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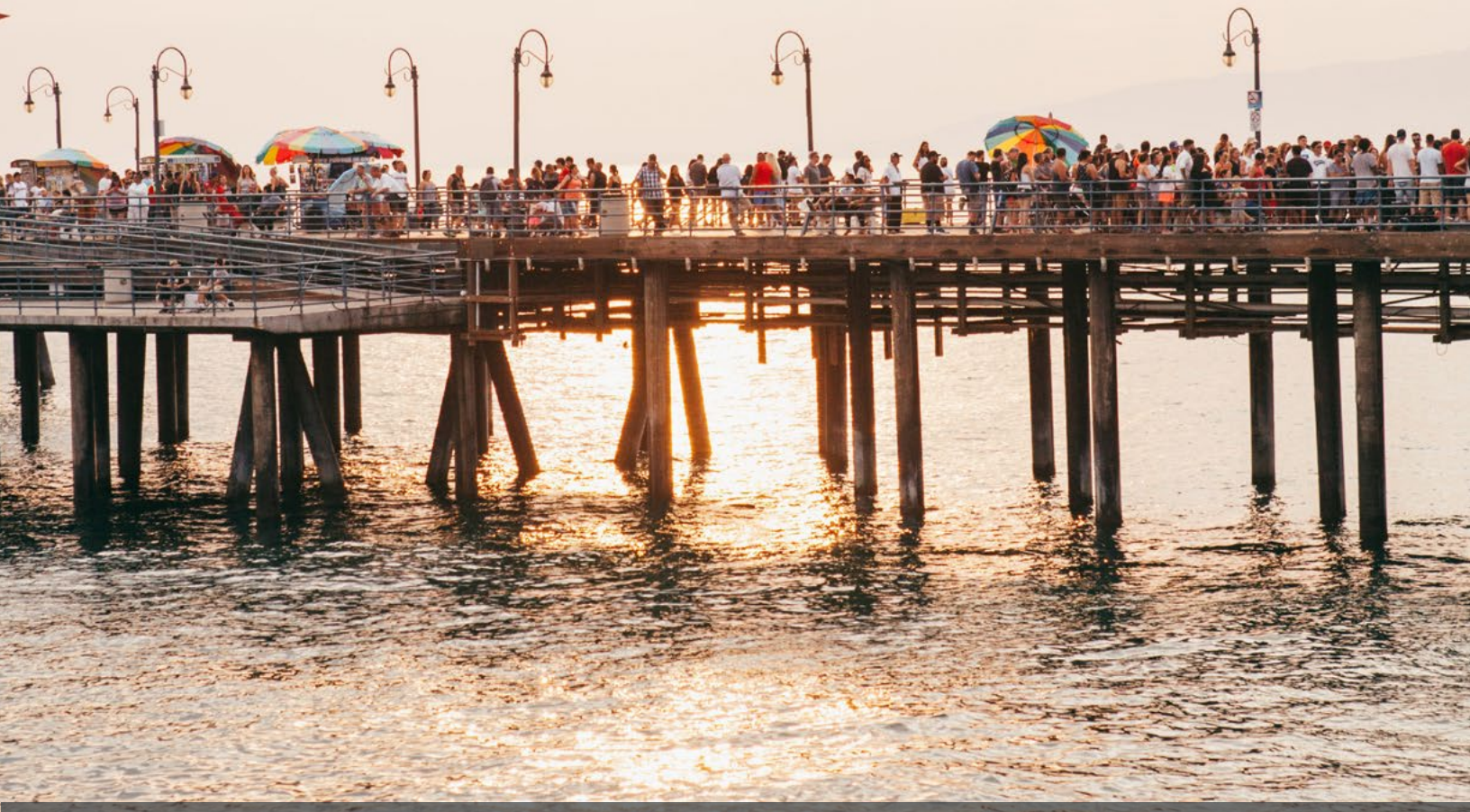

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Editorial Board

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FEATURE

FUTURE RIVERS OF THE ANTHROPOCENE

By Eleanor Hayman, Colleen James, and Mark Wedge

Note From the Editor

The stories we tell about water say a lot about what we value and how we understand our place and our relationships to these waters. These stories form a foundation for how we approach water, how we might envision solutions to problems, and how we might create change. The following article, originally published in a 2018 issue of Decolonization: Indigeneity, Education & Society*, offers stories of water and glaciers stemming from Tlingit and Tagish First Nation peoples. Eleanor Hayman and her collaborators, Colleen James and Mark Wedge, offer stories as a counterpoint to glaciology research that documents the rapidity of climate change and glacial shifts. Their stories denote relationships with glaciers as more-than-human*

A student researcher on the Juneau Icefield navigates between crevasses on the Llewellyn Glacier in northern British Columbia, Canada. Lingít Aaní, Tlingit traditional lands is a large but sparsely populated nation in this part of Alaska. Icefields are expanses of glacial ice flowing in multiple directions. Image by Allen Pope, NSIDC (CC BY 2.0).

others, as actors. Through the languages and oral histories, the authors demonstrate how "stories emerge from and are co-dependent with ecological processes" as a practice of what they call "slow activism."

We republish this article to share these stories, to share the values, relationships, and possibilities they offer. Perhaps by expanding the stories we hear and the stories we tell, we might also shift the foundations from which we envision the future and create change. Enjoy.

—Laurie Moberg, Editor

Future rivers of the Anthropocene or whose Anthropocene is it? Decolonising the Anthropocene!

> Glaciers, like stories told about them, are enigmatic. Surging glaciers, in particular, are sometimes solid, sometimes liquid, and always flowing. They are shapeshifters of magnificent power. Like tidal zones, they signify transitional spaces. Aboriginal elders who speak knowledgably about such glaciers refer to observing, listening and participating in ritualised respect relations with glaciers and go to great lengths not to disturb them. In northern Athabaskan and Tlingit traditions, the line between human and non-human beings is less distinct than some might imagine.
>
> Julie Cruikshank, 2005, p. 69

> Until the first half of the [eighteenth] century, the conventional wisdom of the earth sciences was that glaciers were static features, neither changing their position through time nor causing geomorphological effects in the landscape. It was not even generally accepted that the ice in a glacier moved.
>
> Peter Knight, 2004, p. 387

Introduction

One meaning of the word Tlingit is "people of the tides." Immediately, this identification with tides introduces a palpable experience of the aquatic as well as a keen sense of place. It is a universal truth that the human animal has co-evolved over millennia with water or the lack of it, developing nuanced, sophisticated and intimate water knowledges. However, there is little in the anthropological or geographical record that showcases contemporary Indigenous societies upholding customary laws concerning their relationship with water, and more precisely how this dictates their philosophy of place. It is in the Indigenous record, and in this case the Tlingit and Tagish traditional oral narratives, toponyms (place names), and cultural practices, that principles of an alternative ontological water (ice) consciousness can be found to inform and potentially reimagine contemporary international debates concerning water ethics, water law, water governance, and water management. This paper examines a Tlingit relationship with water and ice, informing the global decolonial water dialogue.

Tlingit and Tagish relationships with glaciers and their oral histories concerning glaciers reveal animated and spirited sets of nested geographies. This is insignificant contrast to the 2014 *Randolph Glacier Inventory* (RGI) which hosts computer readable profiles for all 200,000 glaciers on this planet. The RGI enables a more complete picture of how glaciers interact with climate change, sea level rise and fresh water (in)security, which is compelling. However, as future rivers of the Anthropocene, might not glaciers show us how human relationships with glaciers *and* glacial relationships with humans be equally critical as modes of enquiry and analysis, complementing the RGI remotely-sensed models of the last frozen tongues of the Pleistocene?

This paper showcases Tlingit perspectives on glaciers, which offer an alternative ontological awareness of glaciers as well as a nuanced Indigenous empirical scientific knowledge that moves away from the Eurocentric models of categorizing and understanding the natural world. In particular we introduce new concepts to further the (re)imagining of glaciers as offered here through a Tlingit clan oral history describing traveling under a glacier to find salmon, the Tlingit keystone species. We suggest that by thinking with water (glaciers), and searching for water-based or aquacentric histories, we can move away from land-biased or terracentric narratives which tend to be rooted in human exceptionalism (Gillis, 2015; Gillis, 2011 [1]; Rediker, 2012; Rediker, 2008). Put another way, we broaden the term 'terracentrism' to include a particular way of thinking that does not continue to privilege concrete, wooden, and static notions of both mapping and narrative that is worryingly human-centred (anthropocentric). This reflects, in turn, certain assumptions about the Anthropocene itself. Anthropologist Amelia Moore (2015) captures these assumptions succinctly: "the term [Anthropocene] represents another way to have a conversation about the breakdown of Nature and Culture that have historically shaped the Western worldview" (p. 1). Historian Keith Moser (2018) convincingly takes this further with a novel thought experiment that he argues "embraces the daunting challenge of trying to replace the traditional master narrative with a more biocentric approach to framing historical issues" (p. 1). We broaden the biocentric approach still further by utilizing earth jurisprudence global thinking for an Anthropocene where glaciers might have legal standing and are taken seriously as agents in and of themselves.

Whose Anthropocene is it?

Ways of dealing with the increasing uncertainty of these ecologically stressed times and multi-species extinction are products of what counts ethically in the Anthropocene. So, the question we consider the most fundamental is simply: Whose Anthropocene is it? How has it been defined, and who gets to own it? Historian Jason Moore (2014) makes the compelling argument for not the Anthropocene, but the Capitalocene and is worth quoting at length, as he too challenges and unsettles the Anthropocene project:

> The Anthropocene makes for an easy story. Easy, because it does not challenge the naturalized inequalities, alienation, and violence inscribed in modernity's strategic relations of power and production. It is an easy story to tell because it does not ask us to think about these relations at all. The mosaic of human activity in the web of life is reduced to an abstract humanity as homogenous acting unit. Inequality, commodification, imperialism, patriarchy, and much more (p. 2).

Clearly human histories are not the same or equal, and renaming the Anthropocene to the Capitalocene goes some way to (re)locate the current ecological violence, or specifically for this paper, our term 'hydrological violence' (Hayman with James & Wedge, 2017) in a particular history. The following section situates this collaborative water research philosophically and geographically, framed by Tlingit and Tagish understandings of and relationships with glaciers.

Tlingit and Tagish Voices

Yakgwahéiyagu is the Tlingit word for "the living spirit inside of all things (human, nonhuman, inanimate) that senses and feels the world around them" (Katzeek in Twitchell, 2016, p. 227). This paper puts into conversation the agency of glaciers—the future rivers of the Anthropocene—richly described within Tlingit and Tagish oral tradition in the circumpolar north, with other self-assumed narratives (rather speedily accepted voices) of the Anthropocene. These research-based understandings are part of ongoing collaborative ethnographic water research with the inland Tlingit and Tagish community—the self-governing Carcross/Tagish First Nation (CTFN)—in the Yukon Territory, Canada. These understandings come in two parts. Firstly, CTFN's traditional territory embraces the Southern Yukon Lakes, all of which are glacier fed, constituting the sacred headwaters of the 3,000-kilometer-long Yukon River. As the circumpolar north is being affected by global warming at twice the rate of other areas, the behavior of glaciers, and their impact on lake levels, is increasingly unpredictable. Secondly, glacial understandings are expressed through an ancient art of storytelling that articulates an intimate, animate, and ethical relationship with glaciers. Tlingit and Tagish narratives describe glaciers as sentient beings; glaciers that listen, glaciers that can smell, glaciers with attitude. The coastal and inland Tlingit and Tagish have lived for thousands of years with profound understandings of the agency of glaciers as perils to be crossed over and under, as treacherous but important ice corridors for travel and trade (Corr et al., 2009), as tremendous phenomena that surge, destroying villages, but also as holding within their being a significant archaeological record of the voices of the ancestors (see Appendix for Tlingit traditional oral narratives involving glaciers).[2] All these understandings reflect a close observation of earth's own time that inscribes the human and non-human, and not necessarily an earth scripted solely by humans. How might such a Tlingit and Tagish voice disrupt, defamiliarize, or redesign the very notion of the Anthropocene(s) by not simply "adding another fact to the narrative but changing our very ways of doing narrative?" (Colebrook, 2013).

The overall goal of this collaborative water research is to provide a framework to develop legislation for a CTFN Water Act rooted in Tlingit and Tagish Indigenous philosophy. A water declaration is currently being developed setting out core Tlingit and Tagish concepts and pedagogy arising from traditional oral narratives. In addition, aqua-centric Tlingit and Tagish counter-maps have been produced highlighting the aqua-centric place names of the region, in defiance of cartographic colonialism. These products provide a scholarly and ontologically powerful framework for the water legislation with the intention that this will be able to speak with and to Canadian water policies and governance strategies.

Héen and Modern Water

> When our ancient people talked about water, what the Western world calls H_2O, they would say '*Haa daséigu a tóo yéi yatee*,' 'Our life is in the water . . . Our breath is in the water.'
> Elder David Katzeek, Kingeisti Eagle Moiety, Shangukeidí Clan of Klukwan, Juneau, Alaska, November 2013

In the Tlingit language, water is *héen*. *Héen* is a fundamental tenet in Tlingit cosmology and a highly resilient counter-story to gendered, narrow, and essentialized readings of 'modern' water (Linton, 2014; Linton, 2010; Hayman, 2012). Drawing on critical Indigenous theory, ecofeminist work, as well as scholars probing the evolution of ethical relationships with water, we briefly review understandings of water, which builds into and supports our collaborative water research.

In cultural critic Ivan Illich's (1986) *H_2O and the Waters of Forgetfulness*, an incisive exposure of the dominant Euro-American contemporary myopic perception of water, Illich highlights water's problematic dualisms. Illich argues that

> water, throughout history, has been perceived as the stuff which radiates purity: $H_2O$is the new stuff, on whose purification human survival now depends. $H_2O$and water have become opposites: $H_2O$is a social creation of modern times, a resource that is scarce and calls for technical management (back cover).

Ecofeminist Greta Gaard (2001) takes another approach. Her work exposes water and wastewater dualisms. Gaard places this within the broader Western tradition of conceptually separating culture and nature, wilderness and civilization, male and female, etc. Ultimately these binaries produce a 'nature' that is severed from humanity. The normalizing tendency of these dualisms, and the consequent perception of water, is alarming. Consider our paradoxical acknowledgment that we are a part of nature, dependent on fresh water to live, and that global fresh water, as a whole system, is in a critical—if not irreparably damaged—condition.

To unpack water's dual nature(s), and to reveal the frameworks that sustain these perceptions, it is worth troubling the way in which the imaginary surrounding water is tied in part to the Western ideal of the feminine. Gaard (2001) for example makes a provocative link between the positions and treatment of women in Western culture and the treatment of nature (water). We argue that three mutually reinforcing mentalities sustain this gender-water bondage.

Firstly, the increasing technological manipulation of water and the ambitious water infrastructure provision to western European city households in the nineteenth century led to water's increasing invisibility and abstraction. In his book *What is Water? The History of a Modern Abstraction*, geographer Jamie Linton (2010) illustrates this by reflecting on how the "placelessness of modern water (perhaps best symbolized by the tap) is the transfer of water control to placeless discourses of hydrological engineering, infrastructural management, and economics" (p. 18). Cultural geographer Dean Bavington (2013) argues that the notion of passive, yielding (feminine) water has been constructed with the ideological footprint that it *needs* to be managed. Ecofeminism exposes concepts such as water as a passive (and invisible) resource, or as a part of a pristine nature. Indeed, it seeks to respond to the ingrained power of social creations of nature (water) that ossify various intersecting forms of oppression, whether of ethnicity, gender, age, or class.

In their provocative paper entitled "Environmental Orientalisms," anthropologists

Suzana Sawyer and Arun Agrawal (2000) seek to do just this. Sawyer and Agrawal expose a particular form of labeling within the colonial imagination. They note, for example, that "native topographies and peoples [were labeled] as feminine spaces to be violated," which "instantiated a sexual/racial hierarchy between colonizer and colonized" (p. 72). The environmental historian Donald Worster's (2006) concept of 'imperial water' bleeds into Sawyer and Agrawal's narrative of gendered and sexualized virgin territories (waters), revealing the core narratives of access to and control of water by colonial powers. The aspirations of settler colonialism, particularly Canadian settler colonialism, is the intention of 'civilising the Indian' and total assimilation into Canadian culture, which has been in play since the Indian Act of 1869.[3] By way of example, at the 1994 International Storytelling Festival in Whitehorse, Jessie Scarff, an Elder from Kwanlin Dun First Nation, told the story of forced Indian settlement removal from waterfront sites along the Yukon River in Whitehorse. Jessie used materials from the Yukon Archives in an ironic move to illustrate to her audience a deep rupture between the vision of two very different kinds of water—modern water and pre-modern (Tlingit) water.[4] Jessie selected an excerpt from the local newspaper, an October 22, 1915 article in the *Whitehorse Star* that states: "It is better for the Indians that they should be away by themselves and it is certainly better for the town that they be not camped so close to the source of public water supply" (Cruikshank, 1998, p. 152). In the *Whitehorse Star* article, the Yukon River is framed in terms of utilitarian, economic parameters. It is presented to the readers of the *Whitehorse Star* as primetime waterfront space that 'Indians' by their very presence devalue, and that Indians must also be located away from the source of public water supply. Racist dualisms of pure/impure reflect the fantasies and anxieties of a particular colonial imagination. This, in turn, constructs cultural identities and labels specific waters in particular and troubling ways for the Tlingit, Tagish and many other First Nation communities in the Yukon Territory. By reading at the intersections of both nature (water) and gender, fractures across new lines of race, class, and ethnicity can be illuminated.

We also look closely at glacial imaginaries taking these readings of modern water as a point of departure. In this so-called epoch of the Anthropocene and the associated choreography and politics of climate change, the question (or not) of governance, and in particular water governance, becomes increasingly polarized around these dominant assumptions of 'modern water' (Linton, 2010). Rethinking current models of and approaches to water governance through an Indigenous ontology that privileges relationships, reciprocity, and respect offers a powerful counter-narrative that can inform Euro-American approaches to law and governance—in effect a reversal or decolonizing of the colonial process. Furthermore, Indigenous water legislation showcased through contemporary formats and usages (such as our counter-mapping and water declaration) deepens and enriches global debates on ethical and philosophical approaches to water and, by extension, rivers/glaciers. By introducing the (radical) idea that such a Tlingit/Tagish Indigenous water legislation can behave as a model for Euro-American legal systems to readapt and reimagine relationships with rivers and glaciers, our approach brings different ways of thinking into conversation. By way of example of one such decolonizing conversation is the Whanganui River in New Zealand which recently achieved legal personhood status in the Whanganui River Claims Settlement Bill on March 16, 2017. The following week it was the Ganges and Yamuna Rivers that were officially awarded this status by the Himalayan state of Uttarakhand on March 22, 2017. These sets of narratives can be seen as part of the bigger project of earth jurisprudence. Decolonization theory and practice (that includes decolonizing water, decolonizing personhood etc.) are a crucial part of this project, and in the light of claims and assumptions about the Anthropocene, we argue

decolonizing the Anthropocene(s) is too. So far the Anthropocene is identified by its very singular history rooted in a fossil fueled imperialistic drive for control and power over resources (Wedge, personal communication, 15 August, 2014).

Perspectivism

Glaciers and rivers transcend academic disciplines, and we argue they are becoming increasingly autonomous philosophically as each glacier transforms/melts into rivers. Understood from a Tlingit and Tagish perspective, sentient glaciers have always been regarded as agents with authority and perspective. Brazilian anthropologist Eduardo Viveiros de Castro (2015) has coined the term 'perspectivism' to refer to this ontology. Viveiros de Castro's perspectivism and multinaturalism has been picked up by anthropologists such as Philippe Descola (2013), Bruno Latour (2013), and Julie Cruikshank (2012) in the circumpolar north, and we too use it to better showcase the Tlingit and Tagish ontology and relationship with water (glaciers) within a wider Indigenous context. Indigenous perspectivism aims to dissolve or go beyond the dichotomies of nature and culture. Indeed, for clarification, Viveiros de Castro's (2015) definition of perspectivism is worth quoting at length:

> The conception according to which the universe is inhabited by different sorts of persons, human and nonhuman, which apprehend reality from distinct points of view. This conception was shown to be associated to some others, namely:
>
> 1. The original common condition of both humans and animals is not animality, but rather humanity;
> 2. Many animal species [sic], as well as other types of 'nonhuman' beings, have a spiritual component which qualifies them as 'people;' furthermore, these beings see themselves as humans in appearance and in culture, while seeing humans as animals or as spirits;
> 3. The visible body of animals is an appearance that hides this anthropomorphic invisible 'essence,' and that can be put on and taken off as a dress or garment;
> 4. Interspecific metamorphosis is a fact of 'nature;'
> 5. Lastly, the notion of animality as a unified domain, globally opposed to that of humanity, seems to be absent from Amerindian cosmologies (pp. 229-230).

Perspectivism is good to think with in this paper. It works on an ontologically plural level without privileging one ontology. Western science and philosophy have extraordinary merits, but so too do the Tlingit and Tagish cultures. Perspectivism is about acknowledging worlds, and not worldviews, but it also supports the sort of shapeshifting understanding connected with water (glaciers) articulated in Tlingit and Tagish oral narratives. A Tlingit ontology, for example, acknowledges four ways that refer to 'spirit.' One of them, ***Yakgwahéiyagu***, is, according to coastal Tlingit elders, "the living spirit inside of all things (human, nonhuman, inanimate) that senses and feels the world around them" (Katzeek in Twitchell, 2017, p. 227). In many Tlingit and Tagish oral narratives, humans shapeshift into other animals, as much as animals disguise themselves as humans. However, what occurs frequently in these narratives is that humans ***marry*** bears, spruce trees and fire sparks, just for a few examples. This is so humans, through 'marriage,' have the opportunity to experience and understand other worlds.

Glacial Time: Speed Redefined?

Glacial time—the notion that everything unfolds in slow 'geological' motion—is still a well-used metaphor in archaeological circles. The environmental historian Rob Nixon (2011) might disagree. Nixon explains that "to render slow violence visible entails, amongst other things, redefining speed: we see the efforts in talk of accelerated species loss, rapid climate change, and in attempts to recast 'glacial'—once a dead metaphor for *slow*—as a rousing, iconic image of unacceptably fast loss" (p. 13). Global warming has been called a slow catastrophe, but feminist philosopher Donna Haraway (2016) uses the term 'accelerated,' problematizing the notion of speed. Glacial time which was once slow, is now fast. For the Tlingit and Tagish with their traditional, oral 9,000- year-old narratives—which are confirmed by geological (also volcanic), paleo-archeological (the ice patches in CTFNs traditional territory), and paleo-limnological (lake sediment cores) evidence—there is a well-documented history of specific geographical glacial surges and flooding events. Notions of time, and glacial time, are problematized by this rhetoric.

Nixon (2011) advocates a new form of environmental storytelling that counters the influence of the "instant spectacle" (p. 6). Tlingit narrative storytelling in this light might be considered as both a role model and an ethical forerunner of this register of environmental storytelling. Storytelling is a fundamental tenet in the inland Tlingit/Tagish cosmology. Indeed, stories themselves like glaciers/ice/rivers/water are deemed to have social lives and particular agencies. They circulate, they are transformative, and they are living (Wedge, personal communication, 17 August, 2014). Tlingit storytelling exposes a fundamentally different set of understandings about water and ice and relationships with water/ice bodies than the dominant Western paradigm that tends to support narrow, essentialized, and utilitarian assumptions about ice/water. How then does Tlingit storytelling destabilize, defamiliarize, and inform the dominant way of engaging with nature?

A Tlingit relationship with water can be traced through over 9,000 years of Tlingit oral tradition (in particular narrative storytelling) and is also reflected in the Tlingit place names around the Southern Yukon Lakes, over three-quarters of which are water-related. Coastal Tlingit place names are equally aqua-centric, as anthropologist Daniel Monteith's (2007) extensive empirical geological and coastal Tlingit place name linguistic research reveals. Place name research further evidences a highly sophisticated and deeply ecologically embraced coastal Tlingit philosophy confirmed by our own water research (Monteith, D., Cathy Connor, Gregory Streveler, and Wayne Howell, 2007).

According to ethnophysiographer Andrew Turk (2011) "language (as well as pictorial representations) provides the basis for understanding alternative worldviews, including cultural aspects of place" (p. 57). Anthropologist Thomas Thornton's (2008) research, for instance, reveals that the English name for Glacier Bay in Alaska defines just that—a bay with a glacier in it. In the coastal Tlingit dialect, it is *Sit' Eeti Geeyi*, (bay taking the place of the glacier), which describes the "geographical process of glacial recession and bay formation" (p. 81). Thornton (2008) lists two other hydrographical and geological related place names: John Hopkins Inlet, which in Tlingit is Inlet moves toward Mount Fairweather, and Hugh Miller Inlet, which is Where the Glacier Ice Broke Through (p. 81).

Our toponym research around the Yukon River headwaters has produced three original counter-maps. One 2D Tlingit and Tagish counter-map showcases the aqua-centric nature of these toponyms, whilst at the same time privileging

the Tlingit and Tagish making of place over the colonial version where most English toponyms are named after Anglo-American, white, male explorers and academics.[5] A second counter-map, something we call a "deep chart" (2017), utilizes the Google Earth platform to better represent both the Tlingit and Tagish oral traditions, a more complete description of aqua-centric toponyms, water sampling data, toponym photographs, audio files of Tlingit place names, remote sensing data, and a richer, deeper representation of the intersection of Tlingit and Tagish identities with the region through Tlingit and Tagish storied geographies.[6] What is revealing throughout this water research is the number of toponyms that are centered on movement, as well as the detailed empirical scientific knowledge embedded within them. A further unique feature is the acoustic ecologies knitted into place. For example, the toponym *Taagish* means the *sound* of the break-up of ice at Tagish. Further examples of glacial toponyms include *S'e Shuyee*, which refers to the drainage at the end of glacial mud, *A Shuyee*, which means the foot of the glacier, and *Sit' Heeni*, which means glacier creek.

Stories emerge from and are co-dependent with ecological processes, something that we (2015) call "slow activism." How might slow activism—this radical, powerful, and highly sustainable form of environmental storytelling—act as both a counterpoint to the dominant water (glacier) rhetoric, as well as a site of resilience to essentialized readings of water? We suggest that slow activism is one counter-story to Rob Nixon's (2011) slow violence. Slow activism centers on the enduring performances of Tlingit storytelling that are bound up in Tlingit oral traditions and the verb-oriented Tlingit language showcased by Tlingit place names that reflect geomorphological processes and cultural practices. "Slow" reflects an underlying resilience and adaptability (not unlike the core characteristics of water) within Tlingit oral tradition that does not pay homage to the Western capitalist anthropocentric logic of time-equals-money. It connects to a far older set of philosophies and relationships where qualities such as respect and reciprocity are privileged, which is evidenced in Tlingit storytelling. As mentioned in the previous section, many stories detail relationships, even marriages between humans and the more-than-human world. Some examples are "The girl that married a bear," "The man who married an eagle," "The woman who married a [spruce] tree," and "The girl who married a fire spirit" (Hayman with James & Wedge, 2017; Swanton, 1909, p. v-vii;). Other narratives emphasize the qualities and agencies of glaciers and rivers that are animate and able to animate surroundings. These aquafaces within a Tlingit cosmology are more like verbs than nouns and more process than product—something we (2015) understand as "narrative ecologies."

9,000 years of storytelling evolved a narrative tradition that has witnessed countless climate changes and has adapted accordingly (Cruikshank, 2005). At a time when many First Nations are struggling to retain identity and coherence in a rapidly changing world, it is the power of strong stories that offers a unique combination of knowledges for conflict resolution and survival (Wedge, personal communication, 2 February, 2014).

What do Glaciers do? Mystery and Uncertainty

As Knight's (2004) epigraph at the beginning of this paper reveals, glaciology, and in particular glacier science, is a relatively recent Western academic earth science that has emerged rapidly with developments in technology like satellite remote sensing. Glaciers are a critical part of complex global hydrological cycle(s) and are key players that affect and are affected by climate change. As Knight (2004) elucidates, "Climate controls a range of glacier characteristics including size, thermal and hydrological regime, movement and geomorphic activity. Glaciers

exert control over climate by affecting albedo, the surface energy balance and the composition and circulation of the atmosphere and oceans" (p. 389). Here glaciers are framed in terms of either collateral damage or orchestrating dramatic shifts in climate. Such descriptions are extraordinarily close, and yet also distant, from Tlingit oral traditions depicting glaciers. As anthropologist Julie Cruikshank (2011) notes, Tlingit understandings of glaciers are framed as inherently social spaces where "human behaviour, especially casual hubris or arrogance, can trigger dramatic and unpleasant consequences in the physical world" (p. 11). In contrast to an earth science reading of glaciers where the human is remarkably absent, a combination of both human and glacial agency within a Tlingit cosmology has profound implications. Community consultant Colleen James (25 August, 2013) has spoken clearly about the large animals and giant worms that are said to inhabit glaciers. If killed, these glaciers begin to melt. She also warns that if fat or grease are cooked close to a glacier, the glacier may surge and flood the valley downstream. Taunting, jeering, calling to, speaking carelessly about, or inciting a glacier to surge are also actions explicitly warned against.

These examples demonstrate how Tlingit oral traditions hold within them precise ecological knowledge about glaciers, flows, circulations, water, and water bodies, as well as protocol for valuing and respecting glaciers. When combined with empirical science, these oral traditions provide the core elements of glacial narratives that create a complex, sensory glacial imaginary (Cruikshank, 2005; Thornton, 2008). At a broader level, and like many glaciers themselves, dominant scripts about glaciers and rivers are in a state of flux. Melting glaciers, breaking pack ice, and dissolving ice patches are inscribing new imaginaries that alter archeological records, economic and mineral development possibilities, and, in the case of the arctic, national security concerns. The collision of very literal narratives with metaphorical ones provides the framework for complex and complicated cultural imaginaries like those we discuss in this paper.

Lastly, we put eco-critic Anne Milne's (2012) idea of "feral spaces" and anthropologist Anna Tsing's (2015) idea of "feral biologies" into conversation with Eleanor Hayman's (2012) idea of "feral waters" to denote and signify an aquatic positioning and situatedness of thought that draws on movements and moments to democratise water knowledges. We use 'feral waters' to open up spaces within and between the environmental humanities and natural sciences in a Western academic epistemology, but also—and more critically—to create spaces between Western science and Indigenous scientific ontologies. Sustainability science has arguably come closest to advocating a 'feral waters' method by attempting to redefine the concept of sustainability, moving it away from its current problematic, institutionalised definition to one that acknowledges both a deep past and the potential for a deep future (Senier, 2014). We seek to develop 'feral waters' as a framework that creates conceptual spaces and storytelling to formulate a new water consciousness and a new water culture that decolonises dominant understandings of water, thereby shifting how we think about the Anthropocene(s). Anthropocenic 'modern' waters are currently essentialised and often abstracted away from water knowledges and sciences whose default ontologies regard relationships with water as critical to survival and sustainable baselines to be respectfully and mindfully maintained.

Conclusion

The Anthropocene might be seen to facilitate certain histories and privilege particular narratives. But Jason Moore (2014) poses an important question:

> Are we really living in the Anthropocene, with its return to a curiously Eurocentric vista of humanity, and its reliance on well-worn notions of resource and technological determinism? Or are we living in the Capitalocene, the historical era shaped by relations privileging the endless accumulation of capital? (p. 5).

We argue that putting Tlingit and Tagish oral glacier narratives into conversation with Anthropocene/Capitalocene thinking is an important step towards reimagining nature/culture assemblages, and potentially introduces a different rhetoric, providing models for different potential futures.
The Randolph Glacier Inventory referenced at the beginning of this paper may become a defining mark of the Anthropocene/Capitalocene, but as Knight (2004) cautions, "our reconstructions of past glaciations remain tentative, our understanding of modern glacial processes incomplete and our modelling of their future unreliable" (p. 385).[7] Such narratives may paralyse and choke out other glacial narratives and the rivers they feed, but may also open the space for other equally legitimate definitions. Tlingit and Tagish oral narratives speak of glacial histories entangled with and negotiated by humans and bear witness to the uncertainty and unpredictability intrinsic to natural systems. These narratives expose not just a rich and historical glacial record laced with human-glacier encounters and possibilities, but also the intersections of people, places, identity, and language. As Cruikshank (2001) confirms, "Oral narratives have histories that capture some of the accumulating, vanishing, changing meanings associated with glaciers from the distant time of ice ages to the present era of parks, meanings that continue to be enmeshed in social worlds" (p. 382). As future rivers of the Anthropocene, glaciers seen through Tlingit oral tradition reveal a sedimentation of stories, palimpsests of memory, and a particular archaeology of water—essentially what we call a deep topography that is critical for understanding (and surviving) complex earth processes.

As the southern Yukon ice patches melt and continue to reveal a broad, sophisticated, and complex set of Yukon First Nation relationships with the iced north, and as glaciers thaw at an increased tempo, raising the water levels of the southern Yukon lakes, conflicting water/ice narratives will collide at ever-higher frequencies. The social life of ice (glaciers) articulated within Tlingit and Tagish oral traditions, coupled with current melting patterns, offers profound accounts of ancient multiplicities rooted in a storytelling culture that precedes much contemporary scholarly work. Thinking with glaciers as powerful actors in the forging of human and more-than-human identities can be viewed as an effort to re-imagine relationships with water and ice and depart from terracentric histories, and futures. We suggest that the slow activism embedded within Tlingit and Tagish glacial narratives has the ability to disrupt increasingly entrenched notions and narrow definitions of the Anthropocene(s) that reproduce a mono-cultural imaginary.

Appendix: Tlingit and Tagish Traditional Oral Narratives

"Travelling Under the Glacier" by Jimmy Scott James, December 10, 1950 [8]

A long time ago there are people, and they have no fish coming up. The salmon aren't coming up, and all the Indians are starving. What they do is a true story I am going to tell you.
And the glacier comes right across the river where the salmon used to come up. That's why the salmon can't go through. Below the glacier the salmon are there all the time. But these people don't know then. This happened up in this country. Then everybody is starving. It was summertime, I guess, but they are talking about it all the time. Everybody says, "You can do something, I guess, to break open that glacier?"

After that there are two old men, and they are going to die anytime soon. "Let's give up our lives for our own people are going under that ice in the boat." So those old men save the little children and help the country. The river goes under the glacier, and the old men put the boat in.

It is going to go under the glacier.

Then in the morning, "Well," they say, "now, we come." First the people all bring their clothes and their good stuff for their old people. They dress them up good. Everybody comes around like that to dress them like that.

Those [old men] are ready to go that day. Then one old man says, "That's all."

They painted their faces good. Now they get into the canoe. One is at the bow and one is at the stern. Then those two old fellows say, "We don't want you to hold our canoe. Let those little fellows do it. Let the little kids hold the boat."

And then they had a song for it. [Jimmy sings a song.] They have one song for letting the boat go under the ice. And when it floats out onto salt water, they have another song.

The first song has these words: "This little child is going to take my place after I die." [Jimmy pointed to three-year-old Ralph as he sang the song.]

"There's no more. Let the boat go now," they say. The two men tie their hair up on top of their head, and they tie the tops of green spruces to their hair. And they sail good under the ice. They just go like a shot. They go under the glacier.

Gosh, they say that they couldn't see anything! It is just dark. But they keep going just the same. Some places the ice touches one side of the boat. They expect any minute to be the end of their lives.

Finally, just at that minute, daylight comes to them, quick. They get through to the other side, and nothing happens. And they just look down where they have floated. Gee, you can see lots of salmon just below the glacier—red salmon and everything! They eat good now, I guess, those fellows.

And they are way out on the salt water, floating around for quite a while. They are just happy. "Well, let's have another song again," one of the men says. "Let's have another song where we came out here!"

Afterwards, whenever that man's people have a potlatch, they sing the song every time. They keep this song up in this country all over.

"That boat, it's coming through, and he sees the world again. When you come out, You're glad to see the world again."

That's why, whenever they have a big potlatch they sing the song. Everybody sings it, it doesn't matter who. [I asked which sib claims the song,

and Jimmy said that he would ask an elderly Kùkhhittàn woman whether the song belonged to the Kùkhhittàn or to Dakl'aweidí].

Afterwards, on the same day that they let the two men go through the ice, two young fellows run down on the glacier. It takes them two days to run down. And before they come there, they see smoke coming out below the glacier. And those young fellows come to the old men there. The two old men have everything there. They are packing up and drying the salmon. So the young fellows ran back and give the people a bunch of salmon. They dry a little bit of salmon, and the boys took it back for all the little fellows. And the people came back down the next day. They head back down over the ice. They walk there. Everybody goes over the glacier, and they all get there and dry fish, everybody. And after they dry it, they pack the fish back over and bring lots of fish over [the height of land]. After that, in the winter, there is lots of snow in this country. And in the springtime all the waters are running all over. All the rivers are high. And they jam up the glaciers where the salmon used to come up and break through the whole glacier. So after that, after the glacier is broken through, the salmon come right up the river the same way as they did before. And that is the end of the story.

Footnotes

[1] http://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCIQFjAA&url=http%3A%2F%2Fjohnrgillis.com%2Fworks%2Fbluehole2.pdf&ei=YdmhU8zRDdHQ4QTKnIDACw&usg=AFQjCNFyNdlKeDZ6H8HzFVOYopdS3TD1Mw&sig2=yncDegzgC8tb144VubPWew&bvm=bv.69137298,d.bGE, accessed 1 July 2018.

[2] For example ***Kwädąy Dän Ts'ìnchį*** or Long Ago Person Found. Discovered on a glacier in 1999 by three sheep hunters, ***Kwädąy Dän Ts'ìnchį*** is the oldest ice mummy so far found in North America. DNA testing has revealed relatives amongst both the coastal and inland Tlingit (Corr et al. 2008).

[3] See Ken Coates and Greg Poelzer's acknowledgment of a current dislocation in Canada in *An Unfinished Nation: Completing the devolution revolution in Canada's North* (2014), and particularly the 2016 report titled *Canadian public opinion on Aboriginal Peoples* [3] to see the division in opinion on a number of critical perceptual 'racial' issues). See the report here http://nctr.ca/assets/reports/Modern%20Reports/canadian_public_opinion.pdf, accessed 4 January 2017. Coates, K., and G. Poelzer(2014). An Unfinished Nation: Completing the devolution revolution in Canada's North. MacDonald-Laurier Institute. https://www.macdonaldlaurier.ca/files/pdf/MLIArcticDevolutionPaper04-14-webready.pdf, accessed 3 July 2018.

[4] As Cruikshank notes, archives are where white people go to learn about history (personal communication, 12 November, 2014).

[5] This digital map can be viewed online with these links: PDF version available at https://www.dropbox.com/s/aty0262uryivafz/CTFNposter_03_02_600dpi.pdf?dl=0 and http://documents.routledgeinteractive.s3.amazonaws.com/9781138204294/13_Figure2_CTFNposter_03_02_600dpi.pdf.

[6] Because the CTFN government is currently utilizing this deep chart within educational, cultural, and legal arenas, we must respect intellectual property protocols by keeping the map private. We regret that we cannot share it with readers.

[7] Knight's use of the word 'our' is as telling as the environmental glacial narrative he comments on. An inclusive 'our' begs the question, Whose Anthropocene is it?!, which is the subtitle of our paper.

[8] James, J. S. (2007). My Old People's Stories: A Legacy for Yukon First Nations. J. Cruikshank (Ed.) Whitehorse: Government of Yukon, Cultural Services Branch.

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