

INTRODUCTION

The Stubborn Particulars of Voice

Glaciers and their intangible connections to recent human history provide this book's unifying theme. I draw on climate histories, colonial records, Aboriginal oral traditions from the Yukon and Alaska,¹ and a personal fascination with the imaginative force that glaciers exert on regional histories in northwestern North America. The icefields in question flow from the craggy mountain spine where Canada and the United States meet at their least-known boundary, the Saint Elias Mountain divide. Far below that serrated crest, Tlingit peoples on the Gulf of Alaska coast and inland speakers of Athapaskan languages came to know this glacial landscape during successive generations. Their experiences reinforced a vision that humans and nature mutually make and maintain the habitable world, a view now echoed by environmental historians.

Glaciers appear as actors in this book. In accounts we will hear from Athapaskan and Tlingit oral tradition, glaciers take action and respond to their surroundings. They are sensitive to smells and they listen. They make moral judgments and they punish infractions. Some elders who know them well describe them as both animate (endowed with life) and as animating (giving life to) landscapes they inhabit. Glaciers also enter accounts left by early North Atlantic visitors who wrote in a different idiom and brought distinctive environmental visions to their interpretations.

English is a language rich in nouns but lacking verb forms that distinguish animate from inanimate subjects. Both Athapaskan and Tlingit languages have comparatively fewer nouns but are verb-rich and hence often define landscape in terms of its actions. The Tlingit noun for glacier is *sit*²; in Southern Tutchone, an inland Athapaskan language spoken on the Canadian side of the mountains, the words are *tän shäw* (*tän* "ice" + *shäw* "big") or *tän shi* (beneath the front of glacier). Both languages emphasize activity and motion, making no distinction between animate

and inanimate. In Athapaskan languages, you know something is animate if the verb signals that it has the power to act on other things or to move, and actions are often attributed to entities, such as glaciers, that English speakers would define as inanimate. Linguistic anthropologists discuss this “enlivening” influence of the Tlingit verbs and how this results in “action-oriented naming.”² In Athapaskan languages, an elaborate system of verb stems means that different stems are used for singular, dual, and plural verb forms. Furthermore, directional clues situate characters and their actions so that if a speaker is orienting herself to a glacier, for instance, one verb stem will be used to indicate travelling upstream, another for going downstream, another for crossing away from a point of reference, another for crossing toward a point of reference, and so on.³ Clearly, the varied ways of speaking about glaciers are sometimes difficult to capture in English.

“A country that listens,” as anthropologist Elizabeth Povinelli has shown, was not unfamiliar in Europe before conditions underpinning the Industrial Revolution began to spill over into everyday lives, language, and beliefs. It is not surprising, she observes, that we now find it difficult to believe that rocks, mountains, and other landscape features like glaciers might listen, when the very conditions of the Western material and cultural world are underpinned by language that rejects that possibility.⁴ The question, *Do Glaciers Listen?* is less straightforward than it may at first seem.

An enduring theme of oral traditions told in northwestern North America is the inclusion of nature in human affairs. One of my objectives in the following chapters is to provide an account of how interpretations of natural, social, and cultural worlds became gradually disaggregated in a place where they were formerly viewed as unified, and to examine consequences of that fragmentation. Many disciplines are re-evaluating reciprocal relationships between humankind and the natural world, and some now identify nature as a category of social analysis as important as (and entangled with) class, race, and gender.⁵ My aim in this book, then, is twofold. First, I argue that local knowledge is never crudely encapsulated in closed traditions, but is produced during human encounters, rather than “discovered.” It is dynamic and complex, and it often links biophysical and social processes. Second, I trace how long-contested views of nature weave uneasily through a history of encounters among humans and glaciers and into contemporary discussions about Protected Areas, parks, and a new World Heritage site that now encompasses the region. While my focus here is on a very specific corner of the globe, I contend that themes discussed in the following chapters, by no means limited to this location, speak to other arenas of colonial encounter. In that sense, I hope that this work may contribute to what Michel Foucault once called “histories of the present.”

The stories I trace in this book begin during the late stages of a period some scientists refer to as the Little Ice Age. Spanning roughly AD 1550-1850, this Little Ice Age was characterized by cooler and more variable temperatures over much of the globe, with pronounced consequences at high latitude. Jean Grove, the physical geographer who coined this term for an interval of global cooling between the Middle Ages and the early twentieth century, traces some of its slipperiness in her classic volume *The Little Ice Age*, and notes that chronologies vary from region to region. Archaeologist Brian Fagan's recent book of the same title suggests dates of 1300-1850 for Western Europe, but he also notes that scientists strongly disagree about dates.⁶ In the Pacific Northwest, the years between 1550 and 1900 are commonly cited.

In Europe, French historian Emmanuel LeRoy Ladurie traces records from medieval archives that chronicle the destruction of European villages by advancing glaciers during the Little Ice Age. Descriptions abound of "great and horrible glacier[s] of great and incalculable volume which can promise nothing but the destruction of houses and lands which still remain."⁷ Terrified sixteenth-century villagers entered glacial caves with swords drawn, and they mounted crosses at the edge of terminal moraines in vain attempts to halt these advances. Volcanic activity also enhanced northern hemispheric cooling. Evidence from temperate regions of North America and Europe demonstrates that the summer of 1816 – the year after the volcanic eruption of Tambora in Java – was exceptionally cold. Reports from Connecticut, southern England, and Switzerland show that it was the coldest year for which records exist.⁸ At higher latitudes, the impact of volcanic dust in the upper atmosphere may have been even more significant. Romantic poets were especially captivated by Little Ice Age changes and drew on opportune cultural metaphors to portray expanding glaciers. Samuel Coleridge wrote what he called a devotional poem, "Hymn before Sunrise," addressing glaciers at Chamonix as "motionless torrents, silent cataracts."⁹ Victor Hugo's portrayal of Mer de Glace was more aggressive, "a bent arm [that] overhangs and hurls down great blocks of marble whiteness."¹⁰ John Turner's ruddy skies may have mirrored effects of volcanic dust.

Glaciers also inspired aesthetic forms passed on orally and in writing from the Pacific Northwest, where global cooling was accompanied by significant glacier activity on coastal shores and inland mountain passes. The icefields supported by the Saint Elias Mountains are the largest non-polar icefields in the world and they include a significant number of glaciers that surge quite independently of climate. Scientists now think that surges are triggered by subsurface deformation – processes involving water and



Figure 1 Trapridge Glacier, in the Saint Elias Mountains, is one of approximately two hundred surging glaciers in northwestern North America. *Trapridge Glacier Project Archives*

subglacial deposits, or till, under high pressure. Surging glaciers differ from the torrents and cataracts that inspired Coleridge in Europe, being neither motionless nor silent. They may advance without warning after years of stability, sometimes several kilometres, and as we will see in following chapters, they frequently create ice-dammed lakes that build up and burst out with catastrophic consequences when the ice eventually thins and the dam breaks. The impact of glaciers on regional history, I suggest, lies not simply in their immense physical presence but also in their contributions to social imagination.

Concerns about global climate change are giving glaciers new meaning for many people who may previously have considered them eternally frozen, safely distant, and largely inert. Most of the world's glaciers now seem to be melting rather than reproducing themselves, becoming a new kind of endangered species, a cryospheric weather vane for potential natural and social upheaval. Encounters with glaciers during times of rapid environ-

mental change produce diverse interpretations. In the Andes, for instance, anthropologist Michael Sallnow has documented an age-old practice where thousands of contemporary pilgrims make their way up to the towering glaciers of Mount Sinakara during the fiesta of Señor de Qoyllur Rit'i. They light candles, reclaim crosses placed there a few days earlier, and carve out blocks of ice and laboriously carry them back down to a sanctuary. Or so they did, that is, until the 1990s when this practice was discontinued in order to stop the glacier from losing even more of its ice.¹¹ In Asia, geoscientist Ken Hewitt first heard accounts of gendered ice and artificial glaciers in 1961 when he began working in the Karakoram Range. In October of that year, a small group of local men bearing baskets lined with leather and straw began filling them with ice from the snout of the Biafo Glacier where he was working. He learned that specialists had determined that fetching ice from this glacier to “plant” at the opposite-gendered glacier overlooking their village could alleviate a drought affecting the village. The village headman gave the young scientists permission to visit the site, where they found a somewhat active remnant of a cirque glacier covered with broken rock. They were shown a hole where some half-dozen alternate layers of “male” and “female” ice were laid, each layer covered with special twigs, straw, and cloth.¹² And in his ongoing historical work in Peru's Cordillera Blanca, Mark Carey reports that in one glacier location, campesinos recently confiscated measuring devices scientists were using to monitor changes in glaciers because they suspected that the instruments might be causing a drought.¹³ Imaginative possibilities from such differing locations and historical periods suggest that glaciers (and stories about them) may provide one lens through which to assess current cross-disciplinary discussions about the relevance of local knowledge to environmental policies.¹⁴ As historian Richard White observes, there is a tangible physical world out there that sometimes affirms but often mocks the representations we design to constrain it.¹⁵

Romantic poets, Tlingit elders, scientists, and linguists, such as those cited in the opening epigraph, bring contrasting approaches to understanding climate change, and they all deserve attention. Percy Shelley wrote his poem “Mont Blanc”¹⁶ when he was visiting the Alps in 1816, the reputed “year without a summer” when Mary Shelley also wrote *Frankenstein*, sending her protagonist deep into Alpine glaciers during his tormented struggle to become human. Deikinaak'w, a senior Tlingit orator, spoke at length with ethnographer John Swanton in 1904 and reflected on accounts he had heard about glacier surges on the Alsek River during the previous century.¹⁷ Wallace Broecker, a prestigious geophysicist from Columbia University's Lamont-Doherty Earth Observatory, was addressing a *New York*

Times readership concerned about future climate change at the end of the twentieth century.¹⁸ Daniel Tlen, linguist and member of Kluane First Nation, records oral histories with elders in the southern Yukon and teaches at Yukon College in Whitehorse.¹⁹

I first encountered these glaciers in stories told by elderly First Nation women who spent their lives inland from the Saint Elias Mountains in what is now the Yukon Territory. Three women in particular, Kitty Smith and Annie Ned, both born in the early 1890s, and Angela Sidney, born in 1902, unexpectedly forced me to think more carefully about glaciers. Their extraordinary lives spanned the century that began with the 1896-98 Klondike gold rush and ended just before the turn of the millennium. In the 1970s, they began our conversations with chronicles of ancestors who had lived within the shadow of these mountains as glaciers advanced and receded during the Little Ice Age, and whose stories flowed into their own. They spoke about glaciers familiarly and often by name, well aware of their dangers, and they integrated accounts of glacier behaviour into narratives of their own experiences.

The women I knew portrayed glaciers as conscious and responsive to humans. Glaciers, they insisted, are wilful, sometimes capricious, easily excited by human intemperance but equally placated by quick-witted human responses. Glaciers engage all the senses. I was informed, for instance, of firm taboos against “cooking with grease” near glaciers, which are offended by such smells. I heard concerns expressed about hikers who embark on overnight camping trips in Kluane National Park and might inadvertently trigger a glacier surge of ear-splitting force and great danger by cooking bacon for breakfast. Other stories dramatize consequences of improper treatment of cooked food, especially fat, that might grow into a glacier overnight. The narratives sometimes seemed to be less about actual glaciers than about the imaginative possibilities they provide. Glaciers portrayed as sentient beings in these stories seemed to be, in the felicitous phrase of French anthropologist Claude Lévi-Strauss, “good to think with.” What most clearly differentiates the stories these women tell from written accounts left by early travellers whose accounts we will read in later chapters is the way Yukon storytellers *merge* natural histories of landscape with social histories and pursue their analogies in a local human ecology.

What happens during colonial encounters when matters of locality confront unfamiliar practices of exploration? I approach this as a problem in the anthropology of encounter that can be retrospectively investigated through narrative traces, which accumulate from such meetings. The idea of encounter seems especially useful because of what it reveals about scale and subjectivity. Initially, the actors in this region were relatively few, and

their motives, intentions, and imaginings can be traced partially in diaries and reports, but also in orally narrated stories still told. These stories may originate in the past, but they continue to resonate with contemporary debates about history, science, and colonial practices as well as with current struggles surrounding environmentalism, land rights, nationhood, and national parks.

Anthropologists have recently addressed the need for more differentiated portrayals of colonial encounters. A postcolonial metanarrative that depicts coherent, homogeneous colonialism as an intractable template with predictable outcomes, they point out, now seems too globalizing and too ahistorical. Such representations of history also err in their apparent relegation of colonialism safely to the past.²⁰ Geographers point to the intellectual sleight of hand that can occur when urban scholars, settled in universities far from places they study, cautiously eschew speaking directly about “Others,” yet casually bring a shaky sense of the colonial setting (without history or context) to their analysis of European imperial practices, presumably on such Others’ behalf. Postcolonial literature inclines increasingly to theoretical concerns that seem ever more distant from detailed knowledge of local practices and power relations on the ground. This underlying universalism can be interpreted as refuelling an intellectual imperialism that once again presents Europe as the key historical agent, as though no other actors existed. Yet the aftermaths of colonialism are always local.²¹ Taking up these themes, I focus on early encounters where transfers of knowledge seem to have occurred on both sides, before the balance of power in such exchanges shifted and state infrastructure made “difference” a rationale for inequality. Because narratives energize both exploration practices and local meanings, it is worth paying attention to what such stories accomplish, how they move, and why they persist – my ongoing preoccupation in this book.

Environmental Change, Local Knowledge, and Human Encounters

This work will, I hope, contribute to literature about environmental change, local knowledge, and human encounters – three themes often central to historical struggles in places depicted as “remote” despite long entanglements with world markets. *Changing environments* figure prominently in oral and written accounts passed on from late stages of the Little Ice Age. Environmental historians advise us to examine nature as a continuing force in history, not in a determining role but as one actor in relation to others.²² *Local knowledge*, as I use the term, refers to tacit knowledge embodied in life experiences and reproduced in everyday behaviour and speech. In the early twenty-first century, local knowledge has become a commonsense

term, couched in acronyms like TEK (traditional ecological knowledge) or IK (indigenous knowledge), gaining new visibility in management-science studies, but too often depicted as static, timeless, and hermetically sealed.²³ A historical approach reveals how socially situated but also how porous knowledge practices are. As the field of science studies shows, all knowledge is incontrovertibly local. *Encounters* come in many forms. We hear of human encounters among strangers, but also of encounters between those same people and transforming landscapes. Stories that participants tell orally or in writing about their experiences, in turn, encounter successive audiences whose interpretations of what they hear or read are shaped by their own contemporary concerns. In some cases, meetings between humans or landscapes may generate insights on all sides. But encounters, as Gillian Beer notes, do not guarantee understanding and may instead emphasize what is incommensurate.²⁴ Such themes connect chapters in this book.

Briefly, my argument is this. In northwestern North America, two fundamental processes that are often discussed independently coincided in the late eighteenth and nineteenth centuries: geophysical changes associated with late stages of the Little Ice Age and European colonial incursions. Raymond Williams's observation that the concept of nature always contains an extraordinary amount of human history is especially relevant here.²⁵ When glaciers on the North Pacific coast began to melt and recede, they released new lands that were gradually occupied by ancestors of contemporary Tlingit and Athapaskan peoples. But late stages of this Little Ice Age also coincided with European mercantile forays, initially on coastal shores and eventually across mountains into the interior uplands. A time of significant geophysical change, then, coincided with dramatic social upheaval, causing both readjustments and realignments among resident peoples and the permanent problem of powerful strangers who came to stay. Natural and cultural histories, in other words, are objectively entangled in this place.

Second, interpretations by participants struggling to make sense of both geophysical changes and social encounters often diverged dramatically. Eighteenth-century European visitors were especially excited by ideas of an inanimate nature subject to empirical investigation and measurement. They were heartened by the possibility that their Enlightenment categories and scientific instruments might help them to pry nature from culture. They imported these ideas to places like the Arctic and Africa, where local cultural meanings were framed very differently. Visitors wrote about glaciers, for instance, as *natural* spaces – pristine, wild, and remote from human influence, “on the verge of the world” in the words of one early French voyager, Jean-François de La Pérouse.²⁶ This local North Atlantic idea of a self-evident divide neatly separating natural from social phenomena con-

trasted sharply with Tlingit and Athapaskan understandings. Their oral traditions frame glaciers as intensely *social* spaces where human behaviour, especially casual hubris or arrogance, can trigger dramatic and unpleasant consequences in the physical world. In other words, Tlingit and Athapaskan oral traditions explore the connections between nature and culture as carefully as early exploration projects tried to disentangle them. Later, we will hear parallel distinctions from Central Africa, where jungles (like glaciers) evoke local connections with ancestors and historical knowledge about particular forest places. There, too, local visions contrast sharply with an iconography of jungles and savagery that provided the groundwork for colonial expansion.

Third, conflicting depictions of glaciers in oral histories and historical records have twenty-first-century consequences. They seem to typify or even model classic and continuing struggles over cultural meanings replicated in contemporary debates. The consequences of what Bruno Latour calls this “Great Divide”²⁷ differentiating nature from culture continue to cascade internationally through debates about environmentalism, biodiversity, global climate change, and indigenous rights. It is the contemporary anthropocentric implications of these historical understandings that especially interest me. Anthropologist Paul Nadasdy argues that a growing number of terms crucial to ongoing land claims negotiations, wildlife-management debates, and environmental conflicts in northwestern Canada – terms like “land,” “hunting,” “resources,” and “property” that may initially seem straightforward – are actually fundamentally contested. All parties may agree on their importance, yet negotiating parties may mean very different things when they use the same terms. Participants predictably take their own meanings to represent “common sense,” but the more powerful parties regularly build their meanings into legal agreements.²⁸ Distinct though glaciers may seem from such daily negotiations, observations about their behaviour and qualities resonate with current debates about local environmental knowledge. Glaciers’ temporal and spatial strangeness for most of us may actually enable local ideas about them to better resist metropolitan interpretive schemes.

Fourth and finally, these themes all concern memory, stability, and change in human affairs. Anthropologists, geographers, and historians have demonstrated the enduring power of landscape features to act as points of reference for communicating tacit knowledge. Humans persist in transforming seemingly neutral spaces into places of significance. A growing body of research about social memory argues that landscapes are places of remembrance and that culturally significant landforms may provide a kind of archive where memories can be mentally stored.²⁹ In the Saint Elias Mountains,

though, we can see also how changing landscape features, such as fluctuating glaciers, have provided imaginative grist for comprehending and interpreting *shifting* social circumstances. Orally narrated stories do indeed provide empirical observations about geophysical changes and their consequences. But they also demonstrate how glaciers provide substantive material for evaluating changes wrought by colonial histories.

It is hardly surprising that local knowledge in the notebooks of Euro-American scientists and travellers often differs from that passed on in Aboriginal traditions, yet the lines are not always so sharp. Ideas develop in relationship with others and emerge from encounters in particular places at specific times. The various approaches to knowledge brought to bear on these northwest borderlands contribute perspectives on Canadian history from a location that often remains a mere footnote in canonical accounts proceeding from east to west, with only occasional glances north.

North America's Towering Ridge

Encounters discussed in the following chapters centre on a location that has long been portrayed both as physically remote and internationally connected. Its axis is the most inaccessible region of Canada's northwest border with the United States, and it is also the spine of a recently designated UNESCO international World Heritage site. The precise location of this international border is not especially well known to residents of either Canada or the United States, and following its tortuous route can be disorienting (see Map 1). The southern perimeter crosses Dixon Entrance, skimming the southern edge of Prince of Wales Island. It reaches the mainland at the Portland Canal and swings northward to the head of this narrow fiord. From there, the border follows the mountain crest in a relatively smooth contour along the coast to a point near the head of Lynn Canal, where it veers precipitously southwest toward the pinnacle of Mount Fairweather, retrieving a triangle of British Columbia for Canada. It then clings to the jagged mountain ridge that separates the high inland plateau from the Gulf of Alaska for more than two hundred kilometres before turning sharply north at the 141st meridian on its unswerving course to the Arctic Ocean.

I focus here on a restricted portion of that border, the part anchored by the Saint Elias Mountains separating the coastal Gulf of Alaska from the high-country Yukon Plateau. In cross-section, this boundary lurches from peak to peak as it traverses some of North America's highest peaks. Crossing enormous icefields, it typifies immoderation. Delineated more conventionally on a two-dimensional map, it resembles a child's concentrated efforts



Map 1 The northwest Canada-United States border. A World Heritage site (shaded) now straddles this border, encompassing four parks. Over the years, park names have altered with status changes. In 2005 the parks on the Canadian side are named Kluane National Park and Reserve and Tatshenshini-Alsek Provincial Park; and those in the United States are officially known as Wrangell-Saint Elias National Park and Preserve and Glacier Bay National Park and Preserve.

to connect unruly dots. The dimensions of this boundary were first imagined in the 1825 Anglo-Russian Treaty, but plotting its actual location took almost a century. The southern extension was given the form of a panhandle (to protect Russian settlements) with the proposed line to follow the mountain divide, except where that height of land swung inland more than ten marine leagues (55.6 kilometres) from the sea; in such cases the boundary was to adhere to this ten-league measurement. Canada's efforts to locate the height of land as close as possible to the ocean and to capture a North Pacific port clashed with US determination to push the boundary as far inland as possible. Some of the twists and turns of those negotiations are discussed in Chapter 7.

I am curious about the Saint Elias Mountains for several reasons. First, for many years I have heard a good deal about how this region is remembered in indigenous oral histories. Second, as we will see in Chapter 1, there is a long record of scientific research here, at high altitude and high latitude, that makes it a key site for twenty-first century climate change research, and hence a site from which scientists now claim legitimacy to speak. Third, the World Heritage site spanning the Alaska/Canada border encompasses four parks: Kluane National Park and Reserve and Tatshenshini-Alsek Provincial Park on the Canadian side; Wrangell-Saint Elias National Park and Preserve and Glacier Bay National Park and Preserve in the United States. Here, unproblematic representations of nature as "aesthetic landscape," "endangered/pristine wilderness," or even as a giant jungle-gym for eco-tourists now compete with conceptions held by Aboriginal residents who once lived and hunted in these parks. If natural and cultural history were enmeshed here in the past, this also seems to be the case today.

Despite its iconic status as America's "wildest" wilderness³⁰ and its alleged distance from metropolitan affairs, this region was already a hub of international activity by the late eighteenth century, when Russians, Spaniards, British, and French competed for access to the interior of North America. The dominating mountain ridge made a dramatic impact on early European visitors and provided imaginative resources for accounts they wrote. Naval expeditions approaching the Gulf of Alaska consistently singled out (when they could see it through rain or above fog) the mountain that Vitus Bering named "Saint Elias" in 1741 after he reached land on 20 July, that saint's feast day,³¹ and another that Captain James Cook optimistically called "Fair Weather" (now Fairweather) to commemorate a rare sunny day in 1778. When Jean-François de La Pérouse identified a coastal bay he named "Port des Français" (now Lituya Bay) between these two

mountains a few years later, he hoped that he had discovered the Northwest Passage. Commercial traders, attracted initially by furs and subsequently by fish, later moved inland across the mountains once they had exhausted coastal ecologies. Close behind came natural scientists, mountain climbers, and boundary surveyors, many of whom also recorded their impressions.

For much longer, though, this region has been homeland to indigenous peoples – speakers of Eyak, Tlingit, and Athapaskan languages who inhabited the coastline, the valleys, and the high inland plateaus that fell away from these peaks. Tlingit traditions also single out the Saint Elias Mountains, though they attend to features different from those recorded by ships' captains. George Thornton Emmons, collector of artifacts for American museums, heard from Tlingit narrators in the early 1900s that Mounts Fairweather and Saint Elias had once been united in marriage but that following a domestic quarrel, Saint Elias journeyed west, taking the household slaves (now the range of mountains separating the two) and leaving behind their children, who became the lesser ranges extending inland for 150 kilometres.³²

If mountain ridges provide one axis of this region, the Alsek River defines another. Rising in what is now the Yukon Territory, its two branches slice through the eastern edge of the Saint Elias Mountains, race past surging glaciers, and drop roughly six hundred metres before emptying into the Pacific Ocean. Oral histories indicate that by the time Europeans arrived, inland Athapaskan peoples were using glacier passages and the Alsek River to travel from the high interior plateau to the coast. Edward James Glave, whose story appears in Chapter 6, provided the first detailed written description of the Tatshenshini-Alsek's challenges in 1890, but he needed local people who knew that river well to transport him down its length in a dugout canoe.

Mountains ornamented with glaciers and crosscut by rivers have contributed to local stories that show how imaginative practices diverged. If eighteenth-century visitors saw these territories through lenses of the Sublime,³³ whether as innocent and empty or as vast and terrible, local residents' accounts begin with stories of pre-given places. Annie Ned, born on the inland side of the mountains during the early 1890s, describes how Raven, also known as Crow, originally configured the drainages from interior to coast at the beginning of time, tipping his wings to orient them in opposite directions; some lakes and rivers now flow north to the Yukon River and hence to the Bering Sea and others pour south to the Gulf of Alaska through the Alsek and Tatshenshini drainage. Distinctions between stories sometimes blur as they circle back on one another. Vitus Bering's

Saint Elias is the same as Elijah, the Old Testament prophet whose story is told in Kings I and II. Bering may not have appreciated how Elijah's story resonates with those already told in the Pacific Northwest when he named Mount Saint Elias. That prophet undertook long journeys, and on one occasion God commanded ravens to feed him twice daily, which they did; on another, Elijah travelled for forty days and forty nights clad in skin clothing and took refuge in mountain caves where he endured strong winds, an earthquake, and fire.³⁴ There is no Romantic wilderness in the Old Testament. Ancient symbolism surrounding Saint Elias thus evokes ravens, mountains, earthquakes, water, and the clothing of a hunter named Kwăday Dän Ts'ínchi (of whom we will hear more later) claimed by a glacier in these same mountains some three centuries before Bering's arrival.

Encounters and Consequences

Encounters take diverse forms that are explored in subsequent chapters. First, actual meetings between strangers were usually characterized by mutual caution and recounted on all sides in terms of difference – in appearance, language, habits, and imagined beliefs. Imbalances in knowledge drove such meetings. Inevitably, strangers relied on practical navigational assistance that only local residents could provide over mountains, across tundra, down rivers, and through glaciated landscapes.

Second, encounters between humans and a rapidly changing landscape were often perilous. Some glaciers were growing, while others were wasting and new land became habitable. Local knowledge that had been acquired painstakingly over generations in active engagement with the non-human environment was being put to surprising tests just as strangers began to arrive – Russians, Spaniards, British, and French on the Gulf of Alaska coast, and later British and Americans pressing on to the interior plateau. Encounters with glaciers seem to have influenced how all participants imagined one another and interpreted human relationships, particularly with strangers.

A third and different encounter concerns ongoing exchanges between stories and their subsequent readers and listeners, as they are taken up in different knowledge traditions.³⁵ Enlightenment scientists and Victorian travellers interpreted glaciers as alternately terrifying and inspirational. Their accounts represented places and people as exotic and frequently portrayed humans as extensions of landscape, as a background for their own story. Their writings, in turn, attracted other visitors – scientists, climbers, government agents, conservationists, and tourists. Such old accounts continue to have consequences as they encounter new audiences, including Aborigi-

nal residents, academics, environmentalists, lawyers, judges, and land claims negotiators, to mention only a few, who inevitably rework them into new narratives of coherence. A growing literature about “first contact” narratives, for example, seems to resonate more often with European imaginings than with those of local indigenous traditions. As we will see in the stories that follow, the arrival of Europeans on the far northwest Pacific coast is frequently included only as a minor episode in Tlingit and Athapaskan oral histories.³⁶ Oral traditions continue to be told in local contexts where they also attract new audiences; for example, at the Yukon International Storytelling Festival.³⁷ In successive settings, then, old encounters continue to undergo reinterpretation as they are debated and re-evaluated in locations where they still have consequences. The stubborn particulars of voice persist through time.

Practices of Exploration, Matters of Locality

The book is organized in three overlapping parts. Part 1, *Matters of Locality*, examines contributions that Aboriginal oral traditions make to ongoing debates about local knowledge. Chapter 1 discusses memories from late stages of the Little Ice Age when both indigenous peoples and eighteenth-century Europeans were becoming familiar with newly habitable territories. I rely on both written and oral accounts, trying to privilege neither but rather to see how both kinds of accounts illuminate past worlds and shed light on present interpretations. The rich ethnographic record of oral traditions from coastal regions extends back more than a century and provides historical depth for narratives still told. Some of the accounts we will hear in this chapter reappear later from quite different perspectives, rather like a prism viewed from various angles. Chapter 2 moves inland. It provides a framework for listening to oral traditions told by three Yukon elders, all women, setting their concerns within a modernity that shaped their twentieth-century lives. Chapter 3 presents glacier narratives told by Kitty Smith, Annie Ned, and Angela Sidney in their own words and with brief references to the contexts in which they were recorded.

Part 2, *Practices of Exploration*, centres on stories about glaciers that reverberate through the literature of exploration and science. In the late eighteenth century and again at the end of the nineteenth, strangers made brief appearances in northwestern North America, but they left significant traces. I follow those traces – written records left behind, memories transmitted and transformed in oral tradition, social legacies we still encounter – and examine what they reveal collectively about practices of exploration and matters of locality. Three travellers, each an exemplar of a

kind, were in some way changed by the experience of meeting Aboriginal residents here. Chapter 4 examines the encounter between eighteenth-century French expedition leader Jean-François de La Pérouse and local Tlingit people he met at Lituya Bay in 1786. Chapter 5 considers encounters between American environmentalist and moral crusader John Muir and the Tlingit guides who influenced his views in 1879 and again in 1880. Chapter 6 follows two trips that British writer and traveller Edward Glave made to what is now the southwest Yukon in 1890 and again in 1891, shortly before he returned to Africa where his faith in “civilization” was ultimately shattered in the Belgian Congo.

Part 3, *Scientific Research in Sentient Places*, takes as its theme the imposition of boundaries and the new stories of nationhood they enforce. Intrusion of emerging nation states into regions already populated inevitably involved the displacement of indigenous populations, as elsewhere. Those boundaries and their consequences are part of the modern history of Aboriginal peoples in northwestern North America. Chapter 7 looks at the mapping and making of the international boundary, including hints of human experience that emerge in surveyors’ accounts. Chapter 8 concludes with an overview of debates, now reinvigorated both by land claims negotiations and by evidence of human history emerging from melting glaciers. Those debates continue to echo themes of encounter, knowledge, unequal power, and issues now surrounding scientific research in sentient places.

The earliest historical encounters in northwestern North America occurred at a time when local knowledge in Europe was in ferment. Travelers were motivated by new and powerful concepts of science, religion, and economics that provided modernity’s motor. They often took for granted the universal applicability of these concepts as organizing principles and were eager to put them to work, repeatedly advocating agriculture and trade as appropriate models for indigenous economies. Visitors, though, were encountering inhabited places where knowledge traditions had their own long histories that paid close attention to tangible reference points – people, places, and landscape features. Principles governing indigenous social life and economic exchange centred on reciprocity: among humans, with non-human animals, and with a responsive landscape. Observant behaviour was crucial to well-being, and disastrous consequences might follow thoughtless lapses or wilful disregard. Initially, visitors were quick to grasp the importance of the local empirical expertise needed to traverse unfamiliar territories.³⁸ But opportunities for transferring more foundational knowledge rapidly narrowed as the alleged universality of one set of concepts began to squeeze out alternatives that could then be disparaged as “belief” or “superstition.”

I conclude this introduction with a vignette that illustrates shifting ideas about local knowledge in this region. When strangers began crossing the mountains to the Yukon interior in the late nineteenth century, they were eager to tell stories about travels on ice. One brief account captures the contrast. Frederick Schwatka, a veteran of the United States Army who took up “exploration,” passed through this region in the summer of 1891. Schwatka’s accounts seem to typify a kind of exploration that geographer Felix Driver, borrowing from Joseph Conrad, has called “Geography Militant,” characterized by aggressive naming practices, crude census taking, detailed mapping, and extravagant military metaphor.³⁹ This was not Schwatka’s first trip to the Yukon River: in 1883, he had led down the Yukon River a United States-sponsored expedition framed as a military reconnaissance in search of “hostile Indians,” of whom he found none.⁴⁰ His legacy today largely consists of many place names, those intangible wormcasts of exploration, that he left along the Yukon River.

By 1891, Schwatka was back, this time with a young geologist named Willard Hayes who was later to assume the position of chief geologist with the US Geological Survey.⁴¹ They travelled inland from Juneau up the Taku River, through the southern lakes to the Yukon River, and down that river to Fort Selkirk, then overland toward the Copper River (see Map 1). With difficulty, they found local guides who would agree to take them through glacier country, and as they prepared to cross the Klutlan Glacier, Schwatka reported that their guides insisted “we must not fry grease in our pans ... or the ice of the glaciers will tumble in as we cross and kill us all.” He noted somewhat dismissively that, “we easily catered to this and told them we would forbear oleaginous condiments rather than have a ton of ice tumble upon us.” During a glacier crossing that he describes as “simply frightful,” he noted that the guides “besought us to make no noise while on the ice or the crevasses would open wider and swallow us up ... They firmly resented even our whispering, so fearful were they of the consequences.” His conclusion conveys both his relief after their safe crossing and a sense of how ideas were already being differentiated hierarchically. “Before crossing, they all ‘made medicine’ and no doubt it saved many valuable lives. Their fear of glacial ice is too pronounced and manifest to be based on any general physical reasons, and must be accounted for wholly by superstition.”⁴²

Here, then, we have a pivotal moment in the history of encounters between residents and strangers. From the perspective of indigenous residents steeped in familiar places, glaciers provide scaffolding both for close empirical observation and interpretation of the dangers of hubris in a complex and unpredictable world. From the vantage point of the transient explorer immersed in a *fin de siècle* myth of modernity that segregated nature

from culture, matters of locality could be casually dismissed as “superstition.”⁴³ My intention here is not to single out Schwatka, whose hubris would undoubtedly have been praised as “pluck” by his nineteenth-century colleagues. More telling is the persistence of such ideas. Notably, Schwatka’s 1891 journals were republished in 1996, and the contemporary editor adds a footnote at this point indicating that Schwatka’s comments about “superstition” can be taken as straightforward common sense: “The origin of the Pelly River Natives’ unreasonable or superstitious fear of glacier ice and the connection with frying with grease is not known.”⁴⁴ It is clear from this note that, even a century after Schwatka wrote his journal, some kinds of local knowledge are still dismissed as “superstition.”

What is remarkable is how speedily such new stories take root, displace local knowledge, and gain authority as official “common sense.” Addressing this issue, anthropologist Michael Taussig has observed that social sciences pay considerable attention to ideology and rather less to the fact that people delineate their understandings in stories, or story-like creations, such as gossip and small talk – rarely in full-blown ideologies.⁴⁵ Anthropologists working in Africa, the Americas, and the South Pacific have likewise observed that colonial practices are mediated largely by convincing narratives.⁴⁶ Such encounters are full of complexity and contradiction on all sides. Inevitably they involve exchanges – of substance and of symbols, whether objects or ideas. Characteristically, exchanges involve struggles over conflicting meanings that are often sharpest on the frontiers of empire where matters of locality collide with global practices. North America’s far northwest, then, contributes to a history of local knowledge from liminal locations once at the edges of colonial empire.

Overlapping stories emerging from early colonial encounters provide a trap door to a history of local knowledge, with tunnels leading in various directions. In subsequent chapters, I follow persistent historical traces of knowledge practices as they connect and endure in stories where glaciers have a role.