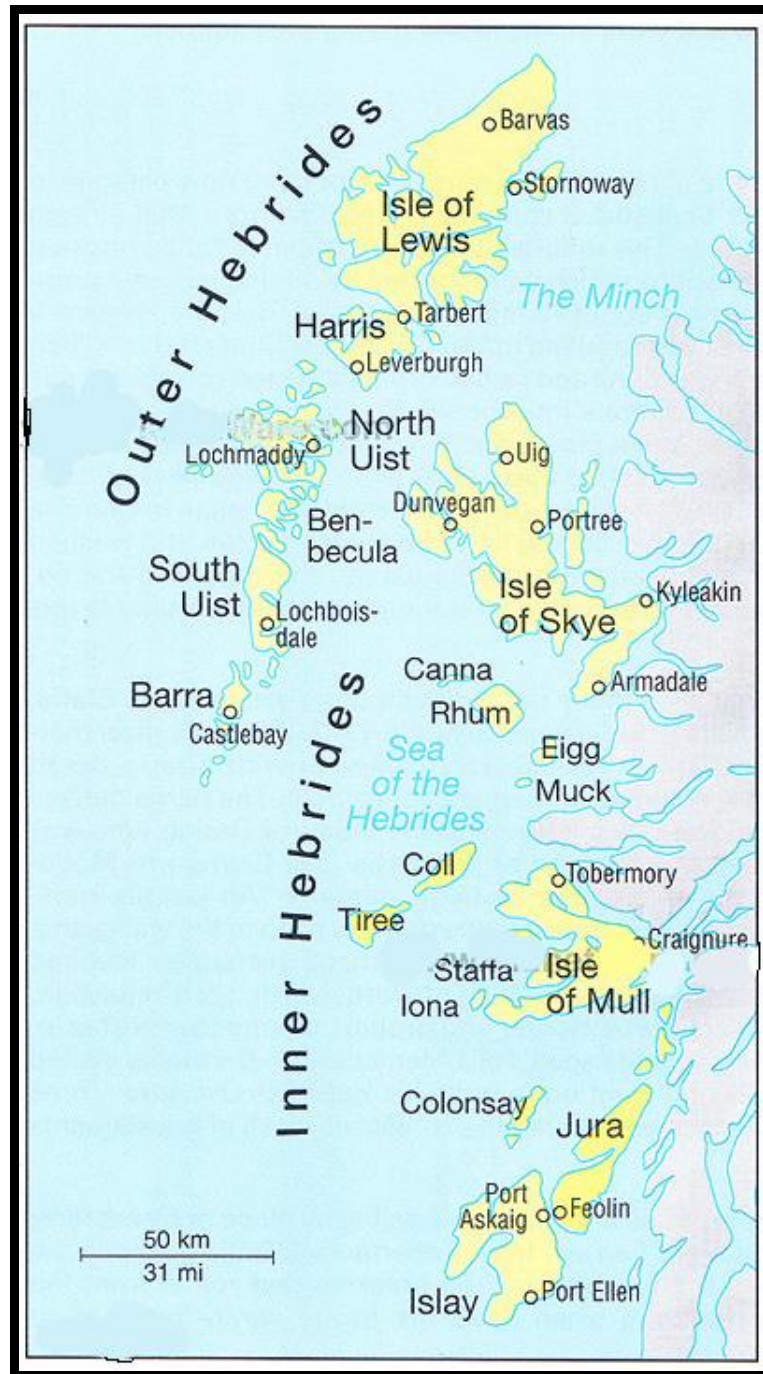


Figure 11. The Islands of the Inner and Outer Hebrides.

For many millennia, the people of the Scottish Insular *Gàidhealtachd* have adapted to the demands of a dynamically changing environment. But they have also made an indelible impression upon it. By the sixteenth century, they no longer wore skins, nor did they live in roundhouses or depend primarily on stone, bone, or bronze tools. They no longer

buried their dead in chambered cairns, erected monolithic slabs, or created artificial islands in lakes and forts upon their hills. Their conflict was no longer with the Picts or the Norse, and despite many lingering rituals of a non-Christian past, they considered themselves Christian. Like the people of *Ketakamigwa*, they were a vigorously proud people bound by a kinship that determined settlement patterns, land and water use, social relations, and identity, all of which came under threat from external forces by the end of the sixteenth century.

Transformed over time by nature and man, the north-westernmost region of Scotland was, for much of the modern era, regarded as inherently peripheral and only marginally significant to the rest of the country. Between the sixteenth and eighteenth centuries, when visitors began seeping in and documenting them, the Hebrideans lived in a water-world historically connected to Scandinavia, mainland Scotland, Iceland, and Ireland. Therefore, their perceived existence was quite rightly at the centre of the world. For centuries before these visitors arrived, the Hebrideans had culturally subsumed more of the Celtic-Gaels than those of Germanic and Scandinavians descent, and they had taken control of the gravitational pull that political power wielded over Scottish geographical space. In fact, for 150 years prior to the sixteenth century, 'The Lordship of the Isles' profoundly affected the culture of the region. It solidified a political and religious connection between the region's inhabitants, celebrated the first written vernacular in all of Europe, advanced Gaelic literature and poetry, and created a springboard for the clan system that eventually formed the region's wall of defence. However, when that gravity reversed its sway toward the Anglo-Teutonic peoples of the Scottish Lowlands and England, prejudice against the region from outside minimised and

demonised Gaelic traditions, desecrated the physical environment, and cultivated hostility among outsiders that greatly impacted the Hebrideans and their landscape.

The primary goal of this chapter is to reconstruct the environmental history of the Scottish Insular *Gàidhealtachd* before the sixteenth century when a series of revolts, and the subsequent invasion of political and social powers from the south, ushered in sweeping change to the region. Though *pride in place* was directly associated with ‘clan’ holdings at the time, I argue that the collective and individual practices and identities of the sixteenth-century Hebrideans were rooted in their historical understanding of an insular landscape. By synthesising through and merging together climatological data, archaeological findings, fragments of historical documents, and traditional knowledge found in Gaelic poetry, stories, and place names, it is possible to recreate something of the physical and human landscape dynamically sculpted by ten millennia of natural and anthropogenic forces.

The First People and Post-Glacial Environmental Change

The sea is, and always has been, omnipresent in the Insular *Gàidhealtachd* of Scotland. Until approximately 11,900 BP, nearly half of the region hid beneath an enormous blanket of frozen sea.³ As the Holocene commenced over the next several millennia, temperatures and precipitation increased faster than at any time since, culminating between 7,000-6,000 BP at 2-3 °C warmer than at present.⁴ As the weight of the ice was

³ Graeme Whittington and Kevin J. Edwards, ‘Climate Change,’ in K.J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York and Toronto, 1997), pp. 13.

⁴ *Ibid.*, pp. 13-14.

removed, the land mass forced its way upward, where millions of year-old rock formed much of the landscape above the surface. The Outer Hebrides were not submerged by heavy ice, so they rebounded much less than the interior to reveal a landscape dominated by gneiss. This metamorphic rock also appeared on the mainland and, with other metamorphic rocks like schist and sandstone, made up the newly exposed surface of the north-western Scottish coastline. Quartzite, basalt, and sedimentary rock made up most of the Inner Hebrides, the latter two a result of the tertiary volcanoes on Skye, Rhum, Mull, and at Ardnamurchan.⁵ As a result of this climatic amelioration, melting ice and rushing sea moulded the rocky cliffs and deep moraines, producing a mosaic of islands and creating an underwater incubator for forests of kelp and sponges. Where once there was little life, the flooding of the sea into the glaciated valleys of the coastal mainland created fjordic and fjardic sea loch basins, tidal rapid habitats, and seashores, cultivating a biodiversity of animal and plant life.

The increase in temperature created by these rapidly changing climate conditions produced soils that sustained a wide variety of vegetation. While birch was dominant in all three sub-regions, hazel was also prevalent in the Outer Hebrides, oak in the Inner Hebrides, and pine along the western coastline of the mainland. In addition to these dominant species, open woodlands often combined with an even wider variety of vegetation. Peat sequences from Loch Lang on South Uist reveal that birch, hazel, oak, elm, alder, and ash were all present there between 9,000 and 4,000 BP, while nearby sedge-rich grasslands with ferns and juniper scrub integrated with willow, rowan and

⁵ W. H. Murray, *The Islands of Western Scotland: The Inner and Outer Hebrides* (London: 1978), pp. 42, 49-51.

poplar.⁶ Unlike the more productive low-lying parts of the mainland, much of the Insular *Gàidhealtachd* lacked any abundance of alluvial soils. Where they did exist, a variety of flora sprung up on raised beaches where coastal inlets and river floodplains contained naturally fertilised soil.⁷ By 8,000 BP, opposite Loch Lang on the western coast of South Uist, forests of birch bordered the fertile shores of what would eventually become machair, a calcareous shell-sand of glacial sediment combined with crushed molluscs and other marine life blown ashore by the strong south-western Atlantic winds.⁸

During the first millennium of deglaciation, sea level fell as far as eight metres below present.⁹ The dramatic decreases in sea level initially provided the opportunity for both faunal and floral species to migrate as far as the Inner Hebrides by travelling east to west over the continental land bridge near modern Kent before 8,500 BP when it was overwhelmed by the rising waters of the English Channel. In addition, native species from territory south of the Thames that was never fully glaciated migrated from south to north as the ice retreated. Aerial distribution of seeds was undoubtedly assisted by the strong winds, if not simply carried by birds. This combination of transport allowed islands as remote as St. Kilda to support birch and hazel trees. As vegetation biomass increased to the point of sustaining more animal life, mammal populations such as red deer, roe deer,

⁶ J. A. Fossitt, 'Late Quaternary vegetation history of the Western Isles of Scotland,' *New Phytologist*, 132 (1996), pp. : 171-196. Also, K. D. Bennett, et al., 'Holocene vegetational and environmental history at Loch Lang, South Uist, Western Isles, Scotland,' in *New Phytologist*, 114 (1990), pp. 281-298. Also, see Kevin J. Edwards and Graeme Whittington, 'Vegetation Change,' in K.J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York and Toronto, 1997), pp. 64-65.

⁷ Colin K. Ballantyne and Alastair G. Dawson, 'Geomorphology and Landscape Change,' K.J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York and Toronto, 1997), p. 33.

⁸ Whittington, 'Vegetation Change,' pp. 16-17.

⁹ Despite the isostatic rebound from the retreating ice, ice melt caused sea-levels to rise rapidly until 7,000 BP, bringing the sea in some parts of the islands up to ten metres above present levels before isostatic

and boar migrated into those parts of the Insular *Gàidhealtachd* they could reach. Fish, seals, birds, butterflies, otters, pine marten, and moths colonized more distant locations like the Outer Hebrides, an archipelago never connected to the Inner Hebrides or mainland because of the 200m deep trench between them.¹⁰ The Minch, despite being a barrier between the Outer and Inner Hebrides, provided the liquid pasture of plankton that supported new marine life, including whales, seals, herring, cod, and numerous kinds of shellfish drawn to the warmer waters.

Instinctively, following the northward withdrawal of the ice, reindeer found their way to Creag nan Uamh in the Assynt Caves by at least 5,000 years later, making a human presence there imminent.¹¹ Vestiges of antler, bone, and tooth ivory, dated to the post-glacial period, reveal the likelihood that deer, brown bear, wolf, boar, and aurochs, enticed the first humans into the region.¹² Travel by coracle or on foot over land bridges provided by low sea levels allowed humans to follow animals into much of the Insular *Gàidhealtachd*, but the evidence for Mesolithic settlements in the region is limited. First, like most of the early settlement sites in *Ketakamigwa*, those of the Insular *Gàidhealtachd* were submerged by two millennia of rising seas following deglaciation. And second, like

rebound caught up and they began to fall once again. J.A. Fossitt, 'Late Quaternary vegetation history,' *Ibid.* Richard Tipping, personal communication.

¹⁰ R. J. Berry, 'The Outer Hebrides: where genes and geography meet,' *Proceedings of the Royal Society of Edinburgh*, 77B (1979), p. 22. Also see Dale Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' *Anthropozoologica*, No. 13 (1990), pp. 7-18.

¹¹ N. A. Murray, et al., 'Further radiocarbon determinations of Middle and Late Devensian age from the Creag nan Uamh caves, Assynt, Northwest Scotland.' *Quaternary Newsletter* 70 (1993), pp. 1-10. Also, T. J. Lawson, 'Creag nan Uamh,' extracted from the *Geological Conservation Review*, Vol 6, Chapter 6, OS Grid Reference NC268170 (JNCC, 1980-2007). Online:

<http://jncc.defra.gov.uk/pdf/gcrdb/GCRsiteaccount3044.pdf> Note: Though findings in the same cave system signify reindeer were also there during the late-glacial period, those remains have yet to be connected to a simultaneous human existence.

those of *Ketakamigwa*, soils in the Scottish Insular *Gàidhealtachd* are primarily acidic, limiting faunal remains and other organic materials to shell midden, machair, caves, or the outcrops of calcareous rocks. The evidence which does remain, however, provides a relatively basic understanding of the first peoples in the Scottish Insular *Gàidhealtachd* and how they interacted with their dynamically changing environment.

Hunting tools identified as Mesolithic tanged-points, carbon dates from campfire charcoal, and the palynological dating of hazelnut shells put humans on Islay, Rhum, Jura, and Tiree as early as 8,000-9,000 BP, while evidence found in shell midden puts them in the caves of Carding Mill Bay in Oban and on the Isle of Ulva shortly thereafter.¹³ In addition to a plethora of coastal sites, humans exploited upland locations in order to acquire a diversity of resources. Just as the first people in *Ketakamigwa* relied heavily on following wild game, arranging their temporary settlement sites around migration and grazing patterns, and converting their bounty into clothing, housing, and tools, so too were the early Mesolithic people of the Scottish Insular *Gàidhealtachd* busy maximizing use of their resources under evolving conditions. For example, mirroring the techniques used in *Ketakamigwa*, at Gleann Mor on Islay, lithic discoveries indicate a hunting station located where the movement of wild game was easily observed from afar.¹⁴

¹² Finbar McCormick and Paul C. Buckland, 'Faunal Change: The Vertebrate Fauna,' in K.J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York and Toronto, 1997), pp. 86-88.

¹³ Kevin J. Edwards and Steven Mithen, 'The Colonization of the Hebridean Islands of Western Scotland: Evidence from the Palynological and Archaeological Records,' in *World Archaeology*, Vol 26, No 3 (1995), pp. 348-365. Also, see N. J. Russell, C. Bonsall and D. G. Sutherland, 'The exploitation of marine molluscs in the Mesolithic of western Scotland: evidence from Ulva Cave, Inner Hebrides,' in Anders Fischer (ed.), *Man and Sea in the Mesolithic*, Oxbow Monograph No. 53 (England: 1995).

¹⁴ Steven Mithen and Mark Lake, 'The Southern Hebrides Mesolithic Project: Reconstructing Mesolithic Settlement in Western Scotland,' in Tony Pollard and Alex Morrison (eds.), *The Early Prehistory of Scotland* (Edinburgh: 1996), pp. 131-134.

For at least 4,000 years, Mesolithic occupation of the region revolved around multiple temporary settlements and workstations that dotted the mainland's western coast and the islands, allowing humans to procure multiple resources through manufacture and trade. There was great diversity in the Scottish Insular *Gàidhealtachd*. There were upland and lowland woodlands for hunting, caves for protection from harsh coastal conditions, quarries for the collection of stone, and ocean and lake-side fishing spots. There were rocky shorelines filled with shellfish, seaside cliffs littered with birds for fowling, grasslands with a variety of herbs and plants, as well as small rivers and streams for food, freshwater, or navigation through the landscape. To exploit this mixed economy, Mesolithic people stayed mobile and made their settlements with materials relatively easy for raising and falling dwellings. Timber poles, skins, bark, shrubs, and furs created shelter and flooring, stone slabs provided hearths, and the burning of oil from land mammals, birds, or fish created light.

The Mesolithic people of the Scottish Insular *Gàidhealtachd* lived much like the people of *Ketakamigwa* during the same period by adapting their technology to the demands of their water-world environment. They manufactured flint, quartz, chert, volcanic glass, pitchstone, and bloodstone, and when combined with animal bone, tool production created the basis for a sophisticated regional trade system that extended between the islands.¹⁵ Limpet hammers and scoops were used for removing bait from

¹⁵ Bill Finlayson and Kevin J. Edwards, 'The Mesolithic,' in K.J. Edwards and I.B.M. Ralston (eds), *Scotland: Environment and Archaeology 8000 BC-AD 1000* (New York and Toronto, 1997), pp. 122. Pitchstone had only one source in the entire region: the Isle of Arran. Its presence on the other islands and mainland represents a wide trade network and its uniqueness may have created value beyond only utility. See, G. Warren, 'Seascapes: peoples, boats, and inhabiting the Mesolithic in Scotland,' in R. Young (ed.), *Mesolithic Lifeways* (Leicester, 2000), pp. 97-104. Also, C. Wickham-Jones, 'Summer walkers? – Mobility and the Mesolithic,' in N. Milner and P. Woodman (eds.), *Mesolithic Studies at the beginning of the 21st Century*, (Oxford, 2005), pp. 30-41.

the rocks along the coastal bays, scrapers and piercers were used for processing rawhide and sealskin, while harpoons and knives were used in fishing for cod and wrasse.¹⁶ Beneath the basalt cliffs along Staffin Bay on Skye, a combination of finds in shell midden, bone tools, and an extensive lithic assemblage indicate the presence of a large workstation with an entire industry based on blade production.¹⁷ Among the findings in shell midden sites on Oronsay, far more scraper tools were present than would have been needed to smooth and soften hide at any one settlement, indicating the specialised manufacture and trade of antlers were being imported from Jura and the mainland.¹⁸ Although harpoons of bone and antler tools were found in the caves at Oban, no lithics were present, perhaps an indication that Oban did not include lithic workstations or that original sites were on beaches away from the caves and are now simply submerged beneath the tidal bay.¹⁹ However, at Sand in Applecross, excavations of sites that survived coastal erosion identified outdoor workstations for the processing of hides,

¹⁶ N.J. Russell, C. Bonsall, and D.G. Sutherland, 'The role of shellfish-gathering in the Mesolithic of western Scotland: the evidence from Ulva Cave,' in A. Fischer (ed.), *Man and Sea in the Mesolithic. Coastal Settlement Above and Below the Present Sea Level* (Oxford, 1995), pp. 280-285.

¹⁷ A. Saville and R. Miket, 'An Corran, Staffin, Skye (Kilmuir parish): rock-shelter' in *Discovery and Excavation in Scotland*, SHG23037 (1994), pp. 40-41. Also, 'Past: An Corran rock-shelter, Skye: a major new Mesolithic site' in *The Newsletter of the Prehistoric Society*, No. 18, December: 1994. The Highland Council Historic Environment Record #MHG6497.

¹⁸ Bill Finlayson, 'Complexity in the Mesolithic of the Western Scottish seaboard,' in Anders Fischer (ed.), *Man and Sea in the Mesolithic: Coastal settlement above and below present sea level*, Oxbow Monograph No. 53, *Proceedings of the International Symposium at Kalundborg, Denmark 1993* (England, 1993), pp. 262-264. For example, At Shieldaig in Wester Ross, where good flint was difficult to find, quartz and bloodstone were used in its stead, the latter of which originated from the Isle of Rhum, nearly 30 miles south. C. R. Wickham-Jones, *Scotland's First Settlers*, Historic Scotland (London, 1994), pp. 73-74; C.R. Wickham-Jones, 'Rhum: Mesolithic and later sites at Kinloch,' *Monographs of the Society of Antiquaries of Scotland*, Society of Antiquaries of Scotland, Monograph Series No. 7 (Edinburgh, 1990), p. 26.

¹⁹ Clive Bonsall, 'The Obanian Problem: Coastal Adaptation in the Mesolithic of Western Scotland,' in Tony Pollard and Alex Morrison (eds.), *The Early Prehistory of Scotland* (Edinburgh, 1996), pp. 183-197.

extraction of bone marrow, and manufacture of bone tools on a seasonal basis, as well as the processing of dog whelk to extract purple dye.²⁰

Further dependence on the sea for sustenance most likely came as Mesolithic people over-exploited large terrestrial mammals. Despite the challenging conditions in the region, inland and coastal transportation by dugout canoes, and ocean travel in seal or deerskin-covered coracles, would have been relatively easy and less time consuming than travelling on foot through dense woodland and blanket peat bog, or over rocky terrain.²¹ While the exploitation of small populations of wild game still provided the opportunity for replenishing toolkits, hide clothing and housing amenities, it was fishing, fowling, seal hunting, and collecting shellfish, nuts, seaweed, and herbs that created the basis for the late-Mesolithic diet.²² Bird remains found in shell midden reveal a diet of guillemot, razorbill, gannet, great auk, shag, cormorant, sheld-duck, merganser, gull, water-rail, goose, and swan.²³ Fish debris found in bone assemblages and shell midden includes skate, haddock, tope, saithe, mullet, dogfish, angel fish, conger eel, seabream, wrasse, and thornback ray, most of which were caught with stone harpoons or fished from the sea with spun-gut lines and bone hook.²⁴

With such an array of life at their disposal, Mesolithic people moved regularly in order to follow the seasonal patterns of their food. On Oronsay, measurements of fish otoliths from midden debris identified five distinct seasonal sites, concluding that Cnoc Sligeach was a summer site, Cnoc Coig was inhabited during the autumn, and Casiteal nan

²⁰ Rachel Parks and James Barrett, 'The Zooarchaeology of Sand,' in Karen Hardy and Carolyn Wickham-Jones (eds.), *Scotland's First Settlers*, Section 3.11 (Online Archaeology Source, 2001), pp. 1-27.

²¹ Paul Johnstone, *The Sea-craft of Prehistory* (London, 1980), pp. 85-101.

²² Bonsall explains the processing of seaweed with seafood, p. 285.

²³ F. McCormick and P.C. Buckland, 'Faunal Change: The Vertebrate Fauna,' pp. 88-90.

Gillean I and II were occupied during a much longer period of summer and early autumn when inhabitants fished for saithe or coalfish.²⁵ As the findings on Oronsay reveal, there were a number of considerations when choosing settlement locations, including proximity to seasonal food and resources, as well as protection from the elements, but a mobile lifestyle allowed for social interaction, procurement of important amenities, and the ability to find essential protection and food throughout the year.²⁶ This did not mean, however, that all Mesolithic settlements were temporary. At Kinloch on the Isle of Rhum, the extensive artefact assemblage spreads over many locations throughout the landscape. Mesolithic people on Rhum had access to a wide-variety of floral and faunal species, multiple forms of natural shelter from the elements, and no reason to migrate on a seasonal basis. Therefore, they may have lived permanently and continually at Kinloch over the period of four millennia, processing stone and bone tools, working with hides, fishing, fowling, hunting, all the while trading with people from other Mesolithic sites.²⁷ Most of these early settlements have been lost beneath the rising sea, overwhelmed by the spread of peat, or covered by windblown sand, circumstances that forced inhabitants further inland or upland. However, at Northton on the Isle of Harris in the Outer Hebrides, burnt animal bone and charred hazelnut shells located beneath the machair,

²⁴ Ibid.

²⁵ Most intriguing is that these four sites, all located on the eastern side of the island, were opposite a fifth site. Nestled in a western bay and well protected from the wind by two offshore islets, the Priory Midden has been identified as their long winter and early spring habitation. Paul Mellars, 'Excavation and economic analysis of Mesolithic shell middens on the Island of Oronsay (Inner Hebrides),' in Paul Mellars (ed.), *Early Postglacial Settlement of Northern Europe: An Ecological Perspective* (London, 1978), pp. 371-396. Also, Paul Mellars, *Excavations on Oronsay* (Edinburgh, 1987), pp. 153-240; P.A. Mellars and M. R. Wilkinson, 'Fish Otoliths as Indicators of Seasonality in Prehistoric Shell Middens: the Evidence from Oronsay (Inner Hebrides)', *Proceedings of the Prehistoric Society*, 46 (1980), pp. 19-44.

²⁶ Finlayson and Edwards, 'The Mesolithic,' Ibid., pp. 118-119.

²⁷ Wickham-Jones, 'Rhum: Mesolithic and later sites at Kinloch,' Ibid., Section 14. Agriculture followed in this same location during the Neolithic period.

indicate Mesolithic life was not limited to those parts of the Insular *Gàidhealtachd* that were easily reached on foot or via a short boat trip.²⁸ By utilising bravery, common sense, and an intimate ecological knowledge of the region, humans selected work areas, seasonal camps, and created an annual subsistence that preserved their lifeways for four millennia of environmental transformation. Like the people of *Ketakamigwa*, they were opportunistic and resilient, yet acutely subject to the whims of their ecosystem.

One of the most striking differences between *Ketakamigwa* and the Scottish Insular *Gàidhealtachd*, from the first millennium after deglaciation to about 6,000 BP, is the natural reduction of woodland. While forests on the Scottish mainland were still expanding, rapid decreases in precipitation and a marked increase in gale winds on the islands gradually reduced coastal forests and prompted more effort and creativity to accumulate resources for fuel and shelter, which provoked further natural change. By that time, blanket peat began to cover previously wooded parts of the Outer Hebrides, a process that extended to the Inner Hebrides and much of the Western Highland coastline over the next two millennia.²⁹ Over a 4,000-year period following deglaciation, these regional changes also contributed greatly to coastal erosion. Deforestation caused hillwash and slopewash, while the rise in sea level and subsequent loss of coastal living space exacerbated the need for humans to respond in order to survive.

Mesolithic people did not simply react to the evolutionary demands placed upon them by climate and environment, but proactively engaged in exploiting their

²⁸ The hazelnuts and animal bone were carbon dated to the Mesolithic period. See Richard A. Gregory, Eileen M. Murphy, Mike J. Church, Kevin J. Edwards, Erika B. Guttman and Derek D. A. Simpson, 'Archaeological evidence for the first Mesolithic occupation of the Western Isles of Scotland,' in *The Holocene*, 15 (2005), p. 944.

²⁹ Fossitt, 'Late Quaternary vegetation history of the Western Isles of Scotland,' pp. 192-193.

surroundings. Small numbers and seasonal transience meant a relatively minimal impact on settlement sites, and a hunter-fisher-forager lifestyle meant nominal pressure on vegetation. However, hunting within a finite space undoubtedly contributed to the extinction of large mammals, such as elk and bear, and augmented pressure on the sea and other forms of vegetation. The use of timber for rolling hearths, making tools or boats, and constructing dwellings, may not have contributed greatly to deforestation, but such practices may have initiated woodland management in the form of cutting or coppicing.³⁰ As regional inhabitants managed trees, this eroded woodland habitats and displaced small animals such as the prehistoric rabbit and squirrel. Pollen samples from the mid-Mesolithic period indicate that, although many floral species were declining in number, hazel increased sharply, which may have been due, in part, to coppicing for the provision of nuts.³¹

Despite minimal archaeological evidence, there are scientific indications that anthropogenic alteration of the landscape took place. Radiocarbon-dated pollen and charcoal samples raise the possibility that inhabitants set intentional fires that altered the woodlands of the Outer Hebrides in order to manage heath land and sustain grazing game populations.³² If this is the case, not only was the environment purposely altered

³⁰ For the Mesolithic period, there is little evidence for this, but the practice becomes common during the Neolithic and is still in place today. See Kenneth R. Hiron and Kevin J. Edwards, 'Pollen and related studies at Kinloch, Isle of Rhum, Scotland, with particular reference to possible early human impacts on vegetation,' *New Phytologist*, 116:4 (December, 1990), pp. 715-727.

³¹ J. Mercer, 'Mesolithic and Bronze age camps, 75-26 ft OD, N Carn, Isle of Jura', *Proceedings of the Society for Antiquities in Scotland*, 104 (1971-72), pp. 1-22. Also, Finlayson and Edwards, 'The Mesolithic,' p. 120; and K.J. Edwards and I.B.M. Ralston, 'Postglacial hunter-gatherers and vegetational history in Scotland,' *Proceedings of the Society for Antiquities in Scotland*, 114 (1984), pp. 15-26. Finally, for faunal connections to the woodland see P.C. Buckland, 'North Atlantic faunal connections – introduction or endemics?' *Entomologica Scandinavica Supplement*, 32 (1988), pp. 7-29.

³² S. J. P. Bohncke, 'Landscape history in the Outer Hebrides: Vegetation and Habitation History of the Callanish Area, Isle of Lewis, Scotland,' in Hilary H. Birks, H.J.B. Birks, Peter Emil Kaland, Dagfinn Moe (eds.),

through the use of fire, but animals were purposely transported by boat to remote islands to provide wild game as a supplement to marine resources. This is supported by red deer bones and antler found at The Udal, Northton, and Rosinish in the Outer Hebrides from 5,000 BP.³³ However, the decrease in precipitation between 7,000 and 4,000 BP created dryer conditions subject to natural fires.³⁴ By the end of the Mesolithic, decreasing flora and fauna was primarily due to a naturally changing environment, but like the inhabitants of *Ketakamigwa*, those in the Scottish Insular *Gàidhealtachd* contributed to change by exploiting and managing their resources.

Optimal Climate Conditions and the Advent of Agriculture

Like *Ketakamigwa*, the Scottish Insular *Gàidhealtachd* experienced a natural transformation between 11,000 and 6,000 BP that forced human response to changing sea levels, temperatures, flora and fauna. Despite the strong resemblance between the two water-worlds and their inhabitants up to this point, however, their paths diverged during the next stage in their development. This is because, on the eastern North Atlantic, the climate optimum brought the advent of agriculture. By that time, the regional inhabitants of the Scottish Insular *Gàidhealtachd* had established an intimate understanding of their ecological water-world environment, and they had mastered

The Cultural Landscape: Past, Present and Future, (Cambridge, 1988), pp. 450-451, 460. Also, Barbara Brayshay and Kevin Edwards, 'Late-glacial and Holocene vegetation history of South Uist and Barra,' in David Gilbertson, Martin Kent and John Grattan (eds.), *The Outer Hebrides: The Last 14,000 Years*, Sheffield Environmental and Archaeological Research Campaign in the Hebrides, Vol. 2, (Sheffield, 1996), pp. 17-20.

³³ Dale Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' p. 8.

³⁴ The highly flammable and increasing heather-covered blankets of peat may have exacerbated fire hazards, so not all charcoal evidence can be attributed to humans. K.J. Edwards, 'A Mesolithic of the Western and Northern Isles of Scotland? Evidence from pollen and charcoal,' pp. 23-38, and Richard Tipping, 'Microscopic Charcoal Records, Inferred Human Activity and Climate Change in the Mesolithic of

processes for survival by following seasonal migrations, identifying exploitation sites, and creating a complex stone and bone tool-kit. They had modified their subsistence behaviour to accommodate a decrease in wild game that included the small animals dependent on dwindling coastal woodland habitats, and they had possibly managed woodland resources to increase yields in nuts or provide grazing land for their remaining game. Once arable farming commenced, the relationship between humans and nature underwent its own transformation. As a result, the inhabitants of the Scottish Insular *Gàidhealtachd* began competing directly with nature for control over their environment.

The evolution of agriculture that moved through Europe and into Scotland between 6,000 and 5,800 BP had a dramatic impact on the environment.³⁵ With no obvious centre of power, the Neolithic period in Scotland was culturally diverse with regional differences in settlement type, resource availability, and the way communities arranged their monuments or burials in the landscape.³⁶ Though settlements did become more permanent during the Scottish Neolithic, the diversity of the natural environment, coupled with the comparative severity of regional climate conditions, diversified culture and dictated where people could build and maintain permanence. This was more

Northernmost Scotland,' both chapters in Tony Pollard and Alex Morrison (eds.), *The Early Prehistory of Scotland* (Edinburgh, 1996), pp. 39-61.

³⁵ M.P. Richards, 'Explaining the dietary isotope evidence for the rapid adoption of the Neolithic in Britain,' in M. Parker Pearson (ed.), *Food, Culture and Identity in the Neolithic and early Bronze Age* (Oxford, 2003), pp. 31-36; M.P. Richards, 'The early Neolithic in Britain: new insights from biomolecular archaeology,' in I.A.G. Shepherd and G. Barclay (eds), *Scotland in Ancient Europe. The Neolithic and early Bronze Age of Scotland in their European Context*, Society of Antiquaries of Scotland (Edinburgh, 2004), pp. 83-90; M.P. Richards and R.E.M. Hedges, 'A Neolithic revolution? New evidence of diet in the British Neolithic,' *Antiquity* 73 ((1999), pp. 891-897; M.P. Richards and R.E.M. Hedges, 'Stable isotope evidence for similarities in the types of marine foods used by late Mesolithic humans at sites along the Atlantic coast of Europe. *Journal of Archaeological Science* 26 (1999b), pp. 717-722; and M.P. Richards and R.J. Schulting, R.E.M. Hedges, 'Sharp shift in diet at onset of Neolithic,' *Nature* 425 (2003), p. 366.

³⁶ Niall M. Sharples, 'Aspects of Regionalisation in the Scottish Neolithic,' in Niall Sharples and Alison Sheridan (eds.), *Vessels for the Ancestors* (Edinburgh, 1992), pp. 322-327.

prevalent in the Scottish Insular *Gàidhealtachd* than anywhere else in Scotland. Whether agricultural practices developed there organically when conditions became favourable, or came with new people along the trade routes, it simply could not sweep whole-heartedly over an island environment with low-level soil fertility, relatively low populations, and a successful economy intimately connected to marine resources. Mesolithic people were either economically driven or responded to the demands of varying ecological conditions. For their subsistence and settlement behaviour to change during the Scottish Neolithic, two sets of circumstances had to arise: first, sedentary life had to be economically beneficial, and second, climate conditions had to facilitate sedentism rather than force seasonal transience. These conditions extended Mesolithic practices into the Neolithic, which provided the unique scenario where two otherwise contrary lifeways existed in the region side by side.

An upsurge in trade during the Neolithic period also carried new products, animals, and ideas into the region well before agriculture arrived. A number of Neolithic materials, including ceramic pottery, a polished axe, domesticated animal bones, and leaf-shaped arrowheads were among debris otherwise dominated by Mesolithic remains.³⁷ Trade routes connecting quarries in The Lake District of Northern England, Killin in Perthshire, and parts of Ireland, carried axes into the region like the one found

³⁷ At Kinloch, on the Isle of Rhum, over 300 sherds of Neolithic pottery were mixed with lithic fragments, while smaller yields of pottery combined with lithics were found at Bolsay Farm on Islay, and pottery mixed with the bones of domesticated animals were found in the Mesolithic debris of Ulva Cave. See Bonsall, *Ibid.*, Mithen et al., *Ibid.*, and Ian Armit, 'The Transition to Agriculture,' in Tony Pollard and Alex Morrison (eds.), *The Early Prehistory of Scotland* (Edinburgh, 1996), pp. 282-283. The polished axe fragment found at the Mesolithic site of Lussa Wood on Jura, and made from Antrim porcelanite, was with a leaf-shaped arrowhead similar to others located at Lealt Bay on Jura. See J. Mercer, 'Mesolithic and Bronze age camps, 75-26 ft OD, N Carn, Isle of Jura', p. 6. Something of relevance in terms of sea-voyaging is that Antrim porcelanite was imported to the region only after the Mesolithic, and Arran Pitchstone only travelled in the opposite direction after the Mesolithic. With the Neolithic obviously came an expanding trade network.

beneath the peat at Shulishader on the Eye Peninsula of Lewis.³⁸ Polished axes were undoubtedly used to fell trees to create arable, but Mesolithic people adopted them for processing and softening skins to make finer clothing.³⁹ Neolithic practices like these were initially located at specialised sites that integrated into the network of pre-existing Mesolithic workstations. This adoption of new cultural trends like ceramic pottery and enhanced tool technology based on grinding and polishing stone rather than processing lithic blades greatly improved regional material culture. Despite the benefits of these new technologies, however, many imports transformed practices and perceptions and challenged regional sustainability.

The earliest evidence for the presence of domesticated animals comes from the Isle of Islay where ovicaprid (sheep or goat) bones date to 5,090 BP.⁴⁰ Cattle, sheep, and pig remains were also found at Northton on Harris and Rosinish on Benbecula, while domesticated dog was present at The Udal on North Uist.⁴¹ Transport of animals by boat to the islands escalated throughout the period, while regional inhabitants continued to exploit the plentiful array of wild and marine resources.⁴² These new animal by-products included meat, hides, wool, hooves, and fat for oil that transformed material culture, diversified the diet and enhanced an already mixed economy. However, the introduction

³⁸ Ian Armit, *The Archaeology of Skye and the Western Isles* (Edinburgh 1996), p. 61.

³⁹ Finlayson, *Ibid.*

⁴⁰ P. Harrington and S. Pierpont, 'Port Charlotte chambered cairn, Islay: an interim note,' *Glasgow Archaeological Journal*, 7 (1980), pp. 113-115.

⁴¹ Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' p. 8.

⁴² Remains of both grey and common seal, as well as red deer, were present at all three of these Neolithic sites, while at Northton, a total of fourteen wild species such as whale, otter, conger eel, and a variety of seabirds including gannet, guillemot, shag, and puffin, were also present. D.D.A. Simpson, 'The later Neolithic and Beaker settlement site at Northton, Isle of Harris,' in C.B. Burgess and R. Miket (eds.), *Settlement and Economy in the Third and Second Millennia BC*, British Archaeological Reports British Series, 33 (Oxford: 1976), pp. 221-231.

of domesticated animals also had devastating effects on the ecosystem of the Insular *Gàidhealtachd*. Competition for food meant grazing animals worked their way through the already dwindling forests, feeding on leaves and trampling flora, eroding and compacting soils, essentially destroying regional habitats. Management of domesticated animals furthered the process as humans carved up the landscape with demarcation for pasturage, cultivation, and living space. As human and domesticated stock populations both grew, deforestation and soil exhaustion heightened the value of particular island sites that could sustain long-term grazing and cultivation. This initiated a protective behaviour by small extended family groups who erected permanent settlements to control resources. The fear of losing that control may have initiated the desire for an early form of private property.

By 5,000 BP, temperatures in the Insular *Gàidhealtachd* reached 2-3°C warmer than at present, providing optimum conditions for the cultivation of six-row barley and emmer wheat.⁴³ Neolithic settlers, at this point, relied primarily on arable, but their settlements remained slight with small-scale structures, only faintly more extensive than those in which their Mesolithic ancestors lived. This contrasts with Neolithic regional models of the Northern Isles like Skara Brae in the Orkneys or Scord of Brouster in Shetland. Neolithic settlements in the Scottish Insular *Gàidhealtachd* were not heavily populated communities nor were they built with such an abundance of stone. More closely

⁴³ Graeme Whittington and Kevin J. Edwards, 'Climate Change,' in K.J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York and Toronto, 1997), pp. 15. Also, Coralie M. Mills, Ian Armit, Kevin J. Edwards, Pamela Grinter and Ymke Mulder, 'Neolithic land-use and environmental degradation: a study from the Western Isles of Scotland,' *Antiquity*, 78:302 (December, 2004), pp. 886–895.

resembling Tankardstown and Ballyglass in Ireland, they were small, scattered, and restricted to isolated locations where the environment allowed for grazing and growing.

For thousands of years, the natural process of rising sea levels pushed nutrients above the boulder clay along the west coasts of the Outer Hebrides to create raised beaches where nutrients mixed with windblown sands to produce a fertile machair. (Fig. 12 and Fig. 13)

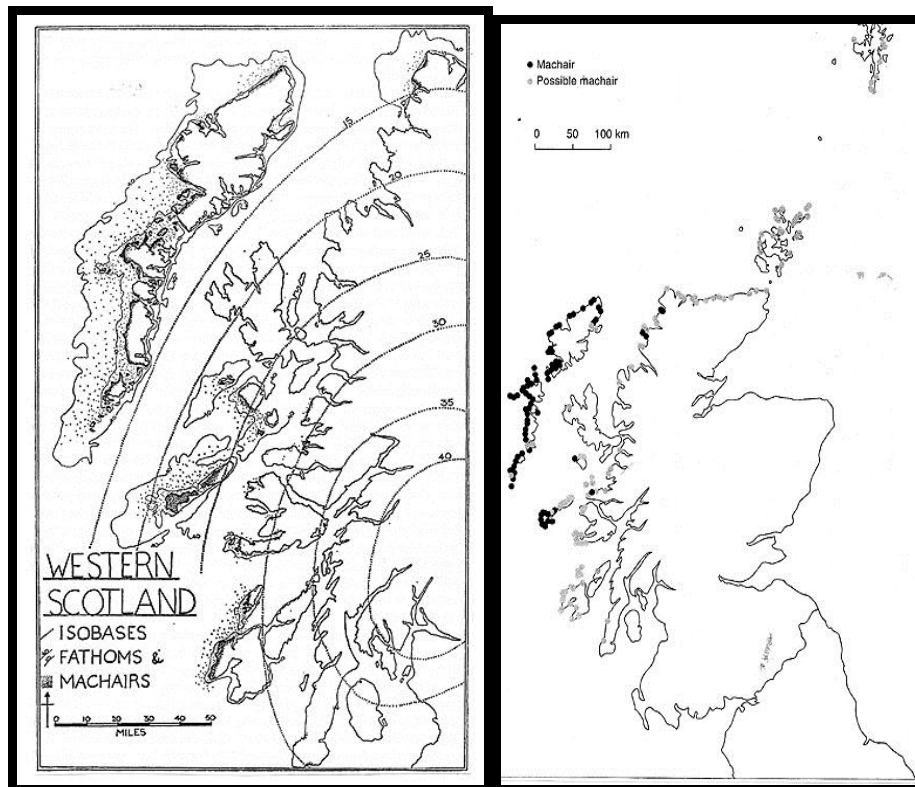


Figure 12. A view below the rising Sea⁴⁴

Figure 13. Machair Sites⁴⁵

Although the last 1,000 years of rising seas most likely eliminated evidence of early-Neolithic settlements, the later-Neolithic sites that survived the ocean's final encroachment provide verification of the sedentary lifestyle that eventually took hold in

⁴⁴ Map is from Ian Crawford, 'Archaeological Prospect and Practical Technique in an Environmental Region: The Western Isles Machairs,' *World Archaeology*, 10:1, Field Techniques and Research Design (June, 1978), p. 52.

⁴⁵ Map from Stewart Angus, *The Outer Hebrides: The Shaping of the Islands* (Cambridge, 1997).

the region. Northton on Toe Head peninsula in southwest Harris, The Udal on North Uist, as well as Alt Easdal on the Isle of Barra, were all machair settlements where pottery, burnt animal bones, and molluscs provide evidence of a mixed economy.⁴⁶

The desire for physical permanence, and the realisation that humans could alter and control their environment, also influenced land use and settlement sites away from the seaside. This behaviour is demonstrated by multiple small islet communities, or crannogs, built on natural and artificially created islets scattered throughout the region in shallow lochs.⁴⁷ Although crannogs on the Scottish mainland usually served as defence mechanisms, the protective nature of the design at Eilean Domhnuill may be primarily socio-cultural, or may have served to keep domestic animals in, rather than to keep wild animals or humans out.⁴⁸ Eilean an Tighe east of Loch Olabhat, North Tolsta on the Isle of Lewis, Rosinish on Benbecula, Cil Donain and Cladh Hallan on South Uist, as well as a site on Pigmies Isle off the Butt of Lewis, are similar Neolithic islet settlements where

⁴⁶ Ian Armit, 'The Hebridean Neolithic,' in *Vessels for the Ancestors: Essays on the Neolithic of Britain and Ireland in honour of Audrey Henshall*, Niall Sharples and Alison Sheridan (eds.), Edinburgh University Press (Edinburgh, 1992), pp. 317-318. Also, Armit, *Archaeology of Skye and the Western Isles*, pp. 55-56. Northton and Alt Easdal experienced continued occupation into the Iron Age and both sites reveal charcoal evidence for the removal of nearby forests to expand agricultural area. Coastal settlements were ideally located near marine resources, not far from wild game, herbs, and timber. Not all Neolithic settlements were on the machair, however. Mixed economies near the shore also included Neolithic cave sites like that found on Ulva. Once a Mesolithic seasonal workstation providing shelter for fishing and foraging, Ulva Cave, during the Neolithic, was home to inhabitants who used ceramic pottery, and depended on subsistence that included domestic animals, carbonised seeds and seaweed, as well as a combination of marine molluscs and fish. See Russell et al., 'The Role of shellfish-gathering,' pp. 280-287.

⁴⁷ Eilean Domhnuill is a Neolithic islet settlement in North Uist connected to the southern shore of Loch Olabhat by a timber causeway that was ultimately replaced with stone. Excavated materials include ceramic pottery, worked bone and wood, midden-deposits, saddle querns for processing grains, and archaeological remains of oval turf buildings with stone foundations and timber interiors. See Armit, 'The Hebridean Neolithic,' pp. 309-316.

⁴⁸ This eliminated the need to collect stone to create walled barriers that kept animals in. Armit, *Archaeology of Skye and the Western Isles*, pp. 50-54.

occupation continued well into the Iron Age.⁴⁹ In addition to building dwellings on small islets, settlers also cleared inland open landscapes to build homes, produce arable, or create manufacturing facilities.⁵⁰

Stone structures during the Mesolithic were limited to circular cooking pits or L-shaped hearths like those found at Lussa Wood and North Carn on Jura, but during the Neolithic, stone-use escalated tremendously. Regional inhabitants cleared stone from prospective arable and rigorously quarried to provide foundations for permanent homes, fencing for managing stock, and causeways for islet communities. But by far, the most dominant stone representations of Neolithic culture were their many spiritual monuments. Chambered tombs and megaliths in the form of stone circles and standing stones characterise the Neolithic period in the Scottish Insular *Gàidhealtachd* more so than any other aspect of material culture. By 4,000 years ago, ancestral remains and ritualistic practices took precedence over the building of private homes, indicating that a complex social structure and ideology overwhelmed any desire for substantial domestic

⁴⁹ D. D. Gilbertson, M. Kent, J.L. Schwenninger, P.A. Wathern, R. Weaver, and B.A. Brayshay, 'The machair vegetation of South Uist and Barra in the Outer Hebrides of Scotland: its interacting ecological, geomorphic and historical dimensions,' in R.A. Butlin and N. Roberts (eds.), *Ecological Relations in Historical Times: Human Impact and Adaptation* (London, 1995), pp. 117-144.

⁵⁰ Below the peat, at Bharpa Carinish on North Uist, evidence of slight housing structures and hearth complexes were sprinkled with ceramic materials made both locally and imported from the Northern Isles. The Unstan Ware (manufactured and predominant in Orkney, yet also found in excavations at Stonehaven on the northeast coast of Scotland) was found among local Hebridean Ware and plain bowls. It is probable, therefore, that all were produced, used, or traded at this site for burial rituals, offerings, and celebration feasts. This pottery evidence indicates Bharpa Carinish was not just a farm near a burial, but also a manufacturing site like Kinloch on Rhum, that may very well have served travellers who frequented the location between the Neolithic and Iron Age. See B. A. Crone, 'Excavation and survey of sub-peat features of Neolithic, Bronze and Iron Age data at Bharpa Carinish, North Uist, Scotland,' *Proceedings of the Prehistoric Society*, 59 (1993), pp. 361-382. Also, Ian Armit, 'The Hebridean Neolithic,' in *Vessels for the Ancestors: Essays on the Neolithic of Britain and Ireland in honour of Audrey Henshall*, pp. 316-317.

space.⁵¹ This architectural evidence best illustrates the powerful shift in environmental perception that took place with the advent of agriculture. Mastery over the physical landscape not only infiltrated the human psyche as it affected spiritual and cultural practices, but it dictated use of time, labour, and natural resources. Simply flouting environmental constraints, Neolithic people in the Scottish Insular *Gàidhealtachd* often devoted their already limited resources to their new spiritual beliefs by erecting monumental architecture.

While Mesolithic burial practices remain a mystery due to the loss of coastal habitation sites and lack of material evidence, the dearth of actual burials compared to remaining Mesolithic settlements may indicate their belief system was much less imposing on the physical landscape. Neolithic burials, on the other hand, were permanent and colossal, with measurements averaging fifty feet in diameter or sixty feet in length and stone slab covers that were even larger.⁵² Neolithic people made the dead their priority. While diverting labour from farming, fishing, and gathering food for the living, they constructed extravagant and communal burial places that often housed the bones and cremations of ancestors from many families over a period of several centuries. They buried tomb offerings of food, pottery, animal remains, tools and utensils made of pumice, quartz, and chert, all items signifying a sentimental value associated with the tomb's inhabitants. However, value was not only symbolised by the physical effort and

⁵¹ The passage graves at Rubh an Dunain on Skye, Barpa Langass and Unival on North Uist, as well as the rectangular cairns like Bharpa Carinish, are contemporaneous with the first signs of cultivation in the region. These were built between 5,000 and 4,000 BP and correspond to optimal climate conditions for cultivation.

⁵² At Dun Bharpa on the Isle of Barra, the stone slab over the cairn measures 85 feet in diameter, while the slab at Gress Cairn on the Isle of Lewis is 92x77 feet, and at Port Donain on Mull the slab cover measures 100x50 feet; while measuring 165x46 feet, Barpa nam Fiannay on North Uist remains one of the longest in Scotland. *The Islands of Western Scotland: The Inner and Outer Hebrides*, p. 121. Also, Keith Branigan and

determination employed to ensure completion, nor was it highlighted only by those gifts left behind. In addition, site locations indicate the superior level of importance these tombs had within Neolithic communities. Barpha Langass simply dominates the open landscape, while Unival was erected on the slope of a hill overlooking the sea off the coast of North Uist, and Rubh an Dunain on Skye was built on a peninsula beneath the Cuillin Hills. Most often orientated with a slightly south-of-east alignment, including expansive views, chambered cairns were territorial markers.⁵³ Neolithic settlers invested further spiritual and physical energy in the many ritual monuments of standing stones that still dot the landscape of the Insular *Gàidhealtachd* today.⁵⁴ Large isolated circles for ceremonial practices may indicate the influx of new spiritual beliefs or the migration of a new religious body of individuals who were capable of wielding organisational power over existing religious practices and perceptions.⁵⁵

In a sense, the Neolithic period in the Insular *Gàidhealtachd* was a 'Golden Age,' with warmer temperatures and milder conditions that accommodated arable farming, may have sustained demographic growth albeit not measurable. Trade increased

Patrick Foster, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides* (Sheffield, 2000), pp. 322-325.

⁵³ With the exception of Clettraval on North Uist that overlooked the coastal machair, these tombs were not necessarily linked to farming, but strategically situated in the landscape with spiritual purpose. An overview of each of these sites can be found in Armit, *Archaeology of Skye and the Western Isles*, pp. 67-85.

⁵⁴ The work to quarry the stone, then transport and erect it safely into the ground, may represent an organically evolving socio-religious structure to organise such efforts.

⁵⁵ The ritual centre of Callanish on the Isle of Lewis near Loch Roag represents the ultimate example of the Neolithic spiritual mindset. The largest of hundreds throughout the islands, this sacred location includes a multi-chambered cairn accompanied by a dolmen, a long avenue with cruciform lines of stone pillars up to 15 feet high, and a circle of 13 stones, situated on a hill with views in all four directions. By the sixteenth century, the entire landscape was engulfed by peat, but between 5,000 and 3,500 BP, this was a sacred gathering place where meticulous mathematics and geometric skills, an advanced understanding of astronomy, and a tremendous amount of physical labour enabled worshipers to explore the metaphysical world through observation and celebration of the heavens. See Martin Martin, *A Description of the Western Islands of Scotland Circa 1695* (Edinburgh, 1999), pp. 17-18.

material wealth and advanced technology, while the domestication of animals enhanced the diet, increased personal luxuries, and no doubt assisted in labour. During this climate optimum, there is no archaeological indication that regional inhabitants experienced warfare. They were not only more physically comfortable than their Mesolithic predecessors, but they appear to have avoided internal conflict and hostilities with the outside world. The most striking evidence for a transformation in their environmental perceptions and practices lies in their changing spiritual symbols. With no threat to their food source or personal safety, their comfort and sense of security may have provided a foundation for the time and energy dedicated to altering the physical landscape for spiritual reasons. The changing attitudes, behaviours, and values manifested themselves in cultural representations like chambered tombs and megaliths, structures dedicated to spiritual beliefs that governed their lives, managed their time, and utilised their limited resources. These external representations of their internal beliefs characterised the Insular *Gàidhealtachd* by the end of the Neolithic and they mark a time when climate provided conditions for that extraordinary anthropogenic change.

As was the case in *Ketakamigwa* between 6,000 and 4,000 BP, the combination of good climate and cultural development that revolutionised living conditions, increased populations, and dramatically shifted religious practices did not last. In the Scottish Insular *Gàidhealtachd*, unsustainable settlement and subsistence patterns contributed to additional environmental pressure. Growing populations of people who farmed and collected fuel, coupled with grazing animals and the development of permanent

settlements, escalated pressure on the Neolithic landscape.⁵⁶ By investing heavily in monumental construction to appease spiritual beliefs, regional inhabitants intensified pressure on their mineral resource base. They also cleared woodland and stones for the sake of planting, grazing and building, which left soil exposed to severe erosion from rain and wind.⁵⁷ Further erosion from grazing animals, tillage, and the intentional creation of transportation routes between the settlements affected drainage and encouraged hillwash and slopewash.⁵⁸ Throughout the Scottish Insular *Gàidhealtachd*, anthropogenic impact triggered a series of natural repercussions that made sustainability a greater challenge for future generations.

Although the regional inhabitants of *Ketakamigwa* were not farmers, like the late-Mesolithic people of the Insular *Gàidhealtachd* they were aware of arable practices. In the same way Mesolithic and Neolithic people co-existed and communicated through trade networks, the people of *Ketakamigwa* imported horticultural products and foreign material culture from their neighbours. Because they did not transition to agriculture,

⁵⁶ Natural occurrences, like the disease that initiated a sharp decline in Elm during the early Neolithic, escalated pressure that was further complicated by grazing animals attracted to leafy elm branches, and the conversion of fertile soils containing elm to treeless arable. Fossitt, 'Late Quaternary vegetation history of the Western Isles of Scotland,' pp. 190-191; J. John Lowe, 'Isolating the climatic factors in early- and mid-Holocene palaeobotanical records from Scotland,' p. 72, and Kevin J. Edwards, 'Models of mid-Holocene forest farming for north-west Europe,' pp. 138-139.

⁵⁷ At Northton on Harris, samples indicate woodland clearance enhanced deflation of machair sand prior to occupation by Neolithic settlers approximately 4400 BP. See K. J. Edwards and I.B.M. Ralston (eds.) *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York, 1997), pp. 41-42.

⁵⁸ For example, when compared to sediment cores retrieved from the floors of local lakes, sediment samples near Loch Cuithir on Skye indicate accelerated soil erosion, while samples from Kinloch on Rhum have identified sustained levels of hillwash and slopewash both dating to approximately 4,000 BP. See Colin K. Ballantyne, 'Landslides and slope failures in Scotland: a review.' *Scottish Geographical Magazine* 102 (1986), pp. 132-150. Also, Colin K. Ballantyne and Alastair G. Dawson, 'Geomorphology and Landscape Change,' in K. J. Edwards and I.B.M. Ralston (eds.) *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York, 1997), pp. 41-42. And, at Eilean Domhnuill in Loch Olabhat, there is evidence the inhabitants stripped turf for fuel thereby reducing soil fertility by subsequently removing nutrients. See Coralie M. Mills, Ian Armit, Kevin J. Edwards, Pamela Grinter, and Ymke Mulder, 'Neolithic land-use and

they avoided the cascade of changes that affected the people living across the sea. On the eastern Atlantic, Neolithic transformation was far too extensive for climate deterioration to force them back into a purely hunter-fisher-forager lifestyle. Instead, they had to alter their practices to salvage their sedentary lifestyle or leave the region. The transition from Mesolithic to Neolithic resulted in a pattern of land use that would continue to hamper regional sustainability. It was this transition and the subsequent repercussions that the inhabitants of *Ketakamigwa* avoided for several more millennia.

Climate Deterioration, Social Stratification, and Self-Preservation

Much like the extended transition from Mesolithic to Neolithic, that from the Neolithic or 'Stone Age' to the Bronze Age saw the Scottish Insular *Gàidhealtachd* evolve slowly through a series of cultural shifts that became traditional practices between 4,000 and 3,500 BP. That period of cultural development, however, preceded nearly a millennium of climate deterioration.⁵⁹ The introduction of Beaker-style pottery, the cultivation of new grains used to make alcohol, the use of archery weapons and warrior regalia, as well as the eventual introduction of bronze, were just some of the cultural changes that came with a diversifying economy from an expanding trade network. Because this socio-economic alteration took place against the backdrop of escalating climate deterioration, the intensification of material wealth, the growth in population, and introduction of metal

environmental degradation: a study from the Western Isles of Scotland,' *Antiquity*, 78:302 (December, 2004), pp. 886-895.

⁵⁹ This corresponds to experiences in *Ketakamigwa*. Following the climate optimum, the initial period of deterioration saw continued cultural development and immigration (i.e. the Susquehanna culture). Then, following 3,500 BP, deterioration resulted in population decline and emigration. In the Scottish Insular *Gàidhealtachd*, deterioration slowed by 2,600 BP, a century before *Ketakamigwa*.

weapons created a 'tipping point.' This time, the culmination of intense Neolithic and Bronze Age practices and perceptions were no longer sustainable in much of the region. An historical junction marred by significant social, economic, and ecological disruptions, this 'tipping point' forced regional inhabitants to alter their practices, compete for existing resources, or leave the region.⁶⁰ In addition to changes in practices, the Bronze Age inhabitants of the Scottish Insular *Gàidhealtachd* appear to have focused their energy increasingly on the individual rather than the extended community. This new value system affecting perceptions translated into new spiritual practices and, by the late Bronze Age, led to fierce competition for productive space and natural resources. The desire for personal wealth and comfort trumped the preference for group harmony, while deteriorating ecological conditions exacerbated conflict and heightened concern for self-preservation. Though this transition was relatively slow to reach fruition, it did not prevent the inevitable outcome: the arrival of prestigious trade items created prospective material wealth for only a few, stratifying levels of power within the region, and setting the stage for an escalation of conflict to secure wealth and territorial control. Although it is not possible to weigh the respective influences with any certainty, it is my contention that ecological pressure played a major role in provoking conflict.

The climate conditions of the early Bronze Age (4,200-3,500 BP) became cooler and wetter as temperatures decreased, while rainfall, wind and Atlantic storminess intensified.⁶¹ Deteriorating conditions forced the growing seasons to become shorter,

⁶⁰ This 'tipping point' also marks the division between the 'early' and 'late' stages of the Bronze Age in the Insular *Gàidhealtachd*.

⁶¹ With the exception of a few intermittent centuries of lightly better conditions, deterioration marked the late Bronze Age as well. This trend was not isolated to the Insular *Gàidhealtachd*. Peat profiles from a number of north-western European sites indicate a pattern of deterioration that characterized the entire

marginal terrain to become less arable, and previously forested ground to become waterlogged throughout the Scottish Insular *Gàidhealtachd*, parts of Ireland, and the Northern Isles.⁶² Although some stability came from a remission in the sea level rise between 4,000 and 3,500 BP, the decrease in tree cover and subsequent soil erosion due to human and natural causes escalated substantially.⁶³ Previously arable soils became overwhelmed by rainfall, suffered poor drainage and lost their nutrients, which transformed the waterlogged terrain into an expanding blanket of peat. This was especially the case on South Uist, where the decline in woodland, followed by soil erosion and the encroachment of peat and heather, eventually forced many inland settlers onto the west coast machair.⁶⁴

By 3,000 BP, the settlement borders of An Sithean on Islay and Lairg a’Bhaile on Jura were under threat from expanding peat, as was the sacred site of Callanish on Lewis due

northern temperate zone, with the most marked deterioration at 2,800 BP. See M. Bell, M. J. C. Walker, 'Natural Environmental Change,' *Late Quaternary Environmental Change: Physical and Human Perspectives* (London and New York, 1992), pp. 71-72.

⁶² Alastair Dawson, *So Foul and Fair a Day: A History of Scotland's Weather and Climate* (Edinburgh, 2009), pp. 85-89. Camilla Dickson and James Dickson, *Plants & People in Ancient Scotland* (Stroud, 2000), pp. 84-85. For same effects in Ireland, see Mike Baillie, 'Do Irish Bog Oaks Date the Shang Dynasty?' *Archaeology in Ireland*, 2 (1989), pp. 154-155. For the Northern Isles, see Anna Ritchie, *Ancient Orkney* (London, 1995) and Val Turner, *Ancient Shetland* (London, 1997).

⁶³ Dawson, p. 82.

⁶⁴ For example, the mixed woodland around Loch a’Phuinnd on South Uist began a decline about 4,000 BP, succumbed to the overwhelming blankets of peat, and was predominantly treeless by 2,700 BP. Fossitt, 'Late Quaternary vegetation history of the Western Isles of Scotland,' p. 188. Also, per Richard Tipping, 'Climatic fluctuations such as increased storminess, changes in precipitation, sea-level change and associated machair formation, natural soil acidification and blanket peat formation, all had a deleterious effect on woodland survival.' See Richard Tipping, 'The form and fate of Scotland's woodlands,' *Proceedings of the Society of Antiquaries of Scotland*, 124 (1994), p. 24. Also, J.A. Fossitt, *Holocene vegetation history of the Western Isles of Scotland*, Ph.D. thesis, University of Cambridge (1990); H.J.B. Birks and B.J. Madsen, 'Flandrian vegetational history of Little Loch Roag, Isle of Lewis, Scotland,' *Journal of Ecology*, 67 (1979), pp. 825-842; G. Whittington and W. Ritchie, 'Flandrian environmental evolution of Northeast Benbecula and southern Grimsay, Outer Hebrides, Scotland,' *O'Dell Memorial Monograph*, No. 21 (Aberdeen, 1988); M.J.C. Walker, 'A pollen diagram from St Kilda, Outer Hebrides, Scotland,' *New Phytologist*, 97 (1984), pp. 99-113; T.H. Keatinge and J.H. Dickson, 'Mid-Flandrian changes in vegetation on Mainland Orkney,' *New Phytologist*, 82 (1979), pp. 585-612; and H.J.B. Birks, 'Floristic and vegetational

to its upland location and history of birch clearance.⁶⁵ The excavations at An Sithean revealed twenty-eight separate hut circle-groups forced within close proximity of one another to escape the encroachment of blanket peat and allow for continued cultivation during the early Bronze Age. By the late Bronze Age, however, inhabitants of six of the circles had added field banks, and though there is no evidence of stone fencing, pollen samples indicate the presence of a hedgerow type of vegetation, representing a possible shift from cultivation to animal husbandry or a desire to demarcate personal space.⁶⁶ This evolution away from the open settlement design typical of the Neolithic period indicates a growing sense of territoriality that evolved toward a hierarchy of settlements present in the region by the end of the Iron Age, and was most likely a protective response to natural threats.⁶⁷

By the late Bronze Age, the continued use of such settlements depended on an increasingly mixed economy, a transition from permanent back to temporary use, a significant decrease in settlement population, and a shift from cutting timber to stripping peat for fuel.⁶⁸ For instance, despite accelerated reductions of birch and hazel replaced by the rapid growth of blanket peat, cultivation at Lochan na Cartach, Barra, managed to

history of the Outer Hebrides,' in R.J. Pankhurst and J.M. Mullin (eds.), *Flora of the Outer Hebrides*, for the Natural History Museum (London, 1991), pp. 32-37.

⁶⁵ Donald A. Davidson and Stephen P. Carter, 'Soils and Their Evolution,' in K. J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC AD 1000* (New York and Toronto, 1997), pp. 57-59. Also, see Bohncke, pp. 455-456 and W. Ritchie, 'Machair development and chronology in the Uists and adjacent islands,' in J. M. Boyd (ed.), *The Natural Environment of the Outer Hebrides*, for the Proceedings of the Royal Society of Edinburgh (Edinburgh, 1979), pp. 107-122.

⁶⁶ John Barber and Marilyn M. Brown, 'An Sithean, Islay' in *The Proceedings of the Society for Antiquities in Scotland*, fiche 3: B1-C4 (1984), p. 184. Through the Iron Age and Viking Age, An Sithean was still inhabited, but cultivation and animal husbandry was slowly limited to a much smaller area, and stones were eventually placed over the peat in order to refurbish the embankments. *Ibid.*, p. 186.

⁶⁷ Trevor G. Cowie and Ian A. G. Shepherd, 'The Bronze Age,' in Edwards and Ralston (eds.), pp. 166-167.

continue for another millennium before the spread of acid grassland changed the landscape once again.⁶⁹ Likewise, the struggling ‘ancient’ community of An Sithean was still in existence during the eighteenth century when Thomas Pennant recorded his visit.⁷⁰ To achieve this degree of settlement longevity, the inhabitants of these communities altered their practices to accommodate the changes in their natural environment. However, the hut circles and scattered community at Cul a’Bhaile on Jura, which once included cultivated cereals within separate enclosures, farmyards, storage areas, and garden plots, succumbed to the effects of climate change and soil exhaustion by the late Bronze Age and was eventually deserted by the end of the Iron Age.⁷¹ Machair sites like Rosinish and Dun Bharabhat in the Bhaltois peninsula, on the other hand, continued to flourish because farmers used animal dung and seaweed for fertiliser and introduced new crops of barley that fared better than wheat in the wet Bronze Age climate. Although the inhabitants of the Insular *Gàidhealtachd* did not abandon all inland settlements by 2,500 BP, coastal machair was the most promising location for settlements in the region and, therefore, the more heavily populated and sought after habitat.⁷²

⁶⁸ The transition from wood to peat for fuel was essential to survival. For an example, see M. Church, C. Peters, and C. Batt, ‘Sourcing fire ash on archaeological sites in the Western and Northern Isles of Scotland, using mineral magnetism,’ *Geoarchaeology*, 22 (2007), pp. 747–774.

⁶⁹ Kevin J. Edwards and Graeme Whittington, ‘Vegetation Change,’ in Edwards and Ralston (eds.), p. 76.

⁷⁰ Thomas Pennant, *A Tour in Scotland and Voyage to the Hebrides 1772* (Edinburgh, 1998), p. 211.

⁷¹ J. B. Stevenson, et al., ‘The Excavation of a hut circle at Cul a’Bhaile, Jura’ *The Proceedings of the Society for the Antiquities of Scotland*, 114, fiche 3:A3-14 (1984), pp. 127-160.

⁷² Machair sites were not just preferable due to the arable, however. Closer proximity to the sea meant a more diverse economy that included marine animals, shellfish and coastal plants. In addition to the naked barley, hulled barley, emmer wheat, cattle, and sheep consumed at Rosinish, midden evidence indicates the presence of limpets for food, and even more so, for baiting other fish. Ian A. G. Shepherd and Alexandra N. Tuckwell, ‘Traces of beaker-period cultivation at Rosinish, Benbecula’ *The Proceedings of the Society for the Antiquities of Scotland* (1976-77), pp. 108-113. Supporting the theory that it was commonly used as bait, limpet at Ardnave on Islay was the most common uncooked shell in the midden, but also present was a plethora of carbonised bones and shells from seal, edible crab, dog whelks, winkles, razor-shells, and mussels. See J. G. Evans, ‘Appendix 2: Mollusca and other invertebrates from Ardnave, Islay,’ in G. Ritchie &

The inhabitants of coastal sites exploited that which was most available to them, so with limited arable, the complexity and diversity of the landscape meant not all communities used the same natural resources. Much like their Mesolithic ancestors, late Bronze Age inhabitants who remained in the region returned to using coastal workstations on a seasonal basis. Although settlements on Orkney, such as Skara Brae and Rinyo, continued to expand in size and uniformity, those in the Scottish Insular *Gàidhealtachd* remained small and diverse in setting and economy. For example, Rudh an Dunain Cave on Skye where stone-working debris has been identified, and Dalmore in the machair on Lewis where metal-working took place on a seasonal basis, were both temporary late Bronze Age coastal work-stations.⁷³ With no indication of agricultural production at Dalmore, the fish bones, shellfish, and domesticated animal bone represent a mixed economy based on regional availability. Though Northton on Harris was also void of agricultural processing, the inhabitants of this more permanent settlement sustained themselves with a complex diet of sheep, cattle, red deer, wild cetaceans, shellfish, and an assortment of birds.⁷⁴ The elite site at Rosinish on Benbecula left behind bone evidence of the most complex economy in the region, including wild, domestic, and marine animals, as well as ard marks indicating ploughing and sowing of both barley and wheat.⁷⁵

This transformative period also saw an increasing regional diversity in woodland. By the late Bronze Age, the Outer Hebrides had experienced deforestation, the spread of

H. Welfare, 'Excavations at Ardnave, Islay,' *Proceedings of the Society of Antiquaries of Scotland*, 113 (1983), pp. 358-360.

⁷³ Armit, *Archaeology of Skye and the Western Isles*, pp. 92-94.

⁷⁴ *Ibid.*, p. 90.

peat, and soil exhaustion, while the inhabitants of the Inner Hebrides and the mainland coast were still managing a comparatively rich environment. Bone findings on the Isle of Tiree support this dichotomy. The presence of roe deer, aurochs, and wild pig indicate a woodland habitat, while pollen evidence for alder, hazel, willow, and oak, as well as a non-native species of spruce further support its existence.⁷⁶ The presence of juvenile sheep and cattle bones in the midden is significant. Culling small animals not only frees the mother's milk for human consumption but it eliminates competition for winter fodder.⁷⁷ By the end of the Bronze Age, the inhabitants of Tiree were also depending more on wild birds such as puffins and Little Auk, as well as a substantial amount of shag.⁷⁸

Despite the obvious need for the inhabitants of the Insular *Gàidhealtachd* to alter many aspects of their daily lives in response to the dynamic environmental changes taking place around them, many tested future sustainability by over-exploiting in order to enhance their lifestyles. An upsurge in trade during the Bronze Age connected the Insular *Gàidhealtachd* to a larger than ever commercial network. Regional inhabitants would have had to produce a surplus in order to procure the great influx of new luxury goods, bronze tools, and advanced weapons. This extensive trade network also initiated subtle social changes by enhancing personal prestige and encouraging competition among a substantially growing population. Beaker-style pottery came from the mainland, copper ore from Ireland, gold from the Ayrshire coast at Kaim, and tin from Cornwall. These

⁷⁵ Shepherd and Tuckwell, 'Traces of beaker-period cultivation at Rosinish, Benbecula,' pp. 108-113; Armit, *Archaeology of Skye and the Western Isles*, pp. 92-93.

⁷⁶ E. W. MacKie, *Dun Mor Vaul: An Iron Age Broch on Tiree* (Glasgow, 1974).

⁷⁷ This adjustment in subsistence behaviour may reflect a regional response to environmental pressure that entailed foregoing long-term access to by-products for short-term needs.

imports did not necessarily provide a substantial improvement in all living standards as much as they highlighted the social prestige of an elite class that was buried with exotic jewellery, tools, and weapons.⁷⁹ Regardless of social status, alcohol became a staple throughout the Insular *Gàidhealtachd*.⁸⁰ Alcohol consumption followed the introduction of the heavily decorated Beaker pottery and influenced local artisans to manufacture drinking cups with the same materials they used to create musical instruments like drums and rattles.⁸¹ A preference for alcohol over time may have also encouraged the continued cultivation of barley in the region, even as challenges arose with the deteriorating climate.

Between 4,000 and 2,500 BP, inorganic materials were not the only imports to the region that contributed to social status and challenged sustainability. New animals, such as the horse and fox, were purposely transported to the islands, while small mammals like the field mouse, vole, and house mouse, stowed away on an increasing number of water

⁷⁸ E. W. MacKie, *Ibid.*

⁷⁹ By 2,500 BP, artisans in the Insular *Gàidhealtachd* learned to combine copper alloy with tin to make bronze, which significantly increased the presence of exotics. Artisans still carved traditional resources like bone and antler to make more personal luxuries like the combs and polished bone pins found at Northton. See D.D.A. Simpson, 'The later Neolithic and Beaker settlement site at Northton, Isle of Harris,' in C.B. Burgess and R. Miket (eds.), *Settlement and Economy in the Third and Second Millennia BC*, British Archaeological Reports, British Series 33 (Oxford, 1976), pp. 221-231. At Adabrock on Lewis, archaeological finds indicate trade communications extending to the continent. There was a large native collection of bronze tools, including gouges, chisels, axes, hammers, a spearhead, and several whetstones to sharpen metal tools found at this site. However, mixed with native objects were also a fine bronze vessel, beads made from gold, glass, and amber. These imported items are indicative of trade communications extending to the continent. J. M. Coles, 'Scottish late Bronze Age metalwork: typology, distributions and chronology,' *Proceedings of the Society for Antiquities in Scotland*, 93 (1960), p. 50-51.

⁸⁰ It is interesting to note that the inhabitants of the Scottish Insular *Gàidhealtachd* began making alcohol during these years of environmental stress, competition, and the use of weapons, but it is not clear if it happened organically or via cultural diffusion. Barley does grow well in wet weather, especially compared to wheat.

⁸¹ Mike Parker Pearson, 'The Earlier Bronze Age,' in John Hunter and Ian Ralston (eds.), *The Archaeology of Britain: an Introduction from the Upper Palaeolithic to the Industrial Revolution* (London, 1999), p. 77-94. Because archaeological studies determine cup contents to be barley beer, it is inferable that drinking and making music went hand-in-hand during social gatherings. *Ibid.*, p. 81.

vessels contributing to the unintentional migrations of new species.⁸² Fox skulls found on Skye, Islay, and Mull in the Inner Hebrides may indicate the use of pelts, but the preservation of the skull as a trophy symbolizes its unique status among other animals.⁸³ The horse would have also held special status due to its size and the expense of feeding and transporting it to the islands.⁸⁴ Imported animals included the two-legged sort as well. Studies of skull types from burial remains have established the migration of a more round-headed people who integrated with the indigenous populations of Neolithic long-headed people.⁸⁵ Whether they were the individuals responsible for introducing Beaker-style pottery is unknown. Regardless, their early Bronze Age arrival to the region contributed to the population increase and corresponded with the cultural diffusion that took place prior to a late Bronze Age exodus as the climate worsened further.

That the inhabitants of the Insular *Gàidhealtachd* altered many of their practices in response to their changing environment is obvious by direct correlations between climate deterioration and settlement patterns, diet, or fuel choices. Regional inhabitants also made more subtle changes in response to natural threats like shifting the oval shape of their homes to a distinctly circular design that characterised the region during the Iron Age.⁸⁶ The strength and design of these later stone roundhouses easily defended the

⁸² Serjeantson, 'The Introduction of Mammals,' pp. 12-14. Also, for horse-hair used with twisted wool and cattle hair on Lewis, see R. E. M. Hedges, R. A. Housley, C. Bronk-Ramsey, and G. J. Van Klinken, 'Radiocarbon dates from the Oxford AMS system: Archaeometry datelist 16,' *Archaeometry*, 35, Part 1 (1993), pp. 147-167.

⁸³ Finbar McCormick and Paul C. Buckland, 'Faunal Change: The Vertebrate Fauna,' in Edwards and Ralston (1997), p. 100. Graham Ritchie and Humphrey Welfare et al., Excavations at Ardnave, Islay, *Proceedings of the Society for Antiquities in Scotland*, 113 (1983), p. 344.

⁸⁴ Serjeantson, 'The Introduction of Mammals,' pp. 12-14. This is supported by the fact that the only location horse bone has been identified is Rosinish, the largest and most complex of the Bronze Age sites.

⁸⁵ Trevor G. Cowie and Ian A. G. Shepherd, 'The Bronze Age,' pp. 154-155.

⁸⁶ Posthole evidence from the Mesolithic, through the Neolithic, and well into the early Bronze Age indicates the oval-shape was standard for both temporary and permanent habitations. But by the late

inhabitants from the onslaught of violent winds and extraordinary rainfall. Cultural diffusion from a booming trade network and the subsequent influx of new people and ideas most likely had the power to make significant social and environmental impact. There is no evidence that these architectural design changes were inspired by external cultural forces, nor did they evolve directly from previous modes of housing. They were pragmatic modifications to provide protection from an increasingly extreme climate, a direct response to environmental pressure. For that reason, the inhabitants of the Scottish Insular *Gàidhealtachd* even transferred building materials previously used for Neolithic tombs to their habitation sites.

The transformation that took place during the Bronze Age in the Insular *Gàidhealtachd* was extraordinary. Responses to natural and human induced change in the region affected settlement and subsistence patterns, initiated social stratification, and promoted self-preservation in a competitive environment. When compared to the Neolithic, however, the starkest metamorphosis in the manmade landscape, and one that may be associated with social change as much as ecological pressure was with regard to the human external expression of spirituality. The way the inhabitants altered their environment was directly related to the perceptions they had with regard to cosmology. These traits of human nature rather than just nature made a substantial impact on the landscape. To say that burial rites changed during the early stages of the Bronze Age is an understatement. The Neolithic was characterised by massive monumental expressions of

Bronze Age, dwellings at Cnip on Lewis and Ord in Sleat on Skye were circular, and foreshadow the monumental Atlantic Roundhouse structures that would dominate the landscape over the next millennium. See Armit, *The Archaeology of Skye and the Western Isles*, pp. 103-105. Also, Ian Armit and Andrew Dunwell, 'Excavations at Cnip, Sites 2 and 3, Lewis, 1989,' *Proceedings of the Society for Antiquities in Scotland*, 122, fiche 1: G 2-10 (1992), pp. 137-148.

a people deeply concerned with cosmological forces and the world of the dead. The inhabitants of the Scottish Insular *Gàidhealtachd* may have maintained some of those beliefs, but they erected singular tombs rather than communal burials.⁸⁷ With less priority given to buildings for the dead, more went to the infrastructure of the living. It is difficult to identify exactly why this attitude changed so dramatically. While it may have been due to the influx of a new people and the diffusion of new beliefs into the region, it may also have resulted from ecological instability that forced competition and a greater concern for self-preservation in the time of the living.⁸⁸ The relationship with the dead that followed the sealing up of the old tombs was a fundamental shift in priorities that led to the extravagant housing of the Iron Age and demonstrated a stark shift in beliefs and practices rather than an obvious break with cultural memory.⁸⁹ I would argue that this represents a psychological break from the past due to changing ecological conditions.

The contrast between *Ketakamigwa* and the Scottish Insular *Gàidhealtachd* during this long period of climate deterioration is highly significant. In the early stages, both

⁸⁷Initially, beaker pottery offerings were included in the older cairns and cists, indicating some early use of Neolithic structures that continued into the early stages of the Bronze Age. But eventually, communal tombs were sealed up and the practices associated with their use discontinued. This is best exemplified by burial sites in Clettraval, Rudh an Dunain, and Callanish, where beaker pottery offerings were found in the most recent layer during excavations Armit, *The Archaeology of Skye and the Western Isles*, pp. 94-95. Comparable to the communal burials of their Neolithic predecessors, many single-person burials were still elaborate, but more often the nature of ritual associated with them rotated from inhumation to cremation, and in locations like Barvas in Lewis, death rituals included the scattering of ashes. Armit, *The Archaeology of Skye and the Western Isles*, p. 99. At Cnip, cremations and inhumation burials for single individuals on the site dated from the Bronze Age into the Viking Age signifying continuity in the shift of attitude toward the dead. Armit, *The Archaeology of Skye and the Western Isles*, p. 97-98.

⁸⁸ That same instability may have created a break from the past as populations rotated out of the region, replaced by a population that introduced new spiritual practices, or leaving behind a people who reinvented their own in the midst of a pre-existing and mysterious sacred landscape plagued by new ecological challenges.

⁸⁹ I do not believe the reinvention of Neolithic tombs by late Bronze Age and early Iron Age people was a simple disconnect in cultural memory due to an influx of new people. See Richard Hingley, 'Ancestors and Identity in the Later Prehistory of Atlantic Scotland: The Reuse and Reinvention of Neolithic Monuments

experienced natural change to their environment, continued trade with the outside world, increases in material wealth, and immigration. As the deterioration continued, both experience population decline, subsequent changes in subsistence and settlement patterns, and further environmental transformation. However, in *Ketakamigwa*, regional inhabitants did not compete for limited resources to the same extent. The inhabitants of *Ketakamigwa* did not develop weapons, engage in conflict, or discontinue their communal lifeways. The environmental transformation in *Ketakamigwa* prompted human responses, but they did not include competing for living space or social stratifying to create an elite class. Because the notable difference between the two water-worlds was the availability of resources, it is plausible, therefore, that the nature of social, economic and spiritual changes in the Insular *Gàidhealtachd* during the Bronze Age were simply indicative of desperate human reactions to ecological changes in a contested environment. It is plausible, therefore, that climate change helped, or may have even catalysed, the precipitation of social and spiritual changes taking place.

Conflict of Interests: Mixed Economies, Monumental Houses, and Spiritual Transitions

The cooler temperatures, wetter conditions, and higher winds that forced a population decrease and altered living conditions in the Insular *Gàidhealtachd* during the late Bronze Age, continued to hamper the region during the Iron Age until around 2,600 BP.⁹⁰ Despite

and Material Culture' in *World Archaeology*, 28:2, Sacred Geography (October, 1996), pp. 231-243. Most of the archaeologists seem to depend on the diffusion model for change rather than considering climate.

⁹⁰ M. Bell, M. J. C. Walker, 'Natural Environmental Change,' *Late Quaternary Environmental Change: Physical and Human Perspectives* (London and New York, 1992), pp. 71-72; also, Alastair Dawson, *So Foul and Fair a Day: A History of Scotland's Weather and Climate* (Edinburgh, 2009), pp. 85-89; J.A. Fossitt, *Holocene vegetation history of the Western Isles of Scotland*, Ph.D. thesis, University of Cambridge (1990);

a less rapidly deteriorating climate, eight millennia of natural and anthropogenic damage to the environment left behind a depleted resource-base and diminished population. The deteriorating climate also eliminated many previous inland and upland habitations, while exploitation of the coastal machair increased. The decreasing availability of arable also demanded creative approaches to subsistence exploitation of all kinds for the sake of continued survival. Both fresh and sea water locations dominated settlement preferences, while a decreased reliance on farming meant marine resources became more important than at any time since the Mesolithic period. The necessity of managing what was left of woodland, fertile soil, and local fauna, coupled with competition for the most desirable waterside sites, finalised the shift from communal living to private management. This level of pressure naturally constructed a socially stratified system based on territoriality and self-preservation, circumstances best exemplified by the monumental stone homes of the elite that dotted the landscape beginning in the early Iron Age. New architectural feats ranged from freestanding 'Atlantic Roundhouses' that symbolised familial dominance over a contested landscape, to the equally complex, yet less imposing and more sustainable, subterranean wheelhouses and cellular buildings. It was in these domestic spaces where the Iron Age inhabitants of the Insular *Gàidhealtachd* dedicated their time, energy, and resources, and where they carried out their spiritual rituals.⁹¹

and H.J.B. Birks and B.J. Madsen, 'Flandrian vegetational history of Little Loch Roag, Isle of Lewis, Scotland,' *Journal of Ecology*, 67 (1979), pp. 825-842.

⁹¹ Armit, *The Archaeology of Skye and the Western Isles*, pp. 109-148. Armit provides here an overview of roundhouses, broch towers, wheelhouses, and the activities associated with them. He also raises the issue of the growing prestige of an elite class.

The environmental conditions of the Insular *Gàidhealtachd* during the Iron Age were complex. Because of climate deterioration, decreased woodland, increased peat, podsolisation, and soil exhaustion, there was diminished economic potential that not only strained existing resources, but demanded human ingenuity to accommodate the loss of arable.⁹² One way in which the inhabitants of the region attempted to meet these demands was to import and creatively manage an increasing number of domesticated animals and by-products. Despite the ecological impact, regional inhabitants continued to breed cattle and sheep, the dominant faunal remains at The Udal, Sollase, A 'Cheardach Mhor, Baleshare, Hornish Point, and Dun Vulcan, all settlements in the Uists.⁹³ In locations like Pabbay and Sandray, where sealskin replaced wool for clothing, sheep could be slaughtered young for their meat, but at the elite site of Dun Vulcan, where other sources of meat included the imported pine marten, badger, and roe deer, the continued practice of sheep husbandry may have been for more woollen textiles.⁹⁴

The loss of woodland in many of the islands meant a corresponding elimination of wild terrestrials. However, on Lewis, Harris, and Tiree, the inhabitants of many Iron Age

⁹² Armit and Ralston, 'The Iron Age,' pp. 169-171.

⁹³ McCormick and Buckland, 'Faunal Change: The Vertebrate Fauna,' pp. 100-101; Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' pp. 8-13; J. Mulville and C. Ingrem, 'Faunal Remains,' in K. Brannigan and P. Foster(eds.), *From Barra to Berneray: the archaeology of the Southern Isles of the Outer Hebrides* (Sheffield, 2000), pp. 250-265, 285-290, 299-305. Most of the cattle remains in the midden of these sites were neonatal, possibly due to a lack of regional fodder which inhibited the ability to raise all produce to the point of adulthood. Although this was most likely the case on the Isles of Pabbay and Sandray where food provision was limited, at Dun Vulcan on South Uist, male calves were more likely eaten at a young age to free up their mother's milk for human consumption. J. Mulville and C. Ingrem, 'Faunal Remains,' in K. Brannigan and P. Foster(eds.), *From Barra to Berneray: the archaeology of the Southern Isles of the Outer Hebrides* (Sheffield, 2000), pp. 264, 290. J. Mulville, et al, pp. 253, 271 (1999).

⁹⁴ Comparison between the rather impoverished conditions of Pabbay and Sandray, and the elite and complex economy at Dun Vulcan, demonstrates just how access to resources determined status in the region. Brannigan and Foster (eds.), *From Barra to Berneray: the archaeology of the Southern Isles of the Outer Hebrides*, pp. 264-265. Also, J. Mulville, et al., pp. 273-274.

settlements bred and managed red deer populations, despite the ecological impact.⁹⁵ Deer farms in these locations provided regional export opportunities to other islands where conditions prohibited a breeding population, but where antlers, bones, and periodic venison were still in demand.⁹⁶ Unlike the sturdy wild deer that populated the region during the Mesolithic period, Iron Age red deer were comparatively small, possibly stunted by the conditions of their dramatically reduced habitat.⁹⁷ While some goat bones appear in the Iron Age midden of Dun Mor Vul on Tìree in the Inner Hebrides, they are absent in the Outer Hebrides where, instead, the presence of pigs is noted at The Udal, Baleshare, and Dun Vulcan.⁹⁸ This is evidence that human ingenuity for the sake of survival did not always consider issues of sustainability as the practice of keeping pigs caused considerable loss of woodland habitat and disturbed arable soils.⁹⁹ Even larger animals appear at Sollas on North Uist, where bone assemblages indicate the genesis of stock management and the possible trade of black cattle imported from the mainland.¹⁰⁰ Like the horse and fox during the Bronze Age, black cattle were rare and likely only bred by elite regional inhabitants, but their existence during the Iron Age sets an early precedent to the commercial cattle industry that dominated the island economy by the seventeenth and eighteenth centuries.

⁹⁵ At Northton and Cnip, red deer was the primary food staple, while at Dun Mor Vul, deer were comparable to cattle and sheep. Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' p. 8-13. Armit and Ralston, 'The Iron Age,' p. 188. Armit, *The Archaeology of Skye and the Western Isles*, p. 148.

⁹⁶ Branigan and Foster, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides* pp. 259-260.

⁹⁷ Armit, *The Archaeology of Skye and the Western Isles*, p. 188.

⁹⁸ Ibid.

⁹⁹ That managing pigs was contrary to regional ecological conditions may be why their numbers were depleted by the end of the period. See E. B. Ross, 'The Riddle of the Scottish Pig,' *BioScience* 33:2 (1983), pp. 99-106.

Another way in which inhabitants of the Insular *Gàidhealtachd* increased their sustenance was through greater exploitation of wild resources. Excavated bird bone assemblages indicate an increased level of fowling during the Iron Age, while cetacean assemblages reveal more whalebone used for making tools.¹⁰¹ Fowling for exotic birds was taking place at King's Cave Loch Tarbert, Jura and Ban Mhic Connain on North Uist where bone of the now-extinct large crane were found.¹⁰² Wild resources from the sea also gained importance.¹⁰³ Although land-mammal bone and antler were still the primary organic materials used for making tools throughout the region, supplementation with whalebone increased during the Iron Age, but varied according to the access inhabitants had to whale.¹⁰⁴ In addition to fowling and relying on an unexpected whale beaching, the inhabitants of the Insular *Gàidhealtachd* during the Iron Age increased their fishing and sealing. For the more elite on the islands, shallow water fish, limpets, winkles, and

¹⁰⁰ McCormick and Buckland, 'Faunal Change: The Vertebrate Fauna,' pp. 100-101.

¹⁰¹ The dominant Iron Age birds were the shag and great auk, but the array of prey was diverse, including gannet, diver, guillemot, and puffin, with grouse being the only land-based bird in the collections. At Baleshare on North Uist, great auk was the most common species, while at Hornish Point auk made up 1/6 of the total bone findings. See Dale Serjeantson, 'Archaeological and ethnographic evidence for seabird exploitation in Scotland,' in *Archaeozoologia*, 2 (1988), p. 214. On Pabbay, on the other hand, shag was the dominant species, followed by gull and puffin, while both auk and shag combined to dominate the fowl remains at Cnip on Lewis. See Branigan and Foster, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides*, p. 268. Armit, *The Archaeology of Skye and the Western Isles*, pp. 150.

¹⁰² McCormick and Buckland, 'Faunal Change: The Vertebrate Fauna,' p. 101. C.J.O. Harrison and G. S. Cowles, 'The extinct large cranes of the North-West Palaeartic,' in *Journal of Archaeological Science*, 4 (1977), pp. 25-28; Y. Hallen, 'The use of bone and antler at Foshigarry and Bac Mhic Connain, two Iron Age sites on North Uist, in *Proceedings of the Society of Antiquaries of Scotland*, 124 (1994), pp. 189-231.

¹⁰³ Of course, not all coastal locations accommodated the fortunate occurrence of a beached whale, like at Dunan Ruadh on Pabbay, where only one whalebone was found during excavations. The periodic stranding of large sea mammals must have been a recurring event on South Uist where whalebone dominated the tool technology at A'Cheardach Mhor, and made up one-third of the bone findings at Dun Vulcan. Branigan and Foster, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides*, pp. 264-265. Also, J. Mulville, et al, p. 267.

¹⁰⁴ M. Pearson et al, 'Buildings A, B, and C East of the Broch ('the platform')' in Mike Parker Pearson, Niall Sharples, Jacqui Mulville, and Helen Smith (eds.), *Between Land and Sea: Excavations at Dun Vulcan, South Uist* (Sheffield, 1999).

cockles were merely supplemental foods that enhanced an already complex mixed economy. However, in many locations where the lack of arable or labour for domestic husbandry limited subsistence levels, fishing and sealing were staples.¹⁰⁵ Although they continued to rely upon a limited amount of subsistence farming, their ability to acquire fish and crustaceans, as well as their access to the seals on the uninhabited neighbouring rock islands, provided them with the oil, skins, and protein to withstand the challenges of the island environment.¹⁰⁶

Though exploitation of sea resources became more necessary by the Iron Age due to the loss of arable, the inhabitants of the Insular *Gàidhealtachd* were not fully capable of tapping into the vast range of life from within the sea. Since the middle of the Bronze Age, climate deterioration and subsequent ecological chaos had wreaked havoc on land, but there was a comparatively rich and stable ecosystem of marine life flourishing beneath the water's surface. The pounding of the North Atlantic wind and rain on the coastline made the production of flora and fauna extremely volatile, made fishing and farming conditions difficult if not dangerous, contributed to deforestation and coastal erosion, and waterlogged previously fertile soils. But when colder temperatures above the surface combined with the moderately warm Atlantic drift of the Gulf Stream flowing into the region, they provided a stable biotic under-water environment that encouraged the rapid growth of fertile plankton in both sea and freshwater habitats. This bizarre

¹⁰⁵ This was the case on Pabbay and Sandray where inhabitants focused their energy on fishing for inshore cod, saithe, and small amounts of red sea bream, where the level of risk and need for technology was low. Branigan and Foster, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides*, pp. 264-265; Armit, *The Archaeology of Skye and the Western Isles*, pp. 150.

¹⁰⁶ At Cnip on Lewis, in addition to cod and saithe, inhabitants also fished for hake and ballan wrasse. The difference between the settlement practices at Cnip and those on Pabbay and Sandray is that inhabitants of Cnip manufactured fishing technology such as trawls or longer lines that allowed them to procure deeper

contrast created an immeasurable store of resources safely tucked away from the exploitative inhabitants of the region for many millennia. With both a dramatic improvement in weather conditions and the introduction of significant advances in fishing technologies on the horizon, subsistence behaviour in the late Iron Age shifted again as inhabitants intensified their exploitation of the water-world previously beyond their reach.

Integrating domestic, wild, and marine life into the regional diet was necessary to survival in the midst of a disintegrating agricultural base.¹⁰⁷ To continue the limited production of arable, innovations took place. There was a transition from saddle to rotary querns, while iron tools eventually replaced the inferior bronze.¹⁰⁸ Despite these changes, however, farming was still labour-intensive. The rudimentary cord-rig, hand-dug rig and furrow systems detectable in aerial photography today are reminders of the exhausting work by determined farmers who struggled to make the best of difficult conditions. Their race for the machair and the few arable inland locations bordering lochs and river valleys was met by the tedious effort necessary to plough, manure, and harvest grains that annually provided only a partial-subsistence for an extended family. Obtaining machair did not always ensure production because it was especially susceptible to damage from natural coastal elements like the wind and storm surge. Already alkaline and fragile, unpredictable wind and wave systems could eliminate crops in one day, while the collection and distribution of sea wrack for manure amplified the burden of an

water species, practices that were a regional anomaly at the time. Armit, *The Archaeology of Skye and the Western Isles*, pp. 150.

¹⁰⁷ Because of the cooler and wetter conditions, barley eventually overcame wheat as the crop of choice, though the latter was still cultivated throughout the Iron Age. See W. E. Boyd, 'Cereals in Scottish Antiquity,' *Circaea* 5 (1988), pp. 101-110; Armit and Ralston, 'The Iron Age,' p. 188.

already labour and time-intensive process. Limited in their ability to exploit the sea, however, farmers did not miss the opportunity to cultivate the land that was at least available to them.

The peat growth, decreasing forests, and harsh weather patterns that forced late Bronze Age inhabitants into congested settlements of hut circles, continued to occur in Iron Age towns and villages on the mainland. By the Iron Age in the Insular *Gàidhealtachd*, however, the ecological degradation appears to have forced an exodus, leaving behind a sparse populace whose landscape offerings were dictated by predisposed environmental settlement patterns.¹⁰⁹ The success of a considerable number of single homesteads and their subsistence depended on the productivity levels and size of the extended families that inhabited them. In most cases, the arable land-grab that ensured survival meant remaining settlers were relegated to the coast.¹¹⁰ With metalwork, farming, fowling, fishing and culling the responsibility of single-homestead inhabitants, the burden would have been all consuming, further eroding any sense of community and increasing the tendency toward competition.¹¹¹ Those who benefited most, therefore, were the families who were successful at producing large numbers of offspring and overcoming the odds of high mortality rates. Regardless of self-preservation, social stratification, and physical fragmentation at the heart of the region's settlement pattern, there were some locations where small communities of commoners still thrived away from the elite. This was evident in the contrasting sizes and styles of

¹⁰⁸ Armit, *The Archaeology of Skye and the Western Isles*, pp. 149.

¹⁰⁹ D.W. Harding, 'The Hebridean Iron Age : Twenty Years' Research,' *Occasional Papers Series*, No. 20, University of Edinburgh, Department of Archaeology (2000).

¹¹⁰ This was the case in South Uist, where a string of small farms with a wide range of potential for success spread along the western coastline. Armit, *The Archaeology of Skye and the Western Isles*, pp. 149.

homesteads on the Uists, Barra and Vatersay, where a series of ‘social cluster’ communities congregated in the most ecologically viable locations throughout the landscape that may have extended past immediate familial ties.¹¹²

Despite the challenges facing inhabitants of the Insular *Gàidhealtachd* during the Iron Age, their resilience and determination manifested itself in identifying new economies. But this was done in a competitive environment where family size and organisation undoubtedly made for stratification based on the ability to control and exploit the environment. The elite recycled Bronze Age stone to build grandiose homes that dominated the landscape and protected them from difficult weather conditions. They continued to trade their surplus for metal and textile imports, and they practiced their religion in their homes where they also buried their dead.¹¹³ Meanwhile, the common regional inhabitants lived a subsistence-based existence, moving between the coastal workstations or ‘cluster communities’ that may have laboured on the machair for the elite who controlled its produce.¹¹⁴

Between 2,000 and 1,800 BP, the inhabitants of the Insular *Gàidhealtachd* were managing a depleted resource-base. In so doing, they addressed local conditions with further shifts in social and economic activities, not all of which were conducive to sustainability or cultural cohesiveness. Although they eventually produced local iron, implemented new agricultural techniques, and enhanced their lives with small items of personal luxury, their volatile ecological conditions also dictated reliance on traditional

¹¹¹ Armit, *The Archaeology of Skye and the Western Isles*, pp. 129-131.

¹¹² Keith Branigan, ‘The Later Prehistory of Barra and Vatersay,’ in *From Barra to Berneray*, (2000), pp. 344-345.

¹¹³ Armit, *The Archaeology of Skye and the Western Isles*, pp. 153-158.

¹¹⁴ Branigan, *Ibid.*

modes of technology and stratified them between the elite who lived in giant stone monuments with control over arable and the commoner population who lived in humble surroundings. The elite appear to have spent time and energy on developing personal and spiritual space, and enhancing their conditions through the wide trade network that imported new materials, ideas, and animals from the Northern Isles, Northern Scottish mainland, and Ireland. Meanwhile, commoners with smaller families were exploiting an increasingly mixed coastal economy and living in comparably humble homes. The physical circumstances of the region during the Iron Age, therefore, instigated a more isolationist attitude toward daily life among its inhabitants that prevented any regional power centre from evolving. By the end of the Iron Age around 1,500 BP, climate conditions were improving, advancements in fishing technology were allowing for deeper exploitation of the sea, and cultural influences of the Picts from the east and Scotti from the west were diffusing inward. These circumstances, coupled with a lack of centralised political power in the region, left the inhabitants ill equipped to maintain their independence in a North Atlantic eventually dominated by the Scandinavians.

*Roman, Pict, Scotti, Scandinavian: Influences increase as Climate Warms*¹¹⁵

The cultural chasm that divided the inhabitants of the Scottish Insular *Gàidhealtachd* from those of Lowland Scotland and England during the sixteenth century may be partially ascribed to the varying degrees to which the Romans, Picts, Scotti, and Scandinavians influenced each region. With a lack of central political authority and a peripheral position

¹¹⁵ This period marks the first historical sources for the region. Therefore, I will use a new dating format, i.e. 'fifth century' rather than 1,600 BP.

during the Roman occupation of southern Britain, the regional inhabitants of the Insular *Gàidhealtachd* appear to have avoided any major conflict with the Romans, while maintaining communication through trade.¹¹⁶ This absence of political or military strength in the region between the fifth and tenth centuries, however, meant the inhabitants of the Insular *Gàidhealtachd* were eventually vulnerable to external forces that overwhelmed their existing lifeways. The Picts, Scotti, and especially the Scandinavians, expanded trade networks in the North Atlantic and transformed technology to increase economic exploitation. The Insular *Gàidhealtachd* was initially influenced by this upsurge in North Atlantic activity, but native practices and perceptions were not significantly altered until favourable climate conditions supported the Scandinavian occupation of the region. Between the Roman and Scandinavian occupation periods, the regional inhabitants of the Scottish Insular *Gàidhealtachd* maintained their coastal settlement sites, continued to exploit a mixed economy, and developed spiritually and culturally. With the Scandinavian occupation, however, they experienced a total disruption to their lifeways and, especially in the Outer Hebrides, a demographic plunge. A handful of historical documents become available after the second century to supplement the archaeological and climatological data. These pieces of the

¹¹⁶ There is no evidence of a Roman presence in the Hebrides. The limit of the Roman occupation lay further south and east, typically across the Forth-Clyde line or, at most, up into Angus and Aberdeenshire. However, Roman finds did reach all parts of Scotland, including the Western Isles, far beyond where the Romans themselves ever occupied. The Roman fleet may also have been involved in patrolling the waters off the Scottish coast. See J. Curle, 'An inventory of objects of Roman and provincial Roman origin found on sites in Scotland not definitely associated with Roman constructions,' *Proceedings of the Society of Antiquaries in Scotland*, 66 (1931-32), pp. 277-397; also, Fraser Hunter, 'Roman and native in Scotland: new approaches,' *Journal of Roman Archaeology*, 14 (2001), pp. 289-309. Coin finds include J.D. Bateson and N.M. McQueen Holmes, 'Roman and medieval coins found in Scotland, 2001-2005,' *Proceedings of the Society of Antiquaries in Scotland*, 136 (2006), pp. 161-198 and A. S. Robertson, 'Roman coins found in Scotland, 1971-82,' *Proceedings of the Society of Antiquaries in Scotland*, 113 (1983), pp. 405-448.

environmental history puzzle contribute to the creation of a more complete picture for this time period.

The indelible impression made on native societies in the southern British Isles over the centuries in which the Romans expanded their empire contrasted with the seemingly cohesive resistance in the north, where the threat of Roman invasion united efforts between heterogeneous mixtures of native people whose group identity formed around a common enemy.¹¹⁷ That their efforts were effective is apparent on the Scottish mainland where the construction of the Antonine Wall between Bo'ness and Old Kilpatrick represents the physical manifestation of the Roman inability to pressure northern allied-forces into submission. The subsequent building of forts in the Fife peninsula, and the recorded advancements along the east coast of Scotland during the reigns of Marcus Aurelius and Septimius Severus, demonstrate how heavily to the east Roman military activity was weighted. Although the threat of attack may have felt real to the regional inhabitants of the Scottish Insular *Gàidhealtachd* at the time, and may have even influenced the architectural posturing of their monumental homes, the Romans do not appear to have changed native practices and perceptions.¹¹⁸ Roman influence was part of the regional trade network that brought exotic items from as far as the Mediterranean and most likely carried news of political and military engagement taking place on the

¹¹⁷ Simon James, *The Atlantic Celts: Ancient People or Modern Invention?* (London, 1999), pp. 100-105.

¹¹⁸ The elite inhabitants of the Insular *Gàidhealtachd* during the late Iron Age chose to erect their monumental roundhouses in commanding positions that appear to demonstrate authority over the landscape and represent statements of independence. This may have been partially inspired by an external threat that was never realised. It may also have been a local posturing with site locations chosen to survey their resource base. However, the end of Roman occupation in Britain coincided with a short period of climate deterioration and instability, as well as an architectural departure from the monumental roundhouse designs. So, the less ostentatious wheelhouses that the inhabitants eventually dismantled or remodelled into subterranean cellular homes may have been directly related to their climate rather than a decreased threat in the region. See Armit, *The Archaeology of Skye and the Western Isles*, p. 158.

mainland.¹¹⁹ However, based on the historical and archaeological evidence that has been identified, the Roman influence that cultivated identity in the south did not take hold in the Scottish Insular *Gàidhealtachd*, nor did the regional inhabitants become militarily engaged.¹²⁰

As threat levels decreased with the waning of the fourth century, a congregation of diverse ethnic groups in the northern mainland provided the foundation for the Pictish Kingdom. Victorious in keeping the Roman army from occupying the northern territories permanently, within two centuries, this burgeoning kingdom competed for space and resources on the southeast mainland with the Brittonic Gododdin. By the sixth century, the Picts were challenged by the Gaelic-speaking Scotti of Dál Riata. Archaeological evidence obtained at the hillfort of Dunadd in Kintyre indicates a continued presence from as early as 2,500 BP, with the site serving as an influential political and economic centre during the post-Roman period between the sixth and eleventh centuries.¹²¹

Dunadd was also identified as an important seat of power by Adomnan in his *Life of*

¹¹⁹ A.S. Robertson, 'Roman finds from non-Roman sites in Scotland,' *Britannia*, 1 (1970), pp. 198-226. Evidence of Roman impact on extended trade relations includes sherds of pottery found in excavations at Bhaltois and Loch na Berie in Lewis, and Dun Ardtreck in Skye, as well as a brooch at Kilpheder in South Uist and several Severan silver coins in Benbecula, p. 207. Also, RCAHMS, *The Outer Hebrides, Skye and the Small Isles*, (Edinburgh, 1928), p. 29; and A. S. Robertson, 'Roman coins found in Scotland 1971-82,' p. 417. The dearth of Roman artifacts discovered in the Scottish Insular *Gàidhealtachd* to date could be an indication of little to no contact, a strained communication network, the circulation of Roman materials back out at a later time, or the fact that archaeologists have yet to exhaust potential excavation sites. J. Curle, 'An inventory of objects of Roman and provincial Roman origin found on sites in Scotland not definitely associated with Roman constructions,' pp. 277-397. Also, A. S. Robertson, 'Roman finds from non-Roman sites in Scotland,' pp. 198-226; F. Hunter, 'Roman and native in Scotland: new approaches,' pp. 289-309. Also, information gleaned from personal communication with Dr. Fraser Hunter, Department of Archaeology, National Museum of Scotland.

¹²⁰ For an overview of this period, see Fraser, James E. *From Caledonia to Pictland: Scotland to 795* (Edinburgh, 2009).

¹²¹ Alan Lane and Ewan Campbell, *Dunadd: an Early Dalriadic Capital* (Oxford, 2000). For a discussion of the findings, see pp. 233-263; a summary of the chronological evidence is tabled on p. 234.

Columba, and appears frequently in the 'Iona Annals.'¹²² It is not possible to determine the degree to which the power centre at Dunadd, or the conflicts between the Picts and Scotti, influenced the Insular *Gàidhealtachd*, but undoubtedly, trade routes throughout the region served as lines of direct communication that created a complex milieu of shared experiences.

These emerging political powers following Roman occupation in Britain were more inclusive of the islands and mainland surrounding the Minch, but their level of influence is difficult to ascertain and cannot be determined through the archaeological record alone. The *Chronicle of the Kings of Alba* indicates that, by the sixth century, the Scotti had established their power centre in Argyll, from where they controlled territories as far north as Ardnamurchan, including the islands of Coll and Tiree.¹²³ However, Adomnan's narrative about Columba receiving the Isle of Iona from the Picts indicates that Scotti power was not absolute, an inference supported by the presence of Pictish symbol stones on Skye and the Outer Hebrides.¹²⁴ Due to the absence of substantial evidence, the

¹²² Adomnan of Iona, *Life of St Columba* (London, 2005). For further discussion of Adomnan's use of (and the interpretation of) *cenn tire* and *caput regionis* in highlighting (and determining) the importance of Dunadd, see A.O. Anderson and M.O. Anderson, *Adomnan's Life of Coumba* (Edinburgh, 1961) and E. Campbell, 'A cross-marked quern from Dunadd and other evidence for relations between Dunadd and Iona,' *Proceedings of the Society of Antiquaries in Scotland*, 117 (1987), pp. 59-71.

¹²³ This period is covered nicely by J. Bannerman, *Studies in the history of Dalriada* (Edinburgh, 1974). For a translation of the Chronicle, see Benjamin T. Hudson (ed. and trans.), 'The Scottish Chronicle,' *Scottish Historical Review* 77 (1998), pp. 129-61.

¹²⁴ For the narrative, see Adomnan of Iona, *Life of St Columba* (London, 2005). For Pictish archaeological evidence, see Douglas MacLean, 'Maelrubai, Applecross and the Late Pictish Contribution West of Druimalban,' in *The Worm, The Germ, and The Thorn: Pictish and related studies presented to Isabel Henderson* (Angus: 1997), pp. 173-187. The inhabitants of the Insular *Gàidhealtachd* may have spoken dialects of the Pictish P-Celtic language prior to the occupation of the Scotti or the Norse, but during the period following Norse occupation, inhabitants eventually inherited the Q-Celtic (Irish Gaelic) tongue from the Scotti. However, the extent of which either the P-Celtic or Q-Celtic language was adopted by late Iron Age inhabitants of the region prior to Norse occupation is impossible to discern due to the significant number of Norse place names that still exist in the region. Archaeological findings attributed specifically to the Picts and Scotti prior to the Norse invasions have been identified on Skye where Cille Mharie and

period during which the Picts and Scotti were fortifying their power in Scotland is somewhat of a 'dark age.' That which does remain, including artefacts, written documentation, and the environmental record, however, represent some level of continuity in settlement patterns with only slight architectural alterations, isolated experimentation in fishing techniques, and the slow adaptation of new religious practices. This continuity was disrupted upon arrival of the Scandinavians.

Climate conditions and sea level stabilised following the Roman period. Although there were still extreme weather events, these new conditions allowed for more dry seasons, less ocean storminess, and steadily increasing water temperatures by the sixth century. The natural and anthropogenic damage already done to the Insular *Gàidhealtachd* over eight millennia, however, left much of the region (especially the Outer Hebrides) with a depleted landscape. The limited nature of the resource base may have deflected any major interest from the Picts and Scotti and allowed for several centuries of regional continuity before Scandinavian arrival. What the archaeological records do reveal is that before the ninth century, the settlement pattern of the Insular *Gàidhealtachd* was based primarily on resource availability, with a growing population near the machair, on crannogs in fresh and salt-water lochs, or in isolated patches of arable and grazing land. The expanding peat in the Outer Hebrides meant an east-to-west migration was the only way they could ensure their survival. The limited resource base also dictated the recycling of building materials or remodelling of pre-existing

Glasnakille on the Strathaird Estate, as well as the well of Tobar na h-Annait and Clach na h-Annait on the east side of Torrin. These may all represent early Christian churches and possible satellite communities of the Columban centre on Iona. Steven A. Birch, *Strathaird, Torrin and Sconser: An Overview of the Archaeology of the John Muir Trust Estates on Skye*, compiled for the John Muir Trust (1998), Section 4.15 and 4.23. Also, RCAHMS (1993), pp. 7-8.

homes.¹²⁵ This evidence for settlement locations reflects a resilient adaptation of traditional subsistence patterns to exploit the region's limited resources and sustain subsistence levels. It also highlights the level of disruption caused by the Scandinavians.

The inhabitants of the region were in no way static prior to Scandinavian arrival. In some locations, there were subtle changes in the types of domestic projects to which regional inhabitants dedicated their time and energy. Since the Bronze Age, they had dedicated more of their time to personal space, developing their domestic habitations and practicing spiritual beliefs in a domestic setting rather than erecting physical representations of their religious beliefs in the landscape. By the late Iron Age, the interior of cellular buildings accommodated both their personal and spiritual needs.¹²⁶ Inhabitants of the region were increasingly living in subterranean cellular homes, where they made their food and buried their dead, but they were also assembling small specialist metalworking sites like that at Eilean Olabhat in North Uist.¹²⁷ In addition, they made their own pottery, but both metal and pottery objects were comparably inferior to

¹²⁵ In locations like Cnip in Lewis and The Udal on North Uist, previously inhabited wheelhouses were remodelled after falling into disrepair, and new cellular buildings were revetted into the sand. See Armit, *The Archaeology of Skye and the Western Isles*, pp. 164-166. In Bhaltois on Lewis, a larger roundhouse was also remodelled into a cellular structure, while at Loch na Berie, a broch tower on a crannog site in a machair loch was continually inhabited up to the Norse arrival. See Armit, *The Archaeology of Skye and the Western Isles*, pp. 167. At Dun Cuier on Barra, midden and artefact material indicates continuous occupancy over a period of eight centuries, again ending with the Norse occupation. See A. Young, 'Excavations at Dun Cuier, Isle of Barra, Outer Hebrides,' *Proceedings of the Society of Antiquaries of Scotland*, 89 (1955), p. 316.

¹²⁶ At the Sollas wheelhouse on North Uist, at Kilpheder in South Uist, and in the cellular buildings of Loch na Berie and Cnip, multiple pits discovered beneath the floor were found to have ritualistic votive materials, including animal bones, decorated pottery, even human bones Armit, *The Archaeology of Skye and the Western Isles*, pp. 153-157.

¹²⁷ Originally built approximately 2,100 years ago, like so many habitations throughout the region, Eilean Olabhat was also remodelled and continually occupied up to the eve of the Norse arrival. Armit, *The Archaeology of Skye and the Western Isles*, p. 178.

earlier manufactured assemblages.¹²⁸ This apparent decrease in the quality of arts and crafts may be indicative of a shift in the social function and use of pottery for the period or it may indicate work done by non-artisans.¹²⁹ If extended families were becoming increasingly self-sufficient, metallurgy and pottery projects were carried out by members of the family rather than commissioned by specialists.

In addition to evolving spiritual and cultural practices within their domestic space, regional inhabitants also made subtle changes to their subsistence practices. Resulting from more favourable climate conditions, the Hebrideans experienced a slight increase in their reliance on marine life for subsistence. Warmer water temperatures may have extended fishing seasons, while in a few isolated locations, attempts appear to have been made to catch fish further from shore, allowing for some exploitation of marine life in slightly deeper waters where longer lines, multiple hooks, and the use of nets caught larger fish.¹³⁰ Fish assemblages dated to the third century at Cnip reveal an abundance of hake, a deep-water species that may have been caught through trawling, if not via longer lines.¹³¹ The large ling bone assemblages found in the late Iron Age midden at Loch na Beirgh, and the mature cod and saithe found in the late Iron Age midden at Galson Beach on Lewis may both be anomalies, but their presence may also indicate that fishing at

¹²⁸ Pottery, like that found in excavations at The Udal, Cnip, and Dun Cuier was undecorated and plain, while sherds found at the earlier sites of Eilean Olabhat and Loch na Berie were fired with flaring rims and wavy cordons. *Ibid.*, pp. 178-179.

¹²⁹ The small finer objects do appear to be status oriented. Although the larger material culture of the Insular *Gàidhealtachd* was less decorative, small personal items like the bone dice found at Foshigarry and Bac Mhic Connain on North Uist, the combs from Dun Cuier, and the bronze tweezers at Loch na Berie, are evidence for a continued level of artistic quality throughout the region. *Ibid.*, p. 180.

¹³⁰ At Bostadh Beach in Great Bernera, Lewis, fishing was a year-round activity, where cod and saithe were the dominant fish bones in an assemblage that included cattle and sheep bones, and midden with remnants of barley grain and flax, the material most likely used for fashioning fishing nets Ruby N. Cerón-Carrasco, *'Of Fish and Men': A Study of the Utilization of Marine Resources as Recovered from Selected Hebridean Archaeological Sites*, BAR British Series 400 (Oxford, 2005), pp. 56-57.

greater depths was taking place just prior to the Scandinavian arrival.¹³² This demonstrates a slight departure from earlier conditions at Dun Vulcan and Hornish Point, where fishing was only in shallow water, and producing younger and smaller fish.¹³³ In many locations, diets were enhanced by freshwater eels, salmon, and trout, while a slight increase in whale bones meant better access to oil, skin, and materials for tools. Overall, however, fishing activities for the period were still subsistence based and utilised a primitive technology compared to that which the Scandinavians introduced upon their arrival.

Between the sixth and ninth centuries, the Hebrideans underwent a religious transformation, a phenomenon that appears primarily relegated to the Inner Hebrides and southern coastline of the mainland. Despite the existence of several Class I Pictish symbol stones located throughout the region, by the sixth century, there is a presence of evolving religious practices directly associated with the migrating Celtic Christians from Ireland whose numbers increased significantly by the time of Scandinavian occupation.¹³⁴ Settling initially during the mid-sixth century on Iona, Celtic Christian missionaries imported the most influential cultural phenomena into the region since the beaker pottery of the early Bronze Age. Spreading rapidly into the northern mainland, converting the Picts, transforming their art and yielding Class II stone symbols with

¹³¹ Ibid, p. 150.

¹³² Ibid., pp. 51 and 60-61. Cerón-Carrasco dates both late Iron Age sites between the fifth and ninth century and believes the deep water fish remains to be pre-Norse exploitation.

¹³³ Ibid., p. 61.

¹³⁴ Carola Hicks, 'The Pictish Class I Animals,' in R. Michael Spearman and John Higgitt (eds.), *The Age of Migrating Ideas: Early Medieval Art in Northern Britain and Ireland*, National Museum of Scotland (Edinburgh, 1993), pp. 196-202.

crosses, the religious power of Celtic Christianity was so substantial that it eventually even enveloped the Scandinavians.¹³⁵

This new belief system did not just affect perceptions, but altered practices that transformed the landscape. The settlement of Iona in the late sixth century followed by the subsequent development of a religious centre and pilgrimage site, escalated anthropogenic damage to the island environment and set a precedent for regional monasteries over several centuries to follow.¹³⁶ Shortly after its initial settlement, inhabitants on the Isle of Iona were already managing a substantial deer population and exercising control over neighbouring seal rookeries.¹³⁷ There was also a marked increase in fish exploitation that may be partially due to new religious prohibitions against eating other types of meat on particular days of the week.¹³⁸ Pollen studies dating between the sixth and ninth centuries, indicate that oak, ash, and birch trees were cleared and replaced with cultivated cereals and grasses, while monastic midden and bone

¹³⁵ The level of influence Christian communities had over the socio-political and cultural aspects of daily life, as well as the degree to which their settlement in the region impacted the physical environment is significant for a number of reasons. First, Iona's central location in the Insular *Gàidhealtachd*, coupled with the deep political ties that existed between religious leaders and the Scotti of Dál Riata, meant an intimate connection was cultivated between religion, the royal house in Argyll, and the inhabitants of the Western Highlands and Islands (especially those along the coast and on the Inner Hebrides). This symbiotic relationship provided the opportunity for advancement of both church and state as Celtic Christian religious practices and perceptions were propagated throughout the region, creating a regional cohesiveness that was eventually fractured by the Scandinavians. Isabel Henderson, 'The Shape and Decoration of the Cross on Pictish Cross-Slabs Carved in Relief,' in R. Michael Spearman and John Higgitt (eds.), *The Age of Migrating Ideas: Early Medieval Art in Northern Britain and Ireland*, National Museum of Scotland (Edinburgh, 1993), pp. 209-218.

¹³⁶ New spiritual beliefs that affected subsistence and the extensive management of local resources on Iona also set a precedent for the dramatic transformation monasteries continued to have upon the landscape into the modern era. Finbar McCormick and Paul C. Buckland, 'Faunal Change: The Vertebrate Fauna,' in K. J. Edwards and I.B.M. Ralston (eds.), *Scotland: Environment and Archaeology, 8000 BC AD 1000* (New York and Toronto, 1997), p. 102.

¹³⁷ McCormick and Buckland, 'Faunal Change: The Vertebrate Fauna,' p. 102. Also, F. McCormick, 'The Animal Bones from Ditch 1,' in J. Barber (ed.), *Excavations on Iona*, in *Proceedings of the Society of Antiquaries of Scotland*, 111 (1981), pp. 313-318.

¹³⁸ McCormick and Buckland, 'Faunal Change: The Vertebrate Fauna,' p. 102.

assemblages indicate the presence of dairying, the raising of herds for meat, the fowling of raven and goose, and the tanning of hides from cow, deer and seal.¹³⁹

As religious leaders made their way between the islands, they were following an ancient trade route designed by the natural currents, winds, and whirlpools that dictated island travel over many millennia. The beliefs they carried, and the environmental practices they implemented in order to sustain their escalating presence in the region, undoubtedly influenced native perceptions. So, while the period of the Picts and Scotti is one of relative continuity in settlement and subsistence patterns, the introduction of Roman-Irish Christianity with both physical and spiritual manifestations, contributed to the complexity that evolved the region away from a 'shared experience' with southern Britain. This adhesive nature of religious ties to political entities in the Inner Hebrides and the coastal mainland was contrary, however, to the independent nature of spirituality demonstrated in the Outer Hebrides.

Prior to the immigration of Scandinavian settlers, the Outer Hebrides were home to socially stratified communities. The elite produced enough of a surplus to engage in trade, while the rest of the islands' inhabitants worked and lived at subsistence levels. From the period of Roman occupation, through the period of the Picts and Scotti, the 'Long Isle' was also on the periphery of substantial changes taking place on the mainland and in the Inner Hebrides. This peripheral status provided centuries of settlement and subsistence continuity, but the continued lack of centralised political, military, or religious power meant the inhabitants were vulnerable to external threats when that status shifted. By the late eighth century, the islands surrounding the Minch became central to

¹³⁹ Camilla Dickson and James Dickson, *Plants & People in Ancient Scotland*, pp. 133-136.

the exploits of an external threat that spread rapidly throughout the North Atlantic, capitalising on regional vulnerabilities. The arrival of Viking raiders forced the Outer Hebrides into the fold of a sequence of sea-route rest stops and trading posts that, by the early tenth century, were a succession of coastal settlements. Initial voyages through the region from Scandinavia meant the Scottish Insular *Gàidhealtachd* provided navigational points in both directions, where the need for provisions demanded landing sites with protective, convenient, or strategic offerings. In the early stages of their exploits, Viking raiders were simply passing through, but by the early tenth century, Scandinavian settlers integrated with Celtic people, and established power-centres on Orkney, Shetland, and Caithness. The Outer Hebrides offered a central location and schools of fish for exploitation. The new advanced fishing technology, trade, and influx of settlers ushered in a substantial physical transformation at the hands of the Scandinavians.

There is current debate as to how much force was utilised to establish these new settlements, and whether the original inhabitants were simply disturbed or outright displaced.¹⁴⁰ Once control was established, however, settlement was inevitable and timing was undeniably fortunate for these occupiers. The climate of the period was moderately dry and warm, so the arable that was not previously overwhelmed by blankets of peat was more productive than at any time since the Neolithic.¹⁴¹ In addition to increasing arable for farming, the Scandinavians introduced advanced water vessels

¹⁴⁰ The disruption of settlements like Dun Cuier, Loch na Beirgh, and Dun Vulcan on the eve of Norse settlement seem to indicate Viking raids were taking place prior to permanent occupation. While raiding was often for provisional needs, the presence of scales for weights and measures found in the graves on Colonsay and Lewis, as well as coin hoards similar to those from Ireland, yet different from those found in the Northern Isles, may indicate a unique economic system was introduced to the region. Or, the scales may simply indicate division of booty for the taking. See Hunter, John R. 'The Early Norse Period,' in K. J. Edwards and I.B.M. Ralston (eds.) *Scotland: Environment and Archaeology, 8000 BC-AD 1000* (New York, 1997), pp. 246-247.

and fishing technology that significantly changed water-world practices. The combination of optimal climate conditions and new modes of subsistence, therefore, provided the opportunity for intensifying marine resource exploitation. This ensured the Scandinavians were in no hurry to leave.

Not only did the Scandinavian occupation of the region last for centuries, but their influence became permanent in the landscape. As Scandinavian colonisers expanded their communities to exploit fallow ground, a pattern of separate farming units arose to create assessment boundaries. Raven has identified Norse-Gaelic place name evidence, such as *gearraidh*, *tìrean unga* and *bòlstad*, as well as contemporary landscape markers and archaeology, to support his theory that many of these Scandinavian boundaries provided the basis for 'the main structural components of lordship.'¹⁴² These early property allotment patterns were originally designed for collecting secular and religious tax, and they subsequently underwent only moderate alterations until the fifteenth century.¹⁴³ By that time, the large hall-centred farms on the machair were being abandoned for smaller communities of clustered homes on the *cnoc-and-lochan* and away from the coastline.¹⁴⁴ This shift in settlement patterns represents the changing coastal weather conditions that contributed to the demise of Scandinavian occupation.

Environmental change during the Scandinavian occupation of the Scottish Insular *Gàidhealtachd* significantly altered both native practices and the physical landscape. The

¹⁴¹ Ibid., pp. 241-253.

¹⁴² John A. Raven, *Medieval Landscapes and Lordship in South Uist*, Ph.D. Thesis, University of Glasgow (2005). For his description of Viking and Norse influence on land assessment in the Hebrides, see pp. 102-107; for place-name evidence representing Scandinavian farms and townships, see pp. 113-117; Quote from p. 129.

¹⁴³ Ibid., pp. 129-134.

unique combination of natural and anthropogenic forces converged during the four centuries of Scandinavian regional dominance to set this period apart from the preceding millennia. Scandinavian settlement locations, like those of the Mesolithic period, were most prevalent along the coastline where proximity to the ocean trade routes and exploitation of marine resources played a considerable role in the local economy. Much like the climate conditions of the Neolithic period, air and water temperatures reached a regional optimum providing the Scandinavians with better opportunities to exploit arable and experiment with new crops, while less storminess on the seas allowed for more deep-water fishing and favourable ocean travel.¹⁴⁵ Like the regional inhabitants during the late Neolithic and early Bronze Age, the Scandinavians imported and managed an increasing number of domestic animals. While enhancing their diet and providing both amenities and comfort to their daily lives, they also exacerbated pressure on the landscape that challenged sustainability. Just as many inhabitants of the late Bronze Age were likely displaced by deteriorating climate conditions, so too were many of the Scandinavian descendents eventually forced away from much of their conquered territory when centuries of anthropogenic impact met with natural evolving restrictions. By the end of Scandinavian occupation, however, their imprint on the physical landscape was solidified by their architectural preferences, new technologies, political alliances, and linguistic influence, remnants that remained in the region well after the authority of the Scottish-Gaels took hold.

¹⁴⁴ Ibid., pp. 362-364, 368-370.

¹⁴⁵ Alastair Dawson, *Foul and Fair A Day: A History of Scotland's Weather and Climate*, pp. 96-97.

By the tenth century, the Scandinavians were a seafaring civilisation with a political centre in the Northern Isles. Their watercraft, fishing technology, and navigational abilities were advanced beyond those of the native islanders.¹⁴⁶ The Scandinavians were also pragmatic and opportunistic when they settled the more fertile arable in the region along the coastal machair like The Udal on North Uist, Bornais and Drimore on South Uist, as well as Barvas, Bostadh, and Cnip on Lewis. These sites, all in the Outer Hebrides, or the *Innse Gall*, represent the bulk of the archaeological evidence currently available.¹⁴⁷ As their Gaelic name indicates, the Scandinavians differed from the original inhabitants of the region. They were outsiders who brought with them a dynamic culture, a legal infrastructure, social norms with regard to gender roles and stratification, a common heritage and language, as well as their own non-Christian belief system. These practices and perceptions were introduced (no doubt by force in many cases) into a region that did not have a cohesive cultural fabric with which to challenge them. By integrating themselves into a new environment where they were subject to existing environmental conditions, the Scandinavians had to adapt and borrow that which allowed them to continue practices with which they were accustomed, thereby diversifying their own experience over time. As a result, four centuries of Scandinavian descendents living in the *Innse Gall* evolved to be quite different from their ancestors.¹⁴⁸

Despite the elusiveness of Scandinavian sites outside of the *Innse Gall*, their influence infiltrated the entire region. Burial evidence suggests a community of Norse

¹⁴⁶ Because they were a sea-people, conquering, expanding, and inhabiting a water-world civilisation meant coastal settlements were a necessity for trade and communication.

¹⁴⁷ This term means the 'islands of the foreigners' and was used by external Gaelic-speakers to describe the islands where the Scandinavians controlled the economy. It is not what the people living there called it.

with even more substantial wealth and power than those identified in the Outer Hebrides settled the Isle of Eigg, while place-name evidence like Meabost, Kirkibost, and Scaladal have encouraged more recent excavations of Scandinavian farmsteads on Skye.¹⁴⁹ Although the Scandinavians made an obvious impression in the Scottish Insular *Gàidhealtachd*, their influence was more significant in the north where Scandinavian names of topography, including rivers and lochs, mountains and headlands, are still in place today.¹⁵⁰

In some cases, Scandinavian arrivals to the region chose to make their new homes where Iron Age and Pictish settlements already existed.¹⁵¹ Of the five clusters of buildings excavated at Bornais, Mound 2 was built over the remains of an Iron Age settlement, while the pre-Scandinavian sites of Dun Vulcan and Loch na Beirgh in Bhaltois, which were both inhabited for over a millennium, were abandoned rather than resettled by the

¹⁴⁸ This is a pattern that occurs in each of the satellite communities the Scandinavians settled whether in Iceland, Ireland or Greenland.

¹⁴⁹ For the extravagant burials on Eigg, see S. Grieg, 'Viking antiquities in Scotland,' *Viking antiquities in Great Britain and Ireland Part II* (Oslo, 1940), pp. 67-70. RCAHMS E.12.1.GRI; for the more recent finds on Skye, see M. Wildgoose, et al., *Glen Scaladal, Isle of Skye: A Survey of the Archaeological Landscape*, Report for the John Muir Trust (1998).

¹⁵⁰ Scandinavian place names are regionally ubiquitous. *Stadir, aetr, and bolstadr*, for example, indicate 'settlement.' The Proportion of Norse to Gaelic names varies from north to south, and from the Outer Hebrides to the Inner Hebrides. Out of 126 village names in Lewis, ninety-nine are Scandinavian (eighty percent); sixty-six percent on Skye; but only ten percent in Rhum, Eigg, Canna, and the other small Inner Hebrides. Although the presence of Scandinavian place names wane moving south, the more fertile islands of Coll and Tiree have a significant number. For an overview of Scandinavian place names in the region, see the Ordnance Survey, section written by Anke-Beate Stahl. URL: <http://www.ordnancesurvey.co.uk/oswebsite/freefun/didyouknow/placenames/scandinavianintro.html>

¹⁵¹ This was the case with Bostadh in Great Bernera, where a winter storm in 1993 removed the sand dunes to reveal the remains of several subterranean dry-stone homes overlain by a Norse rectangular structure and floor midden that included Norse steatite bowls, antler pins, and combs. T. Neighbour and J. Crawford, 'Bernera: Reconstructing a figure-of-eight house at Bostadh', *Current Archaeology*, 15 (7 September 2001), pp. 294-300. Also, see site record with Royal Commission at <http://canmore.rcahms.gov.uk/en/site/4130/details/lewis+great+bernera+bosta/> By contrast, the same storm system during the 1993/1994 winter exposed a Norse single-home settlement at Cille Pheadair, where excavations in 1996-1998 found *no* earlier habitations located beneath the home. See M. Brennan, M. Parker Pearson, and H. Smith, 'The Norse age settlement and Pictish cairn at Kilpheder, South Uist,

Scandinavians.¹⁵² Although the settlement pattern along the machair indicates some continuity due to the desirability of coastal sites, the abandonment of others, coupled with the introduction of new architectural styles at existing sites, represents a disruption to the native population in the process. In both cases, the Scandinavians primarily concerned themselves with fertile arable, access to existing resources, and strategic coastal positioning. Additionally, in both cases, there is no evidence that the native population remained in the *Innse Gall* in any great numbers.¹⁵³

Whether coastal settlements were continually inhabited by native islanders or evacuated by the Scandinavians is an issue of continued debate, but what is clear about these settlements, is the way in which the Scandinavians managed subsistence and increased the opportunity for expanding mixed economies. The conditions they enjoyed were due to a unique combination: the evolving climate of the so-called 'Medieval Warm Period' that provided longer seasons and larger harvests coupled with their traditional knowledge, maritime experience, and advanced technologies, resulted in greater resource exploitation.¹⁵⁴ Some of the most significant advancements during the period took place in marine exploitation. The combination of advanced watercraft and calmer seas allowed for deep-water fishing on a regular basis, which produced greater harvests

Excavations in 1998,' unpublished report, University of Sheffield Department of Prehistory and Archaeology (1998).

¹⁵² M. Pearson et al, 'Buildings A, B, and C East of the Broch ('the platform')' in Mike Parker Pearson, Niall Sharples, Jacqui Mulville, and Helen Smith (eds.), *Between Land and Sea: Excavations at Dun Vulan, South Uist* (Sheffield, 1999), p. 51. Armit, *The Archaeology of Skye and the Western Isles*, p. 202; M. Pearson et al, 'Buildings A, B, and C East of the Broch ('the platform')' in Mike Parker Pearson, Niall Sharples, Jacqui Mulville, and Helen Smith (eds.), *Between Land and Sea: Excavations at Dun Vulan, South Uist* (Sheffield, 1999), p. 48.

¹⁵³ Andrew Jennings and Arne Kruse, 'An Ethnic Enigma – Norse, Pict and Gael in the Western Isles,'

¹⁵⁴ Dawson, *Foul and Fair A Day: A History of Scotland's Weather and Climate*, pp. 96-97; Thomas Amorosi, Paul Buckland, Andrew Dugmore, Jon H. Ingimundarson, and Thomas H. McGovern, 'Raiding the Landscape: Human Impact in the Scandinavian North Atlantic,' in *Human Ecology*, 25:3 (1997), pp. 496-498.

of larger fish. This applied to gadids, such as cod and hake, which dominated the bone assemblages of earlier midden, but the intensification of fishing during the Scandinavian period also gave access to new deep-water species such as herring. In some locations, like Bostadh Beach and Bornais, herring dominated the midden.¹⁵⁵ In addition to fish, seal and whalebones were also present.¹⁵⁶

As well as sea-people, the Scandinavians were farmers, so intensified exploitation of the land must have come quite naturally. Their increased cultivation of oats and the dominant crop of hulled six-row barley was accompanied by new crops like rye and flax.¹⁵⁷ At Cille Pheadair, they cultivated oats, rye, and flax.¹⁵⁸ In addition to fish and grains, the Scandinavians relied heavily upon domestic animals for both meat and other by-products like wool and milk. Like the native inhabitants of the islands before them, the Scandinavians managed cattle, sheep, horse, dog, and some pig, but they also intensified these practices. New species, including the cat and goat, appear in the region for the first time during this period.¹⁵⁹ Cats may have been a domestic pet at The Udal, where they

¹⁵⁵ Ceron-Carrasco, *'Of Fish and Men'*, pp. 54 and 62; N. Sharples (ed.) *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist* (Oxford, 2005), p. 75. Ingrem notes a lack of young herring in the bone assemblages, which may be indicative of the use of mesh nets allowing the smaller fish to escape. See C. Ingrem, et al., 'Resource exploitation,' in N. Sharples (ed.), *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, p. 157. While Sharples suggests sedge roots found in the midden may have provided the material for fishing nets, the Norse undoubtedly utilised longer lines and hooks, with limpets and winkles as bait, an inference made by the substantial amount of shells present in the midden. N. Sharples, *A Norse Farmstead*, p. 40; Ingrem, 'Resource exploitation,' p. 159.

¹⁵⁶ Ingrem notes their burnt and butchered bones may indicate blubber and oil processing, while the smaller bones may represent the slaughter of seal pups. See Ingrem, 'Resource exploitation,' p. 159.

¹⁵⁷ Camilla Dickson and James Dickson, *Plants & People in Ancient Scotland*, p. 172.

¹⁵⁸ N. Sharples, *A Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, p. 189. At Bornais, a corn-drying kiln was located in an outbuilding, indicative of new traditional knowledge and technology in the region, but it may date to the later period when an increase in precipitation called for the drying of grains. *Ibid.*, p. 94.

¹⁵⁹ Berry suggests the introduction of cats by the Vikings is not only determined through the carbon dating of bones, but evidenced by their genetic relationship to those of Orkney and Shetland. R. J. Berry, 'The Outer Hebrides: where genes and geography meet', *Proceedings of the Royal Society of Edinburgh*, 77B (1979), pp. 21-43.

were undoubtedly less of a burden on the environment, while goats appear in large quantities in Bornais, which have had a significant impact on deteriorating grazing conditions over time.¹⁶⁰ At Machrins on Colonsay, burial evidence indicates the inhabitants kept domestic dogs resembling the Welsh Corgi, and may have employed them as cattle dogs.¹⁶¹ The introduction of new species was not limited to domestic animals, however. Genetic studies of voles and field mice suggests they were transported from other Scandinavian settlements in the North Atlantic as stowaways.¹⁶² Undoubtedly, the trade routes and political connections made throughout the Scandinavian period may have determined the genetic makeup of the region's mice and vole populations.

As Scandinavians found new economic opportunities under optimum climate conditions, they were unaware they would not last. While they increased the stock numbers of domestic animals, they also integrated new dairying and culling practices.¹⁶³ These practices may have been traditional to the Scandinavians, and they obviously

¹⁶⁰ D. Serjeantson, 'The Introduction of Mammals to the Outer Hebrides and the Role of Boats in Stock Management,' p. 8; N. Sharples, *A Norse Farmstead*, p. 74.

¹⁶¹ Camilla Dickson and James Dickson, *Plants & People in Ancient Scotland*, p. 174.

¹⁶² Berry, pp. 21-43. Also, see R. J. Berry, 'History in the evolution of *Aodemus sylvaticus* at one edge of its range,' in *Journal of Zoology*, 159 (London, 1969), pp. 311-328; His findings conclude that there were not similarities between those voles and field mice found in the Hebrides with those of Shetland; instead, those of the Hebrides were genetically closer to species from Norway and Northern Ireland than that of the Scottish coastal regions of Loch Sunart or Applecross, p. 322. But most intriguing were his findings that, of all the species found in the islands, those on Eigg were closest to the Norwegian species than any other in the Western Islands and Highlands. This may be because of the political power centre the Scandinavians created there. Berry, 'The Outer Hebrides: where genes and geography meet', p. 25. Of special consideration was his studies of the species on Eigg, whose genetic connection was closer to those of North Uist than species found in Lewis or South Uist.

¹⁶³ Large numbers of neonatal or first-year cattle bones identified in the midden at Bornais, may be evidence for the importance of cow's milk in the Norse diet. H. Smith and J. Mulville, 'Resource Management in the Outer Hebrides: an Assessment of the faunal and floral evidence from archaeological investigations,' in R. A. Hously and G. Coles (eds.), *Atlantic Connections and Adaptations: Economies, Environments and Subsistence in Lands Bordering the North Atlantic, Symposia of the Association for Environmental History*, No. 21 (Oxford, 2004), p. 59. Although limitations of fodder may have been of previous concern to inhabitants in the region, this does not appear to be the case during the Norse period. While cattle were often culled at an early age, sheep were kept alive longer, perhaps for their wool rather

reflect a departure from earlier practices in the region, but they also increased environmental pressure through the need for more pasture, circumstances that were initially not an issue, but became more of a concern by the end of the thirteenth century. During the centuries that followed, the 'Little Ice Age' brought with it climatic cooling that reversed conditions in the North Atlantic and caused an abrupt transition.¹⁶⁴ While Scandinavian colonies further north and west, including Greenland and Iceland, experienced these changes before the Scottish Insular *Gàidhealtachd*, the interruption to trade and political authority throughout the region had a significant impact on the stability of this water-world culture.¹⁶⁵ The Scandinavians exhibited pragmatism in their settlement choices and opportunism in their resource management, but inevitably their practices were not sustainable and their fate was determined by climate.

Transition and Tipping Point between the eleventh and sixteenth centuries

Over a period of nearly nine millennia, the landscape of the water-world environment in the Scottish Insular *Gàidhealtachd* was continually re-sculpted by several phases of climate change. When climate determinism was absolute, human inhabitants vacated the region or resiliently adapted to natural change by altering their practices and perceptions according to resource availability, weather conditions, and seasonal rotations. However, the continual immigration and then innovation of a wide variety of people also contributed to the permanent re-design of the landscape. Through their own fortitude,

than for dairying purposes or meat. J. Mulville, 'Animals,' in N. Sharples (ed.), *Norse Farmstead in the Outer Hebrides: Excavations at Mound 3, Bornais, South Uist*, pp. 190-192.

¹⁶⁴ S. R. O'Brien, P. A. Mayewski, L. D. Meeker, D. A. Meese, M. S. Twickler, and S. I. Whitlow, 'Complexity of Holocene climate as reconstructed from a Greenland ice core,' in *Science*, 270 (1995), pp. 1962-1964.

¹⁶⁵ Thomas Amorosi, et al, 'Raiding the Landscape: Human Impact in the Scandinavian North Atlantic,' pp. 496-498.

ingenuity, and imagination, humans left behind the physical manifestations of their continually evolving culture, but they did so by often wreaking havoc on natural resources in order to expand their socio-economic, political, and religious infrastructures. This combination of natural and anthropogenic environmental impact left the landscape of the eleventh century vastly different from the time when the first hunter-gatherers travelled the coastlines of a pristine and complex ecosystem not yet altered by humans. The next stage of development, between the eleventh and sixteenth centuries, escalated the process of change, and put pressure on the Hebrideans who were, by the end of the period, faced with political, economic, and climatic obstacles that challenged their traditional way of life.

To establish the environmental practices and perceptions of the Hebrideans from the end of Scandinavian hegemony, through the rise and fall of the Lordship of the Isles, to the eve of seventeenth century royal and commercial expansion, it is helpful to consider three influential factors.¹⁶⁶ Firstly, the combination of internal and external political theatre, including the turbulent waning of Scandinavian authority, the subsequent power vacuum, and the threat of a burgeoning Scottish Crown in the eastern Lowlands, stimulated the construction of more advanced boats for water-based warfare,

¹⁶⁶ There are difficulties that arise when exploring the environmental history of this period as it has not received the same level of attention given either prehistory or the 'clearances' that follow it. Both historical and archaeological studies focus on the ruling elite. See W. D. H. Sellar, 'Hebridean Sea Kings: The Successors of Somerled, 1164-1316, in *Alba: Celtic Scotland in the Medieval Era* (East Lothian, 2000) and K.A. Steer and J.W.M. Bannerman, *Late Medieval Monumental Sculpture in the West Highlands* (Edinburgh, 1977). There are, however, some approaches that assist in our understanding of resource management and the nature of daily life. These include the pre-Clearance survey by the Royal Commission on the Archaeological and Historic Monuments of Scotland in Skye: RCAHMS (1993). Also, Roger Miket has explored material culture in Skye and Lochalsh, Sheffield University has looked at pre-Clearance sites on South Uist and Barra, while Ian Armit's Loch Olabhat Research Project in North Uist has provided dwelling and subsistence evidence. These studies are utilised here and referenced in the 'Seasonal Cycles on the Eve of Invasion' section of this chapter.

and encouraged the building of coastal monuments with protected beach landings to patrol the waterways. Secondly, internal political actors from Somerled onward, rose to either challenge external threats or take advantage of the internal power vacuum. Although they eventually did create some sense of cultural continuity and stability, they *did not* offer sustainable economic policies.¹⁶⁷ And finally, the escalation of competition over territory and resources took place against the backdrop of a deteriorating climate. Although the repercussions of increased environmental pressure and over-exploitation of resources did not result in mass emigration until the end of the eighteenth century, this period saw the escalation of human and natural activities that led to a tipping point from which there was no return.

By the eleventh century, Scandinavian presence had already contributed to a significant population displacement in the Outer Hebrides, a shift in regional settlement patterns, the introduction of rectangular dwellings, the use of corn-drying kilns, new ceramic designs, and a substantial increase in the exploitation of marine resources resulting from advancements in fishing technology.¹⁶⁸ The region was at the centre of a dynamic sea-based community that stretched from the Northern Isles in the east, to Ireland in the west, encompassing the northernmost territories of the mainland, the Outer Hebrides, many of the Inner Hebrides, and the Isle of Man. As a result, sea faring had infiltrated the identities and economic strategies of the Hebrideans, while an inherited superior watercraft technology enhanced marine exploitation and utilised the

¹⁶⁷ For a discussion on political continuity, see W.D. H. Sellar, 'Hebridean Sea Kings: The Successors of Somerled, 1164-1316, in *Alba: Celtic Scotland in the Medieval Era* (East Lothian, 2000), pp. 189-191.

¹⁶⁸ Andrew Jennings and Arne Kruse, 'An Ethnic Enigma – Norse, Pict and Gael in the Western Isles,' in *Viking and Norse in the North Atlantic* (Tórshavn, 2005), pp. 284-296. Armit, *The Archaeology of Skye and the Western Isles*, pp. 186-204.

sea as a connecting force, rather than one that separated the region from the rest of the North Atlantic. Following the demise of Scandinavian political power, Hebridean boat technology continued to evolve and support an increasing level of water-based warfare. Not only did Scandinavian place-names survive the regional 're-Gaelicisation' process that got underway in the fourteenth century, but the Hebrideans further cultivated their inherited 'sea-king' status by dominating the regional waterways.¹⁶⁹ Therefore, the most enduring Scandinavian legacy to influence the practices and perceptions of the region's inhabitants may have been their watercraft.

From prehistory to the eleventh century, boats made from local resources were a regional necessity. As early as the Bronze Age, men in dugouts from mainland logs were navigating the lochs, rivers, and estuaries of southern and central Scotland.¹⁷⁰ In and around the islands, however, travel upon the open sea demanded something more versatile and capable of evolving with the demands that cultural development required. Initially, all that was necessary for basic transport between the islands was skeletal

¹⁶⁹ For place-name endurance, see Jennings and Kruse, 'An Ethnic Enigma – Norse, Pict and Gael in the Western Isles,' pp. 284-285. Although political and military activity dominated the period between the eleventh and sixteenth centuries, religious influences disseminating from two distinct directions manifested themselves in the landscape as well. The death and martyrdom of St. Olaf, King of Norway, in 1030, initiated the spread of Christianity throughout the North Atlantic, which in turn resulted in the building of churches Outer Hebrides and Skye. See Thelma Jaxlev, 'The cult of saint in early medieval Scandinavia,' in Barbara E. Crawford, *St. Magnus Cathedral and Orkney's Twelfth-Century Renaissance*, (Aberdeen, 1988), pp. 183-191. St. Olaf's influence was so substantial that Alexander II dreamt of him along with St. Columba and St. Magnus on the eve of his invasion into the region. See RCAHMS (1982), Nos. 143-144. In an ironic twist of fate, Alexander II ignored the ominous portents, failed to incorporate the islands into his fold, and died on the Isle of Kerrera of a fever before returning home. Additionally, by the thirteenth century, the process of re-Gaelicisation meant the spiritual arm of Iona initiated church buildings that were not simply utilised for religious practices, but centres of educational learning. On Skye, the early Christian church of Cille Mhairi sits on the Iron Age Atlantic roundhouse of Dun Ringill. Refortified with lime-mortar walls and used as a residence for the chief of Clan MacKinnon, it was previously a place of worship and education. See Ralston and Armit, 'The Early Historic Period: An Archaeological Perspective,' p. 219. Also, Birch, *Strathaird, Torrin and Sconser: An Overview of the Archaeology of the John Muir Trust Estates on Skye*, section 4.23.

frames made from whalebone or flexible saplings with covers of sealskin, stitching of sinew, and waterproofing of animal fat or fish oil.¹⁷¹ When Colum Cille made his voyage to Iona in the sixth century, his crew fashioned a longue nave constructed of dressed oak and hewn pine powered by oars and sails.¹⁷² Centuries later, on the eve of the Viking invasion, the Scotti were relegated to wooden single-plank boats with benches seating fourteen men in order to fulfil their service to the kings of Dál Riada.¹⁷³ By the end of the eighth century, the invading Vikings arrived in ships carrying up to forty men, with overlapping planks (clinkers) for strength, and narrow hulls for speed and accuracy, a superior design that supported their aggressive and successful North Atlantic expansion.¹⁷⁴ From those Viking ships evolved the Hebridean galleys.

¹⁷⁰ Robert J. C. Mowat, *The Logboats of Scotland* (Oxford, 1996); 'Log boat from Tay estuary dated to the later Bronze Age,' in *Archaeology*, Vol. 62, News Section (February, 2002); also, E. W. Mackie, 'A late single-piece dug-out canoe from Loch Doon, Ayrshire,' in *The Scottish Archaeological Journal*, Vol. 11 (1984).

¹⁷¹ For a full description of construction, see Robert Van de Noort, *North Sea Archaeologies: A Maritime Biography 10,000 BC – AD 1500*, (Oxford, 2011), pp. 149-152.

¹⁷² Adomnan of Iona, *Life of St Columba* (London, 2005), Chapter XLVI.

¹⁷³ M. R. Niekke, 'Secular society from the Iron Age to Dal Riáta and the kingdom of the Scots,' in D. Omand (ed.), *The Argyll Book* (Edinburgh, 2004), pp. 60-62. This provides details of the *Senchus Fer n-Alban* (The History of the Men of Scotland) and states that, for every twenty of the 1410 total households in Dal Riáta, two seven-benched boats were required to provide service to the king when needed.

¹⁷⁴ A. E. Christensen, 'Proto-Viking, Viking and Norse Craft,' in Robert Gardiner (ed.), *The Earliest Ships*, (London, 1996), pp. 72-88. Also, A. W. Brøgger and H. Shetelig, *The Viking Ships: Their Ancestry and Evolution* (London, 1951) and A. Woolf, 'The Age of the Sea-Kings,' in D. Omand (ed.), *The Argyll Book* (Edinburgh, 2004), pp. 94-109. That their watercraft was integral to Scandinavians identity is best exemplified by the plethora of boat-shaped stone settings and boat-burials scattered throughout the islands. See James Graham-Campbell and Colleen E. Batey, *Vikings in Scotland: An Archaeological Survey* (Edinburgh, 2005), p. 118. Also, Keith Branigan and Patrick Foster note many boat-shaped sites located throughout the landscape but not yet dated, *From Barra to Berneray: Archaeological Survey and Excavation in the Southern Isles of the Outer Hebrides* (Sheffield, 2000), p. 60. For an example of a thoroughly excavated site in the Northern Isles, see O. Owen and M. Dalland, *Scar: A Viking Boat Burial on Sanday, Orkney* (East Linton, 1999). For other Viking burials, see Jennings and Kruse, 'An Ethnic Enigma – Norse, Pict and Gael in the Western Isles,' pp. 290-291.

Between the thirteenth and fourteenth centuries, galleys became the means for controlling the region.¹⁷⁵ The sea-based community of the Scottish Insular *Gàidhealtachd* relied on evolving maritime trade within a common economic network, and as Scandinavian power waned, it was on the sea that the battle for political authority and economic stability was fought.¹⁷⁶ Up to the Treaty of Perth, there was turbulent and continual competition for power between Gaelic-Scandinavian elite ‘kings’ from Ireland, Earls of Orkney, Manx rulers, and Hiberno-Scandinavian chieftains.¹⁷⁷ Invasions, battles, and assassinations, resulted in sporadic rule by alternating entities over parts of Ireland, the Isle of Man, and the Hebrides.¹⁷⁸ Although the fleeting success of one group was continually hampered by the temporary achievements of the others, there were also the external threats of the invading Anglo-Norman forces and burgeoning Scottish Crown which both periodically carried out some form of territorial partitioning.¹⁷⁹ That neither the Scots nor the Scandinavians truly controlled these territories at the time of the Treaty

¹⁷⁵ See, for example, charters issued during the reign of David II requiring ships of twenty and twenty-six oars be commissioned to the region. Bruce Webster (ed.), *Regesta Regum Scottorum VI, The Acts of David II*, #486 and #487 (Edinburgh, 1982), p. 506-507.

¹⁷⁶ Barbara E. Crawford, *Scandinavian Scotland: Studies in the Early History of Britain* (Leicester, 1993), pp. 1-2, 25, 191-192. Scandinavian political hegemony, legitimised by Edgar, King of Scots, in 1098, and technically maintained to the Battle of Largs in 1263, formally ended in 1266 when the Scottish Crown paid 4000 merks in the Treaty of Perth. See A. A. M. Duncan, *Scotland: The Making of the Kingdom* (Edinburgh, 1975), pp. 579-84; Sellar, ‘Hebridean Sea Kings: The Successors of Somerled, 1164-1316,’ p. 205. However, *territorial ownership* did not translate into *territorial control*, meaning both treaties were a formality rather than a reality.

¹⁷⁷ For an overview of the conflicts between regional forces, see R. Andrew McDonald, *The Kingdom of The Isles: Scotland’s Western Seaboard c. 1100-c.1336* (East Lothian, 1997), pp. 30-38.

¹⁷⁸ W. D. H. Sellar, ‘The Western Isles c800-1095,’ in P. McNeill and R. Nicholson (eds.), *An Historical Atlas of Scotland, c400-c1600* (St. Andrews, 1975), p. 23.

¹⁷⁹ McDonald, *The Kingdom of The Isles*, p. 32. By 1098, amidst political instability, Magnus, the King of Norway, embarked on a destructive expedition through the Isles, Man, and Wales, that resulted in his formal appropriation of the entire region. Duncan, *Scotland: The Making of the Kingdom*, p. 127.

of Perth meant even greater levels of resistance from within.¹⁸⁰ And from within the diversity of the region evolved the *Gall-Gaidhel*, a Gaelic-Scandinavian hybrid of kinsmen led by Somerled MacGillebrigte to compete with the Norwegian and Scottish Crowns for territories once held by Dál Riada.¹⁸¹ As the new *Ri Innse Gall*, he managed to rally the Hebrideans for several decades until his death in 1164, during which time they acquired a great deal of territory, including the prized Isle of Mann.¹⁸² The inhabitants of the water-world in the Scottish Insular *Gàidhealtachd* that followed Somerled and his kinsmen were not only a formidable challenge to Scandinavian and Scottish authority, but used their prowess on the water, an intimate knowledge of their island environment, and a renewed cultural connection to Ireland to fight on the sea. Long before James IV's acts of parliament initiated aggressive tree-felling and shipbuilding projects to build up the Scottish navy, Somerled invaded the Isle of Man with fifty-three ships.¹⁸³ This sea

¹⁸⁰ A. A. M. Duncan and A. L. Brown, 'Argyll and the Isles in the earlier Middle Ages,' *Proceedings of the Society of Antiquaries of Scotland*, 40 (1956-7), pp. 193-194. Furthering the demise of Norwegian authority was the civil war in Norway that followed Magnus' death in 1103 and a series of tyrannical or ineffective Irish and Manx kings, all of which provided the 'perfect storm' for a power vacuum that encouraged competition and enhanced political chaos. *Ibid.*; also McDonald, *The Kingdom of The Isles*, p. 37 and 39.

¹⁸¹ For an overview of Somerled and a discussion regarding historiography, see McDonald, *The Kingdom of The Isles*, pp. 40-67. Also, Donald Gregory, *History of the Western Highlands and Isles of Scotland* (Edinburgh, 1975), pp. 9-16. For Somerled's genealogy, see Hugh MacDonald, *The History of Clan Donald* (Toronto, 1904), pp. 179-183. Also, Jean Munro and R. W. Munro, *Acts of the Lords of the Isles: 1336-1493* (Edinburgh, 1986), pp. ix-xx. Of mixed ethnic descent, his wife the daughter of the Manx King Olaf, and his sister married to Malcolm MacHeth (a member of the Scottish ruling elite), Somerled quite thoroughly personified the diversity of the region. McDonald notes that, though MacHeth's pedigree is uncertain, his being imprisoned by David I rather than being executed may be indicative of his royal descent, *The Kingdom of the Isles*, pp. 45-46. He held a pivotal position between the Irish, Manx, Scandinavians, English, and Scottish kings and an obvious dynamism when it came to organising and carrying out naval campaigns. Sellar, 'Hebridean Sea Kings: The Successors of Somerled, 1164-1316,' p. 193.

¹⁸² McDonald, *The Kingdom of the Isles*, pp. 54-67. *Ri Innse Gall* translates as 'King of the Isles,' but should not be equated directly to 'Lords of the Isles.'

¹⁸³ McDonald, *The Lords of the Isles*, pp. 56-58. Two centuries later, the *Lords of the Isles* at Finlaggan on Islay dominated the region through the service of their kinsmen in sailing galleys, each named for its Gaelic owner, yet still reminiscent of Scandinavian design. I. F. Grant, *Social and Economic Development of Scotland before 1603* (London, 1930), pp. 363-365. The Acts of 1493 and 1503 indicate the forests of Darnaway and Urquhart in Ross-shire were felled for the purpose of constructing ships, sloops and barques, including the *Great St. Michael* which carried a crew of 1000 men, as well as cannons, small artillery,

rebellion created momentum for a regional stronghold that continued in some form or another into the sixteenth century.

The initial congregation under Somerled served as a unifying force against common enemies and the fifty years following his death were void of external intervention due to the individual circumstances facing Norway and Scotland. However, the century that followed this relative calm was rather chaotic.¹⁸⁴ Relationships were competitive, alliances were tentative, and allegiances were often fleeting.¹⁸⁵ For nearly a century, heavy competition between kin groups for control over territory and resources continued, as did several brief alliances between these kin groups, the Scottish Crown, and the English, all of which resulted in further territorial acquisitions and the emergence of a Clan Donald domination as the *Lords of the Isles*.¹⁸⁶

hagbuts, and culverins. See also *Exchequer Ross*, Vol. XIII, pp. clxxvii, clxxviii. In addition to the archaeological finding of boat remnants excavated on the Isle of Eigg in the late nineteenth century, evidence of these galleys appear on nearly one hundred island burial monuments. Many mark the resting place of clan chieftains, like that of Alexander Macleod at Rodel in Harris, while others belong to anonymous seamen, like that at the Pennygown Chapel on Mull. Norman MacPherson, 'Notes on the antiquities from the Island of Eigg', *Proceedings of the Society of Antiquaries Scotland*, Vol. 12, (1878), 589-592, 594-595, also Fig. 12 and 13. For grave monuments see K. A. Steer and J. W. M. Bannerman, *Late Medieval Monumental Sculpture in the West Highlands* (Edinburgh, 1977), pp. 80-84, and Denis Rixon, *The West Highland Galley* (Edinburgh, 1998), pp. 200-202. Also, N. Fojut, D. Pringle, and B. Walker, *The Ancient Monuments of the Western Isles: A Visitor's Guide to the Principal Historic Sites and Monuments* (Edinburgh, 1994), pp. 52-53. The immortalisation of water vessels with the dead, a Scandinavian cultural trait, highlights their importance in the cultivation of Hebridean identity, but also enforces their role in sustaining regional stability and authority.

¹⁸⁴ *Ibid.*, pp. 68-69.

¹⁸⁵ For example, leading up to the Treaty of Perth, Angus Mor MacDonald sided with the Norwegian King Hakon IV at the Battle of Largs, then did an about-face and pledged allegiance to Alexander III of Scotland in order to maintain his territory. McDonald, *The Kingdom of the Isles*, pp. 93-102, 120-126. See also R.D. Oram (ed.), *The Reign of Alexander II, 1214-49* (Leiden, 2005).

¹⁸⁶ Munro and Munro, *Acts of the Lords of the Isles: 1336-1493*, pp. xxi-xxv. McDonald, *The Kingdom of the Isles*, pp. 160-166. To solidify his authority, John of Islay, another pivotal individual and the obvious victor in the clan rivalries, declared himself the first 'Lord of the Isles' in a 1354 letter to King Edward III. Munro and Munro, *Acts of the Lords of the Isles: 1336-1493*, p. 3. For an overview, see Richard Oram, 'The Lordship of the Isles: 1336-1545' in Donald Omand (ed.), *The Argyll Book* (Edinburgh, 2004), pp. 123-139. Like Somerled, he proved himself a capable negotiator and formidable third party. With two centuries between them, John of Islay, once again established local territorial control between two feuding giants, this time the Scottish and English crowns. Later 'Lords', including Donald and Alexander, were not so diplomatic,

Galleys were undoubtedly fundamental in water warfare that usurped power, and they continued as a means of surveillance on the waterways. But they were not alone, nor were they the only cultural symbol the Hebrideans created to demonstrate their 'sea-king' status. The need for waterway surveillance was so important that it prompted the construction of a substantial number of coastal structures just prior to, and during, the hegemony of the *Lords of the Isles*. Their purpose was completely overlooked by Dr. Samuel Johnson, who travelled to the region in the eighteenth century and remarked

The castles of the Hebrides, many of which are standing, and many ruined, were always built upon points of land on the margin of the sea. For the choice of this situation there must have been some general reason, which the change of manners has left in obscurity.¹⁸⁷

Representing wealth, authority, and territorial control, castles in the Hebrides were reminiscent of Iron Age roundhouses in that neither were defensive structures like their European counterparts. Instead, castles including Aros, Duart, Dunstaffnage, Brochel, Mingarry, and Ardtornish were observation points for monitoring transport links and fishing grounds, and they were command posts from which warnings of any threat were relayed to their galleys.¹⁸⁸ Often associated with protective beach landings and physically daunting, castles were strategically located symbols of power that postured from land

choosing instead to outwardly compete with the Scottish Crown in an attempt to enlarge mainland holdings into Ross and Inverness, regardless of hesitance demonstrated by other kin groups. After a defeat at Lochaber in 1429, which highlighted internal splintering between Clan Donald and the Camerons, Alexander refused to back down to the Crown. By defeating James I at the Battle of Inverlochy in 1431, the Lordship of the Isles effectively controlled not only the Hebrides and the majority of the western coastline, but Ross, a possession that prompted Alexander's temporary use of the title, 'earl of Ross.'

¹⁸⁷ This quote is from R. W. Chapman, *Selections from Samuel Johnson* (Oxford, 1924), p. 139.

¹⁸⁸ McDonald, *The Lords of the Isles*, pp. 144-146, 240, 249. I. F. Grant, *The Lordship of the Isles: Wanderings in the Lost Lordship* (Edinburgh, 1935), pp. 218, 226, 313. Richard Sharpe, *Rasaay: A Study in Island History* (London, 1982), p. 35.

and served as points for embarkation rather than positions of defence.¹⁸⁹ It is likely that embarkation was not simply for military purposes, but also for the policing of fishing grounds.¹⁹⁰ Like the Iron Age structures that preceded them, these elite dwellings were integral to the relationship the lords had to their lands. They functioned as seats of power, but they also required a great amount of local resources, which further stratified the population by producing an increasingly hierarchical society with unequal access to wealth.¹⁹¹ The amount of quarrying and logging, coupled with the labour to build and maintain them, highlights the emergence of an unequal kin-based power structure organised around wealth and ownership that elevated status far beyond that of any society preceding it. In conjunction with galleys, castles therefore represent symbols of economic power as much as political and military authority.

Sea-prowess, galleys and castles gained even more importance in the Scottish Insular *Gàidhealtachd* following the forfeiture of the Lordship in 1493.¹⁹² Because of the many clan risings for independence that followed the forfeiture of the Lordship in 1493, the Hebrideans fell increasingly under the gaze of the Scottish Crown. James IV called into question the power of the Hebridean ‘sea-kings’ during his expeditions to

¹⁸⁹ John MacCulloch, *The Highlands and Western Isles of Scotland*, Vol. 2 (London, 1824), pp. 159-160.

¹⁹⁰ For evidence of a very similar practice in Ireland during the period, see C. Breen, ‘The Maritime Cultural Landscape in Medieval Gaelic Ireland,’ in P. Duffy, D. Edwards and E. Fitzpatrick (eds) *Gaelic Ireland: Land, Lordship, and Settlement, c 1250- c 1650* (Dublin: 2001), pp. 420-431.

¹⁹¹ Armit, *The Archaeology of Skye and the Western Isles*, p. 221.

¹⁹² In the cycle of civilisations, however, that which rises must fall; some just fall sooner than others. Alexander’s relocation to exercise his exploitative rights over mainland holdings near Inverness was probably the first in a series of bad decisions that rotated the Lordship of the Isles to the falling position. When his son, John MacDonald II, attempted to extend territorial holdings in Northern Scotland by entering a feudal relationship with the English Crown, the tentative nature of power tipped out of the Lordships’ favour entirely. Internal frustration with decisions made by John MacDonald II caused regional feuds among the kin groups and, when the English failed to honour the terms of the Treaty of Westminster-Ardtornish, James III annexed much of the region, John MacDonald II lost his status and title, and the Lordship of the Isles ceased to have significant authority. .

Dunstaffnage in 1493 and Ardnamurchan in 1495. Realising the threat they posed to his dominion over the western seaboard, he then outwardly challenged them by flexing his newfound naval muscle and attacking Cairn na Burgh Castle, Treshnish Isles, in 1504.¹⁹³ Though his attention shifted elsewhere before he died at Flodden in 1513, the remainder of the sixteenth century saw internal strife, especially between the Campbells and the Macdonalds. Then, in 1540, James V embarked on a royal survey of the area to demonstrate his interest in what he considered 'feudal holdings'.¹⁹⁴ The Hebrideans were not just monitoring their waterways to deflect political interests. They were also coming under new economic threat. In addition to the Scottish Crown, Lowland, French, Flemish and English fishermen were exploiting the waters around 'Lochbrounde, Rosse,' in 1596.¹⁹⁵ Foreign merchants often complained to the Privy Council about lost ships or cargos in the Minch.¹⁹⁶ By the end of the sixteenth century, complaints about failed attempts to fish in the region and a clear desire for the Scottish Crown to do something about the Hebrideans were ubiquitous.¹⁹⁷ Yet, for the inhabitants of the region, the

¹⁹³ Norman Macdougall, *James IV* (Edinburgh, 1989), pp. 233-246.

¹⁹⁴ Between Somerled and these early attempts to survey, incorporate and assimilate territorial holdings into the fold of the Scottish Kingdom, the relative stability of the period did insure that common Hebrideans experienced a continuance of their cultural renaissance. McDonald argues that, despite the dearth of literary evidence, the monumental architecture of the period indicates this renaissance started well before the Lordship, *The Lordship of the Isles*, pp. 234-251.

¹⁹⁵ J. Dalrymple, F. Cody, and W. Murison, *Historie of Scotland by Bishop John Lesley, 1596*, Vol. 1, Scottish Text Society (Edinburgh, 1888-1895), p. 40.

¹⁹⁶ For the complaint of Abel Dynneis whose ship was confiscated in 1612 by the MacNeils of Barra, see I. Hill Burton et al (eds.), *Register of the Privy Council of Scotland*, Vol. 9, HMRO (Edinburgh, 1877-1932), p. 318. For the 1512 conflict between Clan Ragnail and Spanish merchants near the Uists, see T. Dickson et al (eds.), *Accounts of the Lord High Treasurer of Scotland*, Vol. 4, HMRO (Edinburgh, 1877-1977), pp. 297 and 341.

¹⁹⁷ *RPCS*, Vol. 2, pp. 382-383, 534; Vol. 3, p. 125; Vol. 4, pp. 121-122, 303; Vol. 8, pp. 66-68, 740-741, 742-743; Vol. 11, pp. 169-170; Vol. 13, p. 37.

waterways were as rightfully theirs as the land around them. Therefore, exploitation by others meant compensation with money or ale.¹⁹⁸

Under political and economic pressure, many chieftains, concerned with self-preservation in the form of self-interest, caved to foreign interests. The folding of some clan leaders to royal authority, due in part to internal competition, meant monetary bribery or the promise of potential opportunity elsewhere. This decreased their need to posture on the water. It is significant, therefore, that grave images by the late sixteenth century no longer depict galleys. Once territories were incorporated into Scottish royal holdings, celebration of the watercraft as a cultural icon stagnated until the fishermen of later centuries found a new rationale for honouring the boat with the dead. Therefore, political influences manifested themselves in both human behaviour and the landscape, but at the heart of many common practices and perceptions was the economy.

The Hebrideans on the eve of the Sixteenth Century

On the eve of the sixteenth century, the patrilineal kinship-based tribal order was slowly being subjected to the feudal demands of the Crown.¹⁹⁹ Like feudal lords, clan chiefs originally provided land and military protections in return for goods-in-kind from their kinsmen.²⁰⁰ As their power and status became reliant on alliances with the Scottish Crown, the responsibility of fighting for the Crown fell to an escalating number of kinsmen, and the responsibility of collecting rent fell to *daoine uaisle* or *tacksmen*, both of

¹⁹⁸ 'Report by Lord Lorn and the Bishop of the Isles, 1634,' in *Colkaanea de Rebus Albankis*, Iona Club (Einburgh, 1839), pp. 108-110.

¹⁹⁹ T. C. Smout, *History of the Scottish People 1560-1830* (London, 1969), pp. 312-320.

²⁰⁰ T. M. Devine, *Clanship to Crofters' War: The social transformation of the Scottish Highlands* (Manchester, 1994), pp. 6-7.

whose local power also increased.²⁰¹ The machines at the heart of the entire system were the common Hebrideans who exploited local resources to pay their rents in support of their fighting men and clan chiefs. The ability to control resources and ensure subsistence, therefore, fortified the clans against a common enemy and often pitted them against one another in competition for arable, grazing, and waterways. Unlike *Ketakamigwa* where resources were abundant and populations relatively low, the Scottish Insular *Gàidhealtachd* was home to subsistence level resources and a growing population whose contacts and interests were becoming more varied and demanding. Competition over resources was nurturing social stratification within the clans.

The process of social stratification exacerbated regional vulnerability as oppressive and unsustainable economic policies demanded surplus within the context of a limited resource base so that the elite could maintain their lifestyles, military exploits, and expanding international interests. Trade relations with the Lowlands did mean that in difficult years, bacon, bread, and ale might find its way into the islands, but the trade deficit was obvious. In return, the staples of the Hebridean economy were sent away: Cattle, herring, skins, and timber.²⁰² While watercraft served as a way for kinsmen to fulfil their service to their chief, the elevated levels of warfare demanded more timber. The building of coastal castles demanded timber, stone, mortar, and recycled metals. As populations grew, the need for more arable demanded a greater supply of seaweed, which meant substantially more labour-intensiveness in daily life. As clan leaders succumbed to external interests, forfeited their authority to the Scottish Crown, and

²⁰¹ Ian D. Whyte, *Scotland Before the Industrial Revolution: An Economic & Social History c.1050 – c.1750*, (New York, 1995), pp. 254-255.

²⁰² I. F. Grant, *Social and Economic Development of Scotland before 1603* (London, 1930), p. 545.

became feudal vassals themselves, their dependence on a monetary system based on metal currency meant their policies became oppressive.

Black cattle were the easiest means of acquiring currency to pay lowland rents. More pastures were required to elevate cattle populations regardless of the deteriorating quality of stock.²⁰³ The irony was that this increasing population of people and animals pushing cultivation and grazing further into the hillfoots were met with a changing climate that made higher elevations less productive. Though evidence for the decay of clan society becomes more obvious by the seventeenth century, it is probable that common Hebrideans living under oppressive economic policies during the sixteenth century felt the burden of changing circumstances that produced an uneven distribution of wealth. Under optimum climate conditions, a subsistence-based economy within the clan system might have worked, but by the end of the sixteenth century, this was not the case.

The Scandinavians proved that oppressive economic policies could thrive under optimum climate conditions. But that climate optimum, or so-called 'Medieval Warm Period' that was responsible for much of Scandinavian success in the North Atlantic, gradually gave way to a new stage of climate deterioration that culminated in the 'Little Ice Age' between the fifteenth and nineteenth centuries.²⁰⁴ Progressively worsening

²⁰³ Whyte, *Scotland Before the Industrial Revolution*, p. 261.

²⁰⁴ Michael E. Mann, 'Medieval Climatic Optimum,' in Michael C. MacCracken and John S. Perry (eds.), *Encyclopaedia of Global Environmental Change*, (Chichester, 2002), pp. 514-516. For an overview of the Norse impact in the North Atlantic in general, and how climate change played a part, see Thomas Amorosi, et al., 'Raiding the Landscape: Human Impact in the Scandinavian North Atlantic,' *Human Ecology*, 25:3 (1997), pp. 491-518. And for an overview of the deteriorating climate and examples of erratic behaviour specific to Scotland, see Alastair Dawson, *So Foul and Fair a Day: A History of Scotland's Weather and Climate* (Edinburgh, 2009), pp. 96-109. Finally, for an overview of the impact on Europe as a whole, see Brian Fagan, *The Little Ice Age: How Climate Made History 12300-1850* (New York, 2000), especially pp. 3-21 and 79-97.

conditions, punctuated by alternating erratic then calm conditions, created regional vulnerability where subsistence practices were concerned, a strain that intensified as the Hebrideans were forced to increase productivity levels in order to pay their rents.²⁰⁵ The severe storms, extended winters, cooler springs, and shorter growing seasons meant even the more fertile locations were under pressure.²⁰⁶ Creative changes to resource management might have accommodated these changes to meet subsistence levels, but the demand for surplus to meet rental obligations often led to settlement abandonment and the recycling of prehistoric sites.²⁰⁷ Despite intermittent years of stable conditions, this unpredictability severely challenged continuity and, undoubtedly, caused anxiety.

The combination of political theatre, burdensome economic policies, and climate deterioration, placed additional pressure on productivity in a region with limited resources and a rapidly growing population. At the beginning of the eleventh century, the region was a *frontier* heavily exploited by the Scandinavians.²⁰⁸ By the sixteenth century, it was a *frontier* once again, only this time to the Scottish Crown and Lowland businessmen. By the end of the sixteenth century, alterations to existing practices were just beginning, the transition beyond tipping point set in motion. As a result, the

²⁰⁵ The Isle of Tiree, for example, lost several townships due to sand blow and suffered reduced levels of arable between the sixteenth and eighteenth centuries. G. P. McNeill, *Exchequer Rolls of Scotland 1537-1542* (Edinburgh, 1897), pp. 647-648. This evidence reveals that merkland assessment on Tiree fell from 144 merklands in 1541 to 120 in 1662 and then to 112 in 1768. Also, rentals in Kintyre and Islay show several townships listed as 'lying waist' by the end of the *sixteenth* century, where they were not in previous annual entries. See Robert A. Dodgshon, 'The Little Ice Age in Scottish Highlands and Islands: Documenting its Human Impact,' in the *Scottish Geographical Journal*, 121:4, (2005), p. 328.

²⁰⁶ *Ibid.*, p. 334.

²⁰⁷ Armit, *The Archaeology of Skye and the Western Isles*, p. 218.

²⁰⁸ For an explanation of the region as a 'frontier' where competition for political and economic control took place during the Norse hegemony under optimum conditions, see Richard Oram and Paul Adderley, 'Innse Gall: Culture and environment on a Norse frontier in the Scottish Western Isles,' in S. Imsen (ed.), *The Norwegian Domination and the Norse World c.1100-c.1400*, 'Norgesveldet', Occasional Papers No. 1 (Trondheim, 2010), pp. 125-148.

Hebrideans would experience loss of arable, the destruction of seaside townships, and severe pressure on existing resources by a surging population of people and animals attempting to meet the demands of their chieftains. The parade of businessmen and royal envoys through the region to inventory and assess economic potential, meant new economic pressures coupled with deteriorating climate conditions put the Hebrideans *falling* end of the cycle of civilisations.²⁰⁹ The outside world was expanding into the Scottish Insular *Gàidhealtachd*, bringing with it people, policies, and pressure that the regional inhabitants could not avoid. But the consequences would not be felt by a cohesive cultural group, but rather by the common Hebrideans who maintained their cultural traditions while still intimately connected to the seasonal cycles that traditionally dictated their resource management.

Seasonal Cycles on the Eve of Invasion

The environmental conditions of the water-world in the Scottish Insular *Gàidhealtachd* played an intimate role in the seasonal and daily rhythms of the Hebridean people. Their revolving climate, the arrival and departure of seasonal species, the constant demands of maintaining domesticated animals, and the produce they harvested from the ground and the sea, created an annual pattern of continuity to which they were well accustomed. Over the centuries, their spiritual practices represented their appreciation, as much as their apprehension, for what each new season offered, so they celebrated seasonal bounty and carried out sacred ceremonies in an attempt to ensure repeated success. By the sixteenth century, the growing demands on their produce for rents, combined with

²⁰⁹ For a narrative of the *rise and fall* of the Viking/Norse in the North Atlantic, see Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York, 2005), pp. 178-276 where he emphasises the impact

the increasing environmental pressure placed upon them by cooler temperatures and wetter conditions, complicated and intensified many of their otherwise ancient practices and amplified their perceived need to perform rituals. However, just as previous inhabitants of the region managed to accommodate change to ensure annual subsistence, so too did most sixteenth century Hebrideans adapt to the combination of challenges and opportunities that came with each new season. They were also functioning near the peak of these ever-changing accommodations where they could see the eventual downside of the environmental and economic stressors that lie ahead.

Like the inhabitants of *Ketakamigwa*, those living in the Insular *Gàidhealtachd* anticipated the coming of spring. The blooming of new life, increasing sunlight, and ability to move more freely out of doors meant liberation from the deprivation and darkness of winter. The Hebrideans associated new life with motherhood, fertility, and opportunity by honouring the Celtic goddess Brigit on 1 February, St. Bride's Day. In her honour, they performed a number of customs, including the casting of lots for fishing grounds, the dedication of herds and flocks, and the giving of thanks for the warming temperatures of the sea.²¹⁰ While spring weather initiated a new cycle of labour-intensive agricultural practices that dominated daily life, time was also dedicated to fowling, foraging the shores for seaweed, gathering herbs and berries, trapping, and repairing the homes and boats that suffered the impact of winter storms.

A possible architectural remnant of the Scandinavian longhouse, many sixteenth-century Hebrideans lived in very practical rectangular homes with wind-resistant low roofs and rounded corners, stone foundations, dirt floors, and insulating exteriors made

that an unsustainable economy made on limited resources in the midst of climate change.

from the combination of thatch and turf.²¹¹ Some homes included internal partitions to accommodate large animals, like milk-cows. Therefore, the coming of spring also meant the release of many animals from their shared domestic winter space, free through autumn to graze and roam the local communal pastures among the animals who managed to survive the difficult months outdoors.

Although the Hebrideans were involved in a wide variety of outdoor spring activities, the season was heavily devoted to preparing crops and gardens for harvest. Farmers began turning the soil and planting in the traditionally formulated *Roinn-Ruith* system (referred to in English as ‘run-rig’), where mixed strips of infield and outfield arable were alternated between cultivation and communal pasture. Those who could employ horses or cattle used wooden ploughs fashioned from local timber or driftwood dug from the beach.²¹² But most of the Hebrideans were limited to a *cas-croman* or *racon* to till the soil, a demanding process but one that was believed to produce better results than the plough.²¹³ Once planting was complete, fertilising was equally as laborious and time-intensive. Farmers collected *sea-ware* from the shore, carried it to their plots, dried it in the sun, and then spread it over the ground.²¹⁴ In addition to

²¹⁰ Margaret Fay Shaw, *Folk Song and Folk Life of South Uist* (2005), p. 14.

²¹¹ Homes like these have been identified by Steve Birch at Robostan and Keppch near Kilmarie on Skye, and others have been excavated by Armit at Druim nan Dearcag on North Uist, and by Crawford at The Udal in the final phase of a settlement dating back to prehistory. Others include Clibhe in the Bhaltos peninsula of Lewis, Eilean Domhnuill and Eilean Olabhat in North Uist. See Steven A. Birch, *Strathaird, Torrin and Sconser: An Archaeological Overview of the John Muir Trust Estates on Skye*, 4.19 (1998); also, Armit, *The Archaeology of Skye and the Western Isles*, pp. 210-212 and Ian Armit, ‘Archaeological field survey of the Bhaltos (Valtos) peninsula, Lewis,’ *Proceedings of the Society of Antiquaries Scotland*, 124 (1994), pp. 67-93.

²¹² Site primary source witness account.

²¹³ I.F. Grant, *Highland Folk Ways* (London, 1691), p. 106. Martin, *A Description of the Western Islands*, p. 14.

²¹⁴ ‘Sea-ware,’ ‘sea ware,’ ‘sea-weed,’ and ‘wrack’ are the general terms used in the primary documents to describe a variety of seaweeds, including bladderwrack/kelp, sea lace, linarich, bladderlocks, sea lettuce, dulse, Irish moss, laver, sea grapes, and tangle. Donald Monro, Dean of the Isles, uses ‘sea ware’ when he

seaweeds, large amounts of animal manure collected in the home over the winter, as well as old sooted thatch from the roof and peat-ash from the hearth, were gathered together into large creels and served as fertiliser.²¹⁵ Hebridean women were not spared the burden of heavy labour. They carried creels of peat ash on their backs as their husbands or sons followed in their footsteps, periodically hitting the creel with a cudgel to disperse the dust clouds over the ground.²¹⁶ This exhausting process of tilling, sowing, and fertilising continued through all of April and into May. The inherited dependence on grains over several millennia meant spring life for the Hebrideans differed drastically from that of their Wabanaki counterparts.

As spring progressed, regional vegetation changed the landscape considerably. Mosses, grasses, sedges, willows, cudweeds and woodrush created a mosaic of heaths on the hillsides, while seaweeds thrown onto the rocky shores during winter storms bloomed and developed into rich foodstuffs, fertiliser, dyes, and medicines as the sun evaporated the salty moisture.²¹⁷ A variety of berries could be found in the bogs, among the shrubs and the top layers of heath.²¹⁸ Bogberries, common blaeberrries, cowberries, crowberries, bearberries, and cloudberrries provided the sweets and sours of spring foodstuffs, but

says on Lewis 'all is peit mossland at the Sea cost, and that plaice where he winns his peitts this Zeire, there he sawis his corne the nixt zeire, after that he guidds it weill with sea ware,' *A Description of the Westerne Iles of Scotland called Hybrides*, in Walter MacFarlane's *Geographical Collections Relating to Scotland* (Edinburgh, 1908), p. 300. Martin Martin uses 'sea-ware' when he refers to fertiliser, *A Description of the Western Islands of Scotland*, on the Isle of Harris p. 37 and p. 43, and on the Isle of Skye, p. 93. Hugh MacDonald uses 'sea-weed' when he discusses the kelp industry, *The History of Clan Donald* (Toronto, 1904), pp. 488 and 537. For women carrying sea-ware to the fields as late as the early 20th century, see Shaw, *Folk Song and Folk Life of South Uist*, p. 4.

²¹⁵ Martin, *A Description of the Western Islands of Scotland*, pp. 14 and 31.

²¹⁶ Hugh MacDonald, *History of Clan Donald*, p. 112-113.

²¹⁷ F. Fraser Darling and J. M. Boyd, *Natural History in the Highlands and Islands* (London, 1973), pp. 164-166. Martin notes that nettles and the roots of reeds boiled with yeast were used medicinally for a cough, while a milk mixture with black molucca beans ('nickernut,' also called 'sea beans' in Scandinavia) cured diarrhoea and dysentery, *A Description of the Western Islands of Scotland*, p. 19 and 35.

they also provided key ingredients for medicines and dyes. Along the shoreline, shells, molluscs, cuttle-fish, and cockles, were collected en masse for dyes, bait, jewellery, and medicinal remedies.²¹⁹ Like the Wabanaki, Hebridean women and children undoubtedly made the gathering process a social activity that did not always revolve around food. In early April, the extended sunlight stimulated new growth hormones in deer, the catalyst behind the fallen antlers strewn about the terrain that, once assembled, made for new tools and utensils.²²⁰ Meanwhile, brown and black sea-nuts growing in the seaweed along the shores were collected; their shells used for storing herbs or worn as ornamentation, their nuts ground into medicine.²²¹

Hunting and trapping took place to some degree throughout the year. In spring, the Hebrideans focused on those species that migrated toward spring feeding and breeding grounds after seeking protection from the harsh winds and rough seas of winter. Grey and brown seals, otters, diving gannets, a plethora of birds, including the buzzards, ravens, herons, and eagles, as well as auks, gulls, fulmars, ducks, and terns, all lived year-round in the water-world of the Insular *Gàidhealtachd*. Otters and brown seals who left their marine environment for freshwater rivers and lochs to feed on tree roots, fish, eels, and frogs during the winter months, were periodically trapped by humans as they worked their way back through the streams to the warming sea.²²² On Harris, hunters caught small seals and otters in hemp nets by tying each end with rope to the heavy seaware on

²¹⁸ Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 170-171.

²¹⁹ Martin, *A Description of the Western Islands of Scotland*, pp. 35 and 63. Anon., *Ane Descriptione of Certaine Pairts of the Highlands of Scotland*, in Walter MacFarlane's *Geographical Collections*, Vol. 2 (Edinburgh, 1907), p. 178. Also, Anon, *The Description of the Isles of Scotland*, in Appendix III of William F. Skene, *Celtic Scotland: A History of Ancient Alban* (Edinburgh, 1890), p. 430.

²²⁰ Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 125-127.

²²¹ Anon., *Ane Descriptione of Certaine Pairts of the Highlands of Scotland*, *Ibid.*, p. 214.

the rocks, while on North Uist, larger seals were either stabbed with spears or clubbed to death.²²³

In late spring, river birds, including goosanders, osprey, and kingfishers, arrived along the inland rivers, lochs, and burns, to nest and feed through the summer months.²²⁴ Migrant seabirds, en route to their northern breeding grounds, stopped in the uninhabited southern islands around Tiree or those southeast of Lismore where they fed during spring.²²⁵ Perhaps the largest population of birds found their way to St. Kilda where they arrived in March and stayed through September.²²⁶ For the inhabitants of this island, the by-products of fowl like solan geese, puffin, and fulmar, were a dietary staple.²²⁷ Eggs were collected and preserved in peat-ash for months at a time, while puddings were made from bird fat to cure the cough.²²⁸

Climatically, spring was when both inland and oceanic water temperatures increased to the point of accelerating the growth of fertile plankton, the heart of the marine food chain. Fish that fed on the plankton, including salmon, cod, ling, haddock, sand-eels, and halibut, were drawn by the plankton to the surface of the Minch in spring, where they were surveilled by natural predators, including seals, dolphins, porpoises, seabirds, and large squid.²²⁹ In their wake were the killer whales who fed on them all.²³⁰

²²² Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 285-286.

²²³ Martin, *A Description of the Western Islands of Scotland*, p. 34. Anon., *Ane Descriptione of Certaine Pairts of the Highlands of Scotland*, *Ibid.*, p. 181.

²²⁴ Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 276-278.

²²⁵ Martin, *A Description of the Western Islands of Scotland*, p. 37. Also, Anon., *Ane Descriptione of Certaine Pairts of the Highlands of Scotland*, *Ibid.*, pp. 156-157.

²²⁶ Martin, *A Description of the Western Islands of Scotland*, p. 171.

²²⁷ *Ibid.*, p. 173.

²²⁸ *Ibid.*, p. 171.

²²⁹ *Ibid.*, p. 95.

Finally, at the top of the food chain, the Hebridean fishermen resumed their spring hunting in the sea where conditions were calming and prey was multiplying. They also returned to the rivers, streams, and freshwater lochs where brown trout and eels were caught using earthworms and mussels for bait.²³¹ Returning from the sea to the inland lochs, the wild salmon escaped their fate toward the low-end of the oceanic food chain, only to be pursued by the fishermen with bait of cockles in late spring and summer.²³² The most successful manner of catching salmon in the rivers of North Uist was to use herring nets; although the salmon could jump them once, maybe twice, by the third attempt they were often too tired to make it over them.²³³

Despite all that spring offered the Hebrideans, they lived in an environment where the erratic nature of the winds, rains, and temperature fluctuations, combined with the repercussions of being on the front line of oceanic weather systems, meant spring could be dangerous and cause damage to both the natural and human-made features of the landscape. The alternating cold and warm fronts during spring, forced by rapidly moving depressions often accompanied by gales, could immediately turn a relatively warm and calm spring day into a cold and bitter reminder of winter. In a matter of hours, the people, their animals, and the built environment could experience the rains of a warm front, the clearance and winds of a cold front, then the warm sunlight of a spring

²³⁰ Martin notes how the people of Lewis called the killer whale a 'gallan whale,' and how he was told the story of one which overturned a boat and killed three of the crew, *A Description of the Western Islands of Scotland*, p. 15.

²³¹ Martin, *A Description of the Western Islands of Scotland*, pp. 16 and 37.

²³² *Ibid.*, p. 32; Also, J. M. Boyd and I. L. Boyd, *The Hebrides: A Natural Tapestry* (Edinburgh, 1996), p. 190.

²³³ Martin, *A Description of the Western Islands of Scotland*, p. 64.

evening.²³⁴ The unpredictable nature of *Nature*, therefore, undoubtedly contributed to the seasonal pressure, caution, and sense of connectedness shared by all Hebrideans.

Of all the seasons, summer offered the mildest conditions, but there were still challenges to daily life. May and June continued to see periodic drastic dips in temperature when day turned to night, and westerly winds carrying the warmer air were still strong enough to throw tangle up onto the shore.²³⁵ An inconvenience to the regional inhabitants, if not an annoyance, was the fact that June marked peak insect season when stoneflies, midges and mayflies tended to hamper outdoor activities.²³⁶ And, although their crops were well fertilised through spring and early summer with animal manure and seaweed (especially, of the carrageen and dulse varieties), their fields were still vulnerable to the high winds, unpredictable rains, and either poor drainage on higher ground, or lack of moisture in the shell-sands.²³⁷ As a result, even the water-world environment of the Insular *Gàidhealtachd* experienced periodic crop-rot and drought. Despite these challenges, by July, the Hebrideans were usually rewarded for their intensive labour and patience with rich gardens, rotating harvests of barley and oats, and smaller quantities of rye, flax, hemp, and linseed.²³⁸

Regardless of the natural threats to agriculture, crops were at least spared the destruction of grazing animals due to the ancient practice of transhumance.²³⁹ Bealltainn

²³⁴ *Ibid.*, p. 30.

²³⁵ Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 47 and 161.

²³⁶ *Ibid.*, p. 272.

²³⁷ Martin, *A Description of the Western Islands of Scotland*, p. 64, Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 185-186.

²³⁸ Martin, *A Description of the Western Islands of Scotland*, pp. 14 and 43.

²³⁹ Armit, *The Archaeology of the Western Isles*, p. 217. Also, see Appendix in R. Miket and D. L. Roberts, *The Medieval Castles of Skye and Lochalsh*, (Skye, 1990) for shieling dates going back to the first millennium BC.

celebrations, which marked the beginning of summer with feasts and festivities, was also when the Hebrideans herded their cattle and other livestock over the peat for sedge and drawmoss, and then into the upland pastures for sweet hill grass during the annual migration to their summer shielings.²⁴⁰ That the practice was prolific is demonstrated by the 297 summer shieling sites that have been identified at the Strathaird Estate on the Isle of Skye.²⁴¹ Primarily abandoned during the winter and early spring, shieling sites were refurbished annually. Men and boys transported timber for roofing beams or cabers to the shielings, then repaired the turf, rush thatch, or bracken and heather to ensure the dwellings were complete before women and children led the milk cows and sheep to their summer pastures.²⁴²

Before returning to their farms to tend to their fields, to fish, or to forage the shores, men cut the peat and lay it out to dry in the summer sun, providing fuel for the months of women's work. Women spent much of their summers collecting lichens, plants and roots for wool dyes, but the bulk of their time was dedicated to dairying, making cheese and butter, spinning and knitting. The monotony and repetitiveness of daily work was remedied with 'working songs,' and from these summer activities evolved the lyrics for poetry and song that the bards recited throughout the year.²⁴³

²⁴⁰ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 47; Boyd and Boyd, *Natural Tapestry*, p. 83. Martin, *A Description of the Western Islands of Scotland*, p. 42.

²⁴¹ RCAHMS 1993, No. 10; and Steven A. Birch, *Strathaird, Torrin and Sconser: An Archaeological Overview of the John Muir Trust Estates on Skye*, 4.27, 4.28, 4.29, and 4.30 (2005); also Martin Wildgoose, et al., *Glen Scaladal, Isle of Skye: A Survey of the Archaeological Landscape*. (Report for the John Muir Trust, 1998). For recent excavations of similar shielings around Douglas Water in Argyllshire, including Allt Fearnna, Allt nam Muc and Lagantour, see Fiona Baker, 'Life in the High Pastures,' *Past Horizons: Adventures in Archaeology*, 13 (August 2010), pp. 42-47. A description of a shieling still in use on Jura in the eighteenth century is described with significant bias by Thomas Pennant, *A Tour in Scotland and Voyage to the Hebrides 1772* (Edinburgh, 1998), pp. 204-205.

²⁴² Baker, 'Life in the High Pastures,' p. 44.

²⁴³ Coinneach Odhar tells of a child visited by Norse princes while tending the herds. Find this in poetry pile.

The absence of grazing beasts on the machair meant that, by mid-summer, the blue butterflies, colourful flowers, and contrasting white sands made for an aesthetic brilliance drastically transformed from the previous two seasons.²⁴⁴ Despite the seasonal focus on cultivating soil, machair, and lazybeds, however, the fields were not the only location where the Hebrideans harvested a seasonal banquet of species. A mosaic of plant and animal communities, also spared by the removal of grazing animals, sprung up at all levels of the watermark. The full flowering of salt marshes provided gardens of flowers and herbs for collection, including many sea grasses like scurvey, red fescue and sea plantain, as well as sea aster, glasswort, milkwort, and orchids.²⁴⁵ Closer to the sea, in the middle shoreline, the piles of seaweeds formulated a combination of sea-plant and animal life, including ascophyllum knotted wrack, green sea-lettuce, red filamentous algae, as well as several other species of algae, and a community of limpets, periwinkles, crustaceans and muscles that were frequently used as bait.²⁴⁶

Although grazing animals usually remained far from these summer resources, the Hebrideans still competed for them with a massive population of summer birdlife.²⁴⁷ Migrating to nearly every island in the region, but in the greatest numbers to locations like Tiree, Gunna, and St. Kilda, large numbers of gannets, petrels, fulmars, and several species of gulls, nested on the cliffs and seashores. Arriving in late spring and staying into autumn, they bred, then protected their eggs, hatched their young, and preyed on plant

²⁴⁴ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 179.

²⁴⁵ Boyd and Boyd, *Natural Tapestry*, p. 83.

²⁴⁶ *Ibid.*, Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 182-183. Martin, *A Description of the Western Islands of Scotland*, p. 56.

²⁴⁷ Boyd and Boyd, *Natural Tapestry*, pp. 91 and 97; for a list of large bird species, see pp. 103-108.

life, small crustaceans, fish, and seal afterbirth for food.²⁴⁸ In addition to being competitors within a shared ecosystem, birds were a staple prey for the Hebrideans. On the rocks of Bernera, for example, sea-fowl were caught in nets, their feathers plucked, and their meat preserved with burnt seaweed.²⁴⁹

Summer months also saw the teeming of life in the seas and on the rocky shores where fish, seals, cetaceans, birds, shellfish, and a plethora of sea plants provided food, oils, clothing, utensils, and even luxury items that enhanced daily life. Herring, often unpredictable, could usually be found in large shoals along the coastlines in summer.²⁵⁰ Mackerel, also more plentiful in summer, called attention to themselves by cracking their dorsal fins on the surface of the water, a sound that echoed across the liquid terrain making the Hebrideans aware of their presence. The springtides of July carried them into the shores where they were stranded on the rocks, collected, and preserved like the fowl, with burnt seaweed.²⁵¹ Mackerel, cod, and small basking sharks, swam in smaller numbers, fed on plankton near the water's surface, and were caught using lines with bait on a hook, whereas the herring were plentiful enough to catch with nets.²⁵² Like the nocturnal dogfish, the herring was best caught at night when the seas were slightly ruffled by the wind and the clouds blocked the moonlight from drawing attention to fishermen with nets.²⁵³

²⁴⁸ *Ibid.*, pp. 37, 219, 227-228, and 251.

²⁴⁹ Martin, *A Description of the Western Islands of Scotland*, p. 66.

²⁵⁰ Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 81-82.

²⁵¹ Martin, *A Description of the Western Islands of Scotland*, p. 44.

²⁵² Darling and Boyd, *Natural History in the Highlands and Islands*, pp. 52 and 198; Boyd and Boyd, *Natural Tapestry*, p. 64; Boyd and Boyd, *Habitable Land*, p. 23; J. Anderson, *Account of the Present State of the Hebrides* (Edinburgh, 1785), pp. 12-15.

²⁵³ J. Anderson, *Account of the Present State of the Hebrides*, pp. 23, 336-337.

The Hebrideans wove their nets from hemp or flax and repeatedly tanned them with a boiled oak-bark liquid that served as a protective coating against the wear and tear of the fish, currents, and other under-water obstacles.²⁵⁴ Although their summer fishing was safer and more successful, spoiling in the sun was always a concern. Therefore, once caught, the large quantities of herring were thrown into baskets and immediately salted with seaweed for preservation. Like all other fish, they were soon gutted, their innards then boiled, the oil obtained to be consumed or burned for fuel.²⁵⁵

Also pelagic fish that stayed relatively near the water's surface were the large shoals of herring that attracted pilot, sperm, and humpback whales that swam long distances each year during their latitudinal migrations. With their female counterparts birthing their young in the Atlantic, male sperm whales passed instead through the Minch to feed in August and often moved to inshore waters to feed on their plankton-feeding prey. Often caught in the irregular tides of the Minch, whales became accidentally beached or were easily chased into the shallow bays by fishermen in boats wielding spears.²⁵⁶ The protective layers of insulating blubber that maintains whale body temperature in the cold North Atlantic waters was a prize possession for the Hebrideans, who processed it for food, oil, and clothing, while their bones and teeth were fashioned into tools, weapons, and utensils. Other cetaceans, including dolphins and porpoises were easy to locate due to their clicking and jumping near the coastlines, headlands, and bays, where they were also hunted, especially around the Isle of Barra, and the smaller islands of Iona, Mull, Coll, and Tiree. Unlike the whales who could dive deep and stay below the

²⁵⁴ Ibid.

²⁵⁵ Ibid.

surface for hours at a time, dolphins and porpoises remained near the surface, making for easier prey.

Seals, which moved to breeding grounds during summer, also supplied meat, skins, and oil. Seal oil was especially important for cattle food as it provided a shiny coat, attractive to buyers at the cattle markets.²⁵⁷ Contrary to the brown seal, which spent most of the year (save the summer breeding season) in the water, the grey seal was hunted year-round due to the amount of time it spent ashore for breeding, birthing, and fighting with one another.²⁵⁸ Once trapped in their onshore breeding grounds, the Hebrideans clubbed or speared the seals and processed them on the beach, salted them with burnt seaweed, and left behind the remains to be scavenged by birds.²⁵⁹ This ancient practice conditioned seals to rotate their breeding and feeding grounds annually, to keep their young with them in the waters, and to choose habitation on islands far from large human populations; examples of 'seal-islands,' as they are still called today, include the small isles off the coast of Oronsay, as well as Oidhsgeir, Gasker, Kearstay, Shillay, Coppay, Haskier, Causamul, Deasker, and Stockey. Seals also still breed on the remote island of North Rona, and in the caves at Loch Eriboll, Eilean nan Ron, and Sule Skerry.²⁶⁰

Like the Wabanaki in the water-world of *Ketakamigwa*, the Hebrideans in the water-world of the Insular *Gàidhealtachd* spent their summer months free from the

²⁵⁶ Boyd and Boyd, *Natural Tapestry*, pp. 70-71, 74; Darling and Boyd, *Natural History in the Highlands and Islands*, p. 201; Martin, *A Description of the Western Islands of Scotland*, p. 15;

²⁵⁷ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 205.

²⁵⁸ *Ibid.*, pp. 75 and 204.

²⁵⁹ Martin notes that this practice is especially prevalent on Gasker, *A Description of the Western Islands of Scotland*, p. 42. He also describes the process of trapping seals in narrow channels between small islands where the natives used horse-hair nets in the water, p. 46. For a detailed description from Martin of the seal hunt, pp. 48-49.

isolation and privation of extreme conditions, engaged in social activities, exploiting the rich resources of their environment, and celebrating their culture with festivities through music, story, and dance. Undoubtedly, the long hours of sunlight, with the natural impact on vegetation, animal life, and especially on the human psyche, were cause for celebration. But the greatest honour was bestowed upon St. Michael, the patron saint of the sea, when women dug wild carrots, tied them in bundles of three, and gave them to their lovers.²⁶¹ Within a week of the ritual, it was Michaelmass, 29 September, when great celebrations with music and food, as well as competitions, took place on the beaches. Bareback and bridle-less horse races with riders who spurred their horses on using pieces of dried sea-tangle took place throughout the islands.²⁶² On the Isle of Barra, women road with their men, while on St. Kilda, where horses were not as plentiful, racers took turns so all who wished could participate.²⁶³ Of all the seasons, summer was the time of plenty. The lack of fear over subsistence, the long days, and the relatively calm conditions created the chance for the Hebrideans to join in communion with families and friends. Like the summer pow-wows in *Ketakamigwa*, these gatherings served as opportunities for new family and business relationships to be forged, information to be exchanged, and the trade of local resources to take place. As summer waned, the temperatures began to cool and festivities became smaller. The regional species moved to follow their food, the Hebrideans dismantled their shielings, and time was spent harvesting grains into the first month of the next season.

²⁶⁰ For a map of seal breeding locations, see Darling and Boyd, *Natural History in the Highlands and Islands*, p. 241, and for migration patterns, see pp. 243-245, 253.

²⁶¹ Carmichael (1992); the ritual took place on the Sunday prior to St. Michael's day and highlighted the stages of a woman's life.

²⁶² Martin, *A Description of the Western Islands of Scotland*, pp. 42 and 57.

While most Hebrideans remained in the islands for one last month of harvest, some spent the early autumn months herding their black cattle to sell in the markets at Crieff or Falkirk, the most lucrative way to make their rents.²⁶⁴ By the end of the sixteenth century, the established departure time was early September, and their slated time of arrival in Crieff or Falkirk, October. Transporting the cattle via boat between the islands, or tying their tails to manes and horns, and forcing them to swim the shorter distances, meant the Hebrideans were well aware of how to avoid the dangerous riptides and whirlpools.²⁶⁵ Eventually, both cattle and drovers ended up on Skye, Ardnamurchan, or near the Ross of Mull, after a voyage from either Castlebay on Barra, Ormiclate in South Uist, Griminish in Benbecula, or Lochmaddy in North Uist.²⁶⁶ From Skye, they crossed at Kyle Rhea, where the passage was the narrowest.²⁶⁷ During the mainland trek, cattle left behind rich manure in exchange for grass grazing privileges, while the Hebrideans were pleased to see increased body weight that improved their sales value before slaughter.²⁶⁸ Meanwhile, back home in the islands, the Hebrideans carried out bloodletting and then

²⁶³ *Ibid.*, pp. 63, 165, and 177.

²⁶⁴ A. R. B. Haldane, *The Drove Roads of Scotland* (London, 1952), pp. 36 and 135. Haldane notes that Skye was one of the first islands in the region to begin transporting black cattle to the lowland markets during the early sixteenth century. By the latter half of the century, they were coming from as far north as the Uists and Lewis; see *The Drove Roads of Scotland*, pp. 14 and 70-71; Also, see Angus and Archibald MacDonald, *Clan Donald*, Vol. III (Inverness, 1896), pp. 42-45, for details of Donald MacDonald III of Castle Camus, Skye, who not only traded in cattle, but also ponies, between the Uists, Skye, and the mainland.

²⁶⁵ Martin discusses at length the unusual tides off Harris, *A Description of the Western Islands of Scotland*, pp. 38-39, and those off Skye, p. 111.

²⁶⁶ *Ibid.*, p. 71.

²⁶⁷ *Ibid.*, p. 75. Haldane makes note that this is most likely why Glenelg was where the barracks were built at Bernera following the 1715 rebellion. Also, Martin, *A Description of the Western Islands of Scotland*, p. 91.

²⁶⁸ Haldane, *The Drove Roads of Scotland*, p. 37.

slaughter of animals not sold at market, before salting the meat with seaweeds to ensure preservation through much of winter.²⁶⁹

As autumn proceeded, the rapid cold front clearances arrived, and when the warm sea temperatures mixed with the cooler air, heavy and oppressive gales and rains showered down on the landscape, often hampering last efforts with agriculture.²⁷⁰ Although these seasonal extremes threatened and, therefore, eliminated many summer practices, the Hebrideans knew that it was these wild and windy conditions that carried the gift of seaweed to their shores, providing them with the fertiliser, medicine, food, and utensils they would use throughout the year.²⁷¹ Therefore, on Hallowtide, beginning on 31 October, the people of Lewis gathered in the evening, each carrying a peck of malt to brew ale. Once the ale was complete, one man was chosen to wade into the sea, offer up the cup of ale for sacrifice, and say a prayer to the sea god 'Shony' in the hope that the sea would rise up and regurgitate the sea plants that ensured their survival.²⁷² The prayer was as follows: 'Shony, I give you this cup of ale, hoping that you'll be so kind as to send us plenty of sea-ware for enriching our ground for the ensuing year'.²⁷³ The ceremony was a blending of ancient Celtic, Christian, and social customs accumulated over time. Once the seaside ceremony was complete, all returned to the local church for a period of

²⁶⁹ Ibid., p. 27.

²⁷⁰ Boyd and Boyd, *Natural Tapestry*, p. 31.

²⁷¹ Martin remarks that even bread was 'baked by the fuel of sea-ware' which the natives found preferable to the use of salt, *A Description of the Western Islands of Scotland*, p. 46.

²⁷² Martin, *A Description of the Western Islands of Scotland*, p. 29. This story was told to Martin Martin by John Morison of Bragir.

²⁷³ Ibid.; Also, John Abercromby notes that this practice was still in place as late as the early nineteenth century, in 'Traditions, Customs, and Superstitions of the Lewis,' *Folklore*, 6:2 (June, 1895), pp. 162-171, especially pp. 165-166.

silence in candlelight. Once the candle naturally extinguished, they returned to the fields for song, dance, and drinking of ale until morning.²⁷⁴

Fishing was also hampered by the deteriorating autumn weather. Therefore, the Hebrideans slowly moved nearer to the seashore where lythe and coalfish swam in shallow water, easily caught by fishermen on the coastal rocks using rods, lines, and limpet bait.²⁷⁵ Herring eggs, which were spawned between August and October, were deposited in the gravel on the beach, swept up by the tides, and then spent late autumn floating with the currents from the sea lochs of the Minch, into the North Sea, where they matured for up to two years before returning to the region in the large shoals that were scooped up in the nets of summer and autumn.²⁷⁶ To the contrary, mackerel moved just off the shorelines and remained in the region all year round, and like cod, were easily caught from boats into early winter.²⁷⁷ Although lobster were also available throughout the year, the preference for other marine life meant, rather than a delicacy, they were a last resort, so it was primarily in the colder months of late autumn and early winter that the Hebrideans took the time to trap them.²⁷⁸

As winter approached, the Hebrideans prepared for challenging weather conditions. The nights became long, while the short days were plagued by great amounts of moisture

²⁷⁴ Though this particular custom was no longer practiced by the time of Abercromby's field-study, he did find another which had taken its place and was in use 'in quite recent times' (meaning during the nineteenth century), when a scarcity of seaweed caused local farmers to congregated on a promontory facing the sea on St. Brainuilt's Day, 15 May, and shout, 'Brainuilt, Brainuilt, send seaware, send seaware!' A request they found to be successful. Abercromby, 'Traditions, Customs, and Superstitions of the Lewis,' p. 166.

²⁷⁵ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 199.

²⁷⁶ J. Anderson, *Account of the Present State of the Hebrides*, pp. 10-11; Boyd and Boyd, *Natural Tapestry*, p. 64.

²⁷⁷ *Ibid.*, pp. 153, Boyd and Boyd, *Natural Tapestry*, p. 64.

²⁷⁸ Darling and Boyd, *Ibid.*, p. 82-83.

and southwesterly gales. Obviously pleased by the great abundance of seaweed swept onto their shores during winter storms, the Hebrideans were also frustrated by the damage inflicted upon the natural and built environment.²⁷⁹ Much of the sand that shifted from the shallow offshore shelf onto the beaches during summer was first inhaled by the strong tides and storms of late autumn and winter, then simply digested by the sea.²⁸⁰ So, while many beaches were littered with seaweed, others completely disappeared. In winter, the intensity of the wave action that pounded on the shores and seaside cliffs increased by up to three times compared to those of summer, making the shoreline a dangerous place.²⁸¹ Therefore, the Hebrideans fished instead for the brown trout that spent their winters in the inland lochs before returning to the rivers and streams in spring.²⁸²

With the exception of the machair, natural grass throughout the regions died in winter, creating a grazing problem for animals that remained outdoors. Even the deer that grazed in forested uplands were forced to rely upon seaweed in winter, making easy targets for the bowmen on the beach.²⁸³ These conditions were precisely why the slaughter in autumn, the droving of cattle to the markets, and the salting of meat for winter provisions was so important.²⁸⁴ A lack of fodder for the winter, coupled with a

²⁷⁹ J. Anderson, *Ibid.*, p. 12.

²⁸⁰ Boyd and Boyd, *Natural Tapestry*, p. 79.

²⁸¹ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 50.

²⁸² *Ibid.*, p. 261

²⁸³ Martin, *A Description of the Western Islands of Scotland*, pp. 18 and 34. Hugh MacDonald notes that firearms were not used in hunting until the seventeenth century; prior to that time, it was the bow and arrow. See his *History of Clan Donald*, p. 120. For winter grazing habits of deer, see Boyd and Boyd, *Natural Tapestry*, p. 122.

²⁸⁴ Although there is no physical evidence for a salt trade, the demand for salt to preserve food under difficult weather conditions would have required salt to be transported throughout the region. Not all locations had access to seaweed.

traditional Hebridean preference for dairy, meant many animals left to the elements would not make it through the season. But not all species who could leave chose to do so. Although many species of birds migrated south during the winter, there were also some that actually emigrated into the islands, choosing the milder temperatures and open soils of the Hebrides and evacuating the Western Highlands where their natural habitat was covered in snow and ice.²⁸⁵

Like the Wabanaki, the Hebrideans were accustomed to spending their winters engaged in tedious tasks like widdling, mending, weaving, and dying, and they were equally dependent on oil for their light and preserved meat for their meals. They also passed the long nights with storytelling, poetry, and song. But as the Hebrideans anticipated the seasons to come, they did so quite frugally. While the Wabanaki could stack an endless supply of firewood, their fuel being impervious to the ravages of the weather, the Hebrideans constantly minded their peat, keeping it dry from the erratic rains. While the Wabanaki cared only for themselves and their dogs during the most difficult of seasons, the Hebrideans were deeply concerned for many animals on whom they were equally as dependent.²⁸⁶ Though both peoples were accustomed to their own traditions and seasonal cycles, the relief experienced as spring began to arrive undoubtedly varied based on their unique needs and practices.

Like all of the phases of development that preceded it, the period between the eleventh and sixteenth centuries saw the continued ebb and flow of change. Over several centuries, climate deterioration intensified pressure on traditional practices and

²⁸⁵ Darling and Boyd, *Natural History in the Highlands and Islands*, p. 37.

²⁸⁶ For an explanation of the relationship between Mi'kmaq and their dogs, see Denys, Vol. 2, pp. 429-434.

contributed to regional vulnerability, especially in the uplands. Despite several centuries of climate worsening, nature still provided the Hebrideans with a rich variety of resources and they continued to exploit them as far as their traditional experience, technological capabilities, and innate survival instincts would allow. Throughout the period, each generation cultivated the intimate human-nature relationships that defined their personal and group identity. Their traditional practices also provided them with an annual subsistence and the means for obtaining a sense of security, stability, and cultural continuity.

However, this period in the region's history also saw the beginning of some dramatic political and economic shifts that further complicated conditions tempered by a deteriorating climate. The turbulent political transition from Scandinavian to Gael to Scot forced the evolution of watercraft, as well as a substantial amount of building, and increased the demand on resource production to meet increasingly oppressive rents. While Hebridean subsistence patterns were originally dependent on a *resource-based economy*, the period saw an increasing level of feudal demands, and the eventual implementation of a monetary policy based on metal currency. By the end of the sixteenth century, this volatile combination of political, economic, and environmental pressure carried the regional inhabitants over a tipping point that made the region and its people ripe for the imperial transformation on the horizon.

Traveller's Baggage: The Problems of Perception in *Ketakamigwa*

When the Wabanaki discovered the Europeans near the shores of *Ketakamigwa* in the late fifteenth century, they had no cultural context for the material, biological, and mental baggage on those ships. Their meeting marked a collision between two very different cultures with dissimilar cosmologies, and provides evidence that their political, social, and economic constructs had diverged over several millennia. They both conducted themselves according to traditional societal norms passed down to them over generations, but never had either encountered 'cultural others' whose norms were so different.¹ Initially a curiosity to one another, their contrary practices and perceptions eventually became a deterrent to peaceful relations. That the Europeans were more successful imposing their beliefs and practices on the Wabanaki than *vice versa* may be partially attributed to the baggage Europeans carried with them across the sea. Their material baggage included superior technology, like the metal tools, weapons, and trinkets on which the Wabanaki came to rely.² Europeans arrived with curiosities like glass and bells, new foods, fishing equipment, clocks and cloth, all of which made a permanent impression on a people who were entirely unfamiliar with them. Much of this material baggage was tantalising and the Wabanaki immediately integrated it into their existing cultural and social practices in order to enhance their daily lives. Some of it was detrimental, like alcohol and guns, the combination of which

¹ For relevant discussions about the way in which historical actors interpreted 'cultural others' according to traditional understandings, see for example Karen Kupperman, *Indians and English: Facing Off in Early America* (Ithaca, 2000), pp.1-15 and Nicholas Canny and Anthony Pagden (eds.), *Colonial Identity in the Atlantic World, 1500-1800* (Princeton, 1987).

² The exchange and cultural integration of material items will be covered in Chapter 5.

made for new social problems.³ Whether beneficial, harmful, or just new and different, material baggage provided the incentive for a century of relatively peaceful exchange.

In actuality, that baggage which weighed heaviest on the existing lifeways of the Wabanaki did not physically weigh anything. More powerful was the invisible baggage onboard those ships that dealt a devastating blow to the Wabanaki on physical, emotional, psychological, and cosmological levels. Although Europeans brought new mediums for verbal and written communication as well as many new habits during social interaction, the Wabanaki easily comprehended and then accommodated that baggage. They were well acquainted with cultural diversity and the need to compromise during engagement with the other Amerindian traders along their water-world networks. But Europeans also carried with them something neither they nor the Wabanaki could have anticipated: dangerous pathogens to which Europeans were immune.⁴ When combined with the other invisible baggage, disease was a powerful factor that left the Wabanaki demographically disadvantaged as they faced the possibility of European suzerainty. By eliminating native populations, disease psychologically traumatised survivors who found it difficult to compete for resources and living space in their newly contested water-world. This emboldened a sense of superiority among Europeans and justified their otherwise unjustifiable actions.⁵

³ There is a great body of scholarship on this deadly combination. See, Peter C. Mancall, *Deadly Medicine: Indians and Alcohol in Early America* (Ithica, 1995); also, R. C. Dailey, 'The Role of Alcohol among North American Indian Tribes as reported in The Jesuit Relations,' *Anthropologica*, New Series, 10:1 (1968), pp. 45-59. Alcohol is still a particularly debilitating issue among contemporary native populations. See Maria Yellow Horse Brave Heart and Lemyra M. DeBruyn, 'American Indian Holocaust: Healing Historical Unresolved Grief,' in Spero M. Manson (ed.), *American Indian and Alaska Native Mental Health Research, Journal of the National Center*, 8:2 (1998), pp. 60-82.

⁴The impact of disease on practices and perceptions will be covered in Chapter 5.

⁵Joyce E. Chaplin argues that the initial genocide from the unintentional spread of disease actually instilled Europeans with a greater sense of self-importance and even a 'cosmic synchrony' between themselves and

Disease was not the only powerful stowaway on the ships that crossed the North Atlantic, however. Embedded deep inside each traveller's mind was another type of invisible baggage. Sometimes ethereal and always intangible, the mental baggage carried to *Ketakamigwa* from Europe weighed heavily on travellers as they composed narratives about their journeys. Their perceptions of the Wabanaki in *Ketakamigwa* also weighed heavily on the perceptions of their readers back in Europe. Pride, prejudice, fear, ambition, greed, curiosity, and ingenuity often fuelled the stories of first encounters. Travellers' psychological, emotional, and intellectual baggage affected the way they perceived this new water-world environment and prejudiced their opinions of the people who inhabited it. Like the Wabanaki, Europeans were nurtured by worldviews that influenced the way they interpreted their experiences and surroundings, while their personal intent determined how they chose to describe them to their audiences. Unlike the Wabanaki, European worldviews were not nurtured in *Ketakamigwa*.

To best analyse the environmental history of *Ketakamigwa*, therefore, it is essential to explore the influences behind the attitudes, values and behaviours that affected European perception because, inevitably, it defined their relationship with a new people and place.⁶ This inquiry not only highlights the prejudices behind European interaction with the Wabanaki and their environment, but illustrates the way in which those perceptions

their new conquered territories. See her chapter 'Death and the Birth of Race,' in *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500-1676* (Cambridge, 2001), pp. 157-200. Also, In his expansive historical canon, Crosby argued that it was not necessarily technology that enabled Europeans to dominate new environments, but the 'success of European imperialism had a biological, [and] an ecological, component.' See Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (1986), p. 7.

⁶ Donald Worster (ed.), *The Ends of the Earth: Perspectives on Modern Environmental History* (Cambridge, 1988), p. 293. In Worster's 'Appendix: Doing Environmental History,' he identifies three levels or 'clusters of

changed over time. Early explorers had false preconceived assumptions, limited cartographical knowledge, and unrealistic material expectations that stemmed from their desire to obtain wealth comparable to that of their Spanish competitors in the south. Once travellers realised they had actually encountered a new continent and not the northern borderlands of Cathay, they then embarked on a process of mapping, categorising, and inventorying both the people and the environment for the purpose of possession. As they became permanent fixtures in *Ketakamigwa*, they were then overwhelmed by the desire to control, transform, and cleanse it.⁷ Along the way, they recorded their experiences in sometimes fanciful, usually contrived, and always persuasive narratives.

Perceiving is Believing

Perceptions found in travel writing were obviously perpetuated by the very personal experiences, physiology, gender, age, socio-economic background and spiritual preference of each individual writer. This is because perception, the process of consuming information through the senses, is unique to each and every person. In addition to the five senses of taste, smell, touch, hearing, and the most heavily relied upon, sight, humans have a great capacity for sensual intuition that amplifies the others. This allows for linguistic adaptability, the aptitude to detect slight alterations in humidity, temperature, and energy, or to discern emotional tension and mood shifts in people or pets. Creating a reciprocal relationship between human and natural forces, the process of perception is further complicated by each

issues' to be addressed by environmental historians. The third group includes 'perceptions, ethics, laws, myths, and other structures of meaning' which 'become a part of an individual's or group's dialogue with nature.'

individual's 'delivery of perception' through behaviour.⁸ The diversity of behaviour makes perception a more complex human characteristic than any other.⁹ When humans interact with their environment, their senses pick up the perceived data and supply it to the brain where it is mechanically processed. This biological process is similar in most humans. But then the mind interprets the sensual data according to personal memory and experience. This unique formula depends on formal and informal education or knowledge transfer during life. Finally, the process is complicated by the power of an individual's imagination. Therefore, the complex physiological process of perceiving and then acting on those perceptions inevitably produces infinite interpretations. Like a mirror reflects the individual perceiver, the traveller's account often reflects more about the individual who perceived than the data originally perceived.¹⁰

Travel writing deals directly with perception, but it also entails testimony. The former is more of a 'natural process' resulting from the initial impact of external forces, whilst the latter involves the 'free will' of the individual to demonstrate a specific intent.¹¹ European travellers who ventured into *Ketakamigwa* were groomed by societal experiences and either formally or informally educated, so the mirror of perception reflected in their writings represents many generally accepted worldviews of the period, but they also often reflect

⁷ Alfred Crosby argues that this was a way for Europeans to create 'neo-Europes' in more favourable environments where they could leave behind unwanted aspects of the 'old world' and create a 'new world' with that baggage they carried with them. See his *Ecological Imperialism*, pp. 1-40.

⁸ Thomas J. Lombardo, *The Reciprocity of Perceiver and Environment: The Evolution of James J. Gibson's Ecological Psychology* (London, 1987), pp. 355-358.

⁹ B. Goodey, *Perception of the Environment: An Introduction to the Literature* (Edinburgh, 1973), pp. 1-11.

¹⁰ This process is not unlike the Rorschach Ink Blot results from tests with people from different cultures. See Giuseppe Costantino, Richard H. Dana, and Robert G. Malgady, *TEMAS (Tell-Me-A-Story): Assessment in Multicultural Societies* (Mahwah, 2007).

¹¹ Peter Graham, 'Liberal Fundamentalism and Its Rivals,' in Jennifer Lackey and Ernest Sosa (eds.), *The Epistemology of Testimony*, pp. 93-115.

personal bias. Therefore, travellers were not only operating within the cultural context of their worldview, but periodically recording false testimony to serve their self-interests.

The following analysis probes the perceptions of specific travellers who voyaged to *Ketakamigwa* between the sixteenth and eighteenth centuries, and identifies some of the less personal, yet influential, constructs of worldview that they absorbed from their historiography and myths, literature, philosophy, art, science, and religion. Isolating perception, personal bias, and self-interest assists in exposing some patterns, themes, and trends in travel writing. Tracking them establishes the rotating epistemology that affected the human-nature relationship of the period. The consequences of worldview have always had the ability to encourage ‘group hallucination’ through the unique power wielded by culture that controls perception ‘to the degree that people will see things that do not exist.’¹² This can be especially devastating when influential worldviews are wielded by the self-interests of opportunists. Therefore, it is vital that bias be identified and perceptual camouflage removed to reveal the existing dynamic of the European traveller’s pride and prejudice.

Tantalising Tales, Riches, and Glory

The ‘long sixteenth century’ often marks the transition between the ‘late Medieval’ and ‘early Modern’ historical periods during which time European society entered into an unprecedented and accelerated amount of change. This metamorphosis included extraordinary population growth, scientific and technological advancements, extreme

¹² Yi-Fu Tuan, *Topophilia: A Study of Environmental Perception, Attitudes, and Values* (University of Minnesota, 1974), p. 246.

weather resulting from climate change, civil and religious revolutions, economic expansion and globalisation, socio-economic stratification, and an upsurge in international competition for territory, labour, and resources.¹³ However, the ties that bound the 'modern' to the 'medieval' were not entirely severed by this process of 'modernisation'. Educated travellers had some historical knowledge and, prior to sea voyages, often read contemporary documents and historical texts for themselves.¹⁴ At the least, they were influenced by orally transmitted rumours and stereotypes heard prior to their journey, so in the early stages of exploration, the traveller's mind was filled with mythological ideas of what lay ahead.

The virtual 'blank slate' of factual information about the Wabanaki and *Ketakamigwa* must have invoked a sense of excitement that lessened the anxiety over encountering the unknown.¹⁵ However, it is precisely because of this literary void that travellers found

¹³ This list could very well be a twenty-first century list of reasons why we have reached a *tipping point* in human development.

¹⁴ Almost all travellers accounts refer to those who have gone before them or to contemporary authors whose works have influenced and inspired them.

¹⁵ There was a body of literature from previous North Atlantic travels, but they were not circulated outside of Scandinavia. Two Old Norse *Sagas* written between the twelfth and fourteenth centuries, but referring to tenth century landfalls, provide the first historical accounts of several voyages in or around *Ketakamigwa*. There are clear descriptions of the landscape, natural resources, and *skrælings* (the term they used to describe native people). Robert McGhee believes these people to be Dorset ('Tunit' in the Inuit language), the ancestors of the Beothuk. See his 'Possible Norse-Eskimo Contacts in the Eastern Arctic,' in G.M. Story (ed.), *Early European Settlement and Exploitation in Atlantic Canada: Selected Papers*, Memorial University of Newfoundland (St. John's, 1982). The *Sagas* provide testimony that one part of the region was 'not mountainous but did have small hills, and was covered with forests' while the other 'had high mountains, capped by a glacier.' The first voyage was conducted by Bjarni Herjolfsson who was accompanied by a poet from the Hebrides; but neither stayed long enough to meet any *skrælings*. The second voyage was led by Leif, son of Eirik the Red of Brattahlid, and it is his experiences that initiate a series of Norse explorations gleaning tenth-century images of what are today Baffin Island, which he called 'Helluland' ('Stone Slab Land'); Labrador, he called 'Markland' ('Forest Land'); and Newfoundland, Prince Edward Island, Nova Scotia, and New Brunswick, he collectively called 'Vinland' ('Wine Land'). See 'The Saga of the Greenlanders' in Jane Smiley and Robert Kellogg (ed.), *The Sagas of Icelanders* (New York, 2000), pp. 636-637. The *Sagas* provide images for 'beaches of white sand,' sweet-tasting dew, shallow water at low tide, rivers that flowed into the sea, an abundance of salmon 'larger than they had ever seen,' and grapevines. Place names and physical details have assisted scholars in determining routes for these first two, and several subsequent, Norse trips made from

themselves the creators of a new historiography, moulders of cultural stereotypes, and promoters of economic exploitation that belonged to a people who did not speak a European language and relied upon oral tradition for the preservation of their past. The factual details of successful trans-Atlantic passage, territorial discovery, new resources and people were often eclipsed by the powerful imaginations that influenced travellers' perceptions, and this is apparent in the written accounts that were circulated throughout Europe.

No traveller left his port mentally equipped with a 'blank slate'. With no foundation for the actual history, geography, and culture of the Wabanaki and *Ketakamigwa*, travellers reached back to references in their world to make some sense of what they saw in the 'new world'.¹⁶ As fantastic as most seemed, even the travellers' accounts from ancient and medieval literature were still popular and provided fodder for the imaginations of Atlantic travellers. While *The Odyssey* and *Aeneid* were popular classical water-travel stories, *The*

Greenland. Smiley, et al. pp. 638-639 Despite interpretations of the landscape leading to speculative maps, archaeological findings are limited to two small settlements in Newfoundland and Quebec. Archaeological evidence is isolated to Newfoundland, see Helge Ingstad and Anne Stine Ingstad, *The Viking Discovery of America: The Excavation of a Norse Settlement in L'Anse Aux Meadows, Newfoundland* (St. John's, 2000); also Birth L. Clausen (ed.) and Dillian Fellows Jenson (trans.), 'L'Anse aux Meadows, the Western Outpost' in *Viking Voyages to North America*, The Viking Ship Museum (Roskilde, 1993), pp. 30-42. *The Saga of the Greenlanders* is the oldest historical evidence ethnohistorians have for the use of hide-covered boats, the bow and arrow, trade in fur pelts, sables, and skins in exchange for milk products and weapons, and an indication that natives initially found the axe to be inferior to their own strong stone tools. Smiley et al. pp. 642-648. *Eirik the Red's Saga*, on the other hand, is the first evidence of natives being apprehended for the purpose of being taught the Norse language and religion. It also provides lists of food stuffs such as beached whale, wild game, and seafowl eggs, as well as the story of how the sight of a Greenland bull caused the natives to take flight and run to their boats. Beyond a bull, the most powerful Norse weapon was not the sword or foreign disease, but rather a crazed pregnant woman named 'Freydis' (the illegitimate daughter of 'Eirik the Red') who managed to singlehandedly chase the natives away by bearing one breast and pounding on it with her sword. Smiley et al., pp. 666-672.

¹⁶ Studies in environmental perception show that humans have a tendency to rely on group knowledge over their own when confronted with entirely new images and, because they cannot literally interpret what they see into words, they naturally refer to known images for comparison. See Goodey, *Perception of the Environment: An Introduction to the Literature*, pp. 1-11.

Navigatio Brendani was also considered a 'Medieval Best Seller' and circulated in several languages, including the original Latin and Anglo-French.¹⁷ Based on the level of fantasy found in these texts alone, giants, monsters, and talking animals, took on especially poignant meanings for sixteenth century travellers who sailed over the unforgiving sea to unknown destinations.¹⁸ If their fear and imaginations were inspired by ancient-medieval mythological tales, it undoubtedly enhanced the anticipation of what lie in wait and distorted their recorded perceptions upon return.

There were also contemporary traveller's accounts to which they might refer. The English had access to a large collection of water-travel literature in the three-volume sixteenth century publication of Hakluyt's *Principal Navigations*, which included colourful excerpts from voyages to Jerusalem, Russia, and India, among other exotic locations.¹⁹ Many travellers expected to find similar attractions while sailing through the islands and along the coastlines of the Atlantic because they believed themselves to be on the eastern coast of

¹⁷ John D. Anderson, 'The *Navigatio Brendani*: A Medieval Best Seller,' *The Classical Journal*, 83:4 (April-May, 1988), pp. 315-322. Some travellers may have possessed knowledge of the sixth century *Navigatio* about St. Brendan, the Irish Monk who was divinely inspired to build ships and leave Ireland for a seven-year voyage divided into a series of forty-day legs and seven-day fasts with twelve loaves of bread at meal time. Though Brendan and his monks appear to have obviously adapted well to carpentry, navigation, and symbolic numerology, none of them seem to have picked up cartography; hence the absence of any legitimately accurate maps. Descriptions are vague, yet fantastic, and between sea monsters, lamps of crystal, and Latin-speaking birds, imagery within the documentation hinders the ability to geographically place St. Brendan's landfalls for certain. In fact, there is a strong possibility that the plethora of 'grapes' St. Brendan and his monks ingested during their three-day rest by the sacred well were more likely hallucinogenic mushrooms. See Carl Selmer (ed.), *Navigatio Sancti Brendani Abbatis: from early Latin manuscripts* (Dublin, 1989), ch. 13.

¹⁸ Timothy Severin, *The Brendan Voyage* (London, 1996) argues that, rather than discount St. Brendan's *Navigatio* to a work of total fiction, however, there is substance in images of icebergs, a volcano, and islands of birds, which possibly specify landfalls in and around Iceland, the Faroes, and Soay. However, despite insistence by some Irish Scholars that Brendan made it as far as North America, there is just no archaeological indication of this. Brendan is an historical figure, and his voyage appears to have happened, but the *Navigatio* is undoubtedly a story which is, as Samuel Eliot Morison delicately puts it, 'enhanced by Celtic imagination.' Samuel Eliot Morison, *The European Discovery of America: The Northern Voyages a.d. 500-1600* (New York, 1971), p. 25.

¹⁹ Richard Hakluyt, *Voyages and Discoveries*, Jack Beeching (ed) (New York, 1982).

Asia. This disorientation obviously fuelled false expectations and then distorted their impressions. As a result, they fell prey to associating that which was new to them with that which was already familiar or expected based on preconceived assumptions gleaned from other travellers' accounts.

Explorers to *Ketakamigwa* did not need, however, to consult the ancient-medieval classics or the more recent publications about travels in the opposite direction to conjure these false images. In preparation for their trip, they need only read about contemporary trans-Atlantic travels to the southern hemisphere that took place during the decades preceding their own journeys. The first exploratory voyages west by the likes of Columbus, Amerigo Vespucci, and Cortes were all well documented and widely circulated.²⁰ These images were misleading, but they still captured the imaginations of their readers. For example, in his own traveller's account, Oviedo believed pumas to be lions, jaguars to be tigers, and the human inhabitants of Hispaniola to resemble Ethiopians, while Vespucci said in his account that the iguana he encountered was the evil serpent from the great legends of the past.²¹ These extraordinary images of the fauna and flora may have initially attracted curiosity and set a precedent for documenting and categorising new discoveries, but the most obvious influence that early travel accounts had on men leaving for *Ketakamigwa* were the tantalising stories about the great wealth Spain was amassing in the southern hemisphere. This undoubtedly made an impression and heightened the enthusiasm of a

²⁰ Twenty editions of Columbus' first letter were published by 1500, and one of his administrators at Hispaniola, Gonzalo Fernandez de Oviedo, published the first natural history of America as early as the mid-sixteenth century. See Jill Lepore, *Encounters in the New World: A History in Documents* (Oxford, 2000), p. 37. Anthony Pagden, *The fall of natural man: The American Indian and the origins of comparative ethnology* (Cambridge, 1986), p. 11.

²¹ Pagden, *The fall of natural man*, p. 25; and Alfred W. Crosby, *The Columbian Exchange* (Duke University, 1972), p. 6.

long line of venture capitalists that set the precedent for exploitation of the 'new world'. With no way of knowing just how vast the territory truly was, they were motivated by a belief in that imaginary pathway to China, they desired national fame and personal fortune, and the people they encountered were secondary to the wealth of the environment. These are the themes that dominate early travellers' accounts for over a century.

On the eve of the sixteenth century, when trans-Atlantic travellers found themselves amidst the winding currents and hundreds of scattered islands of *Ketakamigwa*, they were undoubtedly teeming with expectations and must have been awe inspired by the overwhelming perceptual sensations they experienced. Unfortunately, the majority of these first-generation travellers left very little documentary evidence. That which does survive, written between 1497 and 1534, reveals a number of perceptual themes duplicating the blueprint of the Spanish expeditions.²² First and foremost, the 'new world' was lush with new flora and fauna, the quantity of which was beyond the need of its people. Second, discovery and mapping of new territories were believed to bring political control and international prestige to explorers and their nation. Third, and most detrimental to the inhabitants of *Ketakamigwa*, was the early stages of a belief that the inferiority of the native

²² In 1911, H. P. Biggar did future historians the great favour of publishing a collection of documents from 1497 to 1534 that reveal a European presence in *Ketakamigwa*. See H.P. Biggar (ed.), *The Precursors of Jacques Cartier, 1497-1534: A Collection of Documents Relating to the Early History of the Dominion of Canada*, (Ottawa, 1911). In addition to printing the documents in their original languages, with an English translation, he also included several biographies on each traveller. Bernard G. Hoffman followed this up with much of the same materials in 1961, but contributed more commentary, and added cartography and historical background, cutting the original documents down to excerpts. See B.G. Hoffman, *Cabot to Cartier: Sources for a Historical Ethnography of Northeastern North America 1497-1550* (Toronto, 1961). Finally, in 1971, David B. Quinn published a work that covered all American discovery for the period, but more importantly, included intact copies of the documents with a recent discovery entitled 'The John Day Letter' See D.B. Quinn, *North American Discovery circa 1000-1612*, (New York, 1971).

people made domination and subjugation not only a necessity for the procurement of land and resources, but the responsibility of the nation.

The earliest documents are patent letters, grants, shipping logs, and excerpts of chronicles that provide insight into the voyages of John and Sebastian Cabot, João Fernandes, Gaspar Corte Real, Giovanni da Verrazano, as well as several lesser known Portuguese explorers and the men from Bristol: Richard Warde, Thomas Ashurst, and John Thomas. Overall, the evidence shows the royal commissioning of boats with promises of payment, instructions for treatment of the crew, and stipulations regarding the distribution of future imports. Though there was some correspondence that may indicate specific landfalls in *Ketakamigwa* and a few that provide details of the actual journey, the bulk of the material highlights the royal directive. After all, the European crowns were funding these early ventures. Whether authored by Henry VII of England, Francois I of France, or Charles V of Spain, the format and content of these sources were relatively consistent: payment was to be made upon safe return, pilots were promised governorship of all islands and mainlands discovered, crews were permitted to keep what they could fit in their chests, and finally, under all circumstances, ships were to stay within the 'limits and sphere of influence' – in other words, they were not to sail off course, get arrested by other imperial powers, and have their cargo confiscated.²³ These documents underscore that both the risk and prospective rewards were extraordinarily great for early travellers. Therefore, we must keep in mind the type of individuals who engaged in early travel. Under this level of pressure, it was likely their wild imaginations and self-interests that got them on the ships to begin with.

²³ Biggar, *The Precursors of Jacques Cartier*, pp. 35-37.

Although travellers through the North Atlantic were in for a rude awakening when they did not find either the route to Cathay or the riches of New Spain, there were fish. In fact, despite the dearth of documentation for the early sixteenth century, there are a handful of chronicles that describe the fishing industry's success, as well as several geographical descriptions, with coastal and inland details utilised in subsequent cartography.²⁴ They reflect a great sense of awe over the natural resources, extreme weather, and vast terrain frequented by fishermen, and they reveal the assigning of place names like 'Cape Breton,' 'Cod-fish land,' and 'St. John's Island,' that were referred to continuously from the earliest arrivals to the present day.²⁵

The most numerous documents pertain to John Cabot, who sailed to the region in 1497 but was lost at sea after the third voyage.²⁶ His disappearance initiated centuries of scholarship debating his possible landfalls.²⁷ However, the 'John Day Letter,' dated between December 1497 and January 1498, and discovered too late to be included in Biggar or Hoffman's works, provides evidence directing scholars to a more specific route. The letter provides a traveller's description that reflects perceptions imbued with opportunism, like when topography is described as having 'tall trees of the kind masts are made,' and it

²⁴ Ibid., p. 36.

²⁵ Biggar, *The Precursors of Jacques Cartier*, pp. 147-150. He notes that the original cartography was most likely carried out by Cabot or his son.

²⁶ Although several of Cabot's place names remained on maps for nearly a century, and London chroniclers provided documentation for his three voyages, the issue remains that 'not a single scrap of his own writing has been preserved...hence, we can only grope in the dark.' See 'Fourth Centenary of the Voyage of John Cabot, 1497,' in *The Geographical Journal*, 9:6 (June, 1897) pp. 604-605. This was a commentary written by the President of the Geographical Journal over a century ago. The discovery of the 'John Day Letter' being an exception, sadly not much has changed since that time.

²⁷ See for example, Evan T. Jones, 'Alwyn Ruddock: "John Cabot and the Discovery of America,"' *Historical Research*, 81:212 (2008), pp. 224-254; Derek Croxton, 'The Cabot Dilemma: John Cabot's 1497 Voyage and the Limits of Historiography,' *Essays in History*, 33 (1990-1991), pp. 1-14; Henry Harrisse, 'The Outcome of the

reflects reliance on previous experience and memory when it describes the way the Wabanaki displayed their fish 'like those which in Iceland are dried in the open and sold in England.'²⁸ This new information also substantiates the argument that, by examining all of the geographical references from this and previous documents, *Ketakamigwa* was part of a previously speculated Cabot route.²⁹ Unlike Columbus' son, who ensured his father's legacy was available in print, Cabot's son, Sebastian, was too busy making a name for himself to do the same.³⁰ No form of journal or personal letters have been unearthed, so considering he never returned from his last voyage, the controversy and intrigue over his route will undoubtedly continue.³¹

Also lost at sea were the Corte Real Brothers, who sailed for Portugal between 1500 and 1506.³² Despite their disappearances, two charters and two letters with testimony from returning ships survived.³³ King Manoel V of Portugal enthusiastically committed resources, including two ships, to Gaspar Corte Real on 12 May 1500, with the goal of an 'increase of our kingdoms and domains, if such islands and mainlands should be discovered and found by subjects of ours.'³⁴ Only one vessel returned, but the letter from Alberto Cantino to Hercules

Cabot Quater-Centenary,' *The American Historical Review*, 4:1 (October, 1898), pp. 38-61; n.a. 'Fourth Centenary of the Voyage of John Cabot, 1497, *The Geographical Journal*, 9:6 (June, 1897), pp. 604-615.

²⁸ D.B. Quinn, 'The John Day Letter' in *North American Discovery circa 1000-1612*, p. 44.

²⁹ Derek Corxton, *The Cabot Dilemma: John Cabot's 1497 Voyage & the Limits of Historiography*, Corcoran Department of History, University of Virginia (1991). Another excellent analysis was done by Henry HARRISSE, 'The Outcome of the Cabot Quarter-Centenary' *The American Historical Review*, 4:1 (October, 1898) pp. 38-61.

³⁰ Sandman, Alison; Ash, Eric H. *Trading Expertise: Sebastian Cabot between Spain and England*. *Renaissance Quarterly*, Vol. 57, No. 3. (Autumn, 2004) pp. 813-846.

³¹ Eric H. Ash, 'Trading Expertise: Sebastian Cabot between Spain and England, *Renaissance Quarterly*, 57:3 (Autumn, 2004), pp. 813-846.

³² Though one document from 1590 states that an earlier voyage by the brothers took place in 1470, both Quinn and Morison denounce it as 'rambling and inaccurate.' Quinn, pp. 48-49; Morison, pp. 33-50.

³³ As for the 1500-03 voyages, the grants and letters are found in all three sources. I quoted from Quinn, pp. 48-54.

³⁴ *Ibid.* p. 49.

d'Este, Duke of Ferrara, dated 17 October 1501, survived as testimony to the expedition.

This document reflects an interest in timber resources, concern over lack of arable, and an interest in how the people lived. His ship stopped first to collect fresh water, doing so from a 'clear stream of sweet water that melted and once dissolved ran down into little channels made by itself, eating its way splashingly to the base.'³⁵ After experiencing freezing sea, they travelled west three more months before they caught sight of

a very large country which they approached with very great delight. And since throughout this region numerous large rivers flowed into the sea, by one of these they had their way about a league inland, where on landing they found an abundance of most luscious and varied fruits, and trees and pines of such measureless height and girth, that they would be too big as a mast for the largest ship that sails the sea. No corn of any sort grows there, but the men of that country say they live altogether by fishing and hunting animals, in which the land abounds, such as very large deer, covered with extremely long hair, the skins of which they use for garments, and also make houses and boats thereof, and again wolves, foxes, tigers and sables.³⁶

Cantino went on to describe the people, fifty of which he 'forcibly kidnapped', and how their faces were 'marked with great signs.'³⁷ Despite his harsh treatment of the people, he still appeared impressed, finding them gentle, enjoyable, and very pleasant to the eye.³⁸ He then described their clothing and use of stone, concluding that, although his vessel returned, another ship went on to determine whether the land they were witnessing was an island or mainland. This second vessel was, likely, the ship carrying Real that never returned to Spain. Cantino's letter, like previous evidence illustrates the level of self-interest as well as the interest in identifying whether there was a passage to China.

³⁵ Ibid. p. 50.

³⁶ Ibid. p. 51.

³⁷ Ibid.

³⁸ Ibid.

The letter of Pietro Pasqualigo to the Signory of Venice, on the other hand, reflected a different tone to that of Cantino. He had a more negative perception of the people. To Pasqualigo, the natives resembled gypsies and, though they were ‘exceedingly well-formed’ and gentle, he believed their habits to be ‘bestial.’³⁹ Despite his negativity toward his captives, he was also impressed about the terrain and optimistic that it could be easily taken from what he considered would soon become ‘men-slaves fit for every kind of labour.’⁴⁰ Although he considered the land they discovered to be a mainland, like Cantino, he was also awaiting confirmation from a captain with word of an inland passage who never returned.⁴¹ Therefore, in addition to self-interest, Pasqualigo’s letter provides evidence for the condescending perception of the people that relegated them to collateral damage. The priority given to the inland passageway, however, is supported by what followed. After five years of waiting for that captain, his brother, Vasco Annes Corte Real, received the royal decree to complete the king’s mission in his stead. The final charter in the collection of documents confirms the inheritance of this responsibility by the Real brother, then sets out some similar guidelines and grants a reward to Real’s descendants should he not return. Vasco Annes sailed away in 1506 and, if the stipulations of the grant were honoured, his descendants received that reward.⁴²

³⁹ Ibid. p. 52.

⁴⁰ Ibid. p. 52.

⁴¹ Ibid. p. 52.

⁴² Ibid. pp. 53-54. Although John Cabot’s son, Sebastian Cabot, appears to have made at least one trip to North America, the small bits of information found in a document published in 1516 by Peter Martyr is unclear of the location. However, after leaving Britain, steering north, and finding ‘icebergs floating in the sea and almost continuous daylight,’ Sebastian turned west and south with ‘his latitude almost that of the Straits of Gibraltar...until he had the island of Cuba on his left.’ Ibid. p. 57. Unfortunately, at this point, it is impossible to determine whether he is describing Florida, Virginia, or Maine.

One of the most helpful ‘chronicles’ in the collection, with regard to reflecting perceptions of the Wabanaki from an ‘outsider’ point of view, is entitled ‘Islands off the Land Discovered by the Pilot Stephen Gomez’ who sailed for Charles V in 1524. In this short narrative, the author stated that the river named ‘Deer River’ (the Bay of Fundy) ‘was everywhere dotted with islands, on which in summer the Indians from the mainland took up their quarters for the sake of the quantities of salmon, shad, pickerel, and other varieties of fish found in those waters.’⁴³ He goes on to describe the environment briefly, concluding quite casually that they ‘brought home many Indians’. The relaxed nature of mentioning a kidnapping in passing, demonstrates the mindset of a traveller whose priorities were concerned with resources over people.

These letters, logs, and contracts were available to a very limited number of individuals when they were originally penned, so most Europeans only heard of expeditions via word-of-mouth, and even that was most likely promoted by the merchants of port cities like Bristol, Dieppe, and Lisbon. It was not until the latter half of the sixteenth century that images of the Wabanaki and the water-world environment of *Ketakamigwa* were circulated through journal publications and popularised among the European public.⁴⁴ The first travel literature that mentioned them was made available to the public was in 1556, when G. B. Ramusio published *Navigazioni et Viaggi* in three volumes, and proudly included a letter to King Francois I of France authored by fellow Venetian, Giovanni de Verrazzano. This letter, now known as ‘The Voyage of Giovanni da Verrazzano Along the Coast of North America, From Carolina to Newfoundland, A.D. 1524,’ was printed in Ramusio’s publication and

⁴³ Biggar, pp. 193-194.

circulated throughout Europe, providing public readers with a glimpse into a land that provided so much speculation.⁴⁵

By the time Verrazzano sailed the Atlantic, the Spanish had spent nearly thirty years exploring and exploiting the Americas from Florida south. Verrazzano was sure to keep his French vessel north, approaching land in North Carolina, turning south for a short jaunt along the coast of South Carolina, and then north again. His travels north took him all along the coastline where he recorded the flora and fauna, people, and resources. During the early stages of his voyage, his impressions were quite positive, even laced with amazement, and he was extremely pleased by the interactions he had with native people.⁴⁶ Then he arrived in *Ketakamigwa*. As he passed around Cape Cod and north along the coast of Maine, he found ‘a high land full of very thick forests, the trees of which were pines, cypresses and such as grow in cold regions.’⁴⁷ He was disappointed to find, however, that these natives, unlike those he had already befriended and found to be ‘kind and gentle,’ were instead ‘rude and barbarous.’⁴⁸ By associating the people with their natural environment, Verrazzano described the physical surroundings just as negatively. He said that

They clothe themselves in the skins of bears, lynxes, seals, and other animals. Their food, as far as we could judge by several visits to their dwellings, is obtained by hunting and fishing, and certain fruits, which are a sort of root of spontaneous growth. They have no pulse, and we saw no signs of cultivation;

⁴⁴ The biases in these sources made an ineffaceable impression that lasted well into the nineteenth century when attempts to debunk them began with the infant fields of anthropology and ethnohistory.

⁴⁵ Rather than Hakluyt’s translation, I used the translated version from Ramusio’s original in the Magliabecchian Library at Florence, which was presented to the New York Historical Society and republished by Cornell University (1993).

⁴⁶ All indications from his descriptions are that they are of the native people living in and around what is today New York and Boston harbours.

⁴⁷ *Ibid.* p. 50.

⁴⁸ *Ibid.*

the land appears sterile and unfit for growing of fruit or grain of any kind. If we wished at any time to traffick with them, they came to the sea shore and stood upon the rocks, from which they lowered down by a cord to our boats beneath whatever they had to barter, continually crying out to us, not to come nearer them, and instantly demanding from us that which was to be given in exchange; they took from us only knives, fish hooks and sharpened steel.⁴⁹

Verrazzano did not find them appreciative of his generosity and when an attempt was made to penetrate further inland, he and his crew were overcome by arrows. Not only did Verrazzano's mood affect his choice of words, demonstrating disdain for these people, but it was at this point in his journey he decided to leave the Bay of Fundy and travel toward Newfoundland far away from them. This negative experience conjured up the words *Terra Onde di Mala Gente* in his mind, and he put into print a phrase which soon found its way onto several exploration maps, even one with an English translation: 'Land of Bad People.' The further Verrazzano moved away from the *Ketakamigwa*, his tone became gradually positive again. Instead of a region where 'we found nothing extraordinary except vast forests and some metalliferous hills,' he came to find 'thirty-two islands, all near the main land, small and of *pleasant* appearance.'⁵⁰ No doubt his disappointing experience with the Wabanaki influenced the interpretation of his previous surroundings.⁵¹ Verrazzano had no context for the response he received from them. He did not know their attitudes were a reflection of prior encounters with Europeans during the previous decades of exploration and fishing. Unlike the people in the south who had pleased Verrazzano, the Wabanaki were already soured by kidnapers like Cantino and Pasquigo. By 1524, the problems of perception in *Ketakamigwa* were already creating hostility.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

The mass publication of Verrazzano's letter was pivotal because it provided the first vivid descriptions and images of territories between the imperial holdings of Spain and the explored fishing grounds of *Ketakamigwa*. It also provided new experiential cartographical evidence that 'Turtle Island' was one land mass with no passage to China. In print, for a wide audience to read, the Renaissance-educated Verrazzano acknowledged that

My intention in this voyage was to reach Cathay, on the extreme coast of Asia...it was the opinion of the ancients, that our oriental Indian ocean is one and without any interposing land...but it is contrary to that of the moderns and shown to be erroneous by experience; the country which has been discovered, and which was unknown to the ancients, is another world compared with that before known, being manifestly larger than our Europe, together with Africa and perhaps Asia, if we rightly estimate its extent.⁵²

It would seem that Verrazzano's widely publicised declaration might have put the 'passage to Cathay' myth to rest. However, the next generation of explorers and their royal supporters were still obsessed.

This was the case with Jacques Cartier who was the next traveller to write his perceptions of the Wabanaki and *Ketakamigwa* during three voyages that began in 1534. A decade had passed since Verrazzano established there was no passageway to China, but because he indicated the barrier was in the south, Cartier expended his energy in the north where, on his second voyage, he found his way into the St. Lawrence River. The first traveller to document perceptions of the vast river watershed, Cartier was also the first to provide detailed descriptions of the Wabanaki who lived along the coastline there. Like explorers for the next century, he and his crew remained in the sea, their vessels too large to take into the small inland waterways. During a short stop in the Gaspé Bay, he made these observations:

On account of the continuous bad weather with overcast sky and mist, we remained in that harbour and river, without being able to leave ... During that time there arrived a large number of savages, who had come to the river to fish for mackerel, of which there is great abundance. They numbered, as well men, women and children, more than 200 persons, with some forty canoes ... This people may well be called savage; for they are the sorriest folk there can be in the world, and the whole lot of them had not anything above the value of five sous⁵³, their canoes and fishing nets excepted.⁵⁴

His casual reference to the Wabanaki being 'savages' reflects his French Christian worldview and a mentality that was ubiquitous in traveller accounts.⁵⁵ His concern about their lack of material wealth also reflects his preoccupation his royal directive which was to find riches and return with them.

Prior to landing in the Gaspé Bay, Cartier had spent nearly two months travelling from France through the Strait of Belle Isle, along the coasts of Newfoundland and Labrador, and around the archipelago of the gulf, where his *Voyages* provide details of the physical landscape, natural resources, and process of procuring food for his crew. (Fig. 14)

⁵² Ibid. p. 52.

⁵³ A 'sou' is a copper coin, formerly used in France, and worth the very small amount of five centimes. *Cassell's French English Dictionary*, Macmillan Publishing (New York, 1968).

⁵⁴ Ramsay Cook (ed.), *The Voyages of Jacques Cartier* (Toronto, 1993), p. 24.

⁵⁵ Anthony Pagden, *The Fall of Natural Man: The American Indian and the origins of comparative ethnology* (Cambridge, 1992). His chapters on 'the image of the barbarian,' and 'the theory of natural slavery' are particularly useful, pp. 15-56.



Figure 14. ©2001 Natural Resources Canada

From his accounts come an exchange with the Mi'kmaq, who served the French broiled seal meat on wooden platters and traded pelts for metal trinkets. The visit was short, only lasting two days, but he provided a description of the canoes, fishing gear, and their daily habits.⁵⁶

Although Cartier's three voyages came to an end in 1543, they did greatly enhance familiarity with the St. Lawrence Gulf and River, provided further contact with natives and detailed maps as far as Montreal, before there was a definitive lull in the area traffic for the next half a century. Cartier had not discovered an inland passage west to Asia, he had not accomplished a permanent settlement, and the many fanciful tales of rich cities along the Saguenay River that he wrote of yielded nothing.⁵⁷ Meanwhile, Spain was reaping huge material rewards in the 'new world' to the south, while the French and English were coming home with an endless cargo of fish from the north. In addition to lacking incentive to fund future expeditions, the French hosted a war between the Catholics and Huguenots not to be

⁵⁶ Cook (ed.), *Ibid.*, pp. 22-25.

resolved until the Edict of Nantes in 1598, while Henry VIII had his hands full with domestic complications and then Elizabeth found herself embroiled in a conflict with Spain.

With the major European powers distracted, it was the Basque fishermen whose ships quietly dominated *Ketakamigwa* during the late-sixteenth century lull in traffic, where a very successful fishing industry was established.⁵⁸ Significant documentation from the Spanish Archives have produced proof of this presence,⁵⁹ and at least eight sites have revealed archaeological finds, including coinage from Phillip II who ruled Spain from 1556-1598.⁶⁰ So, when Samuel de Champlain entered the region in 1603, not only did he commonly see Basque ships, but he found the coastal natives using Basque words during their trading exchanges.⁶¹ Be it the nature of fishermen, their lack of desire to record experiences, or perhaps their illiteracy, no travellers' accounts by the Basques have been unearthed thus far to reveal actual observations of the native people.

Therefore, the voyage made by Champlain in 1603 was the beginning of a new age. Between 1604-1607, Champlain was accompanied by Pierre du Gua de Monts, the eventual first governor of 'Acadia', on several explorations of the region. (Fig. 15) This 'Father of New France' made seven trips between his homeland and the new territory, all of which would be

⁵⁷ It was the 'great riches' of Saguenay which Cartier used to convince the King that a third voyage would be profitable. Ibid. p. 97.

⁵⁸ Rene Belanger, *Les Basques Dans L'estuaire Du Saint-Laurent, 1535-1635* (Montréal, 1971).

⁵⁹ Ibid. Also, Selma and Michael Barkham have worked in Spain on behalf of the Public Archives of Canada and discovered an endless stream of boat charters, grants, insurance policies, wreck testimonies, shipbuilding contracts, last wills, and provisioning lists; all with names, dates, ports, cargo, salary, supplies, income, transport and processing of barrels of whale oil. However, no testimonials about the natives have been discovered. Selma Barkham, 'Documentary Evidence for 16th Century Basque Whaling Ships in the Strait of Belle Isle,' in G.M. Story (ed.), *Early European Settlement and Exploitation in Atlantic Canada: Selected Papers* (St. John's, 1982). I deal more directly with this data in Chapter 5.

⁶⁰ These findings include the remnants of fish processing buildings with Basque ovens for drying and mincing, Basque ceramics, iron nails, tiles, post moulds, and tools.

⁶¹ Charles Pomeroy Otis (trans.), *Voyages of Samuel de Champlain*, Vol. 2. (Charleston, 2006), p. 149.

very well chronicled.⁶² Unlike Cartier before him, Champlain discovered Hudson Bay, the Great Lake system of tributaries, and the Bay of Fundy. Unlike Cartier, he was responsible for lasting French settlements and developed a solid alliance with the natives of the region. He also eventually initiated a colonisation programme as well as several business arrangements that exploited the riches he found there. However, like Cartier, Champlain believed the passage to China should be a priority, as it was, most likely, just beyond their new horizon.⁶³ Therefore, Samuel de Champlain marks the transition between the first and second theme in early traveller accounts. He was still concerned with getting through *Ketakamigwa* to find what was on the other side, but he spent much more time there and is responsible for some of the earliest cartographical images and detailed flora/fauna inventories. Champlain seems to have known that, although his priority was on the other side, he was not going to ignore what lay before him.

⁶²Ibid.

⁶³ Jennifer Speake (ed.), *Literature of Travel and Exploration: An Encyclopedia*, Vol. 1: A-F (London, 2003), p. 225.



Figure 15. ©2001 Natural Resources Canada

Champlain provides perceptions with numerous details about the natural terrain, resources, and the native people with whom he interacted. He and his crew witnessed the changes of the seasons and subsequent bi-annual migrations by the natives. Records reveal information about foods, such as cockles, sea-urchins, and snails,⁶⁴ as well as canoe-making techniques⁶⁵ and mineral resources found in the water.⁶⁶ Prioritising one over the other, Champlain's

⁶⁴ Pomeroy, *Voyages of Samuel de Champlain*, Vol 2, p. 61.

⁶⁵ *Ibid.* p. 73 and Vol. 1, pp. 338-339.

⁶⁶ *Ibid.* p. 102.

best efforts were not in describing the people but in his ability to recreate the natural geography. This detail provides an accurate route of his voyage:

This day we made some twenty-five leagues between Bedabedec Point and many islands and rocks, which we observed as far as the river Quinibequy, at the mouth of which is a very high island, which we called the Tortoise. Between the latter and the main land there are some scattering rocks, which are covered at full tide, although the sea is then seen to break over them. Tortoise Island and the river lie south-south-east and north-north-west. As you enter, there are two medium-sized islands forming the entrance, one on one side, the other on the other; and some three hundred paces farther in are two rocks, where there is no wood, but some little grass...⁶⁷

Detailed images of the landscape like these were missing from travel documents prior to Champlain.

During these excursions made by Champlain and de Monts, a French lawyer named Marc Lescarbot landed in *Ketakamigwa* with Jean de Biencourt de Poutrincourt, where he spent a year between 1606-07. This learned writer was responsible for the historical masterpiece *Histoire de la Nouvelle-France*, published in 1609, with several revisions and expanded editions over the next decade.⁶⁸ Lescarbot not only documented the year he stayed in what was to become 'Acadia', but he researched those explorers who had preceded Champlain, including Cartier and Verrazzano. While the first volume was dedicated to these early explorers and their findings, the second volume documented the efforts of Champlain, Poutrincourt and de Monts. The third volume in *Histoire* was solely dedicated to his descriptions of the natives and where a wealth of information is available,

⁶⁷ Ibid. p. 65.

⁶⁸ H. P. Biggar, 'The French Hakluyt; Marc Lescarbot of Vervins,' *The American Historical Review*, 6:4 (July, 1901), pp. 671-692.

even down to taboos, such as the fact that, unable to explain why, the Wabanaki in 'Acadia' did not eat mussels.⁶⁹

The works of Lescarbot covered in the following section represent a paradigm shift in the literary review of what eventually became New France. Travellers' accounts preceding his were less thorough and terribly concerned with the weight of their material discoveries, and they reflect confusion between their expectations and the reality of what they found. Leaving the 'old world' for the 'new world', explorers were envisioning a heavily populated land filled with exotic spices and silks, popular images ingrained in their minds by Marco Polo's journals centuries earlier. It is understandable that those who bore witness to an entirely different continent were constantly trying to properly place what they were seeing and experiencing into a false context, therefore, corrupting the reality of what was there in their written accounts. Their disappointment may have also contributed to their negative impression of the people with whom they came in contact. Until Lescarbot, the documentation lacked a sense of contemplation, an analysis and serious critique of the people and places which were encountered. Instead, early documentation swelled with the disappointment and anxiety caused by not fulfilling the expectations of the misguided first travellers who braved conditions in search of wealth and glory. While earlier visitors to New France were blinded partially by their greed for material wealth and partially by the royal and professional demands of finding that necessary passageway to the east, they were unable to fully reap the reward of the 'new' and all that finding it and experiencing it might have entailed.

⁶⁹Marc Lescarbot, *Nova Francia: A description of Acadia, 1606*, in P. Erondelle (trans.), 1609, with an introduction by H.P. Biggar, (London, 1928), p. 225. Also, Marc Lescarbot, *History of New France*, in W.L. Grant (ed. and trans.), 3 Vols., for The Champlain Society (Toronto, 1907-14).

Humanism, Historiography, and Nature

Early travellers to *Ketakamigwa* were primarily opportunistic and concerned with material rewards. They possessed preconceived notions that were often mythological or simply unrealistic, and when combined with their desire for wealth, their written perceptions of the natural world and its inhabitants were either inflated or reflect their distraction and disappointment. Up to the seventeenth century, travellers also lacked historiographical knowledge about *Ketakamigwa* because the stories were not in writing. By the seventeenth century, even more significant were the consequences travellers inherited from the scientific and cultural revolution going on in the 'old world'. Reaching back to ancient authorities, the cornerstone of Renaissance methodology and something historians and travellers would come to highly value, provided not only a renewed understanding of man's power over nature, but a readjusting concept of man's place in nature.

Much of the foundation for these changes, of course, evolved sporadically throughout the Middle Ages, when agricultural innovations, technology, sea exploration, university education, and political institutions, were all experimenting with new ideas based on ancient knowledge.⁷⁰ But it was the advancements in weaponry, navigational equipment, and agricultural implements to serve a growing population, which thrust man directly into nature wielding a new energy and power. Further enhanced by the invention of the printing press, a contraption completely separate from nature and yet directly responsible for impacts

⁷⁰ J. Donald Hughes, *An Environmental History of the World: Humankind's Changing Role in the Community of Life* (New York, 2002), pp. 83-86.

made to her, man's power over nature was to become a major component of philosophical thought by the seventeenth century. Francis Bacon went so far as to say:

It is well to observe the force and virtue and consequences of discoveries; and these are to be seen nowhere more conspicuously than in those three which were unknown to the ancients...; namely, printing, gunpowder, and the magnet. For these three have changed the whole face and state of things throughout the world; the first in literature, the second in warfare, the third in navigation; whence have followed innumerable changes; insomuch that no empire, no sect, no star seems to have exerted greater power and influence in human affairs than these mechanical discoveries.⁷¹

Enthusiasm over technological innovation contributed to the desire and ability of travellers to get to new destinations, but it also played a role in changing, and sometimes devastating, ecosystems.⁷² The cycle was self-propelled: the more innovations, the more desire to put them to use; the more discovery of new destinations, the more opportunity for the implementation of new technology. Swept up in the enthusiasm for that new technology, travellers documented their observations of natural environments, and then offered up ways in which innovations would enhance them. Landscapes and ecosystems void of new technologies were considered inferior and in need of improvement.

While the scientific revolution offered new tools for man to better understand, observe, and control nature, the cultural and social revolutions following the Renaissance provoked the intellectual mind-set that most affected new environments and how new tools were to be best implemented. Making man the central focus of the cultural revolution, 'humanists' departed from the theological emphasis on God and the astronomical fascination with the cosmos, by creating an anthropocentric view of the world that attracted

⁷¹ Hugh G. Dick (ed.), *Selected Writings of Francis Bacon* (New York, 1955), pp. 538-539.

⁷² Hughes, *Ibid.*, pp. 109-112.

a much wider audience.⁷³ This was a paradoxical shift in values, made possible by the ability of scholars to disseminate their theories throughout English and French society via the convenience of the printing press. Had there not been the means for mass communication, their ideas, like so many belonging to the ancients, may flourished more in the isolated presence of small intellectual circles. However, by the seventeenth century, philosophical thought circulated in Latin, Greek, and several vernacular languages, reaching a wide audience.⁷⁴

The 'humanist' principle of self-interest promoted creativity of intellectual thought, development of morality in character, and idealism where man's ability to acquire knowledge was concerned. This self-interest fed the psychological needs of the aristocracy who ambitiously educated themselves with the ancient texts previously not available to them. However, 'humanism...was too centred on man to care much for nature'; therefore, humanists were selective in the ancient authorities from which they preferred to learn.⁷⁵ A number of classical authors did deal with ecological concerns. Greek philosophers such as Pythagoras, Pherecydes, and Empedocles subscribed to the belief that the world was one living organism sharing a common origin, and therefore man should display care toward all of its individual parts.⁷⁶ Plato took this belief further by encouraging care of nature specifically for the preservation of man.⁷⁷ But these were not the lessons humanists sought to adopt from classical literature. Instead, Renaissance philosophers adhered to the ideas promoted by Cicero, the Roman orator, and Lucretius, a Roman poet and philosopher. Both

⁷³ Charles M. Gray, *Renaissance and Reformation England*, Yale University Press (New York, 1973), pp. 4-5.

⁷⁴ Allen G. Debus, *Man and Nature in the Renaissance*, Cambridge University Press (New York, 1978), p. 6.

⁷⁵ Gray, *Ibid.*, pp. 6-12.

⁷⁶ Hughes, *Ibid.*, pp. 54-55.

acknowledged that man was part of a natural whole, but emphasised man's uniqueness due to the power of his mind.⁷⁸ Lucretius saw man as an artist who sculpted nature: '...even as now you see all the land clear marked with diverse beauties, where men make it bright by planting...'⁷⁹

The most dominant publications, including works by Francis Bacon, René Descartes, and Isaac Newton, focused their energies on the great divide between the mind and matter, encouraging, if not demanding, the dominance of the former over the latter.⁸⁰ Descartes went so far as to make 'the act of thinking the criterion of existence (*cogito ergo sum*) and the status of humans as thinking beings ultimate proof of their separation from the rest of creation.'⁸¹ This ideology, adopted by humanists in both England and France, became a moral obligation and encouraged the 'early modern' concept of *the need for progress*. Once combined with advanced technology, a sense of superiority over nature encouraged *progress* in all aspects of life.

Reaching back to the ancients for knowledge was not limited to acquiring a better understanding of man and nature, however. More celebrated were the works of Cicero, Livy, Tacitus, and Polybius, whose emphasis on 'imperium' made a dramatic impression on travellers' imaginations.⁸² Empire rhetoric may not have focused on man in nature, but it placed man at the centre of the political world, which was becoming larger, more diverse,

⁷⁷ Timothy A. Mahoney, 'Platonic Ecology, Deep Ecology,' in Laura Westra and Thomas M. Robinson (eds), *The Greeks and the Environment* (Rowman and Littlefield, 1997), p. 46.

⁷⁸ Peter Coates, *Nature: Western Attitudes Since Ancient Times*. Polity Press (Cambridge, 1998), pp. 5 and 27.

⁷⁹ Quoted in Coates, *Ibid.*, p. 27.

⁸⁰ Coates goes so far as to call them the 'Unholy Trinity' as well as the 'DDWEMs or Dead but still Dangerous White European Males,' p. 71.

⁸¹ Coates, *Ibid.*, p. 75.

⁸² Anthony Pagden, *Lords of All the World: Ideologies of Empire in Spain, Britain, and France c 1500-1800* (London, 1995), pp. 11-18.

and complex by the seventeenth century. Associated with order, control, conquest, and power, empire building not only moulded man's identity as master over his domain, but proved man's abilities as a 'political animal.'⁸³

The concept of the barbarian (*barbaroi*), initiated by Aristotle's theory of natural slavery, and originally addressing those who simply did not speak Greek, was later implemented into the 'empire philosophy' by Cicero to differentiate between those who were part of the empire and those who were not.⁸⁴ When humanists echoed the concept, they included theories from early Christian writers like Augustine, who concluded that barbarians were non-believers.⁸⁵ From these ancient authorities came the basis for the 'early modern' concept of the barbarian, and travellers were apt to use it repeatedly in both *Ketakamigwa* and the Scottish Insular *Gàidhealtachd*. Humanism, therefore, encouraged progress, utilisation of new technology, empire building, and the subjugation of the barbarian, while justifying it through a sense of moral authority, hand selected from the ancient texts.

This flurry of activity, wrapped in prejudice, was further influenced by Aristotle's writings on observation and categorisation.⁸⁶ For many seventeenth century travellers, the primary objective was to record and define all natural phenomena they encountered, from flora and fauna to people. Early modern naturalists classified their findings in a very humanistic way, in accordance with their relationships to man.⁸⁷ Flora was sketched, named, and described for medicinal, nutritional, and fuel purposes. Animals were described as

⁸³ Ibid.

⁸⁴ Ibid., pp. 20-21.

⁸⁵ Pagden, *The Fall of Natural Man*, pp. 19-20 and *Lords of All the World*, pp. 24-27.

⁸⁶ Debus, *Man and Nature in the Renaissance*, pp. 7-8.

‘edible and inedible; wild and tame; useful and useless.’⁸⁸ Eventually, both were placed in a hierarchy, and it was from this practice that the ‘early modern’ classification of the human species evolved.⁸⁹ Animal metaphors provided a new nomenclature where wild, useful, dirty, and productive, which all pertained to animals, were instead applied to humans; animal stereotypes like snake, beast, weasel, and pig served the same purpose.⁹⁰

Lescarbot was greatly influenced by these ‘modernising’ worldviews. Even so, his thoughts are intelligent, but most of all, philosophical. For him, the experience of travelling to the ‘new world’ was equal to that had by Odysseus and his recording of it, as important as anything written by Plutarch. His historical parallels continually conjure up biblical, Greek, and Latin authors, mixing poetry with prose, and, in as much as he focuses on the humans involved, he relished in the nature that surrounded them. His romantic style complicated interpretation, but it also captured the essence of the excitement that was nearly absent in earlier chronicles.⁹¹ Without the expectations of the earlier explorers, but with the inspiration of seventeenth century worldviews, Lescarbot recorded intimate details of the daily lives of the native people. He made note of the seasons when sea animals were harvested and how their oil was used for food and body grease,⁹² how the natives left the

⁸⁷ Keith Thomas, *Man and the Natural World: Changing Attitudes in England 1500-1800* (New York, 1983), p. 52.

⁸⁸ *Ibid.*, p. 53.

⁸⁹ *Ibid.*, p. 61.

⁹⁰ *Ibid.*, p. 64.

⁹¹ Normand Doiron and Gillian Lane-Mercier stated that ‘The discovery of new worlds is but the first chant of a modern epic about knowledge, which the traveler celebrates by drawing heavily from his vast and solid humanist background so as to create innumerable associations. Historians have not always known how to make the most of this extremely rich and, in the final analysis, poorly understood work,’ in Jennifer Speake (ed.), *Literature of Travel and Exploration: An Encyclopedia*, Vol. 2: G- P, p. 712.

⁹² Lescarbot, *History of New France*, Vol. III, p. 80.

rivers and sea for inland hunting grounds in the winter,⁹³ and how the beaver was easier to hunt during that time.⁹⁴ In addition, he detailed how waterfowl were hunted by canoe and where the birds could be found.⁹⁵ H. P. Biggar made the comparison between Lescarbot and Hakluyt, but emphasised the experiential benefits Lescarbot exhibited by actually travelling to 'Acadia'.⁹⁶ By combining years of research in the King's Library in France with his own experience, Lescarbot created a precedent for French colonial historians that followed.

Lescarbot was also caught up in the idea of 'empire' and was keen to document the histories of early French settlements. Unlike Champlain, Lescarbot was much older and had experienced first-hand the effects of the religious wars in France; unlike Champlain, Lescarbot was from the French interior, had a formal education and a degree in law; and unlike Champlain, Lescarbot was a humanist, a Latinist, and a jurist. From his mind to the page, Lescarbot gave more philosophical attention to his experiences and observations. The academic in him was interested in collecting all that had already been written on 'Acadia' and its neighbouring regions, eventually compiling a work entitled *Histoire de la Nouvelle France* with only the final volume dedicated to his own experience there. He was concerned with the position France had in the imperial scramble for new territories, and he felt the gravity of witnessing the development of a new colony because he knew it was the birth of a new civilisation. The Wabanaki and *Ketakamigwa* were not just being controlled by man, but by France, and his histories and travel accounts that documented their success were read by all of those travellers that followed.

⁹³ Ibid., pp. 219-220.

⁹⁴ Ibid., pp. 222-224.

⁹⁵ Ibid., pp. 230-231.

⁹⁶ H.P. Biggar, 'The French Hakluyt: Marc Lescarbot of Vervins,' *The American Historical Review*, 6: 4 (July, 1901), pp. 674-675.

Religious Baggage: 'Christianising' and 'civilising' the Wabanaki

Those travellers who followed in the wake of Lescarbot included the Jesuits who not only contributed to documenting an historical narrative of the Wabanaki and *Ketakamigwa*, but whose experiences of actually living among them produced an entirely different literary genre altogether. This shift in the theme of traveller's accounts was due to the religious turmoil taking place in Europe. Like the 'modernising' philosophies of the period, the religious transformation of the Reformation contributed a great deal to the mental baggage of trans-Atlantic travellers. In addition, the Reformation owed much of its momentum to the invention of the printing press and the philosophical desire to reach back to ancient authority for contemporary knowledge. Reformers became travellers themselves, and many found their way to both *Ketakamigwa* and the Scottish Insular *Gàidhealtachd*.

Like the philosophers of the Renaissance, those involved in the Reformation were selective in the texts from which they chose to acquire knowledge and inspiration. Despite the direction theological scholars went with regard to nature, scripture did (and still does) include messages that encouraged a doctrine of stewardship. In the Old Testament, Jews were forbidden from destroying trees during warfare,⁹⁷ animals were to be treated kindly,⁹⁸ and Adam was told by God not to 'corrupt or desolate my world.'⁹⁹ Not only was God's creation *good*, but he taught humans through nature:

But ask the animals, and they will teach you, or the birds of the air, and they will tell you; or speak to the earth, and it will teach you, or let the fish of the sea

⁹⁷ Deuteronomy 20:19-20.

⁹⁸ Ibid., 5:12-15.

⁹⁹ Ecclesiastes Rabbah 8:28.

inform you.¹⁰⁰ They will neither harm nor destroy on all my holy mountain, for the earth will be full of the knowledge of the Lord as the waters cover the sea.¹⁰¹

The Old Testament even provided consequences for not observing natural law:

The earth dries up and withers, the world languishes and withers, the exalted of the earth languish. The earth is defiled by its people; they have disobeyed the laws, violated the statutes and broken the everlasting covenant. Therefore a curse consumes the earth; its people must bear their guilt. Therefore earth's inhabitants are burned up, and very few are left.¹⁰²

In the New Testament, Jesus consistently delivered his parables in the natural environment and used images from nature in his teachings. He also warned against overconsumption:

Still others, like seed sown among thorns, hear the word; but the worries of this life, the deceitfulness of wealth and the desires for other things come in and choke the word, making it unfruitful.¹⁰³ Watch out! Be on your guard against all kinds of greed; a man's life does not consist in the abundance of his possessions.¹⁰⁴

In true anthropocentric fashion, Reformers were not interested in the messages of stewardship and humility, however, but chose rather to emphasise the consequences of original sin. Their worldview included the concept that, created by god and declared 'all good,' man's fall from grace had relegated the earth and all animals to a cursed status, subject to the dominion of man who was responsible for the curse, but sharing the burden it bestowed upon him. Francis Bacon declared that 'insomuch that if man were taken away from the world, the rest would seem to be all astray, without aim or purpose.'¹⁰⁵ And in 1605, Andrew Willet noted 'a natural instinct of obedience in those creatures which are for

¹⁰⁰ Job 12:7-8.

¹⁰¹ Isaiah 11:9.

¹⁰² Isaiah 24:4-6.

¹⁰³ Mark 4:18-19.

¹⁰⁴ Luke 12:15.

¹⁰⁵ Quoted from Keith Thomas *Man and the Natural World*, p. 18.

man's use, as the ox, ass, horse.'¹⁰⁶ The fall of man was causing the earth and its inhabitants to decay and it was man's burden to correct that through domestication, a moral obligation that further provided justification for the control of nature. The care and adoration for the natural world, which travellers witnessed whilst travelling through 'barbarian' cultures, was considered 'pagan' ceremonial worship; persecution of the offence was, therefore, a spiritual necessity for those who developed an ideology based on a carefully scripted Christian theology laced with humanist ideals.

The marriage between religion and humanism encouraged further investigation into humanity and its relationship to divinity. This led 'Christian Humanists' to believe their intellectual endeavours were not only a moral obligation, but a fulfilment of their spiritual responsibilities. New ideas initiated change to age-old religious institutions and beliefs, and challenges to existing authorities, while new interpretations of the scriptures empowered men to act for the sake of humanity as well as their God. Travellers who represented these new institutions carried this ideology into the 'barbarian' cultures of *Ketakamigwa* and the Scottish Insular *Gàidhealtachd*, documenting their experiences along the way.

As a direct result of the reforming philosophies, the Society of Jesus founded by Ignatius of Layola in Paris, promoted Christian Humanism in the 'new world'. Jesuits were some of the first 'settlers' to live with native people, teach them, and write about them. The Society of Jesus built schools, taught both the classics and theology, converted 'non-

¹⁰⁶ Ibid., p. 19.

believers' to a hybrid form of native-Christianity, and attempted to re-establish a respect and adoration absent from Catholicism prior to Reformation.¹⁰⁷

Following the Reformation and subsequent religious wars, The Society of Jesus directed its efforts toward the 'new world'. Beginning in Brazil, missions were eventually integrated into every Catholic holding on both continents. In 1611, the first Jesuit Missionaries landed in *Ketakamigwa* where they worked to Christianise and 'civilise' the Wabanaki.¹⁰⁸ Prior to the entrance of the Jesuits, overseas expeditions were either funded by private businesses or the crown. Because the funding for these black-robed men came from the Catholic Church, their stories of successful conversion had to be recorded and distributed in order to gain financial support from a dwindling yet hopeful flock in Europe. Therefore, their accounts were motivated by both religious worldview and self-interest. Unlike most of those who recorded observations before them, the Jesuits wrote with a religiously inspired pen, evoking the power of God, Christ, the Devil, and every symbolic entity in between. Any native practice not familiar to them was perceived to be due to ignorance or heathenism; and any bad luck that might befall them was due to the natives' lack of faith. Yet, woven between the dogmatic words of these authors may be found the most intimate examples of native daily life and the physical world. It is this information that provides some of the only evidence ethnohistorians have for the middle of the seventeenth

¹⁰⁷ A century later, founded in the Scottish Lowlands, the SSPCK (Society in Scotland for the Propagation of Christian Knowledge) embarked on a zealous attempt to improve, civilize, and Christianize the 'heathens' of the 'Popish' and 'Infidel' regions of the world, by sending their own 'Soldiers of God' into the Highlands and Islands where the inhabitants were predominantly Catholic. Eventually they found themselves relocated to North America and promoting Protestantism where the native people were a similar audience 'in need' of the same message.

¹⁰⁸ The documentation pertaining to their five years with the natives whom, were captured in the first three of seventy-eight volumes entitled, *The Jesuit Relations and Allied Documents: Travels and Explorations of the*

century, following Champlain and Lescarbot. However, stemming from a Medieval monastic tradition of self-sufficiency and tightly controlled resource management, missionaries were not only vocal about the needs of their neophytes, but concerned with the way in which the environment should be operated to ensure stability and achieve a spiritual level worthy of salvation. In the Jesuit mind, it was not only the people who were in need of cultivation, but the land in which they lived:

I have never seen anything so beautiful, better, or more fertile; and I can say to you, truly and honestly, that if I had three or four laborers with me now, and the means of supporting them for one year, and some wheat to sow in the ground tilled by the labor alone, I should expect to have a yearly trade in beaver and other skins amounting to seven or eight thousand livres.¹⁰⁹

Although they appreciated the beauty and fertility of this new land, they consistently saw it through the prejudiced lens of improvement.¹¹⁰

Following close behind the Jesuits were the Recollects, who represented a missionary movement under the sect of St. Augustine, and who left written accounts not included in the Jesuit publications. Father Le Clercq's *New Relation of Gaspesia* is filled with both his views of natives and nature in *Ketakamigwa* during the generation that followed the Jesuits. And, though he spent the majority of his time living with the Mi'kmaq in what is today New Brunswick, rather than Nova Scotia where most of the Jesuits settled, the material he authored creates a picture of *Ketakamigwa* for the seventeenth century. Like his predecessors, Le Clercq recorded customs, manners and beliefs through the eyes of the 'changer' and 'converter,' and, like the Jesuits, he filled a gap for ethnohistorians that would

Jesuit Missionaries in New France. Reuben Gold Thwaites, *Jesuit Relations and Allied Documents*, Vol. 1-3 (Cleveland, 1896).

¹⁰⁹ Ibid. Vol. I, pp. 130-131.

otherwise be left void. But he also left behind solid evidence of his worldview in his recorded perceptions:

The wandering and vagabond life of these [Mi'kmaq] peoples being unquestionably one of the chief obstacles to their conversion, I solicited Monsieur Denys de Fronsac to grants us [Recollects] a tract of land at Nipisiguit suitable for the cultivation of the soil, in order that we might render the Indians sedentary, settle them down, and civilize them among us. This Seigneur, who desired passionately to see Christianity established in that vast extent of country which he possessed, favoured the idea with pleasure. He had made the principal persons of our Indians accept the proposal, and form the resolution to do it.¹¹¹

Settling in and sharing the water-world environment

It was during the latter half of the seventeenth century that permanent French settlements were established in *Ketakamigwa*. Written accounts by travellers who morphed into settlers and became intimately familiar and emotionally connected to the water-world environment reflect the last transition of themes. Nicolas Denys, a French fisherman from the port city of La Rochelle, settled in Cape Breton in 1650. Over the next two decades he lived and traded with the Mi'kmaq and eventually built fishing and trading posts throughout the territory. By 1653, he received legal rights to Cape Breton and several islands, including Prince Edward Island, all of which he eventually governed.¹¹² With an intimate understanding of the fishing industry, Denys described for his readers many physical aspects of the water-world of

¹¹⁰ Ibid. Vol. III, p. 219, is a good example of noting beauty, but immediately turning to how a lack of cultivated soil distracts from its usefulness.

¹¹¹ LeClercq, *New Relation of Gaspesia*, p. 205

¹¹² Library and Archives of Canada, *Dictionary of Canadian Biography*, University of Toronto (2000). Although he lacked the eloquence of Lescarbot and the navigational prowess of Champlain, his two volume work entitled, *Description and Natural History of Acadia*, included patents, ordinances, and letters to the King of France, in addition to his 500-page recreation of the native inhabitants and the natural environment of 'Acadia'. Nicolas Denys, *Description & Natural History of the Coasts of North America (Acadia)*. The Publications of the Champlain Society (Toronto, 1908). Translated and edited, with a memoir of the author, collateral documents, and a reprint of the original, by William F. Ganong, Ph.D., Professor in Smith College.

Ketakamigwa, including the flora and fauna, soil, waterways, weather, and people. Denys' political responsibilities came with great opportunity for development and his ventures included building trading villages, fishing stations, and ports. His knowledge of the land, the waterways, and the resources of both, when combined with nearly two decades of observing and working with the Wabanaki reflect the thoughts of a man who considered *Ketakamigwa* his home.

By the eighteenth century, travellers were no longer concerned with finding their way to China. The fishing and whaling industry had succumbed to the 'Little Ice Age' with the cold waters sending much marine life south. The concepts of imperial conquest and colonial exploits had replaced the earlier worldviews. No longer were travellers concerned with mythological places, but the 'modern' philosophies that had evolved to replace them still reached to the past. The evolution of scientific discovery from the Middle Ages, the cultural influences of the ancients, the religious transformation of the Reformation, and the intellectual movement of the Enlightenment are all present in travellers' accounts by the eighteenth century. All four influences in worldview displayed the tendency to reach back into the past for answers and then turn forward again, toward 'progress' and affecting change. All four encouraged the imagination and propelled human action to the forefront of intellectual thought. They also moulded conceptions of the human nature relationship by promoting man's power over nature. This worldview was at the heart of the eventual conflict between the Europeans and the Wabanaki.

Traveller's Baggage: The Problems of Perception in the Scottish Insular *Gàidhealtachd*

That physical baggage which was specifically chosen for a journey into the Scottish Insular *Gàidhealtachd* was important, particularly between the sixteenth and eighteenth centuries. Prior to transport development, early travel there was by foot, horse, wagon or small boat, therefore, physically difficult, limited by unpredictable weather or terrain, and most often, simply dangerous. Those items travellers intentionally packed for their journey highlight their priorities, concerns, and even superstitions: Which items were left behind or preserved to keep him safe? Which belongings were necessary or practical? And which possessions were sentimental? Unfortunately, the nature of travel writing during the early modern period does not provide great details. Some writers did leave behind evidence in context. For example, most travellers took a writing utensil, ink, and paper with them. Thomas Pennant took an artist named Moses, while Dr. Johnson and James Boswell carried Martin Martin's *Description of the Western Islands of Scotland* and John Leyden cherished having his precious copy of MacPherson's 'Ossian.' In an attempt to kick a pretty serious opium habit, Samuel Taylor Coleridge must have stashed several medications in his bags, while Dr. Johnson definitely carried snuff which he offered as a parting gift to the Highland ladies.

Physical baggage came late to the region, but mental baggage came early, and it was very heavy. Unlike the travellers who crossed the Atlantic for *Ketakamigwa*, those who headed north to the Scottish Insular *Gàidhealtachd* had quite an extensive, complex, and prejudiced historiography on which to rely. Travellers to *Ketakamigwa* had no manipulated genealogies establishing authority, no documented war stories favouring one chief over the other, and no geographical images subject to stereotyping. There was still great mystery and

adventure involved, but the themes in travel writing on the eastern edge of the North Atlantic were quite different. In addition to misleading historiography, travellers were deceived by visual reproductions of the region due to ancient beliefs that there was no life or land beyond the 42nd parallel. This mythology was combined with a long history of political baggage that was more disdainful the further south on the mainland the traveller originated. Considering the falsification and invention that distorted Hebridean historiography, cartography, and imagery through to the eighteenth century, it is no wonder that so many of travellers came to the Scottish Insular *Gàidhealtachd* with contempt.

Despite the Union of the Crowns in 1603, the Union of Parliaments in 1707, and the system of roads built by General Wade and William Caulfield in the 1720s, it was not until after the 1745 defeat of the Jacobites that the Scottish Insular *Gàidhealtachd* truly opened up to a substantial number of visitors. Since the Scandinavian hegemony, those who ventured into what was considered a barbarous and dangerous 'wilderness' were merely a handful of unique individuals. Because descriptions of this western fringe of the country appeared in Medieval documents, Scottish histories, and popular literature for centuries leading up to 1745, the accounts often reflected the existing negative stereotypes borrowed by authors who never actually stepped foot in the region.

When travellers made the effort to brave the roadless and mountainous terrain, or the unpredictable sea conditions, their experiences periodically proved to dispel many of the persistent myths preserved through ignorance, fear, and manipulation. The few observers who explored the Scottish Insular *Gàidhealtachd* for themselves, offered first-hand accounts of everything from the manners and customs to the unique physical environment and practices of a people who were otherwise invisible to the rest of the world. Unfortunately,

much of their documented impressions took a back seat to circulated literary works that attempted to demonise a people and place that had become an apparent nuisance to a burgeoning system of imperial power propagating the need for unity, security, and obedience:

First, for the Country, I must confess, it is good for those that possess it, and too bad for others, to be at the charge to conquer it. The Ayr might be wholesome, but for the stinking people that inhabit it. The ground might be fruitful, had they wit to manure it. Their Beasts be generally small, Women only excepted; of which sort, there are none greater in the whole world. There is great store of Fowl too, as fowl houses, fowl sheets, fowl linnen, ... They have good store of Fish too, good for those that can eat it raw; but if it come once into their hands, it is worse then if it were three days old; ... ¹

The Power of the Pen

Travellers to the Scottish Insular *Gàidhealtachd* were likely influenced by the penned and published historical memory of late medieval writers. Had some of their earliest texts been more kind toward the region's inhabitants, or even just more historically and culturally accurate, outsider perceptions on the eve of the sixteenth century might not have been so prejudicial. However, the historiography of Scotland has been fraught with problems and the reputation of the Hebrideans suffered as a result. Lost sources, copied or absorbed descriptions, and religiously or politically motivated narratives produced a stream of inaccurate histories from John of Fordun to Hector Boece.² Dauvit Broun points out, for

¹ James Howell, Gentleman, *A Perfect Description of the People and Country of Scotland* (London, 1649). Howell appears to have been the Royal Historiographer to Charles II and visited Scotland in 1639 on his behalf.

² For an historiographical analysis of how copied histories were distorted to accommodate contemporary needs, see Michael A. Penman, 'Historiography: Manuscript Chronicles' in A. J. Mann and S. Mapstone (eds.), *The History of the Book in Scotland: Vol. 1 – Medieval to 1707* (Forthcoming).

example, that when compared with contemporary evidence, Fordun's *Chronica Gentis Scotorum*, dated sometime between 1360 and 1390, 'rarely, if ever, coincides' with the evidence, while much of his account reflects an inheritance from earlier authors, including Veremundus.³ Like so many Scottish historians after him, Fordun formulated his historical narrative by reaching back to earlier sources, selectively determining that which served his purpose, and then integrating terminology that suited his personal beliefs and political persuasion, all in order to formulate a picture of the past for contemporary purposes.⁴

These words provide the basis for many future stereotypes:

Insulana vero sive montana, ferina gens est et indomita, rudis, et immorigerata, raptu capax, otium diligens, ingenio docilis et callida, forma spectabilis, sed amictu deformis, populo quidem Anglorum et linguae, sed et propriae nationi, propter linguarum diversitatem, infesta, jugiter et crudelis. Regi tamen et regno fidelis et obediens, necnon facilliter legibus subdita, si regatur.⁵

The Highlanders and people of the islands...are a savage and untamed nation, rude and independent, given to rapine, ease-loving, and of a docile and warm disposition, comely in person, but unsightly in dress, hostile to the English people and language, and owing to diversity of speech, even to their own nation, and exceedingly cruel. They are, however, faithful and obedient to their king and country, and easily made to submit to law, if properly governed.⁶

³ W. F. Skene assigns a date in the mid-1380s, while Donald Watt indicates it may have been written as early as the mid-1360s. For detailed historiography prior to the twelfth century, see Dauvit Broun, 'Scotland Before 1100: Writing Scotland's Origins,' in Bob Harris and Alan R. MacDonald (eds.), *Scotland: The Making and Unmaking of the Nation, c. 1100-1707*, Vol. I (Dundee, 2006), pp. 1-16. For a comparison between Fordun and several contemporary sources, see Caroline Erskine, Alan R. MacDonald and Michael Penman (eds.), *Scotland: The Making and Unmaking of the Nation, c. 1100-1707*, Vol. 5 (Dundee, 2007), pp. 12-14. For analysis of Fordun's 'adoption' and 'absorption' of earlier texts, see Dauvit Broun, 'A New Look at Gesta Annalia Attributed to John of Fordun' in Barbara E. Crawford (ed.), *Church, Chronicle and Learning in Medieval and Renaissance Scotland* (Edinburgh, 1999), pp. 9-30.

⁴ Accepting that Fordun's *Chronica* is a partial replication of 'an earlier work which was known to the Scottish procurators (i.e. Baldred Bisset) at the Curia in 1301,' Dauvit Broun has gone further to examine the work of Walter Bower, Andrew Wyntoun, and a St. Andrews Chronicle, from as early as the twelfth century, determining that much of Fordun's work was simply not his own. See 'A New Look at Gesta Annalia Attributed to John of Fordun,' pp. 9-21.

⁵ John of Fordun, *Chronica Gentis Scotorum*, W.F. Skene (ed.), Vol. I (Edinburgh, 1871), p. 42.

⁶ William F. Skene (ed.), *John of Fordun's Chronicle of The Scottish Nation* (Edinburgh, 1872), p. 38.

In addition to examining the personal bias and political intent behind these words, it is worth noting the literary context of this passage. Fordun intentionally followed his own description with quotations from Solinus (a third century Christian writer), who provided images like ‘rugged and warlike,’ as well as ‘wild and stern countenance,’ and then continued with Isidore of Seville (a seventh century bishop) who included ‘light-minded,’ and ‘savage,’ before insulting the manner of dress.⁷ By purposely including himself in a line of ‘ancient authorities,’ Fordun supplied his readers with justification for his own words, but he also demonstrated to the modern historian that his images were not necessarily initiated by his own experience. In addition, further investigation into these quotes proves that he was prejudicial in his selection of the text. Not only was there much content intentionally left out from both Solinus and Isidore (primarily references to non-Christian practices⁸), but the original descriptions were obviously intended for the ancient Scots as a whole, not only the Highlanders and Islanders.⁹ As Martin MacGregor states, ‘The vision of the Scottish literati, then, had elsewhere its origin, and was in the first instance a product not of the map but of the mind, rooted in the primal human urge to assert difference and superiority.’¹⁰ By putting forth a skewed image of the Highlander, fortifying that image with falsified authoritative testimony, in order that it align with his own distorted image of the Highlanders, Fordun

⁷ Ibid.

⁸ Fordun’s exemption of non-Christian references made in the ancient sources, allowed him to carefully preserve the orthodoxy of the Roman church. See William Ferguson, *The Identity of the Scottish Nation* (Edinburgh, 1998), pp. 100-101.

⁹ In ‘Gaelic Barbarity and Scottish Identity in the Later Middle Ages,’ Martin MacGregor points out that the original work by Solinus, for example, included prejudices against the ancient Scots’ religious practices, which were purposely omitted by Fordun. See Dauvit Broun and MacGregor (ed.), *Miorun Mòr nan Gall, ‘The Great Ill-Will of the Lowlander’? Lowland Perceptions of the Highlands, Medieval and Modern*, p. 13.

¹⁰ Ibid, pp. 11-12.

demonstrated underlying motives that were not considered by his contemporary readers.¹¹

If the basis for his motives was simply a very human desire to differentiate himself (and the lowlanders with whom he was associated) from the Highlanders, what was his intent?

There are a number of prejudices underlying Fordun's characterisation of the Scottish Insular *Gàidhealtachd*, and all must be realised within the historical context of the period when he was building his *Chronica*. A time of uncertainty in Scotland, the fourteenth century was marred by political instability as the English threat against church and state was paramount. In the midst of this volatility, Scotland was going through the growing pains of establishing a documented legitimate history, providing origin, continuity, and establishing authority to match that of her English foe. Following the ransom and return of David II from England, 'anti-Steward sentiments were promoted in and around David's court.'¹² Fordun demonstrated his loyalty to King David in the *Chronica's* negative portrayal of Robert the Steward, David's eventual successor. When compared with other chronicles of the period, it is obvious that Fordun wrote in his *Chronica* with purpose, motivated by personal prejudice as well as political loyalty.¹³ By equating Robert the Steward with the region north of the Scottish Lowlands, Fordun fed a personal desire to demean Robert through demeaning the world from which he came. But Fordun's prejudice can also be seen in a wider scope. If the pre-existing negative stereotypes were originally applied to all Scots, it was at the hands of

¹¹ Ironically, the quote assigned to Isidore of Seville has recently (2004) been assigned to Bartholomaeus Anglicus, the author of the encyclopaedia *De Proprietatibus Rerum* written in 1245, and not to Isidore; but, as Macgregor has pointed out, perhaps Bartholomew Anglicus was not a good enough authority for Fordun— or not far back enough in the past to be an 'ancient' authoritative source. See 'Gaelic Barbarity,' p. 14.

¹² Stephen Boardman, 'Chronicle Propaganda in Fourteenth-Century Scotland: Robert the Steward, John of Fordun, and the Anonymous Chronicle' in *The Scottish Historical Review*, Volume LXXVI, 1:201 (April, 1997), p. 25.

¹³ *Ibid.* pp. 23-43. In his 'The Gaelic World and the Early Stewart Court,' Stephen Boardman also attributes the inability of Scottish monarchs to contain the Gaelic people during the fourteenth century. See Dauvit Broun

Fordun that they instead became relegated to only a portion of Scotland. By acknowledging a time-honoured stereotype, blanketing it over the Highlands and Islands specifically, and then juxtaposing it with the 'domestic,' 'civilised,' and 'peaceful' Lowland Scots, Fordun provided a Scotland deserving of sovereignty through its superiority.

Finally, the dualism found in his description should be considered. Denigrating the Highlanders could not have been Fordun's only desire, for he did not entirely demonise them. Instead, he intentionally included descriptive wordage like 'faithful,' 'obedient,' and 'easily made to submit,' all of which provided the potential for civility to extend over all of Scotland.¹⁴ In a time-honoured tendency to associate a people with their physical environment, Fordun periodically injected terminology like 'destitute,' 'hideous,' and 'dirty,' but the majority of his geographical images exemplified potential, the expanded use of resources, and prospective fertility, especially along the waterways.¹⁵ Therefore, if existing literature was prone to emphasising the 'Scottish Barbarian,' Fordun took those accusations, and without discounting them entirely, used them to serve his purpose while providing a narrative of self-improvement, civilising, and progression.¹⁶ Whereas earlier clerical writers had found it much easier to denounce the ways of those not associated with the church or the languages used by the church, Fordun was writing in a time when clerics, such as himself, were identifying themselves as Scots.¹⁷ He included himself in his praise of Lowland

and MacGregor (eds.), *Mìorun Mòr nan Gall, 'The Great Ill-Will of the Lowlander'? Lowland Perceptions of the Highlands, Medieval and Modern*, pp. 83-84.

¹⁴ William F. Skene (ed.), *John of Fordun's Chronicle of The Scottish Nation* (Edinburgh, 1872), p. 38.

¹⁵ *Ibid.* p. 37.

¹⁶ In his 'Attitudes of Gall to Gaedhel in Scotland before John of Fordun,' Dauvit Broun points out that 'barbarians' exist throughout Scottish History due to the human desire the self-promoting of superiority and civility of one neighboring group over the other. See *Mìorun Mòr nan Gall, 'The Great Ill-Will of the Lowlander'? Lowland Perceptions of the Highlands, Medieval and Modern*, pp. 61-2.

¹⁷ *Ibid.* pp. 78-79.

Scots and supported his personal hostilities against those outside the Lowlands as well as his nationalistic association with that part of Scotland which was home to the seat of political power, organised religion, and higher learning, where the sophisticated and civilised were deserving of respect.

When considering the historiographical baggage present in the mind of sixteenth to eighteenth century travellers to the Scottish Insular *Gàidhealtachd*, why then is it so essential to reach back to John of Fordun? Put simply, Fordun plagiarised earlier authors like Veremundus and then prejudiced his narrative with personal bias, a powerful combination that served as the template deliberately copied, borrowed, and manipulated for centuries to come.¹⁸ Due to Robert the Steward's eventual succession to the Scottish throne, 'anti-Stewart sentiment' was played down by fifteenth century historians like Walter Bower and Andrew Wyntoun, though both still copied Fordun's cultural images in their entirety.¹⁹ Later historians like Hector Boece, writing in the sixteenth century, continued the tradition of looking to ancient authorities, such as Livy, for cultural stereotypes.²⁰ And, John Leslie, also writing in the sixteenth century, continued to depict the geography as unattractive, while John Mair (Major) went further by tying the 'wild and combative' behaviour of the Highland Scots to their being a product of an untamed natural environment.²¹ While Boece utilised Gaelic stereotypes in order to demonstrate an ancient continuity of culture, George Buchanan used them as an example of how far the Lowlands had come, justifying the need

¹⁸ While working for Professor Donald Watt, Sally Mapstone, in her 'The *Scotichronicon's* First Readers,' embarks on determining the way Bower's revision of Fordun was copied and cut, influencing later writers. In *Church, Chronicle, and Learning in Medieval and Early Renaissance Scotland*. Barbara E. Crawford (ed.), (Edinburgh, 1999), pp. 31-46. Nicola Royan explores the connection between Hector Boece and Veremundus in her 'Hector Boece and the question of Veremundus,' *The Innes Review*, Vol. 52, No. 1 (Spring, 2001), pp. 42-62.

¹⁹ Per MacGregor, Bower went so far as to declare Fordun's descriptions as 'first-hand testimony,' p. 9.

²⁰ Boardman, pp. 25-26. MacGregor, p. 11.

for civility to spread to the northern and western regions. Where Boece celebrated the warrior nature of the Highlanders as evidence of a patriotic legacy, Leslie associated it with an 'unhealthy obsession with revenge.'²² When Scotland found itself in the midst of a dynastic union with England in 1603, John Mair's negative imagery was used to gain support for eliminating barbarity in favour of the civil manners essential in legitimising the union between, what he considered to be, two equal states.²³ Each historian manipulated the template, injected his own personal bias, and continued the negative imagery first promoted by Fordun. By the eighteenth century, negative images of Highlanders promoted the anti-Jacobite sentiment, and by the end of the century, justified the 'clearances.' Fordun's blueprint, therefore, provided the springboard for future negative images that would affect the perception of travellers well into the eighteenth century. The historiographical knowledge they acquired from either the inventions of previous historians or the experiences of previous travellers, however, was not the only mental baggage they carried.

Veremundus, John of Fordun, Andrew Wyntoun, and Walter Bower built the foundation for Scottish historiography, and were the first to distort and minimize images of the Scottish Insular *Gàidhealtachd*. But the widely circulated *Scotorum Historiae* by Hector Boece opened up Scotland's history to the rest of the world. First published in Latin in 1527, and later translated into French and Scots, Boece was the first Scottish Historian to reach the general public in Scotland, England, and on the continent. Whether he meant for it to act as an official guidebook or not, Boece's epic work heavily promoted his country as one with an

²¹ MacGregor, pp. 18-22.

²² Ibid. p. 34.

²³ Roger A. Mason, 'Scotching the Brute: Politics, History and National Myth in Sixteenth Century Britain,' in *Scotland and England 1286-1815* (Edinburgh, 1987), p. 66. And Mair, *History*, p. 49.

ancient and powerful history, steeped in miracles and mysteries unique to the world of the Scots. In the brief passages dedicated to the Scottish Insular *Gàidhealtachd* in the Boece highlighted superstitions and bizarre customs, evidenced by this excerpt about a river on the Isle of Lewis:

Post hanc aliquanto tracto in mari Deucallidonico ex adverso Rossiae posita est ingens insula sexaginta millium longitudine, latitudine triginta, Leuissa nomine, unicum habens amnem quem (ut ferunt) si vado transierit mulier nullus in eo salmo eo anno videbitur, affluentibus alioqui piscibus illius multitudinem.²⁴

After passing through a tract of the Deucalidonian Sea you come to Lewis, a large island lying off Ross sixty miles in length and thirty in breadth, which has a single river. They say that if a woman wades across it, no salmon will be seen in it that year, even if that fish is running plentifully elsewhere.²⁵

He goes on to mention kirk altar fires that start themselves and magical sea barnacles that produce fowl. With this level of historical narrative, there was no need for ancient mythology.

Mapping and Making a Place

Travellers today undoubtedly pick up a travel guide and a map before entering into any new territory. But during the early modern period, the illiterate relied upon sensational rumours and exotic stories, while the literate turned to references by the likes of William Camden and Hector Boece, both of whom perpetuated vague and discoloured images that were generally accepted by non-Scots and Lowland Scots alike. Many of these falsehoods were initiated by the written perceptions and propaganda of the Romans who, unable to subdue the Picts in

²⁴ Hector Boece, 'A Description of the Realm of Scotland,' in *The History of the Scots from their First Origin together with An Account of other matters of Uncommon Distinction*, with the addition of the continuation of this history of Scotland by Giovanni Ferrerio of Piedmont, newly written and published by him. (Paris, 1575), XXXII.

²⁵ Translation provided by the Philological Museum, University of Birmingham.
<http://www.philological.bham.ac.uk/boece/fronteng.html#letter>

the third and fourth centuries, described them as a 'painted,' 'rugged,' 'warlike,' 'Germanic,' and 'savage' people. Though the Romans meant for these and other less than positive attributes to pertain to the entire country, Scottish historians later relegated the remarks to the Highlanders and Islanders who had not yet assimilated into mainstream Scottish society. Classical literature, therefore, acted as a stimulant for the rapidly growing fervour over man's ability to turn the unknown world into that which was known, a phenomenon that only further escalated during the fifteenth and sixteenth centuries with the discovery of the Americas. Regardless of how outlandish Roman descriptions of the people in the north might have been, they were not only generally accepted, but also worked to excite the Medieval imagination with images bordering on the dangerous and outlandish. Therefore, the Medieval and early modern reader knew very little of the Scottish Insular *Gàidhealtachd* other than that which the Roman and Medieval writers provided, even less of which was accurate, and none of which was kind.

To further complicate Scotland's reputation in the world, the imprecise classical maps, beginning with that of Ptolemy who never visited the country, not only distorted the size and location of Scotland, but placed details of the western coast on the north side of the island, and reserved mention of place names to the eastern side of the country. Matthew Paris' map of the mid-thirteenth century increased the detail for what is today England and Southern Scotland, but left anything north of the Forth and Clyde, save Stirling Bridge, sadly empty. Maps that circulated throughout the fifteenth century, including a new release of Ptolemy's ancient distortion despite its inaccuracies, still treated most of Scotland as an insignificant and unexplored appendage of England. Although the early sixteenth century saw improved maps by Abraham Ortelius and Gerhard Mercator offering more detail and

accuracy, those characteristics were still absent specifically for the west coast for another fifty years.²⁶

Up to that point in history, the lack of geographical detail was primarily due to cartographers never having invited the hardship of personally experiencing the western territories and instead, putting their effort into collecting information from others or simply manufacturing it for themselves. Therefore, Scottish mapping got a significant boost in the late sixteenth century when two individuals created images based on personal observation.

The first of these was the French Royal Cartographer Nicolas de Nicolay who, in 1540, sailed with his captain Alexander Lindsay and James V through the Hebrides and Northern Isles. Unfortunately, James V did not leave a report of his observations, but the captain of Nicolay's ship did prepare a detailed 'Rutter of the Scottish Seas,' offering specific directions, the course of the tides, time of ebb and flood, location of harbours, and distances between islands for manoeuvring an ocean-going vessel through the territory. Lindsay's 'rutter' and Nicolay's nautical charts were the first of their kind for the Scottish Insular *Gàidhealtachd*. In addition, the document and charts listed each island with length and breadth, the changing tides in accordance with the lunar cycle, historical markers like castles and harbours, as well as many safe havens for protection from the hazards of rough seas. There was an especially grave concern regarding the likes of whirlpools in dangerous crossings:

Betwixt Scarba and Dura there is the most dangerous Tide in Europe, because of contrary Tides which encounter there, and run betwixt the Mule of Kintyre and Ila, and passing through a straight Channel, it runs with such violence upon the Coast of Scarba, that it is thrown back upon the Coasts of Dura, with a frightful Noise: In returning it makes a deep and roaring Whirlpool, which hinders all

²⁶ D. G. Moir, *The Early Maps of Scotland to 1850*, Vol. 1, Third Ed, The Royal Scottish Geographical Society (Edinburgh, 1873) p 1-61.

Ships to enter; if they unluckily get in there, they are in great danger of being dash'd in pieces...²⁷

Though it would not necessarily be the responsibility or nature of the cartographer or pilot to formulate opinions about the people or physical environment, it is often the case that negative experiences or perceptions perpetuate plenty of written recourse; yet nowhere in the document or charts is unfavourable judgement passed.²⁸

The second cartographer to the Scottish Insular *Gàidhealtachd* was the son of a cleric, and graduate of St. Andrew's, named Timothy Pont, whose travel around the country of Scotland in the late 1580s and early 1590s provided seventy-seven maps that would become the basis for the first Scottish Atlas.²⁹ The work that Pont did was extensive and included many natural features, as well as place-names, towns, monuments, mountain ranges, and bodies of water. But the textual survey notes that accompanied these maps reveal perceptions and descriptive detail that are especially helpful in painting a picture of the water-world of the Scottish Insular *Gàidhealtachd*; they also exemplify written observations that are not filled with negative references or stereotypes.³⁰

Pont's topographical descriptions are quite meticulous, as he moved through the landscape describing each natural and man-made feature that best represented his location. He gave distances between features, estimated sizes for bodies of water, and listed the status of all local resources. As he moved his way through the maritime landscape, he made

²⁷ Nicolas de Nicolay, *The Navigation of King James V Round Scotland: The Orkney Isles, and the Hebrides or Western Isles: Under the Conduct of that Excellent Pilot Alexander Lindsay in the year 1540* (J. Brown, 1710 and 1785) pp. 88-89. Also, see Alexander Lindsay, *A Rutter of the Scottish Seas*, I. H. Adams and G. Fortune (eds.), Maritime Monographs No. 44. Published by Trustees of National Maritime Museum (Greenwich, 1980).

²⁸ It is hard to imagine Verrazano, Cartier, Columbus, Drake, or Magellan treating a region in this way.

²⁹ Moir, p. 19-20; for Pont's work, see Ian C. Cunningham (ed.), *The Nation Survey'd: Timothy Pont's Maps of Scotland* (National Library of Scotland, 2001).

note of ferry systems, good and poor harbours, the 'abowndance' and different types of sea life, and he periodically took up the subject matter of a particular oddity he learned from the locals. He told of a 'smal fiche which hath four feet lyk a lyzard' on the Isle of Lewis, and near Dunollie, west of Oban, he commented on a church in the town where a fresh water spring

hath therin a kynd of small black fishes not found elsewhair, whiche fishes the townsmen do observe never to encreas in number, or in quantitie but still to remayne small ones, therefor the people do call them Eish Saint, that is the holy fishes, and in thir cowntrey ar many wild gray geess.³¹

This quote is significant, not only because it exemplifies how he deviated from a pragmatic descriptive style, but because he retold a superstition, yet made no judgement about it. He may have shared the same belief. Pont also described most of the maritime region as being very 'fertill' or 'plentifull' and specified in what way the people made their livelihood. He made note of nesting places for seafowl, uninhabited islands, and like Lindsay before him, he warned of dangerous sea passages.

However, Pont did not write emotionally, so there are very few descriptors that indicate how he felt about what he was seeing. In the few places where they are found, it is obvious that he was pleased with the scenery while cautious when it came to the hazards that the need for physical access might cause. He mentioned 'prettie rivers' and how 'excellentie' they were served with 'fresche water and sea fishes,' yet remarked how some 'runneth a furious and dangerous tyd.' He explained that Kingairloch was 'very roughe and montanous' and that the march between Knoydart and Glenuig was 'environned with black

³⁰ Timothy Pont, *Pont Texts*, National Library of Scotland. Text derived in part from Jeffrey C. Stone's *The Pont Manuscript Maps of Scotland*, published by Map Collector Publications Ltd in 1989 also held in the National Library of Scotland.

mowntayns and uglie ragged steep rocks;’ and concerning the great ebb and flow that disrupted the landscape of Uist, he explained that ‘thir ile ar many small towers buildt in freshe water lochis, ar strenthis in trowblesum tymes.’ His descriptions also provided a glimpse into the life ways of the people. One excerpt detailed how, on Barra,

thir water ar caried downe in the sea innumerable quantities of smal cokils so smal as they show no more but the rudiment of ther shellfische and a litle from that, upon the sea sands, ar digged up verie great number of great and fair cokils, wherof the people carie away to their uss infinit quantities without diminution of the stoar.³²

Moving from location to location, Pont repeatedly documented natural features whose rivers were ‘fruitfull of salmond’ and in one specific note, pointed out specific examples like in 1585 how ‘it wes observed that wer 3000 great salmond taken in that smal portion of river.’³³ Pont also provided realistic pictorial and textual documentation for the region, but neither were utilised by contemporary travellers. Nonetheless, both efforts would inspire work by later cartographers such as Joannis Blaeu, who developed the first Scottish Atlas in 1654.

On 15 June, 1686, in Edinburgh, an Act of Parliament was drawn up on behalf of a geographer named John Adair.³⁴ This document indicated that John Adair was to travel the coasts of Scotland and prepare a ‘Hydrographical Description of the Sea Coasts, Isles, Crieiks, Firths, and Lochs, about the Kingdom.’ Over a period of five years, Adair was to receive payment and supplies, and report his progress ‘yearly at Martinmas’ to His Majesties Privy Council. In 1704, *An Account of the Progress made by John Adair Geographer* was submitted

³¹ Pont, 84v-85r.

³² Pont, 89v-90r.

³³ Pont, 90v-91r.

to the Privy Council explaining that ‘Part I containing the East Coast of that Kingdom’ had been published ‘some Years agoe’ and that *A Journal of a Voyage to the North, and West Isles, of Scotland in the Year 1698* was written but not yet published. Unfortunately, there is no evidence that this piece of Adair’s work was ever completed. It appears that when Adair died, his wife submitted his unpublished texts and maps to the Exchequer in Edinburgh for a fee, and that a number of his papers on the Scottish Insular *Gàidhealtachd* were sadly lost in the fire of 1811.³⁵ John Adair’s work on the eastern side of the country was impressive, but no further maps were dedicated to the western region until the 1780s when Murdoch Mackenzie contributed new cartographical detail for Orkney and Lewis. Considering the isolated nature of the territory and the lack of modern cartographical techniques that might have offered better assistance and less speculation to travellers, it is no wonder that truly helpful maps for the region did not appear until the late eighteenth century, when the proverbial floodgates opened to visitors from all over the world.

Obviously geographical isolation worked against efforts to map the Scottish Insular *Gàidhealtachd* but the lack of access to the region also contributed greatly to the negative portrayal of these invisible people and their practices to the rest of the world. With no direct experience, historians who were in the midst of justifying Scotland’s legitimacy as a nation, emphasising their noble and ancient history, were often at a loss when it came to integrating the unknown western fringe into their narratives. Just as cartographers invented the portions of the physical environment about which they knew nothing, historians found themselves presenting regional stereotypes in brief passages in order to complete their

³⁴ *In Favours of John Adair, Geographer, for Surveying the Kingdom of Scotland, and Navigating the Coasts and Isles thereof*. Edinburgh, June 15, 1686. Manuscript, National Library of Scotland.

work. Historical and geographical descriptions of Britain treated Scotland disproportionately, and in turn, Scottish historians left the fringe of their country to obscurity. In some cases, the western region received a few sentences or a paragraph, but in most cases, it was absent altogether.

Categorising and Inventorying

By the 1580s, the English and Lowland Scots perceived the Highlanders to be lawless.

Connecting Scotland to the Ancient Egyptians and Greeks had fallen out of favour, historians like William Camden were questioning Hector Boece, and the mysterious and ancient invisibles were soon being associated instead with the 'wild Irish.' So, in 1582, when George Buchanan published *Rerum Scoticarum Historia*, and traced the 'wild Scots' directly to the 'wild Irish,' a new genre of negative portrayals made their way toward the reading public. However, for the first time in a Scottish Historical work, Buchanan provided some accurate details about the Insular *Gàidhealtachd*. This was not because he had personal knowledge of them, but because he honoured a tradition of plagiarism among Scottish historians, copying first-person descriptions from a little known Scottish clergyman named Donald Monro.

Originally from the village of Kiltearn, the home of his paternal kin, and with maternal kin in Dochgarroch, Monro's association with the Highlands was quite naturally in the east. But in 1549, as 'High Dean of the Isles,' Monro travelled from the Isle of Man in the south, to Rona and Sula Sgeir in the north, where he inventoried nearly 250 islands. The west was not

³⁵ John N. Moore, 'John Adair's Contribution to the Charting of the Scottish Coasts: A Re-assessment' *The International Journal for The History of Cartography*, Vol. 52 (2000), pp. 43-64. This portion on p. 57.

new to him because he was made vicar of Snizort on Skye nearly twenty years prior, where he would have some formal involvement (including a position as archdeacon) through the 1550s.

A Descriptione of the Westerne Iles of Scotland called Hybrides, Monro's notes from his voyage, provided Buchanan with some natural history, the first of its kind for the water-world of the Western Highlands and Islands.³⁶ Though many of Monro's descriptions were only a sentence or two, and focus was clearly upon the presence of a kirk, the fertility of the land, and the political status of the island, the larger and inhabited islands were investigated in more detail. An example of his short format is evidenced by his description of Luing:

Narrest this lysis ane Ile callit Luyng, 3 myle lang, lyand from the south-west to the north-eist 2 part myle breid with an parochie kirk, gude name land inhabite and manurit [guid for store and corne its possessit] be McGillane of Doward in feall fra my Lord of Argile, having sufficient for Hieland galies in it.³⁷

This is the complete entry for Luing, and quite significant when compared to entries for smaller islands such as Eilean na Cloiche, Fladda, and Creag:

Narrest this lysis Ellan Cloich callit in English the Ile of the stane, gude for store, corn, and girsing. Narrest this lysis Flada, gude for corn, store and fisching. Narrest this lysis Grezay, gude for corn, store and fisching.³⁸

Monro probably did not go ashore and inspect each of the 250 islands, and may have received details such as these from his navigator or people with whom he conversed during his short stays on larger islands. However, when he managed to experience the islands for

³⁶ Donald Monro, *A Descriptione of the Westerne Iles of Scotland called Hybrides*. Compiled by Mr Donald Munro, Deane of the Iles. 1549, Introduced by R. W. Munro (Edinburgh, 2002) pp. 291-339.

³⁷ Ibid., p. 305.

³⁸ Ibid., p. 307.

himself, he provided considerably more detail. It is in these passages where particulars of daily life in a water-world environment reside.

Where propaganda during the seventeenth and early eighteenth century would continually refer to the islands as barren, Monro found most of them 'fertil' and 'fruitfull.' He described Islay as having many salmon, sandy banks filled with infinite shells, harbours good for ships, many castles and fresh water lochs, with a history of great men of royal blood who experienced great wealth and peace, and managed well their churches.³⁹ Of Mull, he said the island was fertile and fruitful with woods, many dairies, great mountains, and very fair hunting game and grounds. There were seven churches, three castles, with fresh water filled with salmon, several salt-water lochs good for herring and other types of fish, and the island was heavily peopled and strong. Islands around Mull were said to have good harbours for 'heiland boats' while others had many tombs of ancient kings of Norway.⁴⁰ Monro's capacity as a clergyman is obvious with his consistent and meticulous lists of the names of both political and religious leaders for each isle he inventoried. But periodically, he put more effort into the natural environment. He mentioned the large numbers of wild fowl and eggs, emphasised the great value of geese and falcons, and indicated their place in local charters and the fact that their nests were protected by law from robbery. Finally, he did not overlook the dangers that approaching ships might have experienced in finding safe harbour on many of the islands.

Of course, Skye received some of the greatest detail. Apart from listing the parish kirks, the fertility of the well-manured land, forests, hunting grounds, hills, and many deer,

³⁹ Ibid., pp. 308-310.

⁴⁰ Ibid., pp. 313-314.

Monro specified five principal waters which were rich in salmon. He described the castles and ruling families as well as the political and religious divisions found on the island, and he listed the three salt-water lochs, which were all good for herring.⁴¹ There were a number of islands where the slaughter of seals took place and others where fresh water wells were numerous. The Isle of Barra was full of 'great Cockles' and Monro commented that he believed they were more prevalent there than any other place in the world.⁴² His description for 'Vyist' appeared to include North Uist, Benbecula, and South Uist, where he gave great detail to the process where 'thairof the sea enteris, and cuttis the cuntrie be ebbing and flowing throw it' indicating the way the landscape continually changed from the fords that divided the islands and altered its appearance.⁴³ Finally, he described the great quantity of sea life that moved around the marine environment and framed the land.

Monro did say the inhabitants of Harris were 'simple creatures' and 'scant learnit in ony Religion' and then went on to prescribe additional clergymen to aid them in ridding superstitious practices. But this was the only seemingly negative remark he made, and it might have been influenced by the concern he had over the current steward who brewed ale and made the people drunk. He did not dwell on this, however. In addition to his short rant, he indicated that tenant rents were paid in dried mutton, wildfowl, and seals, and emphasised the abundance of said fish, seals, and fowls, but warned that landing on the island was difficult for ships.⁴⁴

⁴¹ Ibid., pp. 320-321.

⁴² Ibid., p. 325.

⁴³ Ibid., pp. 327-328.

⁴⁴ Ibid., p. 337.

The Isle of Lewis, recorded as 'Leozus,' received another detailed description covering the layout of the land, animals, churches, and specifics about the eight waters with 'great tak of salmond' and twelve more 'having ane gude tak of smaller salmonds.' Monro seemed fascinated by the amount of peat that he saw and the use of seaware commonly used for manure on the island. He completed his report of Lewis with this image of whaling and fishing:

Ane great tak of quhaillis is oftentimes in this cuntrie, swa that be relation of the maist ancient in the cuntrie thair come 26 or 27 quhaillis young and auld to the teind anes thair. Thair is ane Cove in this cuntrie, quhairin the sea fillis and is twa faddom deip at ebb sea, and four fadom and mair at full sea. Within this Cove thair uses quhyles to be slane with hwikis verie mony haddokis and quhyttingis by men with thair wandis sittand on the craigis of that Cove and Laddes and lasses and women also. Thair is verie mony halk nestis in Leozus and Haray.⁴⁵

This passage is significant in that provided an image of the process of procuring whales in order for island inhabitants to pay their church tithes. It also gave a fascinating account of how men, women, and children would enter a cove, sit on a cliff, wait for the tide to recede and then use their hooks and lines to catch an abundance of various fish.

When Buchanan integrated details like Monro's into his work, his readers finally had access to the physical layout of the islands, resources, and some of the realistic lifeways of the people in the Insular *Gàidhealtachd*. While up against more popular literature from the same period, however, those accuracies were overlooked and did not find favour until the romantic movement of the late eighteenth century.

⁴⁵ Ibid., p 338.

Soon after 1625, an anonymous traveller to the region visited many of the same locations earlier called upon by Pont and Monro.⁴⁶ And, like his predecessors, he continually emphasised the fruitful nature of the environment. He found an 'abundance of herring' in Lochgoill, Inverary, Lochfyne, Lochgair, Loch Levin, Locheil, Ardgoire, Morverne, around the islands of Lismore, Coll, Rhum, Canna, and Barra. He listed over seventy locations where 'an abundance of salmond fish were slain in the rivers,' and he told a few of the same local stories heard by other travellers, including that of the mysterious black fishes at Dunollie.⁴⁷ The wording for the passage is especially curious, as parts of it match Pont word-for-word. Just as historians copied earlier works, it is likely that these descriptions were copied by another traveller. However, this anonymous traveller also introduced a handful of new stories, including one from the mouth of Loch Awe where the fresh water finds its way to the salt-water sea. He explained that in a sea loch called 'Loghediff,' there was not only an 'abundance of salmon fish slaine yearlie,' but there was also a great 'abundance of Eells' apparently 'alse bigg as ane horse with ane certane incredible length, which I think not to be reported of.' He went further to explain that few men were brave enough to slay the eels from boats with lines, and recounted the local story of an ancient fisherman:

They were wont to sie them slaine by ane ancient man, who had great practize and arte of the said trade; Ancient men of Mucarne and Beanderlogh the countreys which are on the South and Northsyde of that Logh reportit that this Ancient fisher of the Eells his Lyne wherewith he did slay these bigg and exceeding long Eells were also bigg in greatness as a mans finger, and that this hook was exceding bigg, and the Lyne whereon the hook did hang, was knitt all with feathers to hold and keep itself uncutt from the eels to the length of twall inches or thereby And so these Marvelous bigg eels were tane be the said Ancient fisher, and thereafter he did slay them with another device made for the

⁴⁶ Anon., 'Ane Descriptiōne of Certaine Pairts of the Highlands of Scotland,' in *Geographical Collections Relating to Scotland Mady by Walter MacFarlane*, vol. II (Edinburgh, 1907) pp. 144-192.

⁴⁷ *Ibid.*, p. 151.

purpose. And so the countrey men will not devyse anie Instruments to take these Eels in respect of their bigness. Bot certaine men of the countrey do take and slay small Eels also bigg as a mans thigh or thereby with a lyne als big as ones finger. And there hook is very bigg. And when Eell is tane on the hook to the land, they have a bigg crook of Iron or pikes made for that purpose.⁴⁸

Like his predecessors, this anonymous traveller noted certain wells that were known for their healing powers, such as the one at 'Craikquerrelane' where men and women came annually the day before 'St. Patrickmess' and drank from the well to heal their illnesses; but he also mentioned that many people came on pilgrimage all the year round to cure themselves. He seemed particularly fascinated by the fountains that were not just in the chapels, but some which sprung from the sand 'ane myll distant from the sanctuarie or holie Chappel.' A traveller from another place and time might have choice words for such a practice or phenomenon, but this traveller dedicated a great amount of attention to it in his text, without ever passing a negative judgement. In fact, he even integrated seemingly outlandish stories as 'matter of fact' into his topographical descriptions, like when he told the story of a monstrous beast that came from the loch near Lochaber and destroyed an ancient island habitation, but then he immediately went on to speak of how the inhabitants manured their soil.⁴⁹

The traveller's details for some of the islands were similar to his predecessors, but he offered up much more detail about the people and their practices. On Barra, as other travellers discovered, great numbers of cockles were found; but this description included further insight:

Certaine of these Inhabitants will come fyve mylls with ther horses, and bring home as much with them as their horses will beare of these cockles. And if ten

⁴⁸ Ibid., p. 148.

⁴⁹ Ibid., p 163.

thousand cold come, they should have als many as there horses were able to carrie everie day gotten and gathered in this place. And it is gotten below the sand, And when you doe come and stand on that sand with your horses you will think the place verie dry, but when you doe put zour hands below into the sand you shall see abundance of the saids cockles comeing above the sand, and als much of the sea Water as will wash them from the sand.⁵⁰

More detail regarding the dangers of slaying seals on North 'Wist' is provided when he explained:

And the Inhabitants of the Countrey doe meet and gather themselves togidder once in the yeare upon ane certaine tyme in faire and good weather and bring bigg trees and stafs in ther hands with them as weapons to kill the selchis which doeth Innumerable conveen and gather to that Illand at that tyme of the yeare. And so the men and the selchis doe fight stronglie And there will be Innumerable selches slaine wherwith they loaden ther boatts, which causes manie of them oftymes perish and droune in respect that they loaden ther boatts with so manie selchis.⁵¹

Like other travellers, this one pointed out harbours that offered safe haven for ships and warned of particular crossings that were known to be dangerous. Like others, he described the way the ebb and flow on Uist covered ancient churches and villages, and included descriptions of the large seafowl populations on many of the islands. As Pont did, he also retold the tale of the 3,000 salmon killed in the year 1585 on the Isle of Lewis. Whether this traveller experienced everything for himself or learned of some of it from others, his accounts are immensely helpful in recreating a picture of the past through the eyes of somebody living in the seventeenth century. Furthermore, his objectivity is enlightening.

⁵⁰ Ibid., p 178.

⁵¹ Ibid., p. 181.

An Outsider from Within

Whether the subject matter be topographical, nautical, social, religious, or physical, each individual traveller's account is a puzzle piece that, when connected with the next, begins to develop a rather vivid picture of the past. When combined in their entirety, however, these accounts seem to make up only half of the puzzle. Completing the entire second half of the picture is Martin Martin's 300-page *Description of the Western Islands of Scotland ca 1695 and A Voyage to St. Kilda*.⁵² The most prolific of all travellers to the region before 1745, Martin Martin would produce the most thorough account before rapid change came to the west, and the only available description of the region until Thomas Pennant's account would appear in the 1770s. Despite criticising him for his style and status, many eighteenth and nineteenth century aristocratic travellers likely had a copy of his book tucked carefully into their luggage. Samuel Johnson, for one, despised Martin's writing, but claimed it was Martin who instilled the childish desire to travel one day to the Western Highlands and Islands.

Though Martin Martin's account was penned considerably later than the travellers' accounts reviewed thus far, his was the first to be published and made available to the reading (and travelling) public. Placing himself solidly within the historical context of the late seventeenth century, Martin demonstrated a tendency to offer suggestions for improvement to the environment he encountered, while recording his findings in the style of a natural philosopher and amateur scientist. The combination is intriguing. Though 'improvers' usually boasted a strong attitude of moral authority, escalating their encouragement of change to the point of simply demanding it, Martin did not resort to criticising the people and environment, or to degrading their sense of self or sense of place.

Instead, his suggestions for improvement were appendages to explanations for how the people thought, why they thought that way, and how they acted. He tediously recorded plant lore, cures, and medicines, values, practices, folk knowledge, resources, beliefs, and frequently gave an explanation (and justification) for the relationship that the people had with their natural environment. All of this detail, which carefully captured the water-world prior to improvement, flowed on to Martin's pages as if he was passing on the knowledge of an amateur scientist, not the beliefs of a moral authority.

Martin had a unique perspective in that he was an empathetic insider from the Isle of Skye, and an ambitious outsider living in London; he was a simple man who spoke the Gaelic language and took pride in his heritage, but one with a Masters degree from Edinburgh and support from the Royal Society. Though he covered most of the details touched upon by earlier travellers, his personality and lifetime of personal experience made his written product much more thorough. Where most travellers commented on the abundant fish and other sea life, Martin spent much of his energy explaining how they prepared their food and the way they gave thanks for it. This is just one excerpt from his description of the Isle of Lewis:

The inhabitants round the island came to the church of St. Malvay, having each man his provision along with him; every family furnished a peck of malt, and this was brewed into ale; one of the number was picked out to wade into the sea up to the middle, and carrying a cup of ale in his hand, standing still in that posture, cried out with a loud voice saying, 'Shoney, I give you this cup of ale, hoping that you'll be so kind as to send us plenty of sea-ware for enriching our ground for the ensuing year; and so threw the cup of ale into the sea.'⁵³

⁵² Martin Martin, *A Description of the Western Islands of Scotland Circa 1695, and A Voyage to St. Kilda*, Introduction to edition by Charles W.J. Withers (Edinburgh, 2002).

⁵³ *Ibid.*, p. 29.

Martin's knowledge of the Gaelic language allowed him to document numerous stories like this one about an ancient sea spirit named 'Shoney.' It also allowed him to further his explanations for ceremonies, superstitions, and practices by integrating Gaelic terminology and some etymology into his text; much like a scientist that records medical terms in the Latin and the vernacular, Martin also shared both English and Gaelic definitions for many of the plants, animals, and place names he recorded. But, at other times, his comfort with being bilingual, meant he took for granted that his reader would know of what he described, like when he explained:

The os-sepie is found on the sand in great quantities. The natives pulverize it, and take a cost of it in boiled milk which is found by experience to be an effectual remedy against the diarrhea and dysentery. They rub this powder likewise, to take off the film on the eyes of sheep.⁵⁴

Martin spoke of the use of seafoal grease on Pabbay, the great quantity of mussels on Maddy, preserving meat with seaware on Nonsuch, and how bread baked with the fuel of seaware on Borera 'relishes better than that done otherwise.'⁵⁵ He explained how, on Heiskir, the rope of horsehair was used to catch seals, and how on most of the islands, each part of the seal was used for food, medicine, utensils, or offerings. On Skye, burnt seaware and seawater heals open boils on the skin and killed worms, but seaware was also used to preserve cheese, 'scour falxen thread better, and make it whiter than anything else.'⁵⁶ On Tiree, cows were fattened from eating seaware, and a few years before Martin's visit there, 'about one hundred and sixty little whales' were trapped on the shore of the island during a

⁵⁴ Ibid., p. 35.

⁵⁵ Ibid., p. 46.

⁵⁶ Ibid., p. 118.

‘time of scarcity.’⁵⁷ Stories, remedies, and lists of resources with their uses filled Martin’s work, contributing as much material as all of the other travellers’ accounts combined. The travellers accounts discussed thus far were penned by men with various backgrounds and callings, styles and responsibilities. Negative impressions documented by travellers, which became more blatant during the eighteenth century, were inspired by political, religious, economic, and social circumstances. They demeaned the people and environment of the Scottish Insular *Gàidhealtachd*, and they promoted and justified change to the pleasant environment earlier travellers experienced and wrote about. The effort to subdue the region did not wane until many of the people left, livelihoods ended, and the nature of their water-world became trapped within the landscape paintings and romantic literature of the nineteenth century.

But there are always reasons for transition between perceptual stages, so it is worth analysing why travellers’ perceptions changed from the sixteenth to the eighteenth century. To the point of Union in 1707, most travellers’ to the Scottish Insular *Gàidhealtachd* entered the territory with attitudes that allowed them to be almost completely objective in their discovery. Regardless of the reasons behind their making such a difficult and lengthy excursion, their written accounts simply did not reflect as many negative attitudes characteristic of eighteenth century perceptions. Instead, the water-world of the region managed to win over the visitors who experienced a unique environment protected from the rest of the world by the ancient seas and the Grampians.

⁵⁷ Ibid., p. 164.

Opportunists, Owners, and Improvers

Three particular travellers' accounts demonstrate how the ambitions of ownership complicated the perceptions of visitors by emphasising a concern with control and order to the erstwhile quest for knowledge. The first is by the Englishman called Captain John Dymes who reported on the Isle of Lewis for Charles I in the year 1630.⁵⁸ Still somewhat won over by his experience there, Dymes was specifically ordered to the island to assess the possibility of implementing a royal fishing scheme. His report illustrates his tendency to interpret the environment for the sake of promoting policy, and he did so by coveting the water-world into which he ventured. This shift in attitude and behaviour would not come to full fruition on a massive scale until after the Union of 1707, but Dymes' early account indicates that the royal desire to control the region was in the early stages of development. When compared to the other accounts, analysis of Dymes report highlights how the inclination to 'covet' a physical environment and then 'control' it at the expense of existing environmental conditions and political relations, was not only in the early stages of development, but was eminent.

Dymes took the time to note everything from the climate, religion, land tenure, and even his thoughts on the local language. He began his report with the Danish history, physical location, and weather, and then moved rather quickly to the condition of the people with descriptions that were positive and inquisitive. The introductory paragraph described the 'ayre very wholesome' and the people with 'healthfull bodyes and long lives,' but both his personal bias and his political motivation would soon become apparent. The religious practices of the islanders were described in a way that made obvious the fact that Dymes

was not a Catholic, and his promotion of the topography made obvious the fact that what other travellers documented with awe was to him a massive potential for exploitation.

Dymes covered the topography of mountains, lochs, heath, peat bogs, grazing customs, and use of peat for fuel which he considered equal to wood or coal. He noted the growth of barley and oats, and gave a rather detailed account of the religious practices, most of which he did not favour. 'Idolatrous worshipping' aside, of the water-world on the Isle of Lewis, Dymes provided a wealth of information. There was a

great store both of fresh and salt water, Loughes and Bayes witch aboundeth with all sorts of fish especially Herring, Cod, and Ling and great stoare of Whales which follows the other Fish for prey.⁵⁹

He mentioned other forms of livelihood, such as selling cattle and wool, but found the sea life the richest commodity. He pointed out that he could only find about a dozen boats that made full use of the ocean resources but explained the visiting Dutch had made 'extraordinary gaine thereof,' by providing a detailed account of the financial benefit the Dutch had from the fish trade. To emphasise the great quantities of fish, Dymes recounted how he spoke to a Dutch fisherman who told him their 'netts and Busses' were too full to handle what they caught. The crown had established fishing in Newfoundland, and Dymes referred to the fact that those fishermen 'kill more in a daie then they doe with one of their boates in a yeare here.'⁶⁰ He explained how the Dutch 'made provision of fornaces and other necessaries for the Whale fish, but they have not yett made any vse thereof,' almost as if to encourage the crown to expedite efforts before the Dutch took advantage of the long

⁵⁸ Captain John Dymes, *A briefe Description of the Isle of the Leweis beinge one of the Islands of ye Hebrides subject to his Majesties Kingdome of Scotland*. State Papers. Domestic. Chas. I. Vol 180 No 97.

⁵⁹ *Ibid.*, p. 1.

⁶⁰ *Ibid.*, p. 3.

days of sun for fishing.⁶¹ He discussed the best seasons for catching different types of fish, and emphasised that the practice could flourish all year round should the industry shift from one species to the next.

Dymes told the story of how the locals killed nearly 100 young whales using their swords, bows and arrows, and how they used burnt seaware to salt it before drying and smoking it like bacon; and he told the story of locals killing a 'great stoer of Seales' using bats and swords. He also captured an interesting practice with the seal not mentioned in other sources:

To defend themselves agt the teeth of theis fish (whose nature is not to lett goe their hold till they feele the bones bruise betweene theare teeth) they lynes their Trooses wth Charcoales, soe that when those fish chance to bit anie of them, when they feele the coals crash within their teeth they give over their hold and are the sooner overcome, this fish alsoe they make meate of as they doe by their Whales.⁶²

Dymes emphasised the 'great abundance' of both fish and fowl and identified Stornoway as the most reasonable site for 'the seatinge of a Burrough towne' due to its safety for ships, level ground, fresh air, and distance from hills and bogs. He then identified many locations around the island where 'Magazines and Stoarhouses' for salt, packing, and other practices might be built. And then he concluded by stating that he hoped his 'best endeavors to dischargd my duety herein accordinge to the Comission and direcons receaved' would be nobly considered.⁶³ Though this is just one travellers' account prior to 1707, it is representative of the way coveting the environment in reports would lead to future efforts by the crown.

⁶¹ Ibid.

⁶² Ibid., p. 4.

⁶³ Ibid., pp. 4-5.

The last two traveller accounts do not dedicate the depth of detailed descriptions regarding Highland and Island topography or water-practices when compared to previous travellers. But both accounts are examples of traveller impressions that carry Captain Dymes' tendency to covet one step further, to the point of entitlement by virtue of ownership. General George Wade who, in 1724, was commissioned on behalf of King George I 'to inspect the present situation of the Highlanders'⁶⁴ wrote a rather lengthy letter in the midst of escalating conflicts between the people of the region and the rest of the kingdom. His letter revealed how the new *owners* of the region would choose to deal with their troublesome inhabitants. Unfortunately, Wade provided very little environmental perception, save a limited number of statements about the way in which the mountainous passages benefited the inhabitants and caused apprehension in the crown's soldiers, and the need for a system of roads to better support his military strategy. Instead, the content of the letter built a damning picture of a people deserving of harsh treatment. Wade obviously travelled the territory between Fort George and Fort William, and he may have even made a trip to Skye where he proposed the building of a garrison. But the bulk of his letter was a vicious attack on the people whose customs were portrayed as barbaric, whose lawlessness was a direct threat to the crown, and whose ability to govern themselves had failed. Wade covered the ineffectiveness of attempts to disarm them, the frequency of their cattle-stealing and robberies, the uncivilised nature of their beliefs, and their tendency toward dishonesty, revenge, and contempt. Wade's letter served the purpose of promoting fear and justifying warfare and, though his audience was most likely limited to royal and military

⁶⁴ Handwritten copy of *General Wade's Report to His Majesty concerning the Highlands of Scotland* National Library of Scotland (1724).

officials, his perceptions mirrored the beliefs of many others throughout England and Lowland Scotland.

The final documents prior to the '45, are a series of personal letters written by Edmund Burt in the years 1727, 1728, and 1736, which he most likely never intended to have published.⁶⁵ Together they illustrate how political, social, and economic factors powerfully influenced the 'worldview' of the author, whose impressions of the people, their practices, and surroundings were equally as damning as those of General Wade. After authoring fourteen letters about the inhabitants and conditions of the Lowlands, Burt began his is fifteenth letter by introducing the Highlanders who differed 'from the People of the Low-Country in almost every Circumstance of Life,' and he emphasised that 'neither of them would be contented to be taken for the other.'⁶⁶ Though he admitted to never visiting the islands, he did document his travels through part of the Western Highlands where he was exhausted by difficulties passing through the rough terrain, and where his few impressions of the environment proved to be mixed. He found the mountainous conditions troubling, and the view of the mountains 'a dismal gloomy Brown drawing upon a dirty Purple; and most of all disagreeable when the Heath is in Bloom.'⁶⁷ This comment cements his attitude:

if an Inhabitant of the South of England were to be brought blindfold into some narrow, rocky Hollow, enclosed with these horrid prospects, and there to have his Bandage taken off, he would be ready to die with Fear, as thinking it impossible he should ever get out to return to his Native Country.⁶⁸

⁶⁵ Edmund Burt, *Burt's Letters from The North of Scotland*, with introduction by R. Jamieson, F.S.A. Vol. I and II, William Patterson (Edinburgh, 1876).

⁶⁶ *Ibid.*, Vol. II, p. 24.

⁶⁷ *Ibid.*, p. 32.

⁶⁸ *Ibid.*, p. 35.

But Burt recognised that the need for these mountains were economic when he pointed out what he determined was their true purpose:

They contain Minerals...and serve for the breeding and feeding of Cattle, wild Fowls, and other useful Animals, which cost little or nothing in keeping. They break the Clouds, and not only replenish the Rivers, but collect great Quantities of Water into Lakes and other vast Reservoirs, where they are husbanded, as I may say, for the Use of Mankind in Time of Drought.⁶⁹

He recounted his troubles in crossing the dangerous waters and shared several stories about the Highland Fords, how the locals always carried a stick in order to assist themselves in crossing, and how many had not succeeded and instead lost their lives. He described the living conditions, food, and love of drink he found the Highlanders to appreciate greatly and periodically remarked how surprised he was to have dry quarters or clean sheets.

General Wade and Edmund Burt were both English, employed by the crown, and embodied the threatening level of authority wielding itself over the region. Wade had the task of determining just how to best conquer the region politically and militarily, while Burt had the dubious position of collecting rents and acquiring unsold forfeited estates from the inhabitants. To Highlanders, both men undoubtedly represented the epitome of greed, arrogance, and imperial opportunity that complicated their way of life. Little did they know, this was only the beginning of their problems.

The Colour of Perception

By reviewing the travellers' accounts from the sixteenth to the early eighteenth century, it becomes apparent that attitudes and behaviours were heavily influenced by the way in

⁶⁹ Ibid., p. 36.

which each visitor interpreted the territory through which he travelled. Some early travellers went with the intention of exploring and capturing the water-world as it existed, whether to chart and map, or to inventory and explore, they recorded what they saw by leaving their own personal prejudices out of their narratives. But, those travellers whose intentions included economic and political gain, made judgements based on their tendency to covet, desire, and exercise the powers of territorial ownership. Prior to 1745, this process was just beginning, but after the Jacobite Rising, the practice became public policy and the balance shifted. Later visitors to the Scottish Insular *Gàidhealtachd* perceived the territory as their own. This produced a diverse array of reactions, from the desire of many to change, exploit, and control their new acquisition, to the determination of others to preserve, romanticise, and worship it.

From the beginning of the sixteenth, and well into the eighteenth century, travellers' perceptions were moulded and manipulated by historiographical invention, technological opportunities, scientific observational techniques, cultural stereotyping, empire rhetoric, a humanistic sense of superiority, and religious zealotry. However, during the middle of the eighteenth century, one of the most devastating forms of mental baggage began to weigh heavily on the entire western world: racism. Despite the pleasant connotation of the phrase, 'The Enlightenment' produced some of the most dreadful misinformation and prejudice to find its way into society's consciousness during the modern period, the repercussions of which are still felt today.

Despite the early traces of racism that arose during the Renaissance, the ancients were not directly responsible for it. The Greeks and Romans believed skin colour to be a result of

climate and placed no level of superiority or inferiority on it.⁷⁰ The ancients subscribed to the time honoured tendency to put people in categories of ‘the haves’ and ‘the have nots.’ There were those who had power and those who did not; those who had wealth, and those who did not; those who had education, and those who did not; and those who had talent, and those who did not. But by the eighteenth century, the world had grown more complex, the French and English were building great empires and struggling to keep them, and the need to justify their actions, whether scientific, cultural, economic, political, or religious, depended greatly on the ability to place others below their own level of superiority. Humanism, which served to promote civility and Christianity, had injected the need for moral authority, something that most ancients were not as concerned with, especially when it came to empire building. Therefore, advances made by the eighteenth century in science and culture contributed to economic and political advancement: scientific racism validated expansion.⁷¹

Where humanists chose to place emphasis on proper language, clothing, education, manners, and beliefs, scientists of The Enlightenment became concerned with anatomy and physiology, while philosophers concerned themselves with economic and political development. This process of categorisation that had flourished throughout the Renaissance had reached new heights in complexity. For scientists, the *Natural History* recreated during The Enlightenment, meant categorising all living creatures and placing them into a hierarchy based on physical variations rather than cultural ones; for

⁷⁰ Roxann Wheeler, *The Complexion of Race: Categories of Difference in Eighteenth-Century British Culture* (Philadelphia, 2000), p. 4.

⁷¹ Alden T. Vaughan, ‘From White Man to Redskin: Changing Anglo-American Perceptions of the American Indian,’ *The American Historical Review*, Vol. 87, No. 4 (Oct., 1982), pp. 917-953, esp. pages pp.944-947.

philosophers of The Enlightenment, it meant classifying economic and political standards. By the 1770s, Adam Smith's four-stages theory of civilisation, was a common trend in French and Scottish Enlightenment philosophy. *Essay on the History of Civil Society* by Adam Ferguson, *Origin of the Distinction of Ranks* by John Millar, and Smith's *Wealth of Nations* made clear that living standards greatly affected economic and political stability and vice versa. Smith believed that, as humans had evolved from the hunter-gatherer and pastoralist to the agriculturalist, their standard of living had improved significantly, and that the final stage of commercialism was, of course, the top of the social hierarchy, and represented modern society at its best. The four-stages philosophy was integrated into other works where it was noted that manners, cleanliness, civility, loyalty, honesty, and especially productivity was markedly improved as humans moved from one stage to the next. In Bernard Romans' *Concise Natural History* for instance, he contended that 'from one end of America to the other, the red people...[are] a people not only rude and uncultivated, but incapable of civilization.'⁷² In 1797, the *Encyclopaedia Britannica* read,

What an immense difference exists in Scotland, for instance, between the chiefs and the commonality of the Highland clans? If they had been separately found in different countries, they would have been ranged by some philosophers under different species.⁷³

Therefore, in the eighteenth century, native people like the Wabanaki and the Hebrideans represented the bottom of this hierarchy and had more physical differences. While the Highland Scots found themselves just slightly elevated because

⁷² Bernard Romans, *Concise Natural History of East and West Florida* (New York, 1775), pp. 38-39.

⁷³ *Ibid.*, p. 234.

they planted or had lighter skin, both were recognisably below the perceived status of the travellers who documented them.

Weathering the Storm: Lessons in Environmental and Cultural Determinism

By the sixteenth century, two very different water-world peoples on opposite sides of the North Atlantic were targeted for imperial and commercial conquest: the Hebrideans in the Scottish Insular *Gàidhealtachd* on the ocean's eastern edge and the Wabanaki in *Ketakamigwa* on its western edge. In the east, following the dissolution of the Lordship of the Isles in 1493, the Scottish Crown slowly intensified policies to subdue the Hebrideans and control their resources. The sixteenth century saw minimal progress with only a brief investigative tour through the islands by James V in 1540, then several failed attempts to colonise and 'civilise' the Isle of Lewis under James VI beginning in 1598. However, in 1603, when 'James VI of Scotland' became 'James I of England', a new sense of urgency was placed upon solidifying borders, establishing economic stability and prosperity, and maintaining absolute control of two nations unified by one crown. As a result, the inhabitants of the Insular *Gàidhealtachd* were subjected, somewhat unsuccessfully, to state-sponsored cultural engineering policies like the Statutes of Iona, then violently invaded by British forces in the 1715 and 1745 rebellions, and finally demoralised by the *Clearances* of the late eighteenth and early nineteenth centuries. In the end, most inhabitants of the Insular *Gàidhealtachd* were helpless against the overwhelming changes that came with the long process of forced unification. However, the fate of the Hebrideans was not solely determined by the cultural and social impact of new political and economic constructs. Against the backdrop of climate deterioration, their water-world environment simply could not endure the unrealistic exploitative policies of both private and commercial industry. The impractical demand for surplus in an already strained and contested environment meant native inhabitants

competed with, rather than accommodated, outside economic interests. As a result, existing Hebridean practices became detrimental to imperial and commercial success. Concepts of 'improvement' and 'progress' penetrated the water-world of the Scottish Insular *Gàidhealtachd* and were used to justify pressures on the Hebrideans who were pressured to conform to new economic ideologies or leave the region.

If 1493 marked the advance of conquest in the east, it was 1492 that did so in the west. The magnetic wakes behind the *Niña*, *Pinta*, and *Santa Maria*, pulled Europeans toward a seemingly unparalleled treasure trove of resources. While the Spanish dominated below the 36th parallel north, Cabot, Corte Real and others struck out to territory above. As a result, the sixteenth century saw a flurry of opportunists, fishermen and explorers, sailing from Bristol, Portugal, Basque country and France, and establishing fishing stations or initiating trade throughout the islands and coastal shorelines of *Ketakamigwa*. On the eastern edge of the Atlantic, the English and Lowlands Scots were usually in complete control of conquest.¹ On its western edge, however, imperial and commercial competition between multiple nations over fish, furs, and tantalising (though faulty) prospects of a passage to Asia complicated trade relations, spread disease, and accelerated levels of violence in an extremely short period of time.² Additionally, the floodgates to the 'new world' that opened to allow for the free flow of European trade did not discriminate by nationality. Multi-national interests and competition for resources led to imperial warfare between European nations that eventually marginalised native welfare, initiated turbulent

¹ The Dutch posed a threat during the early phase of establishing a regional fishing industry. This will be discussed more thoroughly below.

² See Griffiths, N.E.S. '1600-1650: Fish, Fur, and Folk,' in Phillip A. Buckner and John G. Reid (eds.), *The Atlantic Region to Confederation: A History* (Toronto, 1994), pp. 40-60.

inter-tribal relations, and complicated competing tribal alliances.³ In this chapter, it will be demonstrated that, in contrast to the east, the physical environment in the west was much more capable of enduring the exploitative measures placed upon it by outside forces. As a result, the Wabanaki navigated their way through the rising waters of imperialism, colonisation, and nation building in a very different manner from that of the Hebrideans. Despite being paralysed by pathogens and technically and demographically overwhelmed by European conquest, the Wabanaki managed to emerge with a cohesive identity, a continued presence on ancestral lands, and some semblance of their lifeworld views.

It may be a lesson in environmental and cultural determinism, therefore, that so many Hebrideans eventually left their own water-world and sailed into that of the Wabanaki. On 15 September 1773, an old ship called *The Hector* arrived at the port of Pictou with over 200 inhabitants from the Scottish Insular *Gàidhealtachd*.⁴ With the promise of arable land and one year's provisions, they had left their own ancestral lands, travelled eleven weeks of rough seas, and suffered the death of eighteen of their children from smallpox and dysentery.⁵ When they disembarked at Cape Breton Island, New Scotland (Nova Scotia), they met a native people who, despite enduring a similar pattern of conquest, still managed to inhabit their ancestral lands. Rather than *New Scotland*, this water-world was known to

³ For the period up to the early eighteenth century, see John J. Reid and Emerson W. Baker, 'Amerindian Power in the Early Modern Northeast: A Reappraisal,' in John J. Reid, *Essays on Northeastern North America, Seventeenth and Eighteenth Centuries* (Toronto, 2008), pp. 129-152. For the period that followed, when native populations were marginalised, see John J. Reid, 'Pax Britannica or Pax Indigena? Planter Nova Scotia (1760-1782) and Competing Strategies of Pacification,' in his *Essays*, *Ibid.*, pp. 171-190.

⁴ See, Donald Mackay, *Scotland Farewell: the People of the Hector* (Toronto, 2001).

⁵ *Ibid.*, p. 101.

them as *Ketakamigwa*.⁶ The Wabanaki showed them how to cope in their new environment:⁷

They ate shellfish from the harbour and salmon from the river and, in place of the kale broth they had known in Scotland, made soup from nettles and the herbs the Indians taught them to trust.⁸

Centuries of climate change and oppressive policy hampered the ability for both the Wabanaki and many of the Hebrideans to maintain their traditional lifeways, but it was the shared experience that inevitably brought them together.⁹

Changes in Practices: Trade, Fishing and Technology

Over many millennia, both *Ketakamigwa* and the Scottish Insular *Gàidhealtachd* were at the centre of water-world networks intimately connected through cultural and material exchange. Trade on either side of the North Atlantic transplanted new ethnic groups, technologies, and beliefs that altered culture, increased material wealth, and evolved social systems. During the sixteenth century, however, there was a significant difference between the political circumstances, opportunities, and threats facing native people on either side of the sea. While the Wabanaki initially welcomed European trade, and were immediately and irreversibly influenced by life-changing technologies, the Hebrideans were enduring one of the least prosperous periods of trade in their history. In the eastern North Atlantic, the combined effects of ecological challenges on land and foreign competition in the sea instilled

⁶ At Pictou, the Hebrideans met members of the Mi'kmaq who called their local territory *Aqq Piktuk* (*The Explosive Place*). The six other Mi'kmaq territories are *Kespukwitk*, *Sipekne'katik*, *Eskikewa'kik*, *Unama'kik*, *Epekwithk*, *Siknikt*, and *Kespek*. Together, they are the region of *Mi'Kma'Ki*, the traditional territory of the Mi'kmaq, which is the northern and eastern most portion of Ketakmigwa.

⁷ Mackay, *Scotland Farewell: the People of the Hector*, p. 144. For example, they taught them how to make showshoes and preserve their meat.

⁸ *Ibid.*, p. 153.

a significant amount of caution, if not outright hostility toward outside interests, and provoked dynamic clan rivalries focused on territorial protectionism.¹⁰ In the western North Atlantic, population pressure did not threaten an abundance of natural resources, and lifeworld beliefs about the human-nature relationship did not evolve into a social custom equivalent to private ownership, making violent hostility over the possession of territory rare.¹¹ Therefore, the contrast in natural conditions and human perceptions made for a very different sixteenth-century trade experience. By the seventeenth century, however, the Wabanaki found themselves faced with many of the same challenges that created problems for the Hebrideans, which intensified the precipitate speed of their transformation. By the eighteenth century, the opportunities once presented through exchange had given way to a cascade of threats facing native people and their water-world environments on both sides of the North Atlantic.

Ketakamigwa

The Wabanaki were self-sufficient; the resources of *Ketakamigwa* provided all they needed to survive. Their intimate understanding of the topography, lack of permanent habitation and highly mobile lifestyle made possible by their lightweight watercraft, provided them ample opportunity for exchange. As they congregated along inland arteries or on coastal beaches, they enhanced their living conditions through trade while cultivating their social

⁹ James Hunter, *A Dance Called America: Scottish Highlands, The United States, and Canada* (Edinburgh, 1994).

¹⁰ Grievances filed by native fishermen against foreign fishers in the fifteenth and sixteenth centuries include *RPCS*, Vol. 2, pp. 382-383, 534; Vol. 3, p. 125; Vol. 4, pp. 121-122, 303; Vol. 8, pp. 66-68, 740-741, 742-743; Vol. 11, pp. 169-170; Vol. 13, p. 37.

¹¹ Territorial boundaries between individual nations were common knowledge, trespass was generally accepted, and penalties were not usually carried out unless an act of violence or dishonour took place. Conflicts that did arise seem to have only existed between major tribal units, rather than within extended kin

relationships. The ancestors of the Mi'kmaq, Maliseet, Passamaquoddy, and Penobscot frequently navigated through one another's territories to acquire regional resources, or journeyed further south and west to trade in Armouchiquois or Narragansett territory.¹²

Below the ecological barrier that separated them from their south-western neighbours, they acquired exotic agricultural produce such as 'corn, tobacco, beans, and pumpkins,' or wampum and ceramic smoking pipes.¹³

Although the Wabanaki did not necessarily want for either luxuries or materials essential to their survival, they were pragmatic traders who acknowledged the benefits of the European technologies that arrived in *Ketakamigwa* on the eve of the sixteenth century. For example, the transition from stone tools and wooden cauldrons to items made from metal was almost immediate. Archaeological remains in Nova Scotia belonging to the Mi'kmaq, who were the first of the Wabanaki to encounter Europeans, indicate the introduction of metals made lithics nearly obsolete there within the first century of contact.¹⁴ Many elements of Wabanaki material culture, however, were perfected over thousands of years to accommodate a dynamically changing environment. Bark-covered

groups. No cases of warfare are recorded, for example, between the seven divisions of the Mi'kmaq nation. See Baird, *Jesuit Relations*, 3:91.

¹² *Armouchiquois* is a Mi'kmaq term which means 'dog' – a way of differentiating them by their speech, much like the word 'malicete' which means 'funny talkers' – The Mi'kmaq, who were the first and most closely connected of the Amerindians to associate with Europeans, played a large role in assigning labels to others that became permanent in print. For scientific evidence of Wabanaki trading for agricultural items, see James B. Petersen, Malinda Blustain, and James W. Bradley, "'Mawooshen" revisited: Two Native American contact period sites on the central Maine coast,' *Archaeology of Eastern North America*, 32 (2004), p. 14, where they have analysed human bone isotope values for *sixteenth*-century burials and found corn present in migratory foragers who inhabited the coast between the Penobscot and Frenchman Bays. Harold E. L. Prins has argued this is due to trading or raiding between the crop-growing Western Wabanaki and the hunter-gatherer Wabanaki. See his 'Cornfields at Meductic: Ethnic and Territorial Reconfigurations in Colonial Acadia,' *Man in the Northeast*, 44 (1992), p. 57.

¹³ Lescarbot, *History of New France*, Vol. 2, p. 324; Wood, *New England's Prospect*, p. 69 (quotation) and p. 79; also, Morton, *New English Canaan*, p. 201; B.F. Costa, *Ancient Norumbega, or the Voyages of Simon Ferdinando and John Walker to the Penobscot River, 1579-1580* (New York, 1890).

wigwams, snowshoes, toboggans, and birch-bark canoes were essential to both the development of their cultural identity and their survival under challenging climate conditions. These were not so easily replaced by European goods, and even supported changing obligations during European-Wabanaki exchange. While the Wabanaki were enticed by previously unimaginable objects, therefore, they combined pragmatism with traditionalism by integrating new and old in unique, meaningful, and practical ways.

For a commercial fishing and whaling industry to be successful, and for trade relations to flourish, regional stability and safety was crucial. In *Ketakamigwa*, European fishermen found themselves navigating a water-world with seemingly endless stores of marine and terrestrial resources among a population of native people who not only shared the sea generously with them, but enthusiastically invited the exchange of goods. For almost a century after the first suspected landfall by Cabot in 1497, the Wabanaki accommodated Europeans by visiting newly developed fishing stations along the coastlines or meeting vessels in the water. The first recorded eyewitness accounts of trade relationships do not appear until the early seventeenth century with the observations of Samuel de Champlain in 1603, Marc Lescarbot and Pierra De Gua de Mont's in 1609, and the Jesuits beginning in 1612. However, cargo lists, notary records, and archaeological remains, combined with the fact that a 'pidgin' language remained in use in the seventeenth century, all support the existence of a vibrant Wabanaki-European trade network long before the establishment of permanent European settlement.

Laurier Turgeon has combined archival records from the ports of Rouen, Bordeaux, and La Rochelle where some of the fishing expeditions originated, with archaeological

¹⁴ Ruth Holmes Whitehead. 'Nova Scotia: The Protohistoric Period 1500-1630: Excavations at Four Micmac

evidence from Basque and Amerindian site excavations, and has determined that trade in *Ketakamigwa* 'was well established and extensive' long before explorers and settlers wrote their historical narratives.¹⁵ Just how much so is best exemplified by notary records indicating at least 536 fishing vessels were outfitted and then departed from these three ports alone between 1544 and 1565.¹⁶ Even if Anthony Parkhurst was exaggerating when he wrote Richard Hakluyt in 1578 that the combination of Spanish, Portuguese, English and Basque whalers around the 'new found land' that year were between 350 and 380, the traffic through the St. Lawrence watershed in northern *Ketakamigwa* was undoubtedly one of the busiest ports in the western hemisphere.¹⁷ Using port intelligence reports in 1580, Robert Hitchcock estimated the number of French ships alone to be at least 500.¹⁸

Ironically, 1580 was also the year that fishing and whaling in the region appears to have peaked due to a subsequent combination of climate deterioration, overfishing, and an

Sites,' *Curatorial Reports*, No. 75 (Halifax, 1993), pp. 21-48.

¹⁵ Laurier Turgeon, 'French Fishers, Fur Traders, and Amerindians during the Sixteenth Century: History and Archaeology,' in *The William and Mary Quarterly*, 3rd Series, 55:4 (October, 1998), pp. 585-610. Turgeon has also produced wider regional studies, including 'Basque-Amerindian Trade in the St. Lawrence during the Sixteenth Century: New Documents, New Perspectives,' in *Man in the Northeast*, 40 (1990), pp. 81-87, while James A. Tuck and Robert Grenier combine archives and archaeology in *Red Bay, Labrador: World Whaling Capital, A.D. 1550-1600* (Newfoundland, 1989).

¹⁶ The statistical evidence is overwhelming, especially when considering not all ships were legally required to even acquire a notary. Turgeon covers just these three port cities for the years 1544-1605, with documentation incomplete in La Rochelle and Rouen from 1565 onward. *Ibid.*, p. 591. Some of the most important ports were St. Malo and St. Jean de Luz. Between 1584-1587, ships from St. Malo were specifically outfitted for the fur trade. The 1584 voyage proved profitable, and in 1587 there were four ships in the St. Lawrence region for fur trade, but the intervening voyages may not have taken place. See Richard Hakluyt, *A particular discourse concerninge the greate necessitie and manifolde commodityes that are like to growe to this Realme of Englande by the Westerne discoveries lately attempted, written in the yere 1684*, by Richard Hakluyt of Oxforde known as *Discourse of Western Planting (1584)* in Quinn, *New American World: A Documentary History of North America to 1612*, p. 33 and p. 102; and Marcel Trudel, *Histoire de la Nouvelle-France*, Vol. 1 (1963), p. 221. Even smaller ports were recorded to outfit ships. See, Charles de la Morandière, *Histoire de la pêche française de la morue dans L'Amérique septentrionale (des origines à 1789)*, Vol. 1 (Paris, 1962), p. 231. Taking these records into account, estimates can legitimately be revised upward pending further discovery in archival records.

¹⁷ Partial quote is taken from Turgeon, *Ibid.*, p. 590.

upsurge in international conflict. The Little Ice Age brought cooler water temperatures and increased ocean storminess to the region. These environmental changes were part of a greater North Atlantic pattern that sent codfish on a massive migration in search of 4-7°C water temperatures where their small kidneys would not fail.¹⁹ As a result, fisheries continued but in much smaller numbers, while emphasis adjusted to the herring catch. Fagan and Jensen have traced the way that climate change and overfishing depleted stocks and influenced migrating shoal patterns. For over four centuries, codfish were heavily exploited by the Vikings in Iceland and Greenland before they migrated to Labrador and Newfoundland where they were exploited by Basques and Portuguese from the late fifteenth century onward; they moved further south to Nova Scotia and Maine where they were exploited by the French and then the English from the mid-sixteenth century, eventually migrating to 'Cape Cod' by the seventeenth century.²⁰ Gradually deteriorating climate conditions, extreme weather patterns, and increased ocean storminess complicated

¹⁸ Quinn et al (ed.), *New American World*, Vol. 4, *Newfoundland from Fishery to Colony; Northwest Passage Searches*, (New York, 1979), pp. 7-8 and 105. Also, Harold A. Innis, *The Cod Fisheries: The History of an International Economy* (Toronto, 1978), pp. 44-45 and fn. 40.

¹⁹ H. H. Lamb, *Weather, Climate and Human Affairs* (London, 1988), p. 153. Codfish kidneys do not function in temperatures below 2°C when exposed for extended periods. For Ice Age conditions, see J.M. Grove, *Little Ice Ages: Ancient and Modern* (New York, 2004); also J.M. Grove and R. Switsur, 'Glacial geological evidence for the Medieval Warm Period,' *Climatic Change* 26, (1994), pp. 143-169; R.J.H. Beverton and A.J. Lee, 'Hydrographic fluctuations in the North Atlantic Ocean and some biological consequences,' in C.G. Johnson and L.P. Smith (eds.), *The Biological Significance of Climatic Changes in Britain* (London, 1965), pp. 79-107.

²⁰ Brian Fagan, *The Little Ice Age: How Climate made History 1300-1850* (New York, 2000), pp. 76-77. Fagan also notes the Basques were present in the North Sea before following whales and codfish shoals west after 1450. The abundance of both whales and codfish in the waters north of *Ketakamigwa* were so great that merchants from Bristol followed the Basques there, giving up a decades-long negotiation with the Hanseatic League to reopen trade with the Icelandic fishery. For the movement of the shoals throughout history, see Albert C. Jensen, *The Cod: What the Average Reader Does Not Know About the Cod and Codfishing and Should Know*, (New York, 1972). For more on the Bristol involvement in the fishery, see E. M. Carus Wilson, 'The Iceland Trade,' in Eileen Power and M. M. Postan (eds.), *Studies in English Trade in the Fifteenth Century* (London, 1933), p. 180.

fishing practices established from the late fifteenth century onward.²¹ The significant decrease in whale and codfish catches around northern *Ketakamigwa* was identified in the cargo lists by Turgeon has having begun in the latter sixteenth century, but non-environmental factors may have also played their part.²² The Anglo-Spanish War and several religious conflicts surrounding the Reformation preoccupied Western Europe at the time, easily tying up naval vessels, men, and money until 1603.²³ International affairs undoubtedly affected the fisheries, but what makes environmental factors more likely the trigger is that Turgeon's calculations show the start of diminishing catches well before fewer vessels were dispatched to the region.

Considering the technological advantage, European whaling and fishing in the first century of contact did not necessarily require cooperation with the native population, yet the intensity of European traffic, combined with the types of goods exchanged, indicates trade relationships were a by-product of primarily innocuous water encounters.²⁴ Both archival and archaeological evidence support a combination of heavy and relatively peaceful exchange to approximately 1580 as well.²⁵ The Wabanaki offered up their deer and moose

²¹That Europeans gravitated southward with the codfish shoals to warmer waters is indicated by travellers' testimonials touting abundant codfish catches. In 1602, the year he named a small forested island 'Martha's Vineyard' after his wife, Captain Bartholomew Gosnold remarked of 'Cape Cod' that there was 'great plentie [of codfish]...in seven faddome water and within less than a league of the shore; where in new-found-land they fish in fortie or fiftie faddome water and farre off.' Quote taken from Jensen, *Ibid.*, p. 87.

²² Turgeon, *Ibid.*, see Table III, p. 595.

²³ Tom Scott, 'The Economy,' in Euan Cameron (ed.), *The Sixteenth Century* (Oxford, 2006), p. 18, pp. 41-51, and pp. 78-83.

²⁴ Laurier Turgeon notes that notary records in the port cities did not mention trade until the 1550's when fur was recognised as a 'commercial' good by notaries, but it was never a significant staple for *sixteenth* century fishermen. See 'French Fishers, Fur Traders, and Amerindians during the Sixteenth Century: History and Archaeology,' in *The William and Mary Quarterly*, 3rd Series, 55:4 (October, 1998), p. 596.

²⁵ French and Portuguese fishermen set-up temporary fishing stations for processing their catch on the beach. This has made site location very difficult. However, Basque whaling stations are still easily identified by their large stone ovens built for rendering blubber. 'Rendering Blubber' is a process of cutting the whale blubber into strips, placing them in the ovens, and melting the blubber into oil that was barrelled and sold back in

hides, beaver pelts, and sea-lion skins in exchange for axes, knives, and metal fishhooks.²⁶

Norman cargo lists from fishing vessels frequenting the coasts of Cape Breton include pendants, rings, bracelets, needles, beads, ribbons, mirrors, scissors, harness bells, woollen cloth, and Flemish embroidery materials, while the few remaining Basque cargo lists include a large number of copper kettles.²⁷ This suggests whalers and fishermen were deliberately carrying cargo of specific interest to the people of *Ketakamigwa*, items that, over the centuries, became cultural staples integral to daily and spiritual life.²⁸ Nicolas Denys commented in the late seventeenth century that ‘above everything the kettle has always seemed to them, and seems still, the most valuable article they can obtain from us.’²⁹

Despite a dearth of Basque documentation for exchange in *Ketakamigwa*, their undeniable cultural influence is evidenced by seventeenth-century travellers’ accounts and the archaeology. Lescarbot noted that the native people of the region ‘have been so long frequented by the Basques, that the language of the coastal tribes is half Basque,’ and Pierre de Lancre remarked that ‘the Canadians did not trade with the French in any other language

Europe. Many Basque sites and their ovens, like Île aux Basques, are well preserved because they are still situated in uninhabited locations. See Michel Gaumont, *Documentation sur le site des fours à fondre l’huile à l’île aux Basques (DaEh-4)* (Québec, 1961) and Charles Martijn, ‘Île aux Basques and the Prehistoric Iroquois Occupation of Southern Québec,’ in *Cahiers d’archéologie québécoise* (Québec, 1969), pp. 59-73. Further excavation of Basque sites is discussed in Harry Thurston, ‘The Basque Connection,’ *Equinox* (December, 1983), pp. 46-59.

²⁶ Henry Percival Biggar (ed.), *A Collection of Documents Relating to Jacques Cartier and the Sieur de Roberval* (Ottawa, 1930), pp. 460-463. These exact trade items are confirmed by depositions recorded during interviews with members of a Basque crew in 1542 and by several archaeological excavations discussed below.

²⁷ Turgeon, *Ibid.*, pp. 600-601. To illustrate the overwhelming demand for copper kettles, Turgeon notes that Micheau de Hoyarsabal, the captain of Marie de Saint Vincent, borrowed funds in Bordeaux to buy 1,212 pounds of ‘red copper kettles’ – approximately 100 – in 1584, 209 more in 1586, and 200 more in 1587.

²⁸ The way in which the copper kettle influenced perception is explored in the section below, entitled *Changes in Perceptions* because of the prominent role the copper kettle eventually played in Wabanaki spirituality.

²⁹ Nicolas Denys, *The Description and Natural History of the Coasts of North America (Acadia)*, in William F. Ganong (ed.), Vol. 2, (Toronto, 1908), p. 441.

than that of the Basques.³⁰ Even after the Basques no longer frequented the sea around *Ketakamigwa*, their language still combined with Algonquian to create a 'pidgin' for trading purposes.³¹ Both Lescarbot and the Jesuits list numerous Basque words spoken by the natives, including *bakalaos* (codfish), *origna(c)* (moose), and *orein(ak)* (deer).³² There are two possible reasons for the intimacy of this relationship. First, unlike the fishermen and whalers of other countries who stayed only seasonally, the Basques remained at their permanent whaling stations throughout the year, giving them ample opportunity to mix with their native neighbours.³³ Even when the French and Portuguese became preoccupied in the 1580s, Basque ships continued and even increased their numbers through 1590.³⁴ Second, over the period of several generations, natives camped and worked at fishing and whaling stations. Thevet, Hoyarsabal, Richard Whitbourne, and Lopi de Isasti all indicated amicable

³⁰ Lescarbot, 2:394-395 and 3 :107 (1907) and Pierre de Lancre, *Tableau de l'inconstance des mauvais anges et démons* (Paris , 1613), p. 29.

³¹ Peter Bakker, 'The Language of the Coast Tribes Is Half Basque: A Basque-Amerindian Pidgin in Use between Europeans and Native Americans in North America, ca. 1540-ca. 1640,' *Anthropological Linguistics*, 31:3-4 (1989), pp. 117-147.

³² Peter Bakker, 'Basque Pidgin Vocabulary in European-Algonquian Trade Contacts,' in William Cowan (ed.), *Papers of the Nineteenth Algonquian Conference* (Ottawa, 1988), pp. 7-15. Also, *Jesuit Relations* 3:81 uses the word *adesquidex* when explaining an exchange between a Jesuit and Mi'kmaq. According to Bakker, this is a Basque word the Mi'kmaq used to greet the French. For an overview of the Basques in the Americas , see Selma Huxley (ed.), *Los vascos en el marco Atlantico Norte Siglos XVI y XVII* (San Sebastian, 1988). The use of a hybrid trading language, or pidgin, has been documented throughout history in numerous locations, including one developed by Phoenician traders in the ancient Mediterranean, the Chinese Pidgin English that developed during the seventeenth century, as well as many among Amerindian cultural exchange routes. For example, multi-lingual communities along the Columbia River Basin in the Pacific Northwest of America established the Chinook pidgen language for trade between Plateau, Great Basin, and Pacific Coastal Amerindian nations long before European contact was initiated. See *The Canadian Encyclopedia*, Vol. 2: 'Chinook Jargon' (Edmonton, 1988).

³³ André Thevet, *Le grand insulaire et pilotage d'André Thevet, angoumois, cosmographe du Rois* (1586), in Roger Schlesinger and Arthur P. Stabler (eds.), *André Thevet's North America : A Sixteenth-Century View* (Montréal, 1986), pp. 250-251, 270. Andre Thevet was the cosmographer to the king of France who noted that the Basque stayed in the region year round; he also mentioned that Hoyarsabal, the captain of a Basque ship, stayed year-round purposely to cultivate trade relations. Patterns of whale exploitation can be found in B. A. Mcleod, M. W. Brown, and M.J. Moore, et al., 'Bowhead Whales, and Not Right Whales, Were the Primary Target of 16th-to 17th-century Basque Whalers in the Western North Atlantic,' in *Arctic*, 16:1 (March, 2008), pp. 61-75.

relations, the exchange of goods for native work at the stations, and a respect for high-quality native workmanship, while Mungo Haranibal, the captain of a Basque ship, reciprocated good relations when he 'invited the savages with whom he was acquainted...to take their meal with him.'³⁵

That the Basques also shared in native social activities and formulated close relationships with native people is supported by pidgin terminology. The Mi'kmaq continued to use Basque terms of endearment, such as *anaia* for 'brother,' and an indication that they once feasted together, *tabaguia* for 'banquet.'³⁶ However, Basque presence and amicable exchange was not to last. When Lescarbot mentioned the Basques in 1603, it was in the present tense: 'Lesquemin [Les Escoumins] is the place where the Basques hunt for whales.'³⁷ However, by 1664, when Father Henri Nouvel made his entries in the *Jesuit Relations*, he mentioned the Basques in the context of being from a *distant* past:

This Isle is very agreeable: it is only one league in length, and a half-league in width. It goes by the name of the Isle aux Basques, on account of the whaling which the Basques did there *in bygone days*. I took pleasure in visiting the large ovens they had built to make their oil, about which we can still see the great ribs of Whales they killed.³⁸

Archaeological remains amidst whalebones and stone ovens, as well as the bead chronology from Amerindian excavations, indicate Basque presence in the region ended shortly after

³⁴ Turgeon, *Ibid.*, p. 597.

³⁵ *Ibid.*, p. 608. Also, *Department Archives of the Gironde*, 3E 5428, January 29, 1587; *Admiralty Records*, 6B p. 926, March 5-8, 1655; Thevet, *Ibid.*, p. 251; Bélanger, *Les Basques*, pp. 78 and 86.

³⁶ Bakker, 'Basque Pidgin Vocabulary,' *Ibid.*, p. 10.

³⁷ Quote from Turgeon, *Ibid.*, p. 607.

³⁸ *Jesuit Relations*, 49:24. Emphasis in italics is my own.

Father Paul Le Jeune referred to them in his 1637 entry in the *Jesuit Relations*. By the middle of the seventeenth century, French words replaced Basque in trade communications.³⁹

In *Ketakamigwa*, the first phase of Wabanaki-European exchange was primarily one of adaptation and accommodation rather than resistance. The Wabanaki were periodically confronted with hostility that did affect their patterns of movement and relations, but they still took advantage of the new technologies in order to enhance their daily lives.⁴⁰ This early behaviour was likely reminiscent of the resilience demonstrated over many millennia when interaction with newcomers from other native cultures introduced new technologies to the region, and when such outside influences had previously altered lifeworld beliefs and practices.⁴¹ However, during the final decades of the sixteenth century, as marine resources diminished in the western North Atlantic and European opportunists sought new resources for exploitation, a second phase in Wabanaki-European trade relations commenced. Deteriorating climate conditions were threatening enough, but European wars, inflated markets, and religious conflict in the eastern Atlantic also posed significant challenges to trade relations and native practices.

During the first phase of trade, animal fur was simply the preferred item of exchange for metal ware and trinkets, making it 'incidental to fishing.'⁴² During the second phase, however, it replaced whale and fish as the primary target for international exploitation to

³⁹ Bakker, 'The Language of the Coast Tribes Is Half Basque,' p. 13. Also, see Selma Barkham, 'The Basques: Filling a Gap in our History between Jacques Cartier and Champlain,' in *Canadian Geographic Journal*, 96 (1978), pp. 8-19.

⁴⁰ The impact of kidnappings like those noted in Chapter 2 by Gaspar Corte-Real and Estevan Gomes will be examined in *Changes in Settlement and Subsistence Patterns* as well as in *Changes to Perceptions*.

⁴¹ See Chapter 1: 'The Water-world of *Ketakamigwa* and the People of the Dawn' which shows acculturation over more than ten millennia.

meet accelerated European market demands. During the final decades of the sixteenth century, expansion of the fur trade, especially beaver, accommodated a fashion trend for felt hats worn by a growing number of European nobility. Although exploitation of new resources in the west increased to make up for depleted whale and fish stocks, pressure was further intensified when Sweden captured Narva in 1581 and limited eastern supply-lines, essentially eliminating the Russian exports that previously met fur industry demands.⁴³ The bizarre combination of fashion and warfare on the eastern side of the Atlantic exacerbated trade relations in the west, nearly wiping out the beaver in the process.⁴⁴

The ecological impact of the fur trade was devastating and, like depleting fish stocks, changed native practices over time. Father Paul Le Jeune declared in 1635, that the Huron had reduced their beaver stock to nothing, and by 1684, the Iroquois accused the Algonquian tribes of trespassing to expand their bounty when they 'carried off whole Stocks, both Male and Female.'⁴⁵ Nicolas Denys observed that, when he first arrived in the region, the Mi'kmaq 'killed only in proportion as they had need of them.'⁴⁶ However, thirty years later, practices had changed to the point of crisis as growing market demands resulted in the

⁴² The partial quote is from Harold A. Innis, *The Fur Trade in Canada* (Yale University Press, 1962), p. 12. Also see Alfred G. Bailey, *The Conflict of European and Eastern Algonkian Cultures, 1504-1700: A Study in Canadian Civilization*, 2nd ed (Toronto, 1969), pp. 8-10.

⁴³ Edwin Ernest Rich, 'Russia and the Colonial Fur Trade,' in *Economic History Review*, 2:7 (1954-1955), pp. 307-316, and Raymond H. Fisher, *The Russian Fur Trade, 1550-1700* (New York, 1974), pp. 146, 184-208; Also, Turgeon, *Ibid.*, p. 603.

⁴⁴ Although much of this article covers eighteenth century practices further west of *Ketakamigwa*, the introductory pages overview the trade in general: Ann M. Carlos and Frank D. Lewis, 'Property Rights, Competition, and Depletion in the Eighteenth-Century Canadian Fur Trade: The Role of the European Market,' in *The Canadian Journal of Economics*, 32:3 (May, 1999), pp. 705-728.

⁴⁵ *Jesuit Relations*, 8:57. The quote is from Baron Lahontan's account of an Iroquois leader's speech to the French governor-general. It was published in Thwaites (ed.), *New Voyages to North America...An Account of the Several Nations of that vast Continent*, Vol. 1 (Chicago, 1905), p. 82.

⁴⁶ Denys, 2:403.

Mi'kmaq over-hunting fur-bearing animals like the moose and the beaver.⁴⁷ Denys was especially struck by their new behaviour toward the beaver:

Few in a house are saved; they would take all. The disposition of the Indians is not to spare the little ones any more than the big ones. They killed all of each kind of animal that there was when they could capture it.⁴⁸

So, while overfishing was attributed specifically to European opportunists, the near extinction of fur-bearing animals was due to the systematic effort of Amerindians themselves. The reasons behind this obvious transformation in the human-nature relationship are diverse and equally complex, but the changes themselves are easier to identify.⁴⁹ They include integrating technological advances in their watercraft, expanding existing trade networks, and *attempting* to accommodate European market demands for the Wabanaki local resources.

During the first phase of exchange, the Wabanaki advanced their watercraft by adopting Basque technology.⁵⁰ Their original canoes included rising gunwales in the centre and seating for between two and six people, a pragmatic design that allowed them to easily navigate along coastlines, through strong currents of the St. Lawrence watershed, and over the open seas to Newfoundland.⁵¹ During the latter sixteenth century, these vessels were expanded in both width and breadth, then fitted with sails to resemble the Basque shallops

⁴⁷ Ibid., 1:187, 199, 209, 219-220, 2:450.

⁴⁸ Ibid., 2:432.

⁴⁹ At this point in the chapter, I will focus primarily on behavioural changes. Altered perceptions and changing relations are explored in *Changes in Perceptions*.

⁵⁰ The French, beginning with Jacque Cartier, referred to the Mi'kmaq as the 'Souriquois.' References to the 'Souriquois' being the fur-traders in the region are most frequent in the primary sources.

⁵¹ 'Gunwale' has no relation to firearms, but is rather for balance in difficult conditions. Champlain described the process for marking them and their role in maintaining trade, Samuel de Champlain, *The Voyages of the Sieur de Champlain of Saintonge, Captain*, in H.P. Bigger (ed.) *The Works of Samuel de Champlain*, Vol 1, pp. 338-339.

of their trade partners.⁵² In 1609, when Henry Hudson met the Wabanaki of the Penobscot Bay area and traded for fur, they encountered ‘two French Shallops full of the country people come into the Harbour.’⁵³ The Basque language was obviously not the only element culturally diffused out by French presence during the second phase of exchange. Baker noted that, by the mid-seventeenth century, some shallops were up to twelve tons, forty ft in length, and fitted with multiple masts.⁵⁴ By the time fur became the primary commodity of exchange, Wabanaki watercraft technology proportionate to that of their European partners provided opportunity for their central role in the trade. They were even said to navigate ‘as skillfully [sic] as our most courageous and active sailors in France.’⁵⁵ By the eighteenth century, the Mi’kmaq fought against the British in seventy-ton schooners.⁵⁶ Over two centuries’ time, using everything from birch bark canoes to European-style water-warcraft, the Wabanaki resiliently adapted technologies that enhanced their ability to survive and compete as their regional circumstances changed. By the nineteenth century, they competed in the commercial fishery using their own vessels.⁵⁷

Advancements in watercraft allowed the Wabanaki to become integral in the fur trade. Also important was their ability to trade European-made goods via existing trade networks. The core of European-Wabanaki trade took place on the sea and on beaches in northern

⁵² Most of the early seventeenth century historical documents make some mention of these imitations, including *Jesuit Relations*, 47:223; Champlain, *Ibid.*, 2:442-443; Denys, 1:196; Lescarbot, *History of New France*, 2:309; and D.B. Quinn (ed.), *New American World: A Documentary History of North America to 1612*, Vol. 3, (New York, 1979), p. 348.

⁵³ R. Juet, ‘The third voyage of Master Henrie Hudson toward Nova Zambia,’ in Samuel Purchas (ed.), *Hakluytus Posthumus or Purchase His Pilgrimes*, 13 (Glasgow, 1906), pp. 333-374, quote from p. 346.

⁵⁴ W. A. Baker, *Sloops and Shallops* (Massachusetts, 1966), pp. 20-28.

⁵⁵ *Jesuit Relations*, 47:223.

⁵⁶ National Archives of Canada, *Archives des Colonies*, Serie C(11)B (Correspondance generale, Canada, 10:4-5), ‘Lettre de Joseph de Monbeton de Brouillan dit Saint-Ovide (Governor of île Royale 1718-1739), le 13 septembre 1727 en délibération du conseil, le 17 février 1728.’

Ketakamigwa. Yet, in 1602, when Bartholomew Gosnold and John Brereton encountered Wabanaki along the coast of Maine, they engaged in the Basque-pidgin language with

six Indians in a baske shallop with a mast and saile, an iron grapple, and a kettle of copper [who] came boldly aboard us, one of them apparelled with a waistcoat and breeches of black serge, made after our seafashion, hose and shoes on his feet.⁵⁸

At the time, explorers believed the presence of European items was evidence of previous European contact in the region. So too did several twentieth century historians and archaeologists.⁵⁹ However, Quinn determined there is simply no documentary evidence to support contact, while Bourque and Whitehead have successfully proved that the spread of European-made material goods from northern to southern *Ketakamigwa* was more likely the networking of existing native traders who followed traditional routes through inland and coastal waterways.⁶⁰ Between the first and second phases of trade, demand for new technologies developed rapidly along these liquid arteries of *Ketakamigwa*. This enhanced the role of the Wabanaki 'middleman' whose intimate knowledge of the water-world environment lay at the heart of travel, trade, and communications. The desire for Wabanaki throughout *Ketakamigwa* to acquire European goods, all the while maintaining control over

⁵⁷ Ellice B. Gonzalez, *Changing Economic Role for Micmac Men and Women: An Ethnohistorical Analysis* (Ottawa, 1981), pp. 63, 87-88.

⁵⁸ John Brereton, *A Brief and True Relation of the Discovery of the North Part of Virginia, 1602*, in H.S. Burrage (ed.), *Early English and French Voyages*, (New York, 1906), pp. 330-331.

⁵⁹ Both Siebert and Morison assumed that the presence of European goods was evidence enough, but neither could support their assumptions with historical documentation. See, F. T. Siebert, Jr., 'The Identity of the Tarrentines, with an Etymology,' in *Studies in Linguistics*, 23 (1973), pp. 69-76, and Samuel Eliot Morison, *The European Discovery of America, the Northern Voyages* (New York, 1971), p. 469.

⁶⁰ D. B. Quinn, *North America from Earliest Discovery to First Settlement* (New York, 1977), pp. 386-387. Also, Bruce J. Bourque and Ruth H. Whitehead, 'Trade and Alliances in the Contact Period,' in Emerson et al (eds.), *American Beginnings: Exploration, Culture, and Cartography in the Land of Norumbega* (University of Nebraska, 1995), pp. 131-147. This is a revised version of 'Tarrentines and the Introduction of European Trade goods in the Gulf of Maine,' by the same authors, in *Ethnohistory* 32:4 (1985), pp. 327-341.

regional trade, created the economic incentive that led to the inland over-exploitation of fur-bearing animals.

For a short time, as the fur trade got underway, power shifted away from Europeans and into the Wabanaki's favour, and with that power came great change to the environment and to native practices.⁶¹ Only nations like the Bersimis of north-eastern Quebec continued to host an abundance of beaver, because they remained beyond European trading posts and the waterways travelled by native 'middlemen.'⁶² The transformation was profound. Bourque and Whitehead determined that, during the fur trade, 'these middlemen interacted with and emulated Europeans so extensively that the very cultural dichotomy between native and European ... becomes blurred.'⁶³

Wabanaki topographical knowledge, language skills, and ability to move sinuously through the region's inland waterways made them immensely important to European business, so their expanding responsibility was a natural progression from previously well-established exchange relations. But the insatiable demand placed upon Wabanaki fur traders to meet European expectations not only heightened their responsibility, but cultivated desperation. In some cases, they sought resources from outside the region. When Champlain met Wabanaki at Tadoussac along the St. Lawrence River in 1603, they

⁶¹ Elizabeth Mancke, 'Spaces of Power in the Early Modern Northeast,' in Stephen J. Hornsby and John G. Reid (eds.), *New England and the Maritime Provinces: Connections and Comparisons* (Montréal, 2005), pp. 32-49. Mancke includes a section specific to 'native spaces of power c. 1550-1700' which points out that the fishing industry created alliances and enhanced material wealth, but that the power was not in the hands of native people. Once fur replaced fish, power shifted to the people who could procure it. Once European settlements began initiating land charters, natives were marginalised and new industries were created with Europeans back in power.

⁶² Thwaites (ed.), *Jesuit Relations*, 5:25; 6:297-299; 8:57; 40:151; 68:47, 68:109-111; 69:95, and 69:99-113.

⁶³ Bruce J. Bourque and Ruth Holmes Whitehead, 'Tarrentines and the Introduction of European Trade Goods in the Gulf of Maine' in *Ethnohistory*, 32:4 (Autumn, 1985), pp. 327-341. This quote is from p. 327.

were hundreds of miles from their own territory, having just raided the Iroquois.⁶⁴ Market demands also instigated inter-tribal rivalry as ‘middlemen’ from different nations within *Ketakamigwa* competed for European trade alliances. Because the Mi’kmaq were geographically positioned to assume power first as ‘middlemen,’ they were also the first to be threatened by increasing numbers of European ‘fur traders’ who entered the region. While surveying the territory between Penobscot Bay and Cape Breton with the hope of establishing a French fur-trading post, Etienne Bellenger was attacked by the Mi’kmaq who not only killed two of his crew, but stole their vessel.⁶⁵ As competition for European trade-partners and territorial resources grew, friction caused inter-tribal rivalries and territorial disputes.⁶⁶ Hostility was even directed between Wabanaki nations who bypassed existing ‘middlemen’ and began negotiating directly with French and English representatives. By 1607, when the Mi’kmaq attacked the village home of Bessabez, a Penobscot *sagamore*, for negotiating with English traders, inter-tribal economic competition had already bypassed hostility and turned to outright violence.⁶⁷

Transformation of Wabanaki material culture during the second phase of trade was accompanied by increased physical contact between ‘middlemen’ and pathogen-carrying traders, causing the spread of devastating diseases which decimated native populations and

⁶⁴ Called ‘Etchemins’ by Champlain, these are most likely Penobscot or Passamaquoddy. For his description of the incident, see his ‘Des Sauvages, or the Voyage Samuel Champlain made to New France in the Year 1603’ in *Works*, Vol. 1, pp. 103, 166-167.

⁶⁵ D. B. Quinn (ed.), *The Voyage of Etienne Bellenger to the Maritimes in 1583, A New Document* (Toronto, 1962), p. 333 and p. 341.

⁶⁶ For coverage of how trade aggravated relationships within Amerindian society and accelerated changes in territorial patterns, see R. T. Pastore, ‘Native History in the Atlantic Region during the Colonial Period.’ *Acadiensis*, 20:1 (1990), pp. 200-225. Also see C. A. Martijn, *Les Micmacs et la mer [The Mi’kmaqs and the Sea]* (Montreal, 1986).

⁶⁷ James P. Baxter (ed.), *Sir Ferdinando Gorges and His Province of Maine*, Vol. 2 (Boston, 1890), pp. 74-76. Also, see Bruce J. Bourque, *Twelve Thousand Years: American Indians in Maine* (London, 2001), p. 119.

instilled wariness among native traders.⁶⁸ In addition to disease, a series of other changes to Wabanaki society resulted from 'exchange', including the indiscriminate use of firearms for hunting and trapping, the deterioration of inter-tribal relations, and an increase in combative trade negotiations.⁶⁹ In their attempt to keep up with commercial demands and maintain regional power, the Wabanaki changed their behaviour while their traditions and environment suffered greatly. The insatiable nature of the fur trade brought the 'Beaver Wars,' dwindling fur-bearing stocks, and escalating prices that proved to be unsustainable.⁷⁰ As a result of high prices, Europeans discarded the fashion in favour of a new craze for silk top hats.⁷¹

The aftermath was a combination of ecological damage, cultural destruction, and Amerindian depopulation just as European nations commenced with a hostile land grab where charters and treaties determined how they would carve up *Ketakamigwa* permanently. Once settlements were established, the implementation of agriculture, timber

⁶⁸ Disease is explored more thoroughly in a later section of this chapter. For a general survey on the demographic impact of disease, see David E. Stannard, *American Holocaust: The Conquest of the New World*, especially Section II, 'Pestilence and Genocide,' (Oxford, 1992), pp. 57-96. For a study particular to the region of *Ketakamigwa*, see Arthur E. Spiess and Bruce D. Spiess, 'New England Pandemic of 1616-1622: Cause and Archaeological Implications,' *Man in the Northeast*, 34 (1987), pp. 71-83; Primary documents include 'Letter from Thomas Dermer to Samuel Purchase, December 27, 1619,' *New York Historical Society Collection*, 2nd series, Vol. 1 (1841), p. 350, as well as Ferdinando Gorges in James P. Baxter (ed.), *Sir Ferdinando Gorges and His Province of Maine*, Vol. 2 (Boston, 1890), p. 19.

⁶⁹ The cargo lists and notary records Turgeon used to determine trade during the sixteenth century do not indicate guns were an important item for exchange, but the second phase of exchange definitely involved an increase in firearms use by the Wabanaki. This was first recorded by Lescarbot, 3:507-508.

⁷⁰ For a detailed description of the inter-tribal warfare in and around *Ketakamigwa*, see Harald E. L. Prins, 'The Beaver Wars,' in Richard W. Judd et al. (eds.), *Maine: the Pine Tree State from Prehistory to the Present* (Orono, 1995), p. 110-114. Prins states that the intermittent clashes stretched from Cape Breton island in the North to Chesapeake Bay in the south, to the Great Lakes and Hudson Bay in the east; conflicts in *Ketakamigwa* contributed to the strengthening of the Wabanaki Confederacy alliance by the 1640s.

⁷¹ Ann M. Carlos and Franki D. Lewis. 'Property Rights, Competition, and Depletion in the Eighteenth-Century Canadian Fur Trade: The Role of the European Market,' in *The Canadian Journal of Economics*, 32:3 (May, 1999), pp. 705-728. Also, see J. F. Crean, 'Hats and the Fur Trade,' *The Canadian Journal of Economics and Political Science*, 28:3 (August, 1962), pp. 373-386.

mills and mining shifted European priorities and marginalised Wabanaki interests. Native knowledge and abilities were no longer necessary to imperialist and colonial expansion. Thus began their retreat into the heart of *Ketakamigwa* from where a new stage in Wabanaki-European relations was to be negotiated. By the eighteenth century, in a matter of only several generations, the Wabanaki had undergone socio-economic, political, and technological revolutions that the Hebrideans had previously experienced over thousands of years. During that time, accommodation and adaptation were replaced first by caution and then by outright hostility. When accelerated ecological and economic pressure hit a tipping point, the Wabanaki were fortunate enough to still have vast inland territories to which they could retreat.

The Scottish Insular Gàidhealtachd

In contrast to the Wabanaki of *Ketakamigwa*, the Hebrideans of the Scottish Insular *Gàidhealtachd* were not experiencing vibrant exchange during the sixteenth century. At a time when the Wabanaki were pulled to the centre of an international trade network where new technologies transformed their culture, the Hebrideans were pushed to the periphery of a rapidly evolving cash economy as their technology stagnated.⁷² Increasingly marginalised and demonised by literary and political propagandists in the Scottish Lowlands and England, and hampered by environmental limitations, the Hebrideans were in the midst of one of the least productive trade periods in their history. In part, this was because the

⁷² James Miller, 'Traditional Fishing Boats,' in James R. Coull et al. (eds.), *Boats, Fishing and the Sea* (Edinburgh, 2008), pp. 103-123. Miller notes very little change between the Norse design and innovations made in the late eighteenth century. During the nineteenth century, once the Loch Broom industry expanded, and traffic increased around Ayrshire, Loch-Fynne, Firth of Clyde, and Portpatrick in Galloway, more advanced watercraft

stability and safety necessary for a healthy level of trade was absent. Military conflict leading up to the forfeiture of the Lordship of the Isles cultivated extensive collective caution, if not hostility, toward imperial power, while internal competition left Hebridean society fractured.⁷³ The power vacuum created by the forfeiture forged divisive alliances and encouraged turbulence by contending clans who attempted to resurrect the Lordship.⁷⁴ Following the death of Domhnall Dubh in 1545, prospects for a Lordship revival waned and royal involvement in the region subsided when the power centre became distracted by several long minorities, a lack of resources, and preoccupation with religious concerns. Lack of royal intervention, however, did not change the fact that the forfeiture of the Lordship of the Isles reinforced that the Hebrideans were vassals of the crown and still legally required to supply rent in the form of cash.⁷⁵ The export of raw materials out of the Insular *Gàidhealtachd* to procure money for rent was essential, yet many Hebrideans were incapable of fulfilling such obligations. In a plea to the Privy Council in 1609, several chiefs, including MacLean of Duart and MacDonald of Dunivaig, complained they had been obstructed by a trade embargo.

were tailored to meet unique regional fishing needs (i.e. cod-line fishing, prawn trawling, 'whammel'-netting of salmon, or repairing ring-netting), see pp. 110-111.

⁷³Royal campaigns continued in 1494, 1495, and 1498, but by the turn of the century, James IV focused his attention elsewhere. See J. Munro, 'The Lordship of the Isles,' in L. MacLean (ed.), *The Middle Ages in the Highlands* (Inverness, 1981), p. 33. For crown-clan relations, see John Bannerman 'The Lordship of the Isles,' in Jennifer M. Brown (ed.), *Scottish Society in the Fifteenth Century* (London, 1977), pp. 209-240. Alexander Grant, 'Scotland's "Celtic Fringe" in the Late Middle Ages: The MacDonald Lords of the Isles and the Kingdom of Scotland,' in R. R. Davies (ed.), *The British Isles, 1100-1500: Comparisons, Contrasts and Connections* (Edinburgh, 1988), pp. 130-134. R.A. Dodgshon explores the way these fractures affected clan identity in "'Pretense of Blude" and "Place of Thair Duelling" The Nature of Scottish Clans, 1500-1745,' in R.A. Houston and I.D. Whyte (eds.), *Scottish Society: 1500-1800* (Cambridge, 1989), pp. 172-173 and 191-192.

⁷⁴ For a discussion on regional competition, see Aonghas MacCoinnich, 'Siol Torcail and their lordship in the sixteenth century,' in *Crossing the Minch: Exploring the Links Between Skye and the Outer Hebrides* (Glasgow, 2007), pp. 7-32.

⁷⁵ The Lordship of the Isles was still considered an entity of the Scottish Crown. Robert the Bruce commented on how difficult it was to extract payment from the Lordship. Following its forfeiture, the process of collecting payment was further complicated by the many clans who vied for power in the region.

The said Yllismen having no utheris meanis nor possibilitie to pay his Majesteis dewyteis bot by the seale of thair mairtis and horss, and the buying of suche commoditeis being in all tymes bigane a free, constant, and peceable trade to the merchantis alsweill of Eryll as of the incuntry.⁷⁶

Julian Goodare suggests that this embargo was issued by Lord Ochiltree as late as 1608 after several chiefs were captured and castles seized during a royal military campaign with the hope 'that bipast savaigenes and barbaritie...may be ruted oute, and that civilitie, oure obedyence, and trew religioun may be planted.'⁷⁷ Contemporary literary references to lawlessness, raiding, and barbarity propagated fear and mistrust, perceptions that supported the crown's intent to subdue and 'civilise' the 'barbarous' via the social, cultural, and economic engineering policies of the Statutes of Iona in 1609 and 1616.⁷⁸ However, Martin MacGregor points out that issuing a trade embargo preventing payment of rent was simply counter-productive to crown interests and he argues that internal rifts between traditional and royally aligned clan chiefs were more likely to blame. He concludes that, because limiting the trade opportunities of neighbouring clans made island territory and resources subject to forfeiture and redistribution, a trade embargo benefitted one entity above all others: the sheriffdom of Tarbert.⁷⁹ Considering the fact that complaints from the MacLeans go back to as early as 1578 when the royally aligned Campbells and MacDonalds prevented

⁷⁶ *Register of the Privy Council of Scotland*, Series 1, Vol. 8, pp. 757-758. Shaw explains that this plea followed the signing of the *Statutes of Iona* and that the Privy Council agreed only because of the 'tighter rein' accomplished by the content of the statutes. See Frances J. Shaw, *The Northern and Western Islands of Scotland: Their Economy and Society in the Seventeenth Century* (Edinburgh, 1980), p. 154.

⁷⁷ Quote is from a John Knox Letter to James VI, 17 September 1608, *Highland Papers*, Vol. 3, p. 114. Goodare's discussion of it is in 'The Statutes of Iona,' in *The Scottish Historical Review*, Vol. 77, 1:203 (April, 1998), pp. 31-57. Goodare attributes this embargo to Ochiltree in note 34, p. 39.

⁷⁸ Several literary examples were discussed in Chapter 2. Sonja Cameron also highlights the significance of Hector Boece's tone in his *Scotorum Historiae a prima gentis origine* (Paris, 1526). See Sonja Cameron, "'Contumaciously absent'? The Lords of the Isles and the Scottish Crown,' in Richard Oram (ed.), *The Lordship of the Isles*, (FORTHCOMING: Leiden, 2012).

MacLean traders from selling at Lowland markets, the evidence supports a thwarting of economic progress from within, with a conflict present over a much longer period of time than Goodare suspects.⁸⁰

Although the sheriffdom of Tarbert was the likely culprit of this trade embargo, it was not the only disrupting force in trade relations during the sixteenth century. Feuds between the MacLeods of Dunvegan and both the MacDonalds of Sleat and the MacLeans of Duart, as well as a domestic fissure within the MacLeods of Lewis, meant maritime trade routes and harbours were clogged with open hostility.⁸¹ This did not mean that there were *no* exports, however. In the midst of regional conflict, there were even rogue dealings going on. For example, in 1546, John Elder was exporting to England ‘200 dickers of tanned leather, hides or backs’ under a license from the court of Henry VIII.⁸² A previous resident of Skye and Lewis, Elder was familiar enough with the region to capitalise on his connections while living in exile, regardless of the existing unrest. Even though trade was minimal, analysis and speculation was definitely taking place as well. Monro’s mid-century accounts specifically detail the resource wealth of each community he visited, while Pont’s assessments in the 1590’s even include valuation of merklands, and the anonymous *Description of the Isles* in

⁷⁹ As far back as 1526, this Sheriffdom was held by the Earls of Argyll – the Campbells in Invarary -- who controlled Kintyre as well as all islands south of Ardnamurchan. Martin MacGregor, ‘The Statutes of Iona: text and context,’ in *The Innes Review*, 57:2 (Autumn, 2006), p. 163-165.

⁸⁰ The text of the complaint can be found in *Argyll Transcripts* made by the 10th Duke of Argyll, held in Glasgow University, Department of History, 29 December 1578.

⁸¹ MacCoinnich, ‘Siol Torcail and their lordship in the sixteenth century,’ pp. 7-15. Also, Aonghas MacCoinnich, ‘“His spirit was given only to warre”: conflict and identity in the Scottish Gàidhealtachd, c. 1580-1630,’ in S. Murdoch and A. Mackillop (eds.), *Fighting for Identity: Scottish Military Experience, c. 1550-1900* (Boston, 2009), pp. 133-162.

⁸² *Letters and Papers of the Reign of Henry VIII*, 21:1, 481, 20 April 1546. A ‘dicker’ is a unit of ten, which means this license was for 2000 hides.

Skene's appendix quantifies economic productivity as well as military capability.⁸³ Centuries before the 'Age of Improvement' that followed the subjugation of the Insular *Gàidhealtachd*, and despite an economic depression, imperial interests were already focusing on expansion and exploitative possibilities.

A tumultuous political setting undoubtedly contributed to the dearth in sixteenth-century trade, but disruptive environmental change cannot be overlooked as another contributing factor. Sporadic climate deterioration and extreme weather patterns following the so-called Medieval Warm Period shifted in the mid-sixteenth century to include consistently cooler temperatures, extended ice cover, shorter growing seasons, higher winds, wetter summers, and a greater frequency of storms.⁸⁴ These symptoms of the Little Ice Age continued from approximately 1550-1800 with especially disastrous consequences between 1690 and 1700. Regional climate conditions when Donald Monro described his personal observations in 1549 were markedly better than when Martin Martin documented his. Monro recorded that much of the region was still 'fertile and fruitful,' 'inhabit and

⁸³ See Donald Monro, *Description of the Occidental i.e. Western Isles of Scotland*, printed in Charles W. J. Withers & R. W. Munro (eds.), *A Description of the Western Islands of Scotland Circa 1695* (Edinburgh, 1999), pp. 299-339; Also, Anonymous, 'Description of the Isles of Scotland', in W.F. Skene, *Celtic Scotland*, Appendix III, pp. 428-440, estimated by him to have been written between 1577-1595; Anonymous, 'Ane Descriptione of Certaine Pairts of the Highlands of Scotland', in Macfarlane, *Geographical Collections*, Vol. 2, pp. 144-191. These descriptions are recorded here as being by an 'Anonymous' author, but they match (almost identically) Pont's notes which accompany his maps, so I infer the author to be Pont or somebody who copied Pont's notes.

⁸⁴ Alastair Dawson, *So Foul and Fair a Day* (Edinburgh, 2009), pp. 105-109. Dawson notes that the ocean was 'hostile' and that hunger, cold nights, disappearing coastlines, 'withering crops,' and cyclones plagued the Hebrideans during these year. H. H. Lamb, *Climate: Present, Past, and Future*, Volume 2: Climatic history and the future (London, 1977), pp. 471-472. H. H. Lamb, 'The cold Little Ice Age climate of about 1550 to 1800,' in *Climate: Present, Past and Future* (London, 1972), p. 107. H. H. Lamb, 'The Little Ice Age: Effects in Scotland,' in *Climate History and the Modern World*, 2nd ed. (London, 1982), pp. 219-223. H. H. Lamb, *Weather, Climate and Human Affairs* (London, 1988), pp. 115-116, 156-157.

manurit,' with flora and fauna being consistently 'gude' and 'fine.'⁸⁵ Yet, according to Martin, writing almost 150 years later, the region suffered from periodic famine, frequent disease and adverse weather that threatened resource supplies. For example, on the Isle of Harris, he noted that 'The frost continues till the spring is pretty far advanced, the severity of which occasions great numbers of trouts and eels to die.'⁸⁶ He also found the people of St. Kilda to be practical conservationists who were especially keen to carefully manage resources like wild sea fowl to avoid famine.⁸⁷

The whole of Britain was affected by climate change, and Lowland Scotland went so far as to establish 'emergency granaries' in the Baltic where Polish and Russian grain was exported when Scottish harvests failed.⁸⁸ This temporary relief was distributed in the Lowlands, but there is no evidence grain was transported to the Insular *Gàidhealtachd* until the eighteenth century.⁸⁹ By the time Archibald Menzies travelled to Knoydart in 1768, another 150 years after Martin's visit, he noted that the people were 'very attentive to the management of their cattle, which is the principal thing worthy of attention there, as their *climate and soil are against agriculture*.'⁹⁰ Archival records also indicate that many previously cultivated lands were left to waste. Exemplifying this trend is the number of merklands lying in waste in Kintrye that increased there from 81.5 in 1596 to 113 in 1605.⁹¹

⁸⁵ This terminology is ubiquitous throughout, but specific examples can be found in Monro, sections 121.94, 127.101, 130.104, 136.110, 154.128, and 249.207. See Monro, *Ibid.* It is worth noting here that Monro never once mentions regional trade.

⁸⁶ Martin Martin, *A Description of the Western Islands of Scotland Circa 1695* (1999), p. 54.

⁸⁷ *Ibid.*, pp. 171-177.

⁸⁸ S.G.E. Lythe, 'Scottish trade with the Baltic,' in *Economic Essays in Commemoration of the Dundee School of Economics*, 193:5 (1955), pp. 63-81. Lythe has utilised port records from Dundee to determine grain imports.

⁸⁹ T.C. Smout, *Scottish Trade on the Eve of Union, 1660-1707* (Edinburgh, 1963), p. 3. Malcolm Gray, *The Highland Economy 1750-1850* (Edinburgh, 1957), p. 43.

⁹⁰ V. Wills (ed.), *Reports on the Annexed Estates* (Edinburgh, 1973), p. 100. Emphasis is my own.

⁹¹ J. R. N. Macphail, *Highland Papers, Series 3, Scottish History Society*, 3:72.

Although the worst was yet to come, these early stages of the Little Ice Age may have limited the production of surplus for export at a time when open hostilities were already preventing exchange.

In the midst of economic depression, and against the backdrop of climate deterioration, renewed crown attention actually provided a brief window of exchange during the seventeenth century. As James VI prepared for his ascendance to the British throne, with great urgency, he addressed the so-called 'Highland Problem' by implementing a series of policies that revolutionised the way in which Hebrideans and outsiders managed regional resources. This was, of course, a self-serving attempt by James to quash a perceived embarrassment. Sonja Cameron illuminates the historical backdrop to the 'problem,' demonstrating convincingly that it was technically an 'Edinburgh Problem' that included a poor history of management, policy, and attention to the Borders, rather than a 'Highland Problem' that truly threatened an increasingly centralised government.⁹² Following the forfeiture of the Lordship of the Isles, the lack of cohesive policy and long periods of royal disinterest left James faced with an immediate need to awaken attention to his authority if he was going to inherit the throne from Elizabeth I of England. The distance to, and independent nature of, the Insular *Gàidhealtachd* simply made it difficult for him to manage. By over-exaggerating the 'Highland Problem,' then eliminating it by 'taming' and 'civilising' the people, James highlighted his efforts and accomplishments under a guise of national unity without ever even going there himself.⁹³ Motivated by combined aspirations of maximising the region's potential wealth and stabilising what could be seen as an

⁹² Cameron, *Ibid.*

embarrassment for him on the eve of the 'Union of the Crowns', therefore, James embarked on exceedingly desperate policies to eliminate hostilities, implant Lowland settlers, usurp territory, and control the island economy.⁹⁴

Despite his access to more resources upon becoming James I of Britain, many of his initial policies failed and his tactics negatively affected trade. For example, his colony in Ulster hampered existing trade relationships between the Hebrideans and their Irish kin, and his attempt to colonise the Isle of Lewis only further exacerbated clan rivalries along maritime trade routes.⁹⁵ Implanting Scottish Lowlanders and Englishmen into the region, however, was not as devastating as his 'divide and conquer from within' tactic which entailed further advancements to the interests of the Campbells of Argyll and the MacKenzies of Kintail, the latter of which eventually usurped the Isle of Lewis from the MacLeods. Like the European traders in *Ketakamigwa*, James was essentially creating alliances with 'native middlemen' who could do his work for him. Just as the middlemen in *Ketakamigwa* were enticed by incentives and inviting alliances that were self-serving, the Campbells and MacKenzies recognised how to capitalise on growing political opportunities. The difference, however, was that Hebridean 'native middlemen' were concerned specifically with acquiring territory in order to enhance commercial exchange. Herein lay the contrasting perceptions of 'private property' that greatly differentiated the Hebrideans from the Wabanaki.⁹⁶

⁹³ Alasdair Ross records an early crown precedent of speculating wealth, demonising the people, and then using propaganda to recruit support for usurping the territory of Moray in his 'Ein Volk, Ein Reich, Ein Fuhrer? North Britain, c. 1000 to c.1130,' *The Kings of Alba c. 1000-c.1130* (Edinburgh, 2011), pp. 64-144.

⁹⁴ There was also a contemporary precedent going on in Ireland.

⁹⁵ Frances J. Shaw, *The Northern and Western Islands of Scotland: Their Economy and Society in the Seventeenth Century* (Edinburgh, 1980), pp. 4-5.

⁹⁶ This topic will be dealt with in the *Changes in Perceptions* section of the chapter.

Despite the divisiveness of many of James' policies, some semblance of peace and order resulted from the effort of those clan chiefs who complied with his regulations. So, in the face of worsening climate conditions and strict monetary policies that further stratified the population, the political waters calmed enough to allow a short window for maritime exchange before a combination of military conflicts, including the English Civil War (1642-51) and war between England and Holland (1665), forced extreme local resistance and directed outside interests elsewhere. The window of exchange that opened during the seventeenth century was not necessarily beneficial to all inhabitants of the region, however. Prior to this time, the Insular *Gàidhealtachd* was relatively self-sufficient with each island and coastal mainland community exploiting a mixed economy based on local resources to maintain subsistence levels.⁹⁷ This new phase of trade saw increased pressure on resource production and exportation to meet cash rents and crown obligations. Combined with deteriorating climate conditions, these new policies exacerbated social stratification, increased competition, and cultivated a less diversified economy. The Scottish Insular *Gàidhealtachd* simply did not have enough of a resource surplus to benefit all of its inhabitants. For that reason, by the eighteenth century, the function of these policies in the midst of a growing population was simply no longer sustainable.

Because the primary surplus in the region was livestock, one of the fastest growing industries was, of course, cattle droving. Initially, islanders managed the entire process, from breeding and rearing to ferrying, herding and finally selling their stock at Lowland markets. Within several decades, however, large cattle contracts were established with Glasgow merchants who only required delivery to collection points before they paid a set fee

⁹⁷ Anonymous, 'Description of the Isles' in W. F. Skene, *Celtic Scotland*, Volume 3, Appendix 3, pp. 424-440

and took charge of cattle for mainland transport and distribution.⁹⁸ By the late seventeenth century, landowners were receiving bulk payments in cash, less transport costs, or taking notes of credit from professional 'drovers' who collected the cattle in the region and inherited the risk.⁹⁹ By the 1690s when poor weather and growing military conflict threatened safe transport, many tenants simply exchanged cattle for rent directly with the drovers who served as creditors to chiefs and landlords.¹⁰⁰ Because cattle were the single greatest export and as good as cash, tenants could offer cattle for rent, but there was no money transacted. Therefore, cash was only a means of exchange for chiefs and tacksmen, a policy which stratified them from the majority of the Hebridean peasant clansmen who directly managed the region's resources.

As chiefs gained access to luxury goods, including beaver hats, via the growing industrial centre in Glasgow, other raw materials also left the islands to supplement their incomes and pay debts. Small watercraft followed herring shoals south, arriving at Greenock where they traded their catch, skins, and wool.¹⁰¹ Descriptions of 'islesmen' sailing for Glasgow reveal that they 'soe passe up the Cluyde with pladding, dry hides, goate, kid and deere skyns.'¹⁰² From Skye, they brought tallow, butter and cheese.¹⁰³ Purchases were also being made in Edinburgh where luxury items including gold and silver, spices, and fine

(especially pp. 429-430, 432, 435).

⁹⁸ 'Cawdor Muniments,' bundle 590, *Book of the Thaness of Cawdor*, pp. 278-279. This is a contract between John Campbell, fiar of Cawdor, and Patrick Gaile MacFarlane, merchant burges of Glasgow, 13 October, 1635. Also, see Haldane (1952), pp. 20-44, 46, 53.

⁹⁹ *MacLeod Papers*, Box 28, 'Contract between John MacLeod of Dunvegan and Alexander MacLeod in Culenduine', 28 April, 1682.

¹⁰⁰ Shaw (1980), pp. 156-158.

¹⁰¹ Chris Smout, *Scottish Trade on the Eve of Union 1660-1707* (Edinburgh, 1963), p. 14.

¹⁰² 'Report by Thomas Tucker upon the Settlement of the Revenues of Excise and Customs in Scotland, A.D. 1656', in J.D. Marwick (ed.), *Miscellany of the Scottish Burgh Record Society* (1881), p. 26.

clothing were acquired by the landowning elite.¹⁰⁴ Because the value of raw material exports were not comparable to that of luxuries imported by many chiefs, a substantial amount of debt was accruing. This led to extreme measures taken by the chiefs that adversely affected the common Hebrideans. Because some islands like Lismore, Tiree, and the Uists had the ability to make up for grain losses in the mainland uplands during difficult famine years, even grain surplus was used to pay debt.¹⁰⁵ For example, the laird of Sleat exchanged 200 bolls of barley from North Uist to pay over £900 of his debt in 1688.¹⁰⁶

Another natural resource subject to unequal exchange during this new phase of trade was fish. Mirroring that of the European fishing industry in *Ketakamigwa* a century earlier, the perceived potential for exploitation attracted a significant amount of attention regardless of local interest or participation. Although fishing had a long tradition in the Insular *Gàidhealtachd*, and was once even commercialised by Norse settlers, it was comparatively less prevalent during the sixteenth and seventeenth century than in Shetland, Orkney, or the east coast of Scotland.¹⁰⁷ Nevertheless, travellers' accounts were filled with astonishment over plentiful fish in the Minch and fresh water lochs. Monro said of Rona, 'In this ile they use to take maney quhails and uther grate fisches,' and that in Raarsay, 'it is excellent for fishing,' while 'on the eist shore of Watterness lyes ane ile callit Ellan Askerin...[is] guid for fishing and slaughter of selchies,' and that Vatersay had 'ane excellent

¹⁰³ Anonymous, 'Description of Sky', in Macfarlane, *Geographical Collections*, Vol. 2, p. 220. Tallow is fat from beef or mutton.

¹⁰⁴ Shaw, *Ibid.*, pp. 163-164.

¹⁰⁵ *Ibid.*, pp. 105-106.

¹⁰⁶ *Lord MacDonal Papers*, Scottish Record Office, GD 221, bundle 6, 'Copy account of Sir Donald MacDonald of Sleat with Mr. Robert Blackwood to March 1694'.

¹⁰⁷ Shaw, *Ibid.*, pp. 121-124. T.C. Smout, *Scottish Trade on the Eve of Union, 1660-1707* (Edinburgh, 1963), pp. 14-15.

raid for mayne schippis that cumis thair to fische.’¹⁰⁸ During the summer months, people were also said to have migrated to the small islands north of Lismore where they took advantage of the ‘abundance of fishes’ in those waters.¹⁰⁹

Periodically, testimonials reflected the belief that locals did not fully take advantage of the vast fish stores. Captain Dymes reported that ‘the inhabitants doe make but small benefitt besides their owne food, there being in the island not above a dozen boates which doe kill anie fish for sale.’¹¹⁰ Pont said of Eigg that there was ‘fish also many, but they have no skil of fishing’ and that the inhabitants of St. Kilda ‘make na labour to obtene or slay ony fisches, but gadderis sum in the craigis, albeit thair nicht have abundance thair of utherways gif thair wald only way make labour thairfore’.¹¹¹ He also noted that the lack of fishing technology was apparent on Lewis and Harris where they often clubbed their prey with ‘treis and bastonnis’ when fish became visible in shallow water.¹¹² However, of Uig he said, ‘there is a river runneing in that Logh where there is abundance of fish slaine in one round water at the mouth of that river,’ while on Lewis there is

ane logh which is called Logh-bervais [Loch Barvas] and the fresh water river which doth runne out of this Logh is but halff a myll in length [where] there was *thrie thousand bigg salmond slayne in this river in anno 1585.*¹¹³

Even though Martin repeatedly described local fishing practices throughout the islands, he still recommended further development because ‘these isles are capable of the

¹⁰⁸ Monro, *Ibid.*, pp. 321-325. A ‘raid’ is a road or anchorage.

¹⁰⁹ See Walter Macfarlane’s *Geographical Collections*, Vol. 2, p. 155.

¹¹⁰ Captain Dymes, ‘Description of Lewis 1630,’ in W. C. Mackenzie, *History of the Outer Hebrides*, Appendix F, (London, 1903), p. 593.

¹¹¹ See Walter Macfarlane’s *Geographical Collections*, Vol. 2, p. 528.

¹¹² *Ibid.*, pp. 182-185.

¹¹³ *Ibid.*, p. 185. Italics for emphasis are my own.

improvements ... it is a great loss to the nation they should be thus neglected.¹¹⁴ After detailing the plethora of marine life on Barra, he also recognised a possible reason why locals were hesitant to over-exploit: 'The natives never go a fishing while Macneil or his steward is in the island, lest seeing their plenty of fish, perhaps they might take occasion to raise their rents.'¹¹⁵

Reports that Hebrideans were not fully exploiting their fish stocks may have, therefore, been a combination of truth and fiction. The region was subject to technological disadvantages, extreme caution toward outside interests, and a cultural emphasis on prioritising agricultural and pastoral surplus over fish stores. Meanwhile, imperial and commercial propagandists were seeking out opportunists interested in 'improvement'. By the late seventeenth century when Martin was visiting the region, climatic and economic pressure had escalated to the point where the Hebrideans may have been attempting to avoid further oppression. It should not be understated that the natives may have purposely hindered commercial exploitation as they became more fully aware of the threats posed by intensification should their potential for marine resource production be realised. Incurring additional burdens on top of meeting existing rent requirements must have been as undesirable as having outsiders trespass on their liquid pastures.

What is apparent is that, whether they tapped local fish stores or not, most common Hebrideans were unenthusiastic about outside intervention. Leslie's description of Lochaber highlights a common perception by outsiders:

¹¹⁴ For a detailed account of the fishing on Skye, see Martin, *Description*, in Munro, *Ibid.*, pp. 94-97; for quote regarding Martin's recommendations, see p. 207.

¹¹⁵ *Ibid.*, p. 66.

[Rivers] ar esteimed to excel mony uthirs riuers baith in Salmonde, and in abundance of uthiris fishes. Bot the truth of the mater is nocht publised, because the rude peple, quha ar inhabitouris, strukne throuch a vane feir, that throuch the abundance of thair fishe thay cum nocht sum tyme to skaithe, and that of strangers, thay admitt na man thair with thame to the fisheng willinglie excepte thair awne nychtbouris and cuntrey men. Nathir ony maner of way gif thay labour to fishing bot sa mekle as serues to thair awne vse for the tyme, nocht kairing as it war for the morne.¹¹⁶

Leslie went on to exclaim that, not in any other place in the world, did he believe more abundance and diversity of marine life could be found.¹¹⁷

During the seventeenth century, rumours of immense abundance untapped by the native population ushered in outside interest from all directions, the excessive traffic from which was met with significant local protectionism.¹¹⁸ From the time of the forfeiture, the Minch was considered by Lowland fishermen to be the property of the crown, a perception the MacDonalds were especially keen to contest. According to this complaint in 1622,

...the Captain of Clanranald and his servants hindered the fishing and damaged the 'laidning' to the extent of 'thrie last of hering.' He and his men further violently entered the petitioner's ship and compelled him to give them victuals, so that he was obliged to furnish new provision at great expense. Also, when the petitioner had only 'tua last of herring' in his ship, the Captain and his men took boat, nets, and herring, and compelled the petitioner to buy them back again. They also took four nets from him and restored only one, at the same time striking and wounding his men.¹¹⁹

¹¹⁶ Jhone (John) Leslie, *The Historie of Scotland*, E. Cody (ed.), James Dalrymple (trans), Vol. 1 (1578), pp. 37-38. My translation (with the gracious input of Sonja Cameron) is as follows: '...are esteimed to excel many other rivers both in Salmon, and in abundance of other fishes. But the truth of the matter is not published, because the savage (uneducated or ignorant) people who live there, stricken by a pointless fear that through the abundance of their fish they come to be harmed, particularly by strangers, they admit no man there to fish with them except their own neighbours and countrymen. And they will under no circumstances work to fish more than serves for their own use at the time, not caring as it were for the next day.'

¹¹⁷ *Ibid.*, Vol. 1, p. 41.

¹¹⁸ This was the case in *Ketakamigwa* as well, and in both cases the rumour of abundance contributed to the strain on sustainability.

¹¹⁹ Register of the Privy Council, 8:741, 27 July 1622. This petition was filed by William Strong, skipper of Anstruther, who said he was 'in his "bark" fishing in his Majesty's waters.'

The following month, the ‘Captain of Clanronald’ and 300 of his men, were said to ‘impede’ the fishing of Alexander Small of Edinburgh, by boarding the ship, damaging the contents, and carrying away the nets.¹²⁰

A unified effort in local protectionism was complicated, however, by royally-aligned chiefs who wished to exploit their own territorial assets with the help of others. This was certainly the case in and around the Isle of Lewis, where the MacKenzies attempted a monopoly over the territory they usurped from the Macleods in 1610 with the crown’s assistance.¹²¹ From the time of the ‘Fife Adventurers’, Scottish burgh fishermen from the Lowlands and east-coast of Scotland frequented ‘His Majesty’s waters’ for codfish and ling.¹²² This posed as much of a threat to the MacKenzie’s North-Minch monopoly as did attacks by the dispossessed Macleods and their allies. In the face of so much opposition, and because they lacked the technology and experience necessary to commercialise, the MacKenzies sought assistance from the Dutch who had dominated the industry for nearly a century.¹²³ When the newly Dutch-allied MacKenzies tried to achieve ‘burgh status’ for Stornoway,

¹²⁰ Register of the Privy Council, 8:742, 1 August 1622. Alexander Small was employed as a skipper by an Edinburgh burgess named Thomas Smytht. There are further petitions as well, see RPC 8:742-743. In each complaint the petitioners emphasise that they were in ‘his Majesty’s free waters.’

¹²¹ W.C. Mackenzie, *History of the Outer Hebrides*, (London, 1903), pp. 173-265. Also, J.R.N. Macphail (ed.), *Highland Papers*, Vol. 2, pp. 265-279; Sir Robert Gordon, *A Genealogical History of the Earldom of Sutherland from its origin to the year 1630* (Edinburgh, 1813), p. 276.

¹²² The ‘Fife Adventurers’ were Lowland Scots who attempted to colonise Lewis on behalf of the crown between 1598 and 1609. They are discussed further in an upcoming section on *Changes in Perception: Settlement*. As for lowland commercial activities around Lewis: For evidence of Aberdeen imports from the region, see L.B. Taylor (ed.), *Aberdeen Shore Work Accounts 1596-1670* (Aberdeen, 1972), pp. 115, 122, and 137. For evidence of fishermen from Musselburgh and Fisherraw using their catch from the Uists and Lewis for teinds, see ‘Tack by Andrew Bishop of the Isles to Alexander Earl of Dunfermline, 15 August 1617’ in *Calendar of Writs Preserved at Yester House, 1166-1625*, compiled by CCH Harvey and J. MacLeod (Edinburgh, 1930), 328. Also, National Archives of Scotland, GD 28/1180, and L.B. Taylor (ed.), *Aberdeen Council Letters Volume 1, 1552-1633* (Oxford, 1942), p. 156.

¹²³ For an overview of the MacKenzie experience, see Aonghas MacCoinnich, ‘Native and Stranger: Lewis and the fishing of the Isles, c. 1610-1638,’ in A.I. Macinnes, L. Francois & S. Murdoch (eds.), *Pirates, Capitalists and Imperialists in the North Sea and Baltic States c. 1400-1945* (FORTHCOMING: NEHRN Proceedings, Vol. 2: 2012).

however, they were prevented from doing so by Lowland burgh officials who paid the provost of Edinburgh and Clerk Register of Scotland, Sir John Hay, to thwart the effort.¹²⁴

The Dutch had been present in the region for decades when Captain Dymes acknowledged their success in 1630. In a letter to Charles I, Dymes said he believed they had

found that great and extraordinary gaine thereof, whoe onely wth 4er Busses wth 16 men and 25 netts in a Busse have within the space of three monethes killd three hundred last of Herrings.¹²⁵

With comments like ‘if there had bene a thousand Busses more, there was fish enough for them all’ and that ‘a fish taken there is as bigge as twoe taken elsewhere,’ it is no wonder that, in that same year, the same Sir John Hay was instructed by the government to allow the English their fishing rights near Stornoway.¹²⁶

Although James had supported the MacKenzies in their land and sea-grab from the Macleods in the early part of the century, by 1630 Charles had no loyalty to the clan and was heavily influenced by London merchants and nobles who were set on establishing a British fishing company with Lewis as their primary target. By ordering the publication of ‘Mare Clausum’ in 1635, Charles justified to the world his ejection of ‘foreigners’ from British waters. In addition to the Dutch and Irish, however, ‘foreigners’ included the Scottish lowland burghs, local fishermen, and even regional landowners. Preoccupied by the Civil War, military engagement with Holland, and the Glorious Revolution, the British government could never fully meet their earlier aspirations. The Royal Fishery Company that finally got

¹²⁴ MacCoinnich (2012), p. 10. For a copy of the request by Seaforth to erect a burgh in Stornoway on 23 July 1628, see M. Wood (ed.), *Extracts from the Records of the Burghs of Edinburgh, 1626 to 1641*, (Edinburgh, 1936), p. 47.

¹²⁵ For Dutch activity in the region from the 1590s, see W.C. Mackenzie, *The History of the Outer Hebrides* (London, 1903), pp. 586-587, appendix D. For quote, see Dymes, *Ibid.*, also in MacKenzie. J.A. Inglis, *Sir John Hay the Incendiary, 1578-1654; Clerk Register of Scotland, Provost of Edinburg* (Glasgow, 1937), p. 70.

underway in the region by 1670, was ‘all turned to loss and disappointment’ by 1690.¹²⁷

Instead, it was the Dutch who were still in charge of the fishery in 1695 when Martin Martin expressed this concern:

If the Dutch in their public edicts call their fishery a golden mine, and at the same time affirm that it yields them more profit than the Indies do to Spain, we have very great reason to begin to work upon those rich mines, not only in the isles, but on all our coast in general.¹²⁸

He also noted that, of all the islands, it was in Stornoway in Lewis where the people had learned properly how to manage their fish.¹²⁹

By the eve of the eighteenth century, the window of trade between the Insular *Gàidhealtachd* and the outside world was left with only a few cracks to allow for ‘pedlars’ from the Lowlands to seep in.¹³⁰ National attention had turned to civil and international warfare, while local resistance continued to prevent growth of industry. Despite losses during the Jacobite Rebellions, and regardless of their rudimentary vessels, the Hebrideans managed to maintain control over their waters until the final decades of the eighteenth century.¹³¹ As late as 1786, John Knox commented that ‘the herring fisheries in the

¹²⁶ Ibid. Note the above source includes ‘the incendiary’ in the title.

¹²⁷ Disappointment and frustration with the company can be found in the Register of the Privy Council, Series 3, 3:175-178, 300. The quote is from an Anonymous author in, *Faithful advice from England by an honest Scotsman*, (no date) cited in T.C. Smout, *Scottish Trade on the Eve of Union, 1660-1707* (Edinburgh, 1963), p. 22, f.43.

¹²⁸ Martin, p. 207.

¹²⁹ Ibid.

¹³⁰ Martin, p. 206 (1999). He said ‘There are some pedlars from the shire of Moray, and other parts, who of late have fixed their residence in the Isle of Skye, and travel through the remotest isles without any molestation; though some of these pedlars speak no Irish. Several barques come yearly from Orkney to the Western Isles, to fish for cod and ling: and many from Anstruther in the shire of Fife, came formerly to Barray and other isles to fish, before the battle of Kilsyth, where most of them being cut off, that trade was afterwards neglected.’

¹³¹ Writing as late as 1771, John Walker said on Skye that ‘there are great Numbers of open Boats, but not a decked Vessel of any kind in all the Island.’ See McKay (ed.), *Walker’s Report on the Hebrides, 1764 and 1771*, (Edinburgh, 1980), p. 207.

Highlands were greatly obstructed by the natives, who, in the night time, cut the nets, and stole or cut the buoys which belonged to the busses,' concerned that 'evil was increasing daily...unless a remedy should be devised, many industrious persons would be driven out of the trade.'¹³² During the following decades, perceptions like his sealed the fate of Hebridean fishermen who were soon removed from their sea.

During the period of the sixteenth to the eighteenth centuries, there are significant contrasts between Hebridean and Wabanaki experiences in trade, fishing, and technology. Inhabiting a vast territory and maintaining relatively low-impact practices on the western edge of the North Atlantic, the Wabanaki began the period by accommodating vibrant exchange, enhancing an already diverse economy, and developing water vessels to compete with new trade partners. On the eastern edge of the North Atlantic, the environment had quite simply been assaulted and the people hardened to outside interests. The Hebrideans inhabited a contested landscape where limited resources relegated them to a simpler mixed economy and water vessel technology. While the Wabanaki enjoyed a surplus of marine and terrestrial resources that kept them exchanging goods in kind, the Hebrideans downplayed the bounty of their marine resources and, instead, increased agricultural and pastoral production to meet rent demands. Competition for surplus to accommodate a foreign cash based monetary system, meant regional labour went to procuring non-essentials. It is important to note, however, that these differences paled within only a century. In *Ketakamigwa*, the lack of deforestation, relative small populations, and low-impact lifestyles, provided a paradise-like environment all that more attractive to outsiders who

¹³² John Knox, *A Tour Through the Highlands of Scotland and the Hebride Isles in 1786* (London, 1787), pp. 89-90.

urgently set upon over-exploitation. Therefore, the assault on *Ketakamigwa* and hardening of the Wabanaki came fast and with great intensity.

Despite vast differences that eventually subsided, the initial similarities are equally noteworthy. Both peoples inhabited water-world environments with which they were intimately connected and, therefore, to which they were fiercely loyal. In order to accommodate the advantages that came with exchange, both manipulated their practices to some extent, and they recognised when external pressures threatened tradition. The Hebridean lifeworld experience prior to the sixteenth century made them much more aware of, and prepared for, intimidation from outside interests. Initially less experienced with extreme levels of coercion, the Wabanaki learned quickly to be cautious and protective as threats against their survival grew. In fact, as the overwhelming power of international forces became impossible to accommodate, the Wabanaki reacted with resistance and violence much like the Hebrideans had. In a sense, the native people of the western North Atlantic rapidly approached levels of protectionism and splintering, similar to that experienced among the clansmen of the east. The most obvious shared characteristic was the way in which each exhibited resistance in order to maintain traditional practices, sovereignty, and access to resources. This is not to say they were equally successful. Both peoples exhibited varying degrees of optimism, caution, and hostility when faced with challenges, yet neither was capable of preventing disruption to the social and economic fabric of their traditional lifeworlds. Although the initial rewards of trade were positive for some, the intricacies of human relationships and group identities were crippled at a time when survival was being challenged by the deteriorating condition of their water-world environments. During the seventeenth century, the burden of imperial conquest and

competition saw members of each society compromise traditional practices. The repercussions of these actions were realised during the eighteenth century when both the Wabanaki and the Hebrideans suffered from socio-economic stratification, resource exhaustion, and threat to sovereignty.

There were also incomparable results to imperial conquest. The first pertains primarily to the way in which the cash economy in the east penetrated and stratified Hebridean society. Internal fractures in the Scottish Insular *Gàidhealtachd* between those directly tied to the cash economy and the majority of the population who worked daily to produce a surplus from land and sea were extremely divisive. Hebridean society continued to splinter as elite members and opportunists abandoned traditions and societal obligations to assimilate into the imperial fold. The excruciating pressure placed on the common Hebrideans and their environment produced disastrous consequences in social relationships, a distinct gap between a small number of wealthy and the majority of poor, and a severe trade deficit. Those who held fast to tradition were often the same clansmen and women who remained central to the fight against imperial presence. Honouring their chiefs, complying with oppressive policies thereby preserving tradition, led to their removal and an economy that never trickled down to improve or even sustain their lifeways. This meant Hebridean society was not, and could not, become cohesive, as traditional practices were no longer sustainable.

By comparison, elements of internal fracturing among the Wabanaki, resulting from trade manipulation and competition over resource exploitation, peaked in the midst of multi-national competition. As the French and English battled for supremacy over *Ketakamigwa*, the Wabanaki were collectively marginalised, a circumstance that provided

them opportunity for unity, introspection, and reorganisation to ensure their survival. Holding fast to traditional social practices enhanced their ability to maintain group cohesion. In contrast to the Insular *Gàidhealtachd*, *Ketakamigwa* still had a vast territory not yet explored or exploited by European invaders where retreat and reassessment could take place.

Meanwhile, the Hebrideans were incapable of avoiding the devastating attack on their way of life because they remained physically central to the conflict, internally stratified between elite and common populations, and inhabiting an ecosystem that could no longer support them. As a result, they were more vulnerable to forced removal should they not fight to prevent it. In contrast, the Wabanaki could evacuate locations targeted by imperial interests and collectively withdraw to avoid further fracturing, forced removal, or extermination.

Changes in Practices: Settlement and Subsistence Patterns

In the eastern North Atlantic, settlements were well established, permanent, and privately owned. Those territories where settlements did not exist were uninhabited for a reason. Small patches of forest, inland waterways, and large expanses of peat and heath could be seasonally exploited but they were unsuitable for permanent settlement. With the exception of those who travelled to their summer shielings, most of the Hebrideans were sedentary and identified with specific permanent coastal homes where their ancestors had lived for centuries. In the western North Atlantic, habitations were also well established, but temporarily utilised on a seasonal basis and shared by all who frequented the territory. As imperial invasion threatened coastal settlements on either side of the Atlantic and economic exploitation intensified labour and dictated new patterns in movement, both peoples

became victim to the insatiable engine of 'progress' that chipped away at traditional practices and perceptions. As over-exploitation peaked, both experienced dependencies on imports as they approached the point of subjugation. In a shower of economic, social, religious, and environmental change facing both peoples, maintaining traditional settlement and subsistence practices were two of the most challenging they were forced to confront.

Ketakamigwa

On the eve of European invasion, the Wabanaki of *Ketakamigwa* moved sinuously through their water-world, settling seasonally near resources along rivers, lakes, and the sea. Their practical watercraft glided them from one waterfront home to the next, and was easily transported over traces that connected portages or led to their inland habitations. While sixteenth century Hebrideans were forced to settle near the volatile sand dunes of the coastal machair, or in strategic locations that offered safe anchorage, mooring points, and the capacity to guard property from raiders, the Wabanaki were initially only concerned with protection from natural rather than human threats, and focused on proximity for easy access to regional food, fuel, and amenities. Although each habitation was temporary, it was a familiar *home* and, like the permanent settlements in the Scottish Insular *Gàidhealtachd*, each was integral to formulating group and individual identities. Place names in *Ketakamigwa*, like most of their Gaelic and Norse counterparts, were originally pragmatic indicators of geographical or ecological characteristics, and served as oral cartographical markers rather than memorials to individuals or families.¹³³

¹³³ Examples have been identified in previous chapters, but it is worth citing here an extensive work of place name history, reprinted from the 1928 publication: Fannie Hardy Eckstorm, *Indian Place Names of the Penobscot Valley and the Maine Coast* (Orono, 1978). An example of a place name as ecological and cartographical marker would be 'Madamiscom'-tis' for 'plenty of alewives.' Ibid., p. 25. A cartographical

While the Hebrideans had considerably larger families and inhabited permanent homes dependent on local resources, the Wabanaki bands were generally small and managed an abundantly diverse economy from their continuous seasonal rotations.¹³⁴ Up to the point of invasion, not only their dynamic resilience and cultivation of culture, but their survival, relied upon the technology of their ecological knowledge rather than the power of their physical tools. However, as European explorers, fishermen, and traders infiltrated *Ketakamigwa* and offered sophisticated technologies, new complex relationships of mutual dependence developed and changed many existing practices and perceptions. The impact of change to settlement practices among the Wabanaki did not affect them all in the same way. First, hostility experienced during some coastal encounters affected native settlement durations for trade purposes, changed the gender and age composition of coastal settlers, and simply eliminated some coastal settlements altogether. Not only did existing trade bring metals that replaced tools previously fashioned from shells or sea-rock, it also decreased the amount of marine resources consumed by the Wabanaki. Second, involvement in the fur trade industry placed new importance on the inland habitats of fur-bearing animals, and

warning might be 'Quibiquessou' at the head of the Union Bay River where Eckstorm points out there was once a 'considerable' water fall where the Bangor Hydro Dam now stands. This may come from *cuhipiye*, a Passamaquoddy for 'it falls into the water,' or *kipiy-* which means 'falling over.' Ibid., p. 208. For additional geographical place names and their relation to native practices, see Eckstorm's Appendix, pp. 237-241, for 'Joseph Nicolar's Penobscot Place-Names.' Ibid., pp. 237-241. In Northern *Ketakamigwa*, the Mi'kmaq term for 'camping place' is *tul-akadik* from which 'Tracadie' is derived. For Mi'kmaq place name history see reprint from the 1923 publication of Thomas J. Brown, *Place-Names of the Province of Nova Scotia* (Toronto, 2011).

¹³⁴ Estimates for North American population at the point of contact have been as high as 112.5 million. For general demographic statistics, see Russell Thornton, *American Indian Holocaust and Survival: A Population History Since 1492* (Oklahoma, 1987), pp. 15-41. For New France demographic studies, see Pierre Chaunu, *L'Amérique et les Amériques* (Paris, 1964), p. 21. Specific to *Ketakamigwa*, a ninety percent drop in population post-contact was determined by Henry F. Dobyns who argues that the pre-contact Mi'kmaq population was at least 35,000 and that contemporary estimates in the seventeenth century (i.e. Baird, *Jesuit Relations*, 2:71-73) of 2,000-3,500 for the Mi'kmaq population are inaccurate. See Dobyns, *The Numbers Become Thinned: Native American Population Dynamics in Eastern North America* (Knoxville, 1983), pp. 34-45. Leslie F.S. Upton agrees with the 35,000 pre-contact figure in his *Micmacs and Colonists: Indian-White Relations in the Maritimes*,

dictated when some settlement sites were frequented. Exploitation of riverine ecosystems for surplus rather than subsistence detracted from coastal ecosystem strategies, while hunting out of season limited or even eliminated fishing strategies. New economic demands and European competition served as divisive forces that splintered tribal alliances. Third, European pathogens devastated and restructured Wabanaki bands by decreasing their populations and binding extended kin groups together. Finally, European colonisation pressured the Wabanaki into either fighting for their traditional settlements or abandoning them. All four factors affected settlement patterns against the backdrop of deteriorating climate conditions brought on by the 'Little Ice Age,' and contributed to a growing dependence on imported foodstuffs. Whether these changes were to accommodate or resist the force of new people, ideas, technologies, or disease, the result was that, by the end of the seventeenth century, the Wabanaki were no longer adhering to traditional settlement or subsistence patterns.

The first century of exchange in *Ketakamigwa* may have been innocuous enough for commercial fishing and trade to flourish in some parts, but not all European-Wabanaki coastal encounters were positive. As early as 1501, kidnappings were occurring along the coast of Maine.¹³⁵ In 1524, shortly after Estevan Gomes forcibly carried off fifty-eight people from their summer homes on the islands of the Penobscot River watershed, Giovanni da Verrazzano complained of encountering only 'bad people' during his travels there.¹³⁶ His

1713-1867 (Vancouver, 1979), p. 195. The way in which disease affected native populations will be dealt with later in this chapter.

¹³⁵ For example, Gaspar Corte-Real kidnapped fifty-seven people and took them to Lisbon in 1501. See David B. Quinn, Alison M. Quinn, and Susan Hillier (eds.), *New American World: A Documentary History of North America to 1612*, Vol. 1 (New York, 1979), pp. 148-151. Also, Bernard G. Hoffman, *Cabot to Cartier: Sources for a Historical Ethnography of Northeastern North America 1497-1550* (Toronto, 1961), pp. 26-29.

¹³⁶ Quinn et al., *Ibid.*, Vol. 1, pp. 273-279.

experience was undoubtedly a consequence of Gomes' previous actions, which encouraged native suspicion and hostility toward outsiders. The trauma from these devastating encounters also dictated immediate and drastic changes to coastal settlement choices and subsequently limited the collection of marine resources. Sanger and Sanger have determined that there was not only a greater frequency of shellfish resources gathered and processed during the pre-contact period, but that following contact with Europeans, there was a rapid evacuation of many sites that had been previously inhabited for centuries.¹³⁷ There was also a significant influence on gender roles. In Narragansett Bay, Verrazzano noted that the women and children immediately fled from the 'irksome clamor of the crowd of sailors.'¹³⁸ When he entered the 'Land of Bad People' along the coast of Maine, only men appeared to him for trade and the shoreline habitation sites he pillaged were empty.¹³⁹ That any of the Wabanaki initiated trade, rather than evacuate the area entirely, illustrates their mounting desire for European trade goods and a significant resilience in the face of adversity. However, what were once Wabanaki beachfront summer homes where social activities and economic opportunities safely flourished, became danger zones requiring careful monitoring. New adjustments to volatile habitation sites and periodic retreats from European threats along the coastlines of southern *Ketakamigwa* were, therefore, the first complications to pre-contact practices.

¹³⁷ D. Sanger and M.J. Sanger, 'The First 11,000 Years: an Archaeologist's View of Maritime History,' Paper presented at the 1974 Meeting of the Atlantic Provinces Historical Conference, Fredericton (1974). Also, David Sanger, 'An Analysis of Seasonal Transhumance Models for Pre-European State of Maine,' *Review of Archaeology*, 17 (Spring, 1996), pp. 54-58, and 'Testing the Models: Hunter-Gatherer Use of Space in the Gulf of Maine, USA,' *World Archaeology*, 27:3 (February, 1996), pp. 512-526.

¹³⁸ Lawrence C. Wroth, *The Voyages of Giovanni da Verrazzano, 1524-1528* (New Haven, 1970), pp. 137-139.

¹³⁹ Hoffman, (1961), pp. 111-112.

In northern *Ketakamigwa*, a decade after Verrazzano's experience further south, Jacques Cartier was still received kindly when he

caught sight of two fleets of [Mi'kmaq] canoes that were crossing from one side to the other [more than thirteen miles open water] which numbered in all some forty or fifty canoes. Upon one of the [canoe] fleets reaching this point, there sprang out and landed a large number of people, who set up a great clamour and made frequent signs to us to come on shore holding up to us some skins on sticks.¹⁴⁰

The members of this extended kin group, both male and female, adult and child, were obviously familiar with traders and had not yet been traumatised into altering their behaviour. Only a few months later, Cartier kidnapped Chief Donnacona and a number of Stadaconans from Quebec, then sailed back to France and made a spectacle of them among the members of the royal court.¹⁴¹ News of this act obviously travelled rapidly, commencing four decades of adjustments to practices and perceptions along the coastlines of the St. Lawrence watershed. Throughout the rest of the sixteenth century, loyalty was bestowed primarily upon the Basques, coastal settlements became sparse, and the rise of 'Wabanaki middlemen' carrying all communications and goods through *Ketakamigwa* became the norm.¹⁴²

Middlemen no longer chose campsites primarily for their local resources, but for their strategic position with regard to observing ships, protecting waterways, and manoeuvring safely between the two. Like the Hebrideans, the Wabanaki engaged in local protectionism in order to control the economic upsurge of activity in their water-world. In 1602, the

¹⁴⁰ Ramsay Cook (ed.), *The Voyages of Jacques Cartier* (London, 1993), p. 20. Also, Biggar (1924), p. 60.

¹⁴¹ Cook (ed.), *Ibid.*, pp. 81-84.

¹⁴² James Axtell, 'The Exploration of Norumbega: Native Perspectives,' in Emerson W. Baker, Edwin A. Churchill, Richard S. D'Abate, Kristine L. Jones, Victor A. Konrad, and Harald E. L. Prins (eds.), *American Beginnings: Exploration, Culture, and Cartography in the Land of Norumbega* (London, 1994), pp. 157-158.

Basque-speaking Mi'kmaq who forcefully boarded Bartholomew Gosnold's ship, drew a map in charcoal and instructed them where they could and could not go.¹⁴³ In 1605, when Captain George Weymouth entered the coast of Maine, three Wabanaki middlemen 'boldly' boarded the ship and demanded they return to sea.¹⁴⁴ Weymouth refused to leave. Instead, he purposely manipulated them with metals and magnets, tantalising trinkets, food and drink, until trade negotiations ensued. A cautious attitude prevailed among the Wabanaki, so Weymouth was never allowed near women or children, and in the evenings, the men left in canoes to keep distance between them and the ship before returning in the mornings for exchange.¹⁴⁵ Even this overtly vigilant behaviour did not prevent several of them from being kidnapped by Weymouth and his crew, taken back to England, and forcibly trained as interpreters.¹⁴⁶

The first phase of settlement adjustments was along the coastlines of *Ketakamigwa* and in response to trade opportunities plagued by hostilities. The creation of middlemen who frequented the coasts, pushed family settlements away from European threats, and allowed trade to expand. Expansion subsequently initiated a second phase of trade as economic pressure fell on fur trappers. Ecological knowledge was at the core of the Wabanaki ability to maintain a level of power during the fur trade because it kept European traders away from the interior where the elderly, women, and children safely inhabited

¹⁴³ David B. Quinn and Alison M. Quinn (eds.), *The English New England Voyages, 1602-1608*, Hakluyt Society Publications, 2nd Series, 161 (London, 1983), pp. 117-118.

¹⁴⁴ James Rosier, *Rosier's Relation of Waymouth's Voyage to the Coast of Maine, 1605*, printed for the Gorges Society (Portland, 1887), p. 109.

¹⁴⁵ Undoubtedly a lesson of past experience; Weymouth commented that they were 'very jealous' when it came to their women. *Ibid.*, p. 112.

¹⁴⁶ Quinn and Quinn (eds.), *Ibid.*, pp. 282-285, 287-288, 293-295, and 303.

traditional inland settlements.¹⁴⁷ However, middlemen could not prevent all European penetration of inland waters. In 1580, John Walker travelled over fifty miles up the Penobscot where he

founde at the same time in an Indian house VIII [eight] miles within the lande from the ryvers side above IIIc [300] drye [moose] hides, whereof the most parte of them were eightheene foote by the square. Both he and his Company sayled [with them] from the said [Penobscot Bay] Coast into Englande in XVII [seventeen] dayes.¹⁴⁸

A storage house with so many hides would not have been for local use, but for exchange with Europeans, and Walker's theft of them was an obvious agitation to existing relationships. But, for the most part, the dominance of Wabanaki middlemen in the fur trade was not intended to prevent theft of inland resources so much as to protect the people who lived in the inland settlements. Although their control over the fur trade was maintained well into the seventeenth century, Burley points out that 'fur trade economics are the single most dominant group of disruptive elements', contributing to disequilibrium between native people and their environment.¹⁴⁹ This was not simply due to the over-

¹⁴⁷ Elizabeth Mancke, 'Spaces of Power in the Early Modern Northeast,' in Stephen J. Hornsby and John G. Reid (eds.), *New England and the Maritime Provinces: Connections and Comparisons* (London, 2005), pp. 36-37.

¹⁴⁸ D.B. Quinn (ed.), *Voyages and Colonising Enterprises of Sir Humphrey Gilbert*, 2 (London, 1940), pp. 309-310.

¹⁴⁹ The quote is from David V. Burley, 'Proto-Historic Ecological Effects of the fur Trade on Micmac Culture in Northeastern New Brunswick,' *Ethnohistory*, 8:3 (Summer, 1981), p. 204. This theory is also corroborated by the following studies: D. G. Hoffman, *Historical Ethnography of the Micmac of the Sixteenth and Seventeenth Centuries*, Unpublished Ph.D. dissertation in Anthropology, University of California, Berkeley (1955); Bruce Bourque, 'Aboriginal Settlement and Subsistence on the Maine Coast,' *Man in the Northeast*, 6 (1973), pp. 3-20; D. Sanger and M.J. Sanger, 'The First 11,000 Years: an Archaeologist's View of Maritime History,' conference paper presented at the 1974 *Meeting of the Atlantic Provinces Historical Conference*, Fredericton (1974); Dean Snow, 'Abenaki Fur Trade in the Sixteenth Century,' *Western Canadian Journal of Anthropology*, 6 (1976), pp. 3-11; C. Martin, 'The four Lives of a Micmac Copper Pot,' *Ethnohistory*, 22 (1975), pp. 111-133; C. Martin, *Keepers of the Game: Indian-Animal Relationships and the Fur Trade* (Berkeley, 1978); V. Miller, 'Aboriginal Micmac Population: A Review of the Evidence,' *Ethnohistory*, 23 (1976), pp. 117-127; and D. Christianson, 'The Use of Subsistence Strategy Descriptions in Determining Wabanaki Residence Location,' *Journal of Anthropology at McMaster*, 5 (1979), pp. 81-124.

exploitation of fur-bearing animals, but to the many changes the Wabanaki made to their existing practices and perceptions in order to accommodate the burgeoning industry.

The tidal wave of change that swept over *Ketakamigwa* during the fur trade threatened native survival by penetrating every aspect of daily life, including settlement and subsistence patterns. During the summer months, when many Wabanaki normally fished the inland waterways, fishermen-turned-middlemen inhabited coastal sites where Europeans came to trade.¹⁵⁰ Those bands of Wabanaki who previously scheduled their habitation and resource management around ecological conditions turned their attention to hunting and trade when European merchants sailed into their bays. This may have forced a rescheduling of fishing activities to either early spring or late autumn before and after the large ships left for Europe, and therefore, it would have decreased annual fishing activities substantially. During spring and summer fishing seasons, those Wabanaki who were not exchanging furs along the coastline were instead hunting for fur-bearing animals, many of which were young and not normally exploited so early in the year. The intensified effort to procure animals out of season disrupted traditional food preservation and storage practices meant to provide food during the winter months.¹⁵¹ Prolonged pressure on the largest fur-bearing animals, especially moose, meant hunting in winter was done in smaller groups and expanded into previously unexploited areas.¹⁵² Because the Wabanaki were comfortably mobile, and the procurement of European trade goods (especially metal and the copper kettle) further enhanced that mobility, their traditional seasonal resource management

¹⁵⁰ Bourque, *Ibid.* (1973); Sanger and Sanger, *Ibid.* (1974); Miller, *Ibid.* (1976).

¹⁵¹ Hoffman, *Ibid.* (1955).

¹⁵² Hoffman, *Ibid.* (1955) and Bourque, *Ibid.* (1973).

rotation essentially evolved into a European trade rotation.¹⁵³ Overall, an increase in terrestrial hunting, and the subsequent decrease in marine and fresh-water fishing and gathering, was a direct repercussion of the industry's unavoidable force.

The disequilibrium between native people and their environment that commenced with European trade, and then mushroomed as the fur industry expanded, had a significant influence over subsistence practices. While some changes were forced upon the Wabanaki by new lifestyles that broke from traditional seasonal movement, others were initially preferences that evolved into dependencies. Increased hunting and trapping took away from other means of food procurement, but this was matched by an influx of new goods that arrived by ship, including dried peas, beans, flour, sea biscuits, and liquor.¹⁵⁴ As hunting for subsistence evolved into a commercial enterprise, dependence on these imported foods grew. Fur-bearing animals that inhabited inland riverine ecosystems, like the beaver, were once exploited only casually for their teeth and pelts. However, like the moose, they were originally part of the Wabanaki diet. Burley suggests that extreme competition and the rush to transport and sell fur at the coast would have disrupted existing preservation strategies that once left ample beaver and moose meat in storage houses for winter consumption.¹⁵⁵ While animals that were preferred for their pelts faced the possibility of extinction, those unnecessary to the industry were no longer trapped at all. This altered the woodland and riverine ecosystems. By the first decade of the seventeenth century, the abundant and diverse economy of the Mi'kmaq was no longer in place when Lescarbot remarked that 'as

¹⁵³ Over 1,000 ships per year were trading along the coast of *Ketakamigwa* by 1600. See J. Murray, 'The Early Fur Trade in New France and New Netherlands,' *Canadian Historical Review*, 19 (1938), pp. 365-377. Also, S. Morison, *The European Discovery of America: The Northern Voyages A.D. 500-1600* (New York, 1971).

¹⁵⁴ Ellice B. Gonzalez, 'An Ethnohistorical Analysis of Micmac Male and Female Economic Roles,' *Ethnohistory*, 29 (Spring, 1982), pp. 2, 120. Lescarbot lists some of these items as well, Vol. 3, p. 168.

soon as the springtime comes, [the Mi'kmaq were] receiving in exchange for their skins – for they have no other merchandise – biscuits, beans, peas and meal.¹⁵⁶

While the fur industry was expanding, the people of *Ketakamigwa* were simultaneously enduring consistently colder temperatures, with longer and more severe winters.¹⁵⁷ Climate affected sailing conditions, kept ships away longer in the winter, and often dictated landing times. The impact of climate change on local vegetation was indirectly recorded by Nicolas Denys who wrote that, when the Europeans first came to northern *Ketakamigwa*, wild tobacco grew locally. However, three decades later, he wrote 'at the present time, so soon as the Indians come out of the woods in spring, they hide all their best skins, bringing a few to the establishments in order to obtain their right to something to drink, eat, and smoke.'¹⁵⁸ This comment seems to indicate wild tobacco was no longer available, but was imported to the trading posts instead. The challenge of deteriorating climate conditions was further exacerbated by the disease that spread with the escalation of European traffic. Attempts to estimate pre-disease populations are ongoing.¹⁵⁹ However, to gauge the impact of epidemics on late sixteenth and seventeenth century

¹⁵⁵ Burley, pp. 212-213.

¹⁵⁶ Lescarbot, Vol. 3, p. 168.

¹⁵⁷ Previous general citations for the 'Little Ice Age' apply here. There has been very little scientific study in the Canadian Maritimes and Maine specific to the 'Little Ice Age'. However, some wider regional studies include S. C. Bond, *The Relationship Between Soils and Settlement Patterns in the Mohawk Valley*, D. R. Snow (ed.), *The Mohawk Valley Project: 1982 Field Season Report* (Albany, 1985), pp. 17-40. Also, W. D. Finlayson and R. Bryne, 'Investigations of Iroquoian Settlement and Subsistence Patterns at Crawford Lake, Ontario: A Preliminary Report,' *Ontario Archaeology*, 25 (1975), pp. 31-36.

¹⁵⁸ Denys, Vol. 2, p. 446.

¹⁵⁹ H.S. Dobyns, who was cited in a previous notation, established a formula in his 'Estimating Aboriginal American Population: An Appraisal of Techniques with a New Hemispheric Estimate,' in *Current Anthropology*, 7 (1966), pp. 395-416. His formula, which has been generally accepted by many scholars, establishes a 20:1 (pre-contact to contemporary) ratio for the continent. His critics point out, however, that he consistently treats epidemics as pandemics and that he does not always consider resource availability or ecological 'buffer zones' that would have spared isolated populations. He also did not consistently use archaeological evidence to substantiate his estimates. Virginia P. Miller argues that Dobyns' ratio is an over-estimation for the Mi'kmaq

demographic decline, Snow and Lanphear have analysed medical evidence and historical documents.¹⁶⁰ They estimate the 'Maliseet-Passamaquoddy' pre-epidemic population at 7,600 with a sixty-seven percent mortality rate, and the 'Eastern Abenaki (Penobscot)' at 13,800 with a seventy-eight percent mortality rate. In contrast to these seasonally mobile bands, the 'Western Abenaki' agriculturalists were estimated to have suffered a devastating ninety-eight percent mortality rate due to the sedentary and concentrated nature of their settlements.¹⁶¹

Disease occurrences undoubtedly began during the sixteenth century in northern *Ketakamigwa*. Although Jacque Cartier never witnessed it among the Amerindian populations he encountered in 1535-36, he recorded,

In the month of December we received warning that the pestilence had broken out among the people of Stadacona to such an extent that already, by their own confession, more than fifty persons were dead.¹⁶²

The great Mi'kmaq Sagamore, Membertou, who met Cartier as a young man, was still alive in 1611 and complained to Father Baird that, 'in his youth, he has seen chimonutz, that is to say, Savages, as thickly planted there as the hairs upon his head. It is maintained that they

in particular, and that a 10:1 ratio would suffice due to their 'extensive maritime and inland food resources.' See her 'Aboriginal Micmac Population: a Review of the Evidence,' *Ethnohistory*, 23 (Spring, 1976), pp. 2, 125.

¹⁶⁰ Dean R. Snow and Kim M. Lanphear, 'European contact and Indian Depopulation in the Northeast: The Timing of the First Epidemics,' *Ethnohistory*, 35:1 (Winter, 1988), pp. 15-33. Previous studies include A. F. Ramenofsky, *The Archaeology of Population Collapse: Native American Response to the Introduction of Infectious Disease*, Ph.D. dissertation, University of Washington (Seattle, 1982). Also, G. R. Milner, 'Epidemic Disease in the Postcontact Southeast: A Reappraisal,' *Mid-Continental Journal of Archaeology*, 5 (1980), pp. 39-56. The topic received initial attention from A. W. Crosby, 'Virgin Soil Epidemics as a Factor in the Aboriginal Depopulation of America,' *William and Mary Quarterly*, 3rd Series, 33:2 (April, 1976), pp. 289-299, and reached a popular audience with A. W. Crosby, *Ecological Imperialism: the Biological Expansion of Europe, 900-1900* (New York, 1986).

¹⁶¹ Snow and Lanphear, *Ibid.*, p. 24. See Table I. Writing in 1988, Snow still referred to these ethnic groups as *Abenaki*, which is why I have placed them in quotation marks.

¹⁶² Cook (ed.), p. 76.

have thus diminished since the French have begun to frequent their country.¹⁶³ At the time, Baird rejected the idea that depopulation was due to a French presence, and attributed it instead to a change in Mi'kmaq lifestyle:

for, since then they do nothing all summer but eat; and the result is that, adopting an entirely different custom and thus breeding new diseases, they pay for their indulgence during the autumn and winter by pleurisy, quinsy and dysentery, which kill them off. During this year alone sixty have died at Cape de la Heve, which is the greater part of those who lived there.¹⁶⁴

However, in 1616, Baird remarked less antagonistically that 'since the French mingle and carry on trade with them, they are dying fast, and the population [is] thinning out.'¹⁶⁵ As the Mi'kmaq population suffered disease, they were also facing more competition over trade routes in southern *Ketakamigwa*. In response, their middlemen began attacking villages.¹⁶⁶ Sir Ferdinando Gorges, who surveyed the Penobscot River watershed between 1616 and 1618 reported 'that the warr had consumed the Bashaba, and most of the Great Sagamores, with such men of action as followed them, and those that remained were sore afflicted with the plague, for that country was in a manner left void of inhabitants.'¹⁶⁷ He later explained that this 'great and general plague, which so violently reigned for three years together,' had left those villages empty 'in a manner the greater part of that land..., without any to disturb or oppose our free and peaceable possession thereof.'¹⁶⁸ Snow and Lanphear attribute this

¹⁶³ Baird, *Jesuit Relations*, 1:177.

¹⁶⁴ *Ibid.*

¹⁶⁵ *Ibid.*, 3:105.

¹⁶⁶ Bourque and Whitehead, *Ibid.*, 336. Also, A. G. Bailey, *The Conflict of European and Eastern Algonkian Cultures 1504-1700: A Study in Canadian Civilization* (Toronto, 1969).

¹⁶⁷ Ferdinando Gorges, *Description of New England*, 2:19 (Boston, 1890). Bruce Bourque describes this series of events in his 'Ethnicity on the Maritime Peninsula, 1600-1759,' *Ethnohistory*, 36:3 (1989), p. 263.

¹⁶⁸ *Ibid.*, pp. 19, 53-54.

first major epidemic, as well as the second breakout in 1633, to two determining factors.¹⁶⁹

First, during the preceding decade, the transatlantic crossing was shortened to only one month, which made it short enough for a small-pox infected person to travel from Europe to *Ketakamigwa* through the non-infectious incubation period and the disease period.¹⁷⁰ And, second, the first century of travellers were, for the most part, temporary visitors and adult men, while those who came to *Ketakamigwa* between 1616 and 1633 were settlers with families. Not only did permanent settlers increase the presence of disease, but by the 1633 outbreak, there were large numbers of children in the settlements who would have unwittingly transferred ailments to the native population.¹⁷¹

Frigid temperatures, new illnesses, and lack of winter food storage persuaded some Wabanaki to erect habitations near European settlements.¹⁷² This was particularly the case with the Mi'kmaq. Nicolas Denys, who was witnessing a disintegration of population, health, and culture simultaneously, remarked that they used to have the ability to 'live long and multiply much' and that he had once 'seen Indians of a hundred and twenty to a hundred and forty years of age who still went to hunt the Moose.'¹⁷³ Father Chrétien Le Clercq witnessed a drastic dip in life expectancy for those who lived near the European settlements.

¹⁶⁹ Snow and Lanphear, p. 25.

¹⁷⁰ Snow also discusses this travel time in his *Archaeology of New England* (New York, 1980), p. 32. The incubation and disease periods were determined by F. L. Horsfall and I. Tamm, *Viral and Rickettsial Infections of Man* (Philadelphia, 1965), pp. 938-939.

¹⁷¹ Snow and Lanphear, pp. 26-27. They note a study by P. Razzell, *The Conquest of Smallpox* (Sussex, 1977). This outlines how children were carriers of, and normally the first to contract, the disease.

¹⁷² The practice of setting up temporary camps at trading post and mission settlements was common place by the beginning of the sixteenth century. References to it in the travel accounts of Champlain and Lescaurbot are ubiquitous; Bruce G. Trigger points out that this became common place for the Huron as well. See his *The Children of Aataentsic: A History of the Huron People to 1660* (Montreal, 1987), pp. 208-214.

¹⁷³ Denys, Vol. 2, pp. 403, 399-400.

Here, he recorded a poignant statement made to him by a Mi'kmaq man who still lived traditionally:

...before the arrival of the French in these parts, did not the Gaspesians [Mi'kmaq] live much longer than now? And if we have not any longer among us any of those old men of a hundred and thirty to forty years, it is only because we are gradually adopting your manner of living, for experience is making it very plain that those of us live longest who, despising your bread, your wine, and your brandy, are content with their natural food of beaver, or moose, or waterfowl, and fish, in accord with the custom of our ancestors.¹⁷⁴

Like this man who recognised causation, many Wabanaki reacted by recoiling from the stimulus behind their cultural and physical disintegration. Between the St. John and Penobscot rivers, the Wabanaki population reacted to natural and anthropogenic pressure by reorganising their inland settlements to include extended kin-group survivors of their own nations, and to absorb refugees from other nations, including Western Wabanaki people like the Norridgwock, Pigwacket, Canibas, Abenaki, and Almouchiquois.¹⁷⁵ Bourque has examined the ethnic group changes that took place between 1610-1759, and determined that the turbulence of oppressive climate conditions, disease, and geopolitical warfare resulted in 'ethnic realignments, shifts in residence, territorial loss, and the Indian policies of New England and New France.'¹⁷⁶

¹⁷⁴ Chrétien Le Clercq, *New Relation of Gaspesia, with the Customs and Religion of the Gaspesian Indians* (Toronto, 1910, originally published in 1691), p. 106.

¹⁷⁵ Champlain originally used labels that swept together many unique ethnicities, i.e. *Abenaki* for Western Wabanaki, *Etchemin* for Maliseet, Passamaquoddy, Penobscot, and *Souriquois* for Mi'kmaq. Although these are simplifications of mixed family groupings, Bourque has successfully used them to trace ethnic changes in settlement groups. Bourque, *Ibid.*, pp. 257-284.

¹⁷⁶ *Ibid.*, p. 274. His research also calls into question the earlier theory by Frank Speck that the Wabanaki were always oriented toward a riverine settlement pattern and had inhabited their current hunting territories before European contact. The historiography on this topic is vast, beginning with Frank Speck, who argued for a purely riverine orientation, then Dean R. Snow combining a primarily riverine orientation with some coastal occupation, and others like A. Morrison, F. Eckstorm, and B.G. Hoffman negotiating a middle ground in both orientation and ethnic composition. Sanger and Sanger, cited above, have determined that the coast was as important for the Wabanaki, if not more so, during much of the pre-contact period. Interdisciplinary application of this theory is not yet explored by many save Bourque and Sanger. See F. G. Speck, 'The Family

Scottish Insular Gàidhealtachd

Contrary to *Ketakamigwa*, private ownership of land in the Scottish Insular Gàidhealtachd during the sixteenth and seventeenth century was essential to retaining power, wealth, and privilege. But there was great regional variety in territorial holdings, so wealth was determined by the fertility of the land, the productivity of the people, and how well both were managed by their chiefs and tacksmen. Successful management determined the chief's influence at home as well as his acceptance in the Lowlands where financial obligations mounted. Some chiefs were more capable of both maintaining healthy relationships with their clanspeople and upholding financial obligations elsewhere, while others intensified labour and exhausted resources in order to meet Lowland demands, thereby sacrificing the well-being of their tenants. It was from these deteriorating relationships that some changes to settlement patterns developed. At the beginning of the period, feudal contracts between chiefs and their clanspeople were either in exchange for military service (wardholding) or rent (feu duty), the exceptions being contracts with craftsmen, ministers, and physicians scattered throughout the islands who received tenancy for their services. The MacBethads, for instance, were physicians who received landholdings

Hunting Band as the Basis of Algonkian social Organization,' *American Anthropologist*, 17 (1915), pp. 289-305; F. G. Speck, 'The Eastern Algonkian Wabanaki Confederacy,' *American Anthropologist*, 17 (1915), pp. 492-508; F. G. Speck, *Penobscot Man: the Life History of a Forest Tribe in Maine* (Philadelphia, 1940); F. G. Speck and L.C. Eiseley, 'Significance of Hunting Territory Systems of the Algonkian in Social Theory,' *American Anthropologist*, 42 (1939), pp. 260-280; F. G. Speck and W. S. Hadlock, 'A Report on Tribal Boundaries and Hunting Areas of the Malicite Indians of New Brunswick,' *American Anthropologist*, 48 (1946), pp. 355-374; D. R. Snow, 'Wabanaki Family Hunting Territories,' *American Anthropologist*, 70 (1968), pp. 1143-1151; D. R. Snow, 'A Model for the Reconstruction of Late Eastern Algonquian Prehistory,' *Studies in Linguistics*, 23 (1973), pp. 77-85; D. R. Snow, 'The Ethnohistoric Baseline of the Eastern Abenaki,' *Ethnohistory*, 23 (1976), pp. 291-306; A. Morrison, 'Penobscot Country: Disagreement over Who Lived There in the Seventeenth Century Needs Resolving – If Possible,' in W. Cowan (ed.), *Papers of the Ninth Algonquian Conference* (Ottawa, 1978), pp. 47-54. A. Morrison, 'Frank G. Speck and Maine Ethnohistory,' *Ibid.*, pp. 8-18; F.H. Eckstorm, *Ibid.*; B. G. Hoffman, 'The Souriquois, Etchemin and Kewdech: A Lost Chapter in American Ethnography,' *Ethnohistory*, 2 (1955), pp. 65-87.

for their medical expertise. In a water-world environment, feudal obligations for wardholding often included the promise of armed galleys and oarsmen when required.¹⁷⁷ In some cases, marine resources were also used to pay rents. However, because cash was best procured through the sale of terrestrial and arable produce, time and effort was focused more and more on the land, not in the sea. As the seventeenth century progressed, overbearing obligations, and subsequent desperation, distracted the Hebrideans from the sea because productivity on land sustained their traditions and ensured well-being. The sea and its tributaries were still considered extensions of clan territory, marine resources were still exploited for subsistence and small-scale commercial needs, and waterways still served as connecting mechanisms for regional communications that ensured exchange. For those reasons, they were fiercely protected. But waterways were not commercially exploited by the locals in the way they were by outsiders, so as economic and climatic stress became more severe, it was productivity on the land rather than in the sea that secured power and cultivated a sense of stability. During the eighteenth century, when clanspeople became expendable, and many were forcibly removed from their pastures to permanent seaside villages, a water-world identity was not necessarily revitalised because many felt they were sent there in exile.

From the forfeiture of the Lordship of the Isles, there were large landholdings which remained intact, like those held by MacDonald of Sleat who owned Sleat and Trotternish on Skye, as well as North Uist, and those held by MacLean of Duart who owned Duart, Aros, the Ross of Mull, the island of Iona, the north of Jura, Luing, several small islands like Tiree, and

¹⁷⁷ R.C. MacLeod (ed.), *The Book of Dunvegan*, 1 (Aberdeen, 1938), pp. 52-54. Another example of this would be MacQuarrie of Ulva whose wardholding contract (wadset) required him to supply one armed galley to

Movern in the mainland. Meanwhile, MacLeod of Dunvegan controlled the large territory of Harris, much of Skye, and Glenelg on the mainland, while Clanranald owned most of South Uist. There were also smaller island holdings, including Maclean of Coll and MacNeil of Barra, while the Campbells of Argyll controlled Colonsay and southern Jura. But the largest and most powerful landowners during the seventeenth century, the earls of Seaforth, hailed from the mainland. Colin Mackenzie, who acquired Lewis from the Macleods, became earl of Seaforth in 1623, where the territory between Cromarty and Wester Ross was also under his possession.¹⁷⁸ All of these chiefs were financially committed to the king, required to spend considerably long periods in Edinburgh, and subjected to legal and business fees for services in the Lowlands. Although wardholding decreased substantially by the eighteenth century, until that time, chiefs were responsible for supplying large numbers of (non-income producing) wadsetters to fight in military campaigns on the mainland. All of these responsibilities, combined with escalating purchases of luxury goods, meant chiefs and their immediate family members were incurring great personal debts as they sought inclusion in one world at the expense of the other.

As the seventeenth century progressed, chiefs were required to either maximise resource exploitation or create new forms of income, so some landowners procured wadsets and apprisings, or actually sold off small portions of their traditional lands.¹⁷⁹ In 1633, Clanranald wadset his holdings in South Uist, Eigg, and on the mainland to MacDonald of Sleat for 27,000 merks, while three decades later, MacDonald of Sleat apprised his lands in

MacLean of Duart when requested. *Scottish Record Office*, 'Inquisitionum Retornatarum Registrum,' 11:122-123 (29 January 1630).

¹⁷⁸ For a list of all regional holdings, see Shaw, pp. 16-21.

¹⁷⁹ A 'wadset' was a contract through which a landowner could use his lands to secure his debts. An 'apprising' was a 'compulsory mortgage following legal process for recovery of debt.' See Shaw, p. 43.

Skye and North Uist for 85,785 merks granted to the earl of Middleton.¹⁸⁰ Evidence that these pressures increased over time is best exemplified by the fact that three-quarters of wadsets and apprisings took place in the latter half of the century.¹⁸¹ Preserving ownership of traditional territory was a priority under even the worst of circumstances, and to physically evacuate the land was 'a rare event.'¹⁸² With the exception of the MacLeans of Duart and the MacDonalds of Islay who lost small sections of their island territories, most chiefs maintained their presence and some semblance of local power.¹⁸³ Therefore, few significant shifts in settlement patterns took place during the sixteenth and seventeenth centuries.

An exception with great consequence was, of course, the displacement of the Macleods of Lewis that resulted from James VI's colonial policies.¹⁸⁴ In the dawn of his majority, James partially secured authority over parliament by controlling the 'Lords of the

¹⁸⁰ *Particular Registers of Sasines* (Inverness), 1st Series, 5:49-51 and 2nd Series, 3:74-76. For further examples, see Shaw, pp. 43-46.

¹⁸¹ *Ibid.*

¹⁸² Shaw compares the relatively small number of landsales in the Western Isles (500) to the extraordinary number of sales in Orkney and Shetland (3,000) to demonstrate how greatly the socio-political and economic circumstances differed. See Shaw, Chapter 2.

¹⁸³ For territorial losses by the MacLeans of Duart, see J.R.N. MacPhail (ed.), *Highland Papers*, Vol. 1, pp. 242-337, especially 260-263, Scottish History Society (Edinburgh, 1914); Also, *General Register of Sasines*, 1st Series, 14:288-292 (9 February 1694), 22:272-273, and 43:301-305; and 3rd Series, 3:150-152, (13 May 1662). For territorial losses of the MacDonalds of Islay, see *General Register of Sasines*, 1st Series, 1:92-92 (13 November 1617). In 1614, Islay was awarded by James VI to Sir John Campbell of Calder. See *Registrum Magni Sigilli Regum Scotorum*, 7:1137.

¹⁸⁴ MacCoinnich says this 'was the mature expression of an ongoing initiative from the centre which had its immediate genesis in the Band of 1587 and echoes, to some extent in a much more developed form, the initiatives taken by the king's grandfather and great grandfather.' See his *Siol Torcail and their lordship...*, (2007), p. 16. While Martin MacGregor, Alan Macinnes, J. Cameron, and N. MacDougall would agree with MacCoinnich, Julian Goodare argues that the desire of previous Scottish monarchs to subdue the isles was never seriously pursued, and that the 'Band of 1597' marks the beginning of serious effort. See M. MacGregor, 'The Statues of Iona: Text and Context,' *The Innes Review*, 57 (Autumn, 2006), pp. 111-181; A.I. Macinnes, 'Crown, Clans, and Fine: The Civilizing of Scottish Gaeldom, 1587-1638,' *Northern Scotland*, 1 (1993), p. 32; J. Cameron, *James V*, pp. 228-248; N. MacDougall, *James IV* (Edinburgh, 1997), pp. 174-190; and J. Goodare, *State and Society in Early Modern Scotland* (Oxford, 1999), pp. 254-266.

Articles'.¹⁸⁵ Humiliated by the Anglo-Scottish League's assessment that the borders were the greatest threat to union, James embarked on implementing a rigorous series of policies to nullify the problem.¹⁸⁶ In attempt to control hostilities in the region, the General Band of 1587, made '107 landlords, chiefs and leading clansmen' responsible for the actions of their people.¹⁸⁷ Michael Lynch argues that, with limited resources, James VI was simply relegated to threats of intervention, including several promises to personally visit the region which he never fulfilled.¹⁸⁸ Another of these threats materialised in 1597, when parliament passed an act requiring landowners in the Highlands and Islands to prove ownership through written deeds or suffer territorial forfeiture.¹⁸⁹ In a region where contractual agreements were often verbal and based on hereditary right, the threat of displacement might have been universally devastating had the crown been fully capable of enforcing the policy.

To expedite the process of enforcement, James created a company of 'gentlemen-adventurers' from Lowland Fife with the intention of 'planting' them in the most potentially lucrative part of the Insular *Gàidhealtachd*: Stornoway on the Isle of Lewis.¹⁹⁰ The contract

¹⁸⁵ Maurice Lee, 'The Scotland of James VI,' in *Government by Pen: Scotland under James VI and I* (London, 1980), p. 6.

¹⁸⁶ For a list of James VI's policies in the Highlands and Islands, see G. Donaldson, *Scotland: James V to James VII* (Edinburgh, 1965), pp. 228-231. The impact of the Anglo-Scottish League's perceptions on the Scottish Parliament is discussed in H. Morgan, 'British politics before the British state,' in B. Bradshaw and J. Morrill (eds.), *The British Problem, c. 1524-1707: State Formation in the Atlantic Archipelago* (London, 1996), p. 84.

¹⁸⁷ Michael Lynch, 'James VI and the "Highland Problem",' in Julian Goodare and Michael Lynch (eds.), *The Reign of James VI* (East Lothian, 2000), p. 212.

¹⁸⁸ *Ibid.*, p. 217. James made several announcements for a voyage, including 1596, 1598, 1600, 1602, and 1603, none of which materialised. See M. Lee, *Great Britain's Solomon: James VI and I in his Three Kingdoms* (Urbana, 1990), pp. 199-200, and fn. 227.

¹⁸⁹ *Acts of the Parliaments of Scotland*, 4:138-139. Smout (1969), p. 104; Ian D. Whyte, *Scotland before the Industrial Revolution: An Economic & Social History c. 1050-1750* (London, 1995), p. 266; Robert Dodgshon, *From Chiefs to Landlords* (Edinburgh, 1998), Chapter Five; and I. F. Grant, *Social and Economic Development of Scotland before 1603* (London, 1930), p. 479.

¹⁹⁰ For the Macleod experience, see 'The Ewill Trowbles of the Lewes, and how the Macleoid of the Lewes was with his whol Trybe destroyed and put from the possession of the Lewes,' in J.R.N. MacPhail (ed.), *Highland Papers*, Vol. 2, Scottish History Society (Edinburgh, 1916), pp. 262-284.

between the king and his colonists made clear their intentions.¹⁹¹ Using the Act of Forfeiture to exterminate the troublesome Macleods, James' aspiration was 'to plant policy and civilisation in the hitherto most barren Isle of Lewis, and to develop the extraordinary rich resources of the sea for the public good and the king's profit.'¹⁹² That the colonists were prepared to literally eliminate the existing inhabitants of Lewis was obvious by the 600 mercenaries who accompanied them. Upon their arrival, they attacked Murdoch and Neil Macleod's forces, took the castle, and began building homes with the small amounts of stone, turf and timber they could find. With a lack of native knowledge of the environment, they soon ran out of provisions, their homes suffered during the winter months, and then the envoy they sent for supplies was intercepted by Murdoch Macleod along the coast of Wester Ross and captured. Additional envoys were sent away, their homes were burnt to the ground by the clansmen of Neil Macleod, and their animals were carried away.¹⁹³ Two more attempts to colonise the island failed, and James eventually granted the territory to the Mackenzies of Kintyre.¹⁹⁴

Long before the colony was proven a failure, in 1599, James VI justified colonisation to the public when he penned his intentions in the *Baskilikon Doron*:

Here now speaking of oppressours and of iustice, the purpose leadeth me to speake of Hie-land and Border oppressions. As for the Hie-lands, I shortly comprehend them all in two sorts of people: the one, that dwelleth in our maine

¹⁹¹ The 'Fife Adventurers' included Patrick of Lindores, James Leirmont of Balcomie, Sir James Anstruther, James Spense of Wormiston, Sir James Sandilands of Seamannamure, Captain William Murray, John Forret of Fincask, Sir William Stewart, Sir George Home, his son David Home, and their leader was Lewis, the Duke of Lennox (and cousin to the king).

¹⁹² *Records of the Privy Council of Scotland*, 5:467-468; Also, see *RPCS*, 19: Appendix to Introduction, cxxviii-cxxix, and *Acts of the Parliament of Scotland*, 4:160-164.

¹⁹³ *RPCS*, *Ibid.* The colonists filed complaints to the crown for the loss of horses, cattle, oxen, sheep, and personal items.

¹⁹⁴ MacPhail (ed.), Vol. 2, p. 277. Also, *CSP Scotland*, 8:1026, and Goodare, *The Government of Scotland*, pp. 228-229.

land, that are barbarous for the most part, and yet mixed with some shewe of ciuilitie: *the other, that dwelleth in the Iles, and are alluterly barbares, without any sort or shew of ciuilitie.* For the first sort, put straitly to execution the Lawes made alreadie by me against their Ouer-lords, and the chiefes of their Clanness, and it will be no difficultie to *danton them.* As for the other sort, follow forth the course that I haue intended, in *planting Colonies among them* of answerable In-lands subiects, that within short time may reforme and ciuilize the best inclined among them; rooting out or transporting the barbarous and stubborne sort, and planting ciuilitie in their roomes.¹⁹⁵

Whether James was convinced by his Privy Council to halt colonisation attempts and work with the chiefs, or whether the humiliation simply forced him to resort to negotiations in order to achieve his initial purpose, policies after 1607 began to change.¹⁹⁶ Additional statutes were enacted, including the Statutes of Iona in 1609 that further hindered the freedoms and authority of the clan chiefs. Essentially, chiefs were responsible to the king for the actions of their clans, they were to abide by their local church authorities, forbidden to carry firearms or import wine, and forbidden from engaging in the practice of sorning.¹⁹⁷ They could remain in the region only if they could support themselves, and the chiefs were required to send their eldest sons to Lowland schools and universities for instruction in English.¹⁹⁸ Although difficult to enforce, these social engineering policies did change behaviour as chiefs attempted to comply, which allowed for the window of exchange and

¹⁹⁵ James I. *Basilikon Doron or His Majesties Instrvctions To His Dearest Sonne, Henry the Prince.* (Edinburgh, 1599; Edinburgh and London, 1603) in Charles Howard McIlwain (ed.), *Political Works of James* (Cambridge, Harvard University Press, 1918), p. 22. Italics are my own, and *danton* is a Scots term which means to 'subdue,' 'overcome' or 'intimidate.'

¹⁹⁶ M. Lee sees the Privy Council as convincing James to change tactics. See *Government by Pen: Scotland under James VI and I* (Urbana, 1980), pp. 75-82. A.I. Macinnes sees the restructuring of the clans as a second resort to accomplish the same desire for subjugation. See, *Clanship, Commerce and the House of Stuart, 1603-1788* (East Linton, 1996), Chapter 3.

¹⁹⁷ Sorning was the exacting of hospitality, including lodging and provisions, by travelling clansmen. This was considerably oppressive on food resources. For the list of the statutes and their context, see Martin MacGregor, 'The Statutes of Iona: text and context,' in *The Innes Review*, 57:2 (Autumn, 2006), pp. 111-181. For sorning, in particular, see pp. 130-131, 138-139, 166, and 178.

stability in settlement patterns. That they were not fully respected or policed, however, is indicated by additional statutes added in 1616 reemphasising much of the same, but also redefining rents.¹⁹⁹

Following the failure of the Lewis colony and subsequent implantation there of the MacKenzies, settlements were relatively stable throughout the seventeenth and into the eighteenth century. However, the Treaty of Union in 1707, and the Jacobite Risings of 1715 and 1745, were pivotal events affecting settlement patterns. First, with the union came a free trade policy that legally opened up the region to outside intervention.²⁰⁰ The threat that the Insular *Gàidhealtachd* might become a storehouse of raw materials for the rest of the kingdom to raid undoubtedly spurred on the Jacobite risings that followed. After the first rebellion in 1715, the Act of Annexation was issued by the Commissioners of Forfeited Estates, who served eviction notices to MacDonald of Sleat and Mackenzie of Applecross but did not initially sell properties to individual Scots who found the idea rather tasteless.²⁰¹ Instead, most lands were sold either to private individuals from England or to The York Buildings Company from London which began immediately extracting timber from the Spey. The company's industrial migration to the west came when it leased land previously purchased by Sir Alexander Murray of Stanhope in Ardnamurchan. Murray had renamed his mining settlement 'New York', planted nearly 500 English settlers there, and begun the

¹⁹⁸ For the way in which each policy worked to 'civilise' the population, see Allan I. Macinnes, "'Civilising' Influences, 1603-38," in *Clanship, Commerce, and the House of Stuart, 1603-1788* (East Lothian, 1996), pp. 56-87.

¹⁹⁹ For original 1609 statutes, see *Register of the Privy Council of Scotland*, 1st Series, 9:26-30; for 1616 statutes, see RPC, 1st Series, 10:773-776.

²⁰⁰ *The Statutes of the Realm* stated 'that all subjects of the United Kingdom of Great Britain shall from and after the Union have full Freedom and Intercourse of Trade and Navigation to and from any port or place within the said United Kingdom and the Dominions and Plantations thereunto belonging.' 8:567 (London, 1821).

mines before locals killed his livestock and destroyed much of the settlement's infrastructure.²⁰² Once the area was leased to York Buildings Company in 1731, quarries were dug, while coal smelting hearths, a brewhouse, malthouse, stables, and pet barns were all erected.²⁰³ In addition, a few small roads and a bridge were built for transporting materials back out of the region.²⁰⁴ The York Buildings Company was also harassed by the locals, and their mining business was eventually destroyed by the Argyll Militia in 1746.²⁰⁵ Up to this point, most commercial industry in the Highlands was on the eastern side, with ironworks, textiles, and cattle all heading toward the Lowlands and England in great quantities.²⁰⁶ The perceived remoteness of the west, and the hostility of the native people, managed to keep invasion at bay for much of the century.

The waves of change came, of course, after the unsuccessful Jacobite Rising of 1745, when 'improvement' extended into the region. The initial pressure in the Insular *Gàidhealtachd* came primarily from two entities. The first was the duke of Argyll who established three villages on Islay and promoted agricultural improvement in Tiree and Gigha, all of which were met with local resistance.²⁰⁷ The second was the British Fishery Society which established permanent fishing villages at Ullapool in Wester Ross, Tobermory

²⁰¹ A. C. O'Dell and K. Walton, *The Highlands and Islands of Scotland* (Edinburgh, 1962), p. 117. Also, see *The Making of the Scottish Landscape* (London, 1975), p. 105.

²⁰² O'Dell and Walton, *Ibid.*

²⁰³ O'Dell and Walton, *Ibid.* And Milman, *Ibid.*, points out that the York Buildings Company had to resell the lands in 1764, 1777, and 1782, due to 'mismanagement of its affairs', p. 105.

²⁰⁴ General Wade's recommendations for improvement in the 1720s were not fully realised until the 1780s when roads connected Fort William to Malaig and Fort Augustus to Bernera.

²⁰⁵ RCAHMS (1980a) *The Royal Commission on the Ancient and Historical Monuments of Scotland*. 'Argyll: an inventory of the monuments Volume 3: Mull, Tiree, Coll and Northern Argyll (excluding the early medieval and later monuments of Iona)', Edinburgh, 253-255, No. 392 pl. 109 (A) Held at RCAHMS A.1.1.INV/21.

²⁰⁶ O'Dell and Walton, *Ibid.*, pp. 118-120.

²⁰⁷ Millman, p. 123. Also, James R. Coull, 'The Island of Tiree,' in *The Scottish Geographical Magazine*, 78:1 (1962), pp. 17-32.

in Mull, and Loch Bay in Skye.²⁰⁸ Only Ullapool succeeded and even that was not fully established until 1788.²⁰⁹ However, the last two decades of the eighteenth century did see an extraordinary increase in British fishing busses, which was met with varying levels of resistance and accommodation. In an attempt to participate in the commercial industry, many local fishermen erected small villages along the coastlines to participate, while others continued to harass the invaders. When John Knox landed at Loch Hourn in 1786, he said ‘the shore was covered with little hovels, or tents, which serve as temporary lodgings to the natives, who flock to these fisheries, and who, in their turn, were full of complaints against the buss-men.’²¹⁰

The greatest disruption to traditional settlement patterns, however, came from emigration. Landlords who were increasingly stressed by population pressure, and intrigued by rocketing wool prices, replaced many of their cattle and human inhabitants with sheep. In 1773, Allan Macdonald of Skye wrote to the Highland lawyer, John Mackenzie:

The only news in this island is emigrations; I believe the whole will go for America – in 1771 there shipped and arrived safe in North Carolina 500 souls. In 1772 there shipped and arrived safe in said place 450 souls. This year they have already signed and preparing to go, above 800 souls and all those from Skye and North Uist. It is melancholy to see the state of this miserable place; the superior summoning the tenants to remove for not paying the great rent etc. and the tenants [with accusations to] the superior for oppression, for breaking the conditions of his tacks, and for violent profits – The factor, tenants at law, for iniquities and wrong accounts and them out of their lands in the month of May and June without previous warning – No respect of person, as the best are mostly gone, stealing of sheep etc. constantly, and picking and thieving of corn, garden stuffs, and potatoes perpetually, lying backbiting and slandering –

²⁰⁸ Chris Smout identified eight types of planned villages during the improvement period, only one of which was attempted in the Insular *Gàidhealtachd*: the fishing village. See his ‘The Landowner and the Planned Village,’ in N.T. Phillipson and Rosalind Mitchison (eds.), *Scotland in the Age of Improvement* (Edinburgh, 1996), pp. 73-106.

²⁰⁹ *Ibid.*, p. 92.

²¹⁰ John Knox, *A tour through the Highlands of Scotland* (1786).

Honesty entirely fled, villainy and deceit supported by downright poverty in its place. When this next emigration is gone, only Aird and other three old men, will lease, that will be in Slate and Trotternish of the name of Macdonald.²¹¹

In addition to being forcibly evicted, many Hebrideans found their way to the east coast of Scotland where fishing villages were more successful, while others emigrated south to the industrial centre in Glasgow.²¹² Although the official *Clearances* of the region did not take place for several more decades, the process was largely underway by the last two decades of the eighteenth century.²¹³

Much of the change that affected the region between the sixteenth and eighteenth centuries was due to political, economic or social factors. However, climate change contributed significantly to both colonisation policy and voluntary emigration. For example, Lamb highlights that the development of the Lewis and Ulster colonies coincided with continual famines in Lowland Scotland, while the worst harvest failures in the Highlands and Islands occurred during King William's reign, between 1693 and 1700, when 'more people (and a bigger proportion of the people) died of starvation at that time than in the Black Death of 1348-50'.²¹⁴ The final decade of the seventeenth century not only saw great mortality rates, but emigration from Lowland Scotland to Ireland and the British colonies

²¹¹National Library of Scotland, *Mackenzie of Delvine Papers*, MS 1306:67, printed in Allan I. MacInnes, Marjory-Ann D. Harper, & Linda G. Fryer (eds.), *Scotland and the Americas, c. 1650 – c. 193: A Documentary Source Book* (Edinburgh, 2002), p. 172.

²¹² Michael Walter Flinn, *The European Demographic System 1500-1820* (Johns Hopkins University, 1977), p. 169. See also, T.M. Devine, 'Highland Migration to Lowland Scotland 1760-1860,' in *The Scottish Historical Review*, 62:174 (October, 1983), pp. 137-149. Also, I.D. Whyte, 'Population Mobility in Early Modern Scotland,' in R.A. Houston and I.D. Whyte (eds.), *Scottish Society 1500-1800* (Cambridge, 1989), pp. 37-58.

²¹³ A discussion of the complexity surrounding the *Clearances*, as well as many primary documents from the period, may be found in Eric Richards, *Debating the Highland Clearances* (Edinburgh, 2007).

²¹⁴ H. H. Lamb, *Climate: Present, Past, and Future*, Volume 2: Climatic history and the future (London, 1977), p. 471. For a discussion of the 'seven ill years' between 1693-98 and 1700 see Walton, 'Climate and famines in northeast Scotland, in *Scottish Geographical Magazine*, 68:1 (Edinburgh, 1952), pp. 13-21. Summaries of weather accounts in Scotland during this period are summarised by G. M. Trevelyan, *English Social History* (London, 1942), p. 432.

unlike any time prior to the nineteenth century.²¹⁵ At the time, the causes of the devastation were greatly misunderstood and assumed temporary. In academic circles, The Little Ice Age was attributed to an earthquake that ‘hath put back the terrestrial globe towards the North, which is the reason (till another shall shake it into its place again) that we shall have no more ripe grapes.’²¹⁶ Regardless of whether climate change was temporary or long term, and despite the challenges it created for the Hebrideans, they did not emigrate during these early phases. Instead, most stayed loyal to their traditions and territories as long as they possibly could. During the second half of the eighteenth century, as the polar ice cap pushed cold water and storms southward, and a series of volcanic eruptions in Iceland polluted the soil and obstructed the sun, the region experienced a sequence of harvest failures, famines, the loss of cattle, and terrible sand blow.²¹⁷ It may have been in response to these occurrences that the first waves of emigration flowed out of the region. Walker said of the damage,

The sand Drift has made great Devastation in many parts of North Wist, and continues yearly to be more and more formidable. Several parts of the Country which are but little raised above the ordinary Level of the Sea, have also suffered greatly by extraordinary Tides, which are frequently occasioned by the great Violence of the South West Winds, combined at the full or Change with the heavy Swell of the Atlantick.²¹⁸

In 1773, when Dr. Johnson visited Skye, he wrote of two years earlier when

they had a severe season, remembered by the name of the Black Spring, from which the island has not yet recovered. The snow lay long upon the ground, a

²¹⁵ R.A. Houston, ‘The Population History of Britain and Ireland 1500–1750,’ in M. Anderson, (ed.), *British Population History from the Black Death to the Present Day* (Cambridge, 1996), pp. 138-140, 155.

²¹⁶ E. Bateson (ed.), *Calendar of State Papers, Domestic, of the Reign of William III, 1698* (London, H.M.S.O., 1933).

²¹⁷ Alastair Dawson, *So Foul and Fair a Day* (Edinburgh, 2009), pp. 136-140.

²¹⁸ McKay, p. 64.

calamity hardly known before. Part of their cattle died for want, part were unseasonably sold to buy sustenance for the owners; and, what I have not read or hear of before, the kine that survived were so emaciated and dispirited, that they did not require the male at the usual time. Many of the roebucks perished.²¹⁹

Not until the late eighteenth century, when traditional ties to the clan and culture had all but collapsed, and the climate seemed to push them away, did the Hebrideans emigrate en masse to ensure their survival; and even then, they went reluctantly. By that time, the unrealistic demand for surplus over subsistence, within the context of a dynamically evolving climate, combined with unprecedented population pressure to determine their fate. Even though the herring fisheries were doing well in the north, and many who did not leave the country found themselves on the shorelines attempting to participate in the boom, they were often incapable of inclusion in the trade:

The author...has seen the crews of the busses from the Clyde, etc., attack the poor natives of the West Coast in their miserable canoes, drive them from their best fishing places, destroy their nets, cruelly maltreat them, and then let down their own tackling, in the places of which they had thus robbed the poor natives.²²⁰

Over nearly three centuries, climate deterioration obstructed productivity on land and in the sea; over nearly two centuries, the landed-elite elevated demands on both the people and their environment to meet primarily personal needs; and throughout the period, the common Hebrideans stayed loyal to, and yet suffered from, the behaviour of both. Despite this cascade of oppressive circumstances, their population continued to grow, which increased pressure on subsistence patterns to avoid emigration and destitution. The first

²¹⁹ Ronald Black, *To The Hebrides: Samuel Johnson's Journey to the Western Islands of Scotland and James Boswell's Journal of a Tour to the Hebrides* (Edinburgh, 2007), p. 179.

²²⁰ P. White, *Observations on the Scotch Fisheries* (Edinburgh, 1791), pp. 124-125; *Third Report on the Fisheries* (1785), p. 82.

half of the sixteenth century saw the Hebrideans enjoying a diverse diet based on a plethora of local resources procured from both the sea and the land. As the climate began to worsen, so too did their food choices, but they continued to fare much better than their southern neighbours. Legislation in the Lowlands prevented the export of food staples and prohibited meat consumption during Lent.²²¹ These legal measures were a response to failed harvests, epizootics, and severe winters that limited food supplies between 1551 and 1598. When Fynes Morison visited Scotland in 1598, he said that the Lowlanders ate 'little fresh meate,' yet Bishop Leslie said of the Highlanders' diet in 1568 that their beef was the 'grettest delyte'²²² and, in 1605, Sir Thomas Craig noted of the Highlands that

nowhere else is fish so plentiful...we have meat of every kind...and we eat barley bread as pure and white as that of England and France...and when the supply of cereals is short, the Highlanders are able to supply us with cheese.'²²³

Four decades separate their observations, yet Craig and Leslie were equally impressed by the health, longevity, and robustness of the Highlanders they encountered. But the perception that resources were comparably rich in the north during difficult years meant they were increasingly coveted by the people in the south.

It must have been a great relief to the Lowland elite, therefore, when the 'window of exchange' with the Hebrideans was forced open by crown policies and a flood of cattle appeared in their markets. The downside for the common Hebrideans was, of course, obvious: the commercial value of cattle soon limited their own meat consumption. By the late seventeenth century when the 'window of exchange' began to close, Martin noted that

²²¹ *RPCS* 1:14, 1:127, 1: 200, 1:402, 1:571, 1:611; *RPCS* 2:680; *RPCS* 3:74, 3:84; and *APS* 3:104, 3:452, 3:577.

²²² For Fynes Morison testimonial, see P.H. Brown (ed.), *Early Travellers in Scotland* (Edinburgh, 1981), pp. 88-89. For Bishop Leslie's description, see *Ibid.*, pp. 161 and 167.

the common native Hebrideans 'eat but little flesh now, and only persons of distinction eat it every day.'²²⁴ In some cases, meat was even restricted to one meal on Sunday, while fish, dairy, grains of oats and bear (often ground to a meal or malted for ale) were consumed the rest of the week.²²⁵ Because marine resources could easily replace beef for protein in most parts of the Insular *Gàidhealtachd*, and because the Hebrideans had already experienced the loss of codfish that came with colder temperatures, it is no wonder that safeguarding food staples became the primary reason of many for fierce protectionism over their waterways.

Dependence on marine resources for subsistence increased further as some grains and natural vegetation suffered from the lack of drainage in the soil. When Martin visited Lewis, Harris, and the Uists, he noted that rye was still grown there, but by the time Walker was in Harris a century later, he said they 'used to sow a great deal of rye, but have given it up of late years as they found it prejudicial to their soil.'²²⁶ As climate change damaged the harvest of traditional crops, eliminated winter fodder for animals, and lessened the number of vegetables grown in the garden, new imports of oats and potato became dependable staples. According to the Old Statistical Account, grains were exported from Skye to the other islands, but usually, oatmeal was imported from afar:

²²³ C. Sanford Terry (ed.), *Sir Thomas Craig's 'De Unione Regnorum Britanniae Tractatus'*, Scottish History Society, 1st Series, 60 (1909), pp. 416-417, 447.

²²⁴ Martin, p. 125.

²²⁵ A. Gibson and T.C. Smout, 'Scottish Food and Scottish History 1500-1800,' in R.A. Houston and I.D. Whyte (eds.), *Scottish Society 1500-1800* (Cambridge, 1989), pp. 72-73.

²²⁶ Margaret M. McKay (ed.), *The Rev. Dr. John Walker's Report on the Hebrides of 1764 and 1771* (Edinburgh, 1980), p. 55.

This country (Gairloch – Wester Ross), and all the West coast, are supplied in the summer with meal, by vessels that come from the different ports at a distance; such as Caithness, Murray, Peterhead, Banff, Aberdeen, Greenock, etc.²²⁷

About the same time, John Smith travelled through Argyle and commented that

the small farmers, for nine or ten months in the year, make generally two, and sometimes three meals a day of potatoes, with herrings or milk. Such as can afford it salt a cow in winter, and kill a sheep or two in harvest. Oatmeal porridge, or oatmeal jelly (sowens), make commonly the third meal a day, with milk; and oaten or bear bread, when the potatoes fail, supply their place.²²⁸

Thomas Pennant also said that the bulk of the region depended on grain imports and that, in Lochaber, the cost of grain was normally half of their income.²²⁹ Martin was the first to mention potatoes, which were imported to Britain in the sixteenth century from the American colonies but not introduced into the Scottish Insular *Gàidhealtachd* until over a century later. Long before the arrival of the potato, there were other introductions, but most failed. On Lismore, there was an attempt to plant wheat and peas. As early as 1617, an Act of Glenorchy's actually required the inhabitants of Lismore to plant peas, and both wheat and pea Acts were 'renewed' in 1615 and 1618. Many people were found guilty of not doing so, but their sentences were dropped and by the difficult years of the 1690s, neither crop was being planted there any longer.²³⁰

Similar spirals of change to settlements and subsistence appeared on both sides of the North Atlantic. They were both subject to colder climate, unsustainable demand for terrestrial game, and the need for natives to actively engage in the new economic process in

²²⁷ Grain imports from Skye are documented in *OSA*, 2:552 and 20:305; this quote comes from *OSA*, 3:90. Both are dated between 1791-1799.

²²⁸ John Smith, *General View of the Agriculture of the county of Argyle* (Edinburgh, 1978).

²²⁹ Thomas Pennant, *A Tour in Scotland and Voyage to the Hebrides in 1772*, in Andrew Simmons (ed.), Vol. 1, p. 229 and 359 (Edinburgh, 1998).

²³⁰ Shaw, pp. 94-95.

order to maintain power over traditional territories. As a result, the inhabitants of both *Ketakamigwa* and the Scottish Insular *Gàidhealtachd* were subject to ecological imbalance, economic chaos, and cultural destruction from the late sixteenth century onward. While a shrinking population of Wabanaki attempted to accommodate European hunger for fur, the Hebrideans were under extreme pressure to produce cattle for Lowland and English markets. Unlike that of their counterparts in the west, the Hebridean population was exploding, which only exacerbated the other challenges they faced. Climate change and ecological imbalance affected both peoples, but the Wabanaki were inundated with new goods while the Hebrideans suffered from a lack of essentials replaced by luxuries going to the elite. This stratification was instrumental in determining the fate of the Hebrideans. While the Wabanaki were entering a long and difficult road to cohesion, rejuvenation, and healing, most of the Hebrideans were headed toward cultural transformation and eventual expulsion. They were dependent on imported grains, prevented from fully exploiting their marine resources, prohibited from eating their cattle, and finding cultivation of traditional foods hampered by natural conditions.

Changes in Perception

Between the sixteenth and eighteenth centuries, not only did traditional water-world practices undergo a transformation, but so too did many native perceptions. At the time, the Wabanaki and the Hebrideans were only two cultural groups of thousands trapped on the losing side of imperial conquest. Like many other cultural groups, they adjusted their existing practices in order to survive and evolved their existing perceptions to process the

weight of their experiences.²³¹ Historically, conscious group action among world cultures was often provoked by peaceful ideology rather than reactionary impulse, and human resilience carried many societies through successful cultural transitions that resulted in positive new ways of coping with uncontrollable forces.²³² Hindsight cautions, however, that philosophical revolutions prompted by shock, fear, misunderstanding, trauma or desperation, have caused panic, if not group hysteria, resulting in devastation and subsequent regret.²³³ Like so many other cultural groups, the Wabanaki and the Hebrideans were in reactionary overdrive as they attempted to protect themselves from climate change, meet insatiable foreign economic pressure, maintain sovereignty and salvage their ancestral homes. But they were confronting a well funded, militarily supported, and inflated cultural ideology that travelled by land and sea.²³⁴ Imperial enthusiasm for technological advancement and economic over-production, as well as opportunism and a sense of entitlement spawned concepts like 'Improvement' and 'progress.' They also served as powerful propaganda that rapidly altered the way modern 'civilisation' operated.²³⁵ Working against a backdrop of heavier rainfall, cooler temperatures and an upsurge of ocean storms, imperialists established an ethos for nation-building, Christianising, and 'civilising' that

²³¹ There is a great body of work on the psychology of the oppressed. For example, see Frantz Fanon, *The Wretched of the Earth* (Paris in French, New York in English, 1961). Also, Eduardo Duran and Bonnie Duran, *Native American Postcolonial Psychology* (New York, 1995). An excellent survey of conflicting mindsets can be found in Donald Fixico, *The American Indian Mind in a Linear World: American Indian Studies and Traditional Knowledge* (New York, 2003). A standout postmodern approach can be found in Chela Sandoval, *Methodology of the Oppressed* (Minneapolis, 2000).

²³² See Thomas A. Gregor (ed.), *A Natural History of Peace* (Vanderbilt, 1996).

²³³ For example, Jess Blumberg, *A Brief History of the Salem Witch Trials: One Town's Strange Journey from Paranoia to Pardon* (Smithsonian, 2007); Also, Adam Jones, *Genocide: A Comprehensive Introduction* (New York, 2006).

²³⁴ I use the term 'inflated' to emphasise the top-down, rather than organic, nature of this ideology.

²³⁵ For example, Lescarbot wrote that *Ketakamigwa* had 'two kinds of soil that God has given unto man as his possession...Who can doubt that when it shall be cultivated, it will be a land of promise?' Lescarbot, *History of New France* (Toronto, 1914), p. 111, 246.

sabotaged existing human-nature equilibriums and disillusioned, enslaved or dispossessed many non-European people in the process. Because newly conquered cultures were intricately intertwined with their environment--at both the physical and spiritual level—they were casualties of this new ethos.

The Wabanaki and the Hebrideans were operating within their own existing cultural contexts. Processing how to cope, evaluating what worked in a new context, and rationalising proper responses to this new ethos, forced their existing ideologies to evolve. New attitudes were often an amalgamation of reason and emotion based on self-interest and necessity, but they were also multifarious and morphed with every new obstacle encountered by each new generation. The Wabanaki and the Hebrideans of the sixteenth century differed significantly from those inhabiting the water-worlds of *Ketakamigwa* and the Scottish Insular *Gàidhealtachd* in the eighteenth century. They not only operated differently, but they had undergone dramatic perceptual transformations. Despite some shared characteristics between the Wabanaki and the Hebrideans prior to imperial conquest, their original cultural contexts differed enough for values and attitudes evolve in two very different post-imperial realities. Therefore, the above analysis of how practices changed in response to the stimuli of environmental stress and imperial invasion must be accompanied by some analysis of how alterations to existing attitudes and values affected native behaviour over time. Even more intriguing and revealing, however, are the attitudes and values that did not change, or at least changed less dramatically than others. Finally, it is worth considering the race factor, if not just to trace how perceptions of Wabanaki and Hebridean ethnicity altered over time, but how their own ethnicities meant assimilation into mainstream society was only possible for the Hebrideans. Although post-imperial

perceptual transformations are complex and impossible to explore comprehensively, there are important glimpses of them evident in traveller's accounts, oral stories, and archival documents.²³⁶ Historical and scientific evidence supports the concept that acculturation was present in both regions for many millennia leading up to the sixteenth century, and that the people and their water-world environments were both overtly dynamic, never static.²³⁷ Considering the longevity of human habitation in these two continually evolving landscapes, accommodation and resistance to natural and anthropogenic pressure was intuitively met with resilient perceptual evolution. Native perceptual transformations between the sixteenth and eighteenth centuries, however, were much more dramatic and detrimental.

Perceptual similarities between the Wabanaki and the Hebrideans

By the sixteenth century, despite their differences, both the Wabanaki and the Hebrideans shared many similar attitudes and values specific to kin-based societies inhabiting water-world environments.²³⁸ Both also exhibited great pride in their sense of place. They lived in

²³⁶ Ethnohistorical attempts to interpret Amerindian changes in perception from the earliest encounters to the colonial period have been problematic. Early efforts were simplistic and often gave primarily pragmatic reasons for changes in Amerindian behaviour. These 'rationalist-materialists' saw Amerindians making rational decisions based on changes to material conditions. For example, H. A. Innis, *The Fur Trade in Canada* (New Haven, 1930) and G. T. Hunt, *The Wars of the Iroquois* (Madison, 1940). In contrast, 'idealist-cultural relativists' assigned spiritual and cultural reasons to decisions rather than economic or 'rational' motives and accused the 'rationalist-materialists' of over-simplification and cultural insensitivity. See T. F. McIlwraith, *The Bella Coola Indians*, 2 Volumes (Toronto, 1948) and, more recently, Calvin Martin, whose argument was originally published as an article in *Ethnohistory*, 26 (Spring, 1979), pp. 153-159; he later fortified it in his book *The American Indian and the Problem of History* (New York, 1987). Martin over-emphasised the role of the human-nature relationship by arguing that 'the chief aim in life in virtually all North American Indian societies was to be saturated with the primordial power of Nature which seemed to pulsate throughout all creation,' *Ibid.*, p. 29. He accurately pointed out the common practice of western cultures to control/dominate nature, but unfortunately, oversimplified Amerindian beliefs. More recent attempts have negotiated a middle ground. In *Ketakamigwa*, this includes Ruth Whitehead, *Stories from the Six Worlds: Micmac Legends* (Halifax, 1988).

²³⁷ The debate is often whether acculturation was a result of cultural diffusion from the outside or parallel evolution prompted by common human characteristics existing within.

²³⁸ Place names in both regions, Gaelic poetry, and Wabanaki oral stories are filled with images and entities from the sea that played an integral role in daily perceptions. References to water vessels, marine life, dangers on the sea, and sea spirits are ubiquitous: see, Thomas Owen Clancy (ed.), *The Triumph Tree: Scotland's Earliest Poetry ad 550-1350* (Edinburgh, 1998), i.e. p. 113; David Thomson, *The People of the Sea: Celtic Tales of the*

storied landscapes where orally transmitted histories and ecological knowledge built a foundation for territorial loyalty, vibrant cultural development, and group identity. Their histories, morals, taboos, and contact with the spirit world, were carried from one generation to the next through the lyrics of their songs, the style of their dance, the verse of their poetry, the pageantry of their rituals and the narrative rhythm of their fireside stories.

Both the Wabanaki and the Hebrideans greatly valued generosity, hospitality, and humour. Father Le Clercq wrote that originally, to *not* show hospitality toward strangers was considered a crime by the Mi'kmaq.²³⁹ After generations of frustrating experiences with European traders and settlers, however, the Mi'kmaq became cautious and discontinued sharing ceremonies and feasting with Europeans, but they carried on the practice among their own bands and with other Wabanaki.²⁴⁰ Nicolas Denys wrote that 'they were great laughers. If one was telling a story, all listened in deep silence; and if they began to laugh, the laugh became general.'²⁴¹ Denys also noted that they believed they should 'do to another only that which they wished to be done to them...All lived in good friendship and understanding...They refused nothing to one another.'²⁴² But their generosity was not seen as a noble characteristic by some observers. For example, it was said about the Mi'kmaq,

Seal-Folk, especially 'The Seal-Woman's Croon,' (Edinburgh, 1996) pp. 218-219; Marjory Kennedy-Fraser, 'Songs of the Hebrides,' *Proceedings of the Musical Association, 45th Session* (1918-1919), pp. 1-12; Colm Ó Baoill (ed.), *GÀIR NAN CLÀRSACH, The Harps' Cry: An Anthology of 17th Century Gaelic Poetry* (Edinburgh, 1994), pp. 63, 67, 87-88, 103, 115, 123, 149, 151, 154*, 157-158, 165, 175, 199, and 205; Wilson McLeod and Meg Bateman (eds.), *DUANAIRE NA SRACAIRE, Songbook of the Pillagers: Anthology of Medieval Gaelic Poetry* (Edinburgh, 2007), pp. 49 and 57; Charles G. Leland (ed.), *The Algonquin Legends of New England* (Charleston, 2007), pp. 45-48, 69-70, 80-86, 165, 234-237, and 308-309; David L. Schmidt and Murdena Marshall (eds.), *Mi'kmaq Hieroglyphic Prayers: Readings in North America's First Indigenous Script* (Halifax, 2006).

²³⁹ See Le Clercq, *New Relation of Gaspesia*, William F. Ganong (ed.) (Toronto, 1910), p. 388.

²⁴⁰ *Ibid.* p. 246.

²⁴¹ Denys, Vol. 2, p. 419.

²⁴² *Ibid.*, 2:415.

it is neither gaming nor debauchery that disable them from the payment of their debts, but their vanity, which is excessive, in the presents of peltry to other savages, who come in quality of envoys from one country to another, or as friends and relations upon a visit to one another. Then it is, that a village is sure to exhaust itself in presents; it being a standing rule with them, on the arrival of such persons, to bring out everything they have acquired, during the winter and spring season, in order to give the best and most advantageous idea of themselves.²⁴³

Before commercialisation affected the Hebrideans, the 'surplus went to feast, or gift, or to aid those in trouble.'²⁴⁴ Throughout the Scottish Insular *Gàidhealtachd*, hospitality and generosity was often bestowed upon travellers from other islands:

The inhabitants are very hospitable, and have a custom, that when any strangers from the northern islands resort thither, the natives, immediately after their landing, oblige them to eat, even though they should have liberally eaten and drank but an hour before their landing there...and whatever number of strangers come there, or for whatsoever quality or sex, they are regularly lodged according to ancient custom.²⁴⁵

MacGregor argues that, during the early seventeenth century, repeated attempts by the crown to encourage the building of Inns throughout the region was simply to break down the power structure behind customs of hospitality and generosity so that they might be replaced by commercial industry.²⁴⁶ Despite crown policy, these attitudes continued. During the late eighteenth century, one observer seemed surprised to find that 'among the antient

²⁴³ Antoine Simon Maillard, *An Account of the Customs and Manners of the Micmakis and Maricheets, Savage Nations, Now Dependent on the Government of Cape Breton* (London, 1758), p. 4.

²⁴⁴ Rosemary E. Ommer, 'Primitive Accumulation and the Scottish *Clann* in the Old World and the New, *Journal of Historical Geography*, 12:121-141 (1986), quote on p. 128.

²⁴⁵ Martin, pp. 66-67.

²⁴⁶ Martin MacGregor, 'The Statutes of Iona: Text and Context,' *The Innes Review* vol. 57:2 (Autumn 2006), pp. 140-141. He recognises native customs as elements of power that prohibited them from acknowledging crown power over their own clans.

Highlanders, the same men who made a glory of pillage and rapine, carried the sentiments of hospitality and generosity to a romantic excess.²⁴⁷

Both the Wabanaki and the Hebrideans also placed great importance on respect, self-discipline, courage, and honour, and they held their families, elders, warriors, and wise-people in high esteem.²⁴⁸ Martin wrote of the Hebrideans that

the chief druid harangued the army to excite their courage. He was placed on an eminence, from whence he addressed himself to all of them standing about him, putting them in mind of what great things were performed by the valour of their ancestors, raised their hopes with the noble rewards of honour and victory, and dispelled their fears by all the topics that natural courage could suggest.²⁴⁹

By the late seventeenth century, however, special recognition of druids was disintegrating.

Martin also commented that

the orators ... were in high esteem both in these islands and the continent; until within these forty years they sat always among the nobles and chiefs of families in the *streak* or circle...The orators by the force of their eloquence had a powerful ascendant over the greatest men in their time.²⁵⁰

Despite the great respect the Mi'kmaq showed to their healers, Denys believed 'those medicine-men were lazy old fellows,' and that they 'claimed to speak to the manitou,' in order to heal or extract disease.²⁵¹ But they were greatly revered by those who sought their

²⁴⁷ Thomas Douglas, Earl of Selkirk, *Observations on the Present State of the Highlands of Scotland, with a View of the Causes and Probably Consequence of Emigration* (London, 1805), p. 18.

²⁴⁸ Despite the ecological differences that determined settlement and subsistence patterns, Amerindians all valued self-discipline and restraint in order to build personal strength. See A.I. Hallowell, 'Some Psychological Characteristics of the Northeastern Indians,' in Frederick Johnson (ed.), *Man in Northeastern North America* (Andover, 1940), p. 25.

²⁴⁹ Martin, p. 73.

²⁵⁰ *Ibid.*, p. 79.

²⁵¹ Denys believed the *manitou* was The Devil, and that the practice would die out with the older generations. Denys, Vol. 2, pp. 417-418. The term *mntu* (also spelled *manitou* or *mindu*), referred rather to the universal spirit found in both sentient and non-sentient beings. It still translates today as 'power' or 'spirit.' See Ruth

knowledge. Many personal names assigned great honour to individuals. The Penobscot chief, Bessabez, was given his name because it meant 'old complete or real man,' an indication that the people greatly respected him.²⁵² Champlain explained that everyone circled around Bessabez and sat in silence to hear him speak.²⁵³ Denys also noted that there were storytellers who could captivate their listeners all day and throughout the night.²⁵⁴

Peering through their own cultural lens, outsiders often found native customs to be barbaric or blasphemous. Of the Hebrideans, it was said

Their notions of virtue and vice, are very different, from the more Civiliz'd part of Mankind; they think it the most sublime virtue, to Pay a servile, and Abject Obedience to the Commands of their Superiors... The virtue next to this, in esteem amongst them, is the Love they bear, to that Particular Branch of which they are a part, and in a second degree, to the whole Clan or name, by assisting each other, right or wrong...²⁵⁵

Both the Wabanaki and the Hebrideans were collectives of extended kin-groups that did not always agree, but proudly identified with the collective and differentiated themselves from 'cultural others'. The pride exhibited by the Hebrideans was used to demonise them:

[It is in] opposition to the People who inhabit the Low Countries, whome they hold in the utmost contempt, imagining them inferior to themselves in Courage; and Resolution, and the Use of Armes; and accuse them, of being Proud, avaritious, and breakers of their Word.²⁵⁶

So too were the Wabanaki criticised for pride by 'cultural others' who found them to be

Whitehead, *Stories from the Six Worlds: Micmac Legends* (Halifax, 1988), pp. 5-6. Also Harold E. L. Prins, *The Mi'kmaq: Resistance, Accommodation, and Cultural Survival* (New York, 1996), p. 36.

²⁵² Pauleena MacDougall, *The Penobscot Dance of Resistance: Tradition in the History of a People* (Lebanon, New Hampshire, 2004), p. 48.

²⁵³ Samuel de Champlain, *The Works of Samuel de Champlain*, 1:49-50 (Toronto, 1922).

²⁵⁴ Denys, Vol. 2, p. 419.

²⁵⁵ 'Papers on situation in the Highlands,' *National Library of Scotland*, MS 1100, ff. 60-60a (n.d., c.1724).

²⁵⁶ *Ibid.*

exceedingly vainglorious: they think they are better, more valiant and more ingenious than the French; and, what is difficult to believe, richer than we are. They consider themselves, I say, braver than we are...²⁵⁷

Many invaders simply perceived both the Wabanaki and the Hebrideans as savages, barbarous and primitive people, who were superstitious, lazy, uncivilised, and inhabiting a wilderness that reared them to be dangerously independent. This was Father Baird's first description of the Mi'kmaq:

The nation is savage, wandering and full of bad habits; the people are few and isolated. They are, I say, savage, haunting the woods, ignorant, lawless and rude; they are wanderers, with nothing to attach them to a place, neither homes nor relationships, neither possessions nor love of country.²⁵⁸

A century later, just after the Union, a similar sentiment circulated about the Hebrideans:

[They] are always Idle and sauntering at home and had rather lurk in their haunts than remove to the most inviteing settlements ... and by reason of their barbaruos Language can have noe manner of Communication with others and are upon those two accounts altogither as Incapable of being employed in husbandry, fishery, manufactories or handycrafts or of settleing in our foraigne plantations.²⁵⁹

These cultural similarities subjected both the Wabanaki and the Hebrideans to systematic processes of exploration, categorisation, demonization, exploitation, socio-cultural engineering, and then subjugation.²⁶⁰ And, as a result, they were both traumatised, rose in

²⁵⁷ Baird, *Jesuit Relations*, 1:173.

²⁵⁸ *Ibid.* Baird's opinion of them obviously improved with time as he came to speak quite highly of them before taking his leave of the region.

²⁵⁹ N. Shute, *Some Consideration to induce the people of South Brittain to Contribute to the Designe of propagating Christian Knowledge to the Highlands and Isles of North Brittain and of Civilizing the Barbarous Inhabitants of these parts of the Kingdome*, 1708. Scottish Records Office, GD 95.10.57, 1-2.

²⁶⁰ Exploitation of the Scottish Insular *Gàidhealtachd* continued into the 20th century. Chris Smout identified four stages of exploitation that continued even after the *Clearances*: (1) the region as a natural curiosity; (2) the region as sublime, picturesque, and romantic; (3) 'the vulgar tourism' of the nineteenth century; and (4)

resistance, and then engaged in epic struggles for survival. But there were nuances within each of their similarities, some less subtle than others, that set the two peoples apart. There were also significant contrasts between the two that were inevitably deterministic.

Perceptual differences between the Wabanaki and the Hebrideans

Two of the most life-altering foreign elements to affect Wabanaki perceptions were religious propagation and the spread of disease. To the detriment of the Wabanaki, the two appeared almost simultaneously and complimented one another. They also challenged the belief that medicine-people held the power to cure:

[They] have so much esteem for their jugglers that, when in trouble, they seek those who pass for the most famous (just as among us the sick in their ills have recourse to the most clever physicians). They are convinced also that these frauds can surely cure their ills.²⁶¹

As disease spread among the Wabanaki, so too did the rhetoric of religious propagation.

Because the 'Black Robes' appeared to be unaffected by illness, a perceptual change took place among many Wabanaki who assumed priests held power because they were immune.

In the Wabanaki spirit world where power was often invisible, unexplained deaths and the ineffectiveness of traditional medicine-people was traumatic.²⁶² In a very short period of

time, missionaries capitalised on that trauma by conditioning vulnerable Wabanaki psyches

to accept aspects of Christian doctrine and acknowledge 'heathen' behaviour. Initially,

trauma forced perceptual changes on a spiritual level, but early transformations worked

mass tourism of the 20th century. See his 'Tours in the Scottish Highlands from the eighteenth to the twentieth centuries,' *Northern Scotland*, 5:2 (1983), pp. 99-122.

²⁶¹ Le Clercq, p. 217.

²⁶² Whitehead explains that, for the Mi'kmaq, myths were often concerned with elements and patterns of power, and how the combination of them formed the contents of the universe. In Mi'kmaq spiritual beliefs,

within a fluid ideological model. Because the Wabanaki perceived the power around them as continually changing, just as creation, reality, and daily life transformed regularly, neither the physical or the spiritual world was considered rigidly confined to form.²⁶³ This ideology allowed the Wabanaki to resiliently adapt to new opportunities, threats, or pressures.

Applying quantum physics to their daily lives rather than the linear Newtonian philosophy of the time, their existing lifeworld view allowed for the appearance of new vessels of power, like the 'Black Robes' and Christian idols, which assumed prominence among them.

However, the Wabanaki did not abandon their traditional beliefs. As late as 1677, Chrestien Le Clercq admitted that Mi'kmaq in the Gaspé Peninsula still did not wear the cross around their neck, 'but the figure of a salmon, which since old times they hung from the neck as the mark of honour of their country.'²⁶⁴

Cultural confusion during affliction resulted in adaptation. New coping skills meant assigning power to new vessels, whether they were persons or non-sentient beings. The spiritual combined harmoniously with the pragmatic, materialistic, and economic aspects of daily life. For example, the copper kettle became a staple cooking vessel in every camp, but it also became a burial vessel that protected the dead by carrying their bones safely to the spirit world.²⁶⁵ The Wabanaki incorporated crucifixes and rosaries into existing rituals and

power 'could be conscious, manifesting within the worlds by acts of will. They thought of such entities as Persons, with whom one could have a relationship.' Ibid., p. 3.

²⁶³ Ibid., p. 2. Also, see George R. Hamell, 'Strawberries, Floating Islands, and Rabbit Captains: Mythical Realities and European Contact in the Northeast during the Sixteenth and Seventeenth Centuries,' *Journal of Canadian Studies*, 21:4, pp. 72-94. Hamell points out several examples where 'given their spacial and temporal spans, these traditions preserve several phases in the process of the systematic reinterpretation and restructuring of this mythical reality, a process that rationalized the experiential reality of contact...' Ibid, p. 87.

²⁶⁴ Le Clercq, p. 192.

²⁶⁵ There are extensive studies on the spiritual value placed upon the copper kettle. See Laurier Turgeon, 'The Tale of the Kettle: Odyssey of an Intercultural Object', *Ethnohistory*, 44:1 (Winter, 1997), pp. 1-29. Also, Calvin Martin, 'The Four Lives of a Micmac Copper Pot,' *Ethnohistory*, 22:2 (Spring, 1975), pp. 111-133. Burley notes that the desire for kettles prompted frequent visits to the coast for trade and that it not only met practical

began participating in baptisms.²⁶⁶ Glooskap became a 'saviour' who would one day be resurrected to return and save his people.²⁶⁷ As altered perceptions empowered the Wabanaki to seek out new agents of power, they became vocal about new conditions that formed around them:

They sometimes think that the French poison them [and] complain that the merchandise is often counterfeited and adulterated, and that peas, beans, prunes, bread, and other things that are spoiled are sold to them; and that it is that which corrupts the body and gives rise to the dysentery and other diseases which always attack them in Autumn. This theory likewise is not offered without citing instances, for which they have often been upon the point of breaking with us, and making war upon us.²⁶⁸

The Wabanaki observed oral stories that warned of imbalance. Many included 'situation comedy' characters that could cause chaos or trick others into upsetting harmony, but the efforts of 'tricksters' were often thwarted as their victims became aware of natural signals and adhered to spiritual guidance. Peaceful cooperation and holistic awareness was essential to maintaining relationships with the living world, while rituals, ceremonies and adhering to taboos were essential to maintaining harmony with the spiritual world. Even Le Clercq acknowledged that 'they live in great harmony...like the first kings of the earth.'²⁶⁹

needs before it was imbued with spiritual significance, but that it may have enhanced social prestige, *Ibid.*, p. 211.

²⁶⁶ *Ibid.*, 18:87, 20:49; Sieur de Diereville, *Relation of the Voyages to Port Royal in Acadia or New France, 1708* (Toronto, 1933), pp. 150-151. Also, Hamell notes how items of particular colours became significant due to pre-existing values placed on aesthetics. See 'Strawberries, Floating Islands, and Rabbit Captains: Mythical Realities and European Contact in the Northeast during the Sixteenth and Seventeenth Centuries,' *Ibid.*

²⁶⁷ Leland (ed.), pp. 75-79. Also, Anne-Christine Hornborg, *Mi'kmaq Landscapes: From Animism to Sacred Ecology* (Aldershot, 2008). Using somewhat of a phenomenological approach, Hornborg traces the role of Kluscap in oral stories from colonisation through to the twentieth century. She focuses on his changing, and yet growing role, in interpreting natural and spiritual perceptions. Hornborg has determined that Mi'kmaq ideology evolved to utilise Kluscap for the illustration of morals and values considerably more often as time passed.

²⁶⁸ Baird, *Jesuit Relations* 3:105-107.

²⁶⁹ Le Clercq, *Nouvelle Relation*, *Ibid.*, p. 87-89.

Arguably, imported religion did not have the same level of traumatic perceptual impact on the Hebrideans. They were introduced to Christianity as early as the sixth century, so their adaptation and accommodation took place over the course of many centuries before imperial pressure complicated their existing beliefs. Martin often commented about the Hebrideans' 'superstitious' practices. In addition to the great detail he recorded about 'second sight', he noted that 'there were spirits also that appeared in the shape of women, horses, swine, cats, and some like fiery balls, which would follow men in the fields.'²⁷⁰ Like the Wabanaki, the Hebrideans had previously imbued their physical surroundings with spirits, but Hebridean beliefs in them were fading. Martin emphasised that their attitudes and values had not been prevalent 'for forty years past.'²⁷¹

Even so, as late as the late eighteenth century, non-Christian rituals and imagery still reflected the hybrid nature of Hebridean beliefs:

The day of light has come upon us,
Christ is born of the virgin.
In His name I sprinkle the water
Upon every thing within my court.
Thou King of deeds and powers above,
Thy fishing blessing pour down on us.
I will sit me down with an oar in my grasp,
I will row me seven hundred and seven [strokes].²⁷²

Disease was another trauma that was disproportionately felt. Epidemics did affect the Hebrideans eventually, but they came late to the region. Martin recorded many local cures for common ailments, but did not indicate the Hebrideans suffered from epidemics or

²⁷⁰ Martin, p. 199. He dedicates an entire chapter in his journal to 'Second Sight', pp. 180-199.

²⁷¹ Ibid.

²⁷² Alexander Carmichael, *Carmina Gadelica: Hymns and Incantations* (Edinburgh, 1900), p. 323. Carmichael traces the 'seven hundred and seven' strokes back to pre-Christian Fomorian tradition in Ireland.

foreign illnesses. While Walker found the Hebrideans to be healthier than Lowland Scots due to imported grains as well as ‘the introduction of garden stuffs, and especially of potatoes,’ he also emphasized that this improvement was only ‘within thirty years past.’²⁷³ He found epidemics of fever, smallpox, and whooping cough in Barra, Tiree, and Rum, with the worst outbreaks in St. Kilda.²⁷⁴ If imports improved health, ailments may have been primarily due to the adverse effects of the ‘Little Ice Age’ as climate change eliminated winter fodder, hindered the growth of wild vegetation, and caused crop failures. The Hebrideans inherited immunities that the Wabanaki had not.

To identify all of the ways in which the Wabanaki and the Hebrideans differed culturally is beyond the scope of this thesis, but there are two distinct perceptual differences that contributed significantly to the contrary outcomes of their divergent post-imperial experience. The first lies at the ideological heart of the human-nature relationship: territorial ownership. The second defines how decisions were made and how individuals were valued within the group: socio-political hierarchy and stratification.

Both the Wabanaki and the Hebrideans originally defined boundaries according to oral histories and sacred origins, but the concept of territorial ownership was foreign to many Amerindians. For the Wabanaki, *Ketakamigwa* was divided amongst them by Koluskap.²⁷⁵

In the beginning there was just the sea and the forest - no people and no animals. Then Koluskap came. He possessed great magic. Out of the rocks, he made the Mihkomuwehsisok, small people who dwelt among the rocks and made wonderful music on the flute. Next Koluskap made the people. With his bow he shot arrows into the trunks of Ash trees. Out of the trees stepped men

²⁷³ John Walker, ‘Essays on Natural History and Rural Economy’ (1812) p. 103.

²⁷⁴ Margaret M. McKay (ed.), *The Rev. Dr. John Walker’s Report on the Hebrides of 1764 and 1771* (Edinburgh, 1980), pp. 29 and 234.

²⁷⁵ This is the Maliseet and Passamaquoddy version of the spelling.

and women. They were strong and graceful people with light brown skin and shining black hair. Koluskap called them Wabanaki, people of the dawn.²⁷⁶

The 'People of the Dawn' were connected to a specific ancestral place of origin according to traditional knowledge. That knowledge dictated borders, but because territory was tied to ancestral origin rather than ownership, the concept of crossing those borders to take a territory away from other Amerindians, or to leave one's own ancestral place permanently, was not common.²⁷⁷ Lescarbot observed that

...Our savages do not found their wars upon the possession of the land. We do not see that they encroach one upon another in that respect. They have land enough to live on and to walk abroad. Their ambition is limited by their bounds. They make war as did Alexander the Great, that they may say 'I have beaten you'; or else for revenge, in remembrance of some injury received, which is the greatest vice I find in them, because they never forget injuries...²⁷⁸

Le Clercq confirmed this view:

Neither profit nor the desire to extend the boundaries of their province ever has influence in the councils of war; and they never attack their enemies with the intention of seizing their country or of subjugating them to the laws and the customs of Gaspesia. They are entirely content, provided they are in a position to say 'we have conquered' such and such nations...²⁷⁹

²⁷⁶ This is an adaptation of an oral story in Charles G. Leland, *The Algonquin Legends of New England (1889)* (Charleston, 2007). This and others have been collected by Kay Hill, *Legends of the Wabanaki Indians: Glooscap and His Magic* (1963) and are on display in the Abbe Museum, Bar Harbour, Maine. Their definition of the Wabanaki today is Mi'kmaq, Maliseet, Penobscot, and Passamaquoddy. The Confederacy discussed below, however, includes the Abenaki.

²⁷⁷ In Chapter 1, I noted that the Ojibwa and Passamaquoddy once lived together on the St. Croix River and that their split was recorded in oral stories; this was confirmed by archaeological and linguistic evidence during the twentieth century. See *N'tolonapemk: Our Relatives Place*, The Passamaquoddy People and the St. Croix River Watershed, produced by Acadia Film, Tribal Historic Preservation Office (2006).

²⁷⁸ Lescarbot (1914), pp. 263-264. These 'injuries' are a perfect example of why early settlement patterns changed following the kidnappings of the sixteenth century. This principle is also at the heart of loyalties between Wabanaki and French vs. English.

²⁷⁹ Le Clercq, pp. 135-139.

The Wabanaki experience with imperialism was an accelerated process, the new values based on private ownership completely new to them, while the Hebrideans had practiced an early form of private ownership since the late Bronze Age.

The socio-political hierarchy that existed among the Wabanaki also contrasted greatly with that of the Hebrideans. Wabanaki chiefs did not gain wealth through their position, and though they often had numerous followers, they had little control over them.²⁸⁰ For example, when the Mi'kmaq witnessed the fear exhibited by Europeans over their leaders, they found it humorous.²⁸¹ Wabanaki chiefs earned respect for their wisdom more than their direct authority.²⁸² Their power was limited because freedom of thought and action among all people was highly prized. Chiefs acquired great material wealth from gifts, not from plunder, and never at the expense of others in the band. Therefore, to go without so that others might have was preferred to coveting.²⁸³ Wabanaki chiefs were expected to represent consensus and enforce the will of the group, not to make decisions on their own. Should one of them not do this tactfully to meet the needs of the group, he could lose the power of the position.²⁸⁴

Egalitarianism may have existed at the tenant level in Hebridean society, but there was great acknowledgement of tacksmen and landlords whose authority dictated daily practices. In contrast, the Wabanaki gained honour for cooperation and self-sacrifice by demonstrating respect and avoiding conflict. This cultural trait was designed to meet the needs of the individual by considering group harmony and maintaining communal involvement in social

²⁸⁰ Le Clercq, pp. 379-381.

²⁸¹ *Jesuit Relations*, 6:243.

²⁸² An exception to this would be in times of warfare.

²⁸³ For a list of traits, see Olive Patricia Dickason, *The Myth of the Savage and the Beginnings of French Colonialism in the Americas* (Edmonton, 1984), pp. xi.

activities, while bestowing great honour on those who best accumulated cultural understanding and passed it on to others.²⁸⁵ Authority was utilised, therefore, to keep the peace and pass on knowledge rather than to exert force. Maurice Godelier argues that historically, force was preferable only once inequalities and stratification among the population was established.²⁸⁶ The Wabanaki avoided social stratification and valued group consensus, a characteristic Europeans perceived as a demonstration of anarchy, an inability to follow laws or recognise divine hierarchy.²⁸⁷ The evidence supports that the lack of absolute power scared explorers, missionaries, and settlers who were used to a strict chain of command.²⁸⁸

For the Wabanaki, maintaining traditional perceptions like communal sharing of resources, group harmony over the needs of the individual, and holistic spiritual beliefs that defined humans as only one of many beings within the ecosystem, all served to create cultural cohesion. The Wabanaki experience during the fur trade demonstrated how disregard for such beliefs had the power to fracture social relations and disintegrate

²⁸⁴ *Jesuit Relations*, 5:195 and 6:243.

²⁸⁵ This tradition is still intact today. See *Union of British Columbia Indian Chiefs*, conference held in Vancouver 23-26 February 2000, 'Protecting Knowledge: Traditional Resource Rights in the New Millennium.'

²⁸⁶ Maurice Godelier, 'Infrastructures, societies and history,' *Current Anthropology*, 19:4 (1978), pp. 763-771. It is important to note that the more absolute chiefdoms of Cahokia, the Natchez, Powaton, and Aztec, were agricultural societies with comparably large populations that varied greatly in the level of authority demonstrated by their governments. At the point of contact, Cahokia was larger than London, and expanded over 13 km of the Mississippi River basin. See, Thomas E. Emerson and R. Barry Lewis (eds.), *Cahokia and the Hinterlands* (Rubana, 1990). Also, Melvin Fowler, *The Cahokia Atlas* (Springfield, 1989). Non-agricultural societies also had chiefdoms, like the people of the Northwest coast (i.e. Tsimshian, Nu'uchah'nulth, Kwakwaka'wakw, and Hiada), who also had strict lineages for inheritance, a stratified society that included slaves, and penalties for the incurring of debt.

²⁸⁷ Both Le Clercq and Baird recorded frustrations and confusion as to why they insisted on consensus. See Le Clercq, *Nouvelle Relation*, pp. 379-381 and *Jesuit Relations* 3:91. This was a common frustration among non-Amerindian observers. See George Henry Loskiel in C.I. LaTrobe (trans.), *History of the Missions of the United Brethren Among the Indians in North America* (London, 1794), pp. 132; Also, Nicolas Perrot, *Memoire sur les moeurs, coutumes et religion des sauvages de l'Amerique Septentrionale* (Leipzig and Paris, 1864), p. 78.

culturally inherent conservation measures in the process.²⁸⁹ New opportunities for sophisticated technologies tested their traditional attitudes, behaviours, and value systems. After generations of reactionary overdrive and trauma, the Wabanaki made a concerted effort to rejuvenate traditional values, prevent splintering among the collective, and allow for healing following defeat. It also strengthened group identity and led to formalising the Wabanaki Confederacy, which salvaged their ability to maintain a presence on ancestral lands. That bond of nations that originally served to create a unified force against Amerindian enemies during the fur trade as much as European incursion during the late seventeenth and early eighteenth centuries, had by 1725-27 established legal treaties with the English to protect their sovereignty and right to ancestral lands.²⁹⁰ Compared to the Hebrideans, the Wabanaki had experienced a relatively short exposure to the practices and perceptions that were overwhelming their traditions. The Wabanaki Confederacy re-established stability through a collective effort to honour the cultural practices and perceptions the pre-dated the inter-tribal conflicts over resources during the fur trade. Revisiting their past wrongs, they determined a way to regain control over their future:

Long ago, the Indians were always fighting against each other. They struck one another bloodily. There were many men, women, and children who alike were tormented by these constant battles...It seemed as if all were tired of how they had

²⁸⁸ There was also a strange metamorphosis that took place with regard to gender roles because of the way Europeans perceived women's roles and therefore treated women upon their arrival in the region. This ran counter, in many cases, to the way women were normally treated by native men.

²⁸⁹ John C. McManus argues that a 'Good Samaritan' policy of constraint was enforced to keep 'income equality among members of the band,' and that they maintained 'low rates of individual accumulation of goods' especially if others were in need. See 'An Economic Analysis of Indian Behavior in the North American Fur Trade,' *The Journal of Economic History*, 32:1 (March, 1972), pp. 36-54; quotes from pp. 50-51.

²⁹⁰ For a description of the formulation and treaty record of the Wabanaki Confederacy, see Harold E. L. Prins, 'Storm Clouds Over Wabanakiak: Confederacy Diplomacy until Drummer's Treaty (1727), invited article written for *The Atlantic Policy Congress of First Nations Chiefs Amherst, Nova Scotia* (March, 1999). This is a non-published paper held by the Passamaquoddy Tribe at Pleasant Point. Prins interpreted wampum records as well as historical documents to create this synthesis.

lived wrongly. The great chiefs said to the others, 'Looking back from here the way we have come, we see that we have left bloody bloody tracks. We see many wrongs. And as for these bloody hatchets, and bows, arrows, they must be buried forever. They all set about deciding to join with one another in a confederacy.'²⁹¹

Not only did they display a disgust at what had happened to Wabanaki lifeways, but affirmed their shared desire to leave it behind them. Upon reflection, the unified Wabanaki turned to tradition to maintain peace and security.

The long process through which the Hebrideans were coalesced into the wider political realm meant there was less of a shock factor involved, negating the opportunity to reflect and regroup collectively. There was no recoiling and choosing to revisit traditional values. Struggling over a limited resource base had been part of the fabric of identity for many centuries. Like the Wabanaki, the Hebridean clans of the Scottish Insular *Gàidhealtachd* had invoked ancestral rights to their territories, but even during the Lordship of the Isles, land holding was highly contested. When political pressure on Hebridean chiefs to fold under royal authority was initiated in the sixteenth century, it resulted in the rise of Clan Campbell, the decline of Clan Donald, fissures between Irish and Scottish Gaels, and internal clan competition for limited resources.

By the seventeenth century, James VI's attempts to settle and 'civilise' forced further perceptual changes. Although both the Wabanaki and the Hebrideans were originally kin-based societies, the latter inherited a feudal tradition that socially stratified their society between chiefs, wadsetters, tacksmen, warriors, subtenants, and labourers. The Gaelic concept of *duthchas* did obligate common Hebrideans to specific territories that were

²⁹¹ Ibid. This is according to the Wapapi Akonutomakonol, or wampum records, of the Passamaquoddy. See Francis, David A. And Leavitt, Robert M. *A Passamaquoddy-Maliseet Ditionary: Peskotomuhkati Wolastoqewi Latuwewakon*, The University of Maine Press (Orono, 2008).

cultivated or grazed communally, but the eventual demand for cash rents commercialised those territories and eliminated many obligations that tied them together.²⁹² Some chiefs acquiesced more than others when subjected to the demands of capitalism. Propaganda exaggerated the differences, albeit both authentic and contrived, between the 'savage' Highlander and the 'civilised' Lowlander. Many chiefs conformed to the lifeways and worldviews of the latter and flaunted their social standing among common Hebrideans by pushing 'improvement' and exploiting both labour and resources for personal gain.

Symonds highlights examples of this in his analysis of behaviour in South Uist where clan elite took advantage of common Hebrideans who held fast to the traditional beliefs of a kin-based society.²⁹³ Chiefs and their extended families came to restrict access to resources, tightly manage their labour force, and demand tribute to solidify power over the common Hebrideans. In 1698, Sir Aeneas MacPherson complained that traditional rights to fishing, wood, and 'armes for ffoulling, fishing, and hunting' were being obstructed, and that chiefs were increasingly treating their tenants 'as if (with the frogs in the fable) they were good for nothing but to be Destroyed.'²⁹⁴ Combined with the tantalising opportunities for wealth and power outside of a deteriorating Scottish Insular *Gàidhealtachd*, many chiefs simply attached their loyalties elsewhere and left behind those who adhered to traditional customs

²⁹² See Michael Newton, *A Handbook of the Scottish Gaelic World* (Dublin, 2000), p. 209. Also, Charles W.J. Withers, *Gaelic Scotland: The Transformation of a Culture Region* (London, 1988), p. 77.

²⁹³ In this particular case, James Symonds gives evidence that the inhabitants of South Uist acknowledged their feudal obligations for the sake of maintaining traditional lifeways, but they also exhibited passive resistant behaviour as an oppressed collective. See 'Toiling in the Vale of Tears: Everyday Life and Resistance in South Uist, Outer Hebrides, 1760-1860,' *International Journal of Historical Archaeology*, 3:2 (1999), pp. 101-122.

²⁹⁴ See 'Tribuum gemitus, or the Highland clanns sad & just Complaint, 1698,' *Edinburgh University Library Special Collections*, La. III.319, ff.15-16, 19, 22, 25, and 29. The author of this complaint was so frustrated that he requested that the crown 'annull all vassalages' and make tenants responsible not to their chiefs, but to the crown directly. I believe 'with the frogs in the fable' is a reference to Aesop's fable about the frogs who tried to impress the King but, instead, were eaten by a stork.

and beliefs. Still struggling to maintain their way of life through the eighteenth century, most were dispossessed by the nineteenth century.

The experience of imperial conquest in both regions should be considered within the context of two very different environments and ideologies. For both the Wabanaki and the Hebrideans, there was an element of environmental determinism at play. They both endured imperial conquest at a time when climate change put additional pressure on existing practices and perceptions. However, there was great contrast in the demography and topography of their environments. By the eighteenth century, the small bands of Wabanaki could still inhabit vast tracks of territory not yet settled or exploited by Europeans. Meanwhile, the growing population of Hebrideans could not. Responding to climate change under imperial conditions meant the majority of them had to leave the Scottish Insular *Gàidhealtachd* entirely.

The lesson in cultural determinism is more complicated. Amerindians who encountered Europeans for the first time had very little context for the sequence of events that transpired. By contrast, after centuries of cultural diffusion, political policy, and economic pressure, many elite Hebrideans came to share attitudes and values with their invaders. By the late eighteenth century, when Samuel Johnson commented on regional change, he was disappointed that the old ways were not more obvious. He said,

We came thither too late to see what we expected, a people of peculiar appearance, and a system of antiquated life. The clans retain little now of their original character, their ferocity of temper is softened, their military ardour is extinguished, their dignity of independence is depressed, their contempt of government subdued, and their reverence for their chiefs abated. Of what they had before the late conquest of their country, there remain only their language

and their poverty...they are now acquainted with money, and the possibility of gain will by degrees make them industrious.²⁹⁵

Despite a mutual imperial experience, the fate of the Wabanaki and that of the Hebrideans radically deviated by the eighteenth century. While the Wabanaki regained their solidarity and rejuvenated traditional values, many Hebrideans eventually assimilated into the British Empire, some held prominent positions within it, while the majority were driven out of the Scottish Insular *Gàidhealtachd* entirely.²⁹⁶

At the beginning of the imperial process, cultural differences were used divisively to highlight the Wabanaki and Hebrideans as savage 'cultural others'. By the eighteenth century, issues of race dominated Enlightenment thought. However, these oppressive policies did not affect them equally. Hebridean society was fractured, but those Hebrideans who chose to conform to the new practices and perceptions seeping into the region, 'improved,' and 'civilised' themselves. They also found opportunities both within and outside the empire. The Wabanaki salvaged their cultural cohesiveness, economic stability, and political independence, but their united front did not prevent them from being excluded from opportunities within *Ketakamigwa*. They were considered outsiders in their own land and came to assume 'special status' under colonial law. Although they protected their political sovereignty and salvaged their cultural identity, the Wabanaki were not prepared to be excluded from relations with new sovereign nations.

²⁹⁵ Ronald Black (ed.), *To the Hebrides: Samuel Johnson's Journey to the Western Islands of Scotland and James Boswell's Journal of a Tour to the Hebrides* (Edinburgh, 2007) p. 124.

²⁹⁶ See Michael Fry, *The Scottish Empire* (Edinburgh, 2001). Also, David Armitage, 'Making the Empire British: Scotland in the Atlantic World 1542-1707,' *Past and Present*, 155 (May, 1997), pp. 49-50; and Lord George Islay MacNeill Robertson, 'Major General Alexander McDougall: An Islayman at the heart of the American War of Independence,' *History Scotland*, 11:2 (March/April, 2011), pp. 24-27.

Conclusion

Both of these North Atlantic peoples and their water-world environments experienced oppressive political, economic, and environmental pressures between the sixteenth and eighteenth centuries and they responded with an array of responses. In the process, not only were practices altered but perceptions changed. The degree to which the Wabanaki and Hebrideans adapted to or resisted change, their ability to maintain group identity in the face of divisive policies, and the condition of their relative environments when confronted with exploitative measures, all combined to produce two very different outcomes. It is true that conquest in both locations was manipulative, oppressive, and resulted in some form of dissemination, and that the individual tactics formulating those processes were similar in their nature. However, the psychological impact of the initial conquest was arguably different. While the people on the eastern edge of the North Atlantic had sustained centuries of worldview diffusion that conditioned their collective psyche and moulded their responses to change, the people in the west were inundated with a surge of complications to their existing lifeworld perceptions in a mere fraction of the time. The Wabanaki process of discovering the 'self' when subjected to 'otherness' during a more rapid conquest contributed to their re-establishing a collective identity. That was also the case with some of the Hebrideans who had remained isolated from outside influences during much of the period. However, Hebridean society became splintered between an entitled elite who gravitated toward imperial ambitions, families who stayed to manage crofts in a haunted landscape, and the dispossessed commoners whose loyalty to traditional lifeways sabotaged their ability to maintain them in their ancestral lands. Like the Wabanaki who were

increasingly relegated to the interior of their own ancestral lands, the dispossessed Hebrideans who left the Scottish Insular *Gàidhealtachd* emigrated in groups of extended kin, cultivated their traditional lifeways, and maintained them where they settled to begin anew.

This inquiry into the environmental history of the Wabanaki and Hebrideans did not commence on the eve of the sixteenth century in order to trace the factors that led to the revolutionary tipping point in their cultural development. It was essential to swing the pendulum of time back to deglaciation. In doing so, this thesis demonstrated the evolutionary process by which human response to climate change over time contributed to early modern circumstances. Both water-worlds underwent a substantial transformation, and the regional inhabitants resiliently navigated their way through many of those changes. The early stages of this thesis exemplified the fluidity of lifeways intimately connected to dynamic natural systems in a water-world. For over five millennia, both regional inhabitants ebbed and flowed with those cycles, procuring their food, clothing and shelter. Unlike the other species with which they shared their environment, however, they continually manipulated conditions determined by climate with their own constructs. It is that trait which sets humans apart from other animals, the innate desire to create culture, to find meaning in relationships with others, and to express beliefs by physically manifesting them in the surrounding landscape. The inhabitants of the Scottish Insular *Gàidhealtachd* did this by investing their time, energy, and limited resources in monuments. There is no way to determine why or how their beliefs developed to the point of placing so much value on large stone structures, but in doing so, they set a precedent for future generations. Although the inhabitants of *Ketakamigwa* did not practice their beliefs in the same way, the designs they made on stone and bone, and the way in which they buried their dead, also reflect deep

spirituality. Like those who lived across the sea, the people of *Ketakamigwa* set a precedent for future inhabitants of their water-world.

By approaching North Atlantic environmental history in a comparative case study like this, it highlights the reality that the abundance or scarcity of resources does not necessarily dictate how humans choose to manage them. If that were the case, the 'Archaic' people of *Ketakamigwa* would have built monuments from the vast woodland that was developing around them, while the Neolithic people of the Scottish Insular *Gàidhealtachd* would have attempted to preserve their limited resources. Because the water-world of *Ketakamigwa* during the climate optimum provided an increasingly mixed economy that included marine, riverine, and terrestrial habitat, it was the inhabitants' mobility that enhanced their cultural development. Permanent structures would have been contrary to their lifeways. Their sacred places became the natural monuments along the water-ways they frequented during their seasonal rotations. In the Scottish Insular *Gàidhealtachd*, the advent of agriculture that came with the climate optimum required sedentism. Permanent occupation, supplemented by a mixed-economy, then supported spiritual beliefs that required long-term localised physical labour. Environmental conditions may not have determined their beliefs, but the practices they developed in response to those conditions determined where and for how long they spent there time.

This study has shown that the traditional practices passed from one generation to the next did not drastically change without external forces. Yet, when archaeologists identify physical evidence of a cultural shift, they often attribute it to anthropogenic factors like immigration. They infer that a more dominant people must have replaced one that was defenceless or at least incapable of preserving their own culture. So often the

archaeologist's inference defaults to cultural diffusion. However, this thesis has demonstrated that the most powerful external factor affecting cultural development in either of these regions prior to the sixteenth century was climate change.

When the climate optimum waned, practices were modified. In both regions, inhabitants attempted to hold on to their traditions, but their subsistence and settlement patterns were determined by their changing environment. In the Scottish Insular *Gàidhealtachd*, the inhabitants had to retreat from expanding peat and compete for limited arable. Perceiving a threat to their survival, they chose to import more domestic animals to supplement their mixed-economy. This level of environmental stress would have affected their cultural development, regardless of diffusion. Although the population-to-resource ratio in *Ketakamigwa* may not have been what threatened the survival of its inhabitants, the interdisciplinary evidence provided in this thesis indicates severe weather affected the entire continent, causing an upsurge in climate refugees and eliminating large riverine settlements. Although there is a lacunae in the regional scholarship on this topic, it is likely that the inhabitants of *Ketakamigwa* were demographically devastated by high levels of precipitation and the severity of their regional weather. Under extreme pressure, altering existing practices may not have been enough to ensure survival.

Due to the temporal scope of this thesis, attention was paid to the long-term fluctuations in climate. However, there were short term fluctuations as well, and it would have only taken one or two generations of adjustments to practices to alter the path of cultural development. What is clear is that as long-term climate deterioration stabilised, both regions experienced some levels of continuity in their practices and perceptions. In *Ketakamigwa*, there is cultural continuity in the archaeology, settlement patterns and

subsistence behaviours following the tipping point in climate deterioration. Furthermore, linguistic studies indicate that the Algonquian language diversification process corresponded to climate deterioration. If the climate optimum supported cultural cohesion among a geographically large demographic, climate deterioration may have created the barriers to communication that allowed for languages to evolve separately. These circumstances would have bound the Wabanaki together in *Ketakamigwa*. In the Scottish Insular *Gàidhealtachd*, barriers born out of climate deterioration were reflected in the built environment. The strain on resources that stimulated competition stratified the island populations between the large families who inhabited the massive roundhouse structures and the small collections of communal huts that were sprinkled along the coastal machair. Resource limitations on land meant the inhabitants also turned to the sea just enough to compensate for the loss of arable.

One of the cautionary lessons that emerges from this thesis is that the attitudes, values, and behaviours developed under pressure often determine how humans respond when natural conditions change. On the eve of the 'Medieval Warm Period', the inhabitants of *Ketakamigwa* had developed a wide trade network, established large settlements for cultural and social exchange, and were exploiting an abundant resource base. There was no evidence of conflict and the population was growing like no other time since the earlier climate optimum. However, in the Scottish Insular *Gàidhealtachd*, despite better conditions, the growing population was stratified, and with no central power base or cohesion, they were vulnerable to the external force that came from Scandinavia. These immigrants took great advantage of the warm conditions. Economically, the water-world produced more than ever before and the bounty went to opportunists who came from outside.

The technological developments during and following Scandinavian domination in the Insular *Gàidhealtachd* had a permanent effect. Advanced watercraft, fishing techniques, and extended trade networks transformed the region so that when new political players challenged Scandinavian suzerainty, they were well equipped. Meanwhile, the inhabitants of *Ketakamigwa* advanced their trade networks to ensure the importation of cultivated maize from below the ecological barrier. While their counterparts in the eastern North Atlantic were engaged in water-warfare, the physical evidence indicates peaceful relations were maintained in the west. Even when the Hebrideans became the great 'sea-kings' of their water-world, a culture of competition, warfare, and socio-economic stratification had been partially determined by the limits of their environment during much earlier periods in their history.

The regional stability created by the *Lords of the Isles* provided a cultural cohesiveness previously thwarted by climate and invaders. However, in *Ketakamigwa*, relative cultural continuity had extended for two millennia prior to the sixteenth century. This was partially attributed to the way the Wabanaki perceived their relationship with their water-world. For them, like the many nations that inhabited 'Turtle Island,' they were physically, spiritually, and economically connected to their specific place, so the external threat to which they were required to respond was not other Amerindian nations, but nature. For that reason, when they discovered the Europeans in their waters, they did not anticipate a contest. But they had also established a group identity strong enough to withstand much of the ridicule that came with outsider perceptions.

The elite Hebrideans were born and bred for contest. The limitations and periodic unpredictability of their environment had honed their competitive skills. During the period

of the *Lords of the Isles*, they demonstrated control over their water-world, and when they became internally fractured, the elite continued to build large stone structures to highlight their status and watch over their resources. When the climate turned for the worse during the 'Little Ice Age,' environmental pressure in the Scottish Insular *Gàidhealtachd* was simply more than the growing population could handle. When the elite bought into the model of market exchange that came with imperialism, they may have enhanced their material life, but it came at the detriment of their extended kin. Regardless, once the land began to give out, the elite manoeuvred their way into the realm of external forces. The Hebrideans who still nurtured a deep relationship with their water-world maintained their cultural cohesiveness and took their traditions away with them.

The model of market exchange that came with imperialism also had a devastating effect on the Wabanaki because it tapped into the competitiveness and self-interest inherent in all human nature. Already suffering the consequences of the 'Little Ice Age' and partially paralyzed by disease, they reached a turning point when faced with the possibility of social stratification. When members of the Wabanaki Confederacy recoiled and then congregated to reflect and re-establish traditional values to ensure the sustainability of the collective, it was the chiefs who spoke on behalf of the people. There were few Hebridean chiefs who took the same stand for theirs.

Henry Glassie once said,

If tradition is a people's creation out of their own past, its character is not stasis but continuity; its opposite is not change but oppression, the intrusion of a power that thwarts the course of development. Oppressed people are made to do what others will them to do...*Acting traditionally, by contrast, they use their own resources – their own tradition, one might say – to create their own future, to do what they will themselves to do.*¹

There has been a tendency for scholars to view native people as static, only catapulted out of a frozen and mundane existence by the mechanisms of 'progress'. This thesis has demonstrated that above all else, the inhabitants of these two North Atlantic regions were not static. The Wabanaki and the Hebrideans who joined them in *Ketakamigwa* may have clung to tradition, but that is what provided their cultural continuity. When they were faced with anthropogenic and natural forces, they reached into their toolkits for that which gave their lives meaning and turned to the values that ensured the survival of their extended kin. When they did that as a collective, it determined their ability to salvage their way of life.

¹ Henry Glassie, 'Tradition,' *Journal of American Folklore*, 108 (Fall, 1995), p. 396. Emphasis is my own.

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