Héen Aawashaayi Shaawat / Marrying the Water

The Tlingit, the Tagish, and the Making of Place

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For Piers, Hugo, Madeleine, and Bertille who run with the wolves

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Executive Summary

"When dominant cultures are undergirded by anthropocentric logics of efficiency, profit, and progress, waters are all too often made nearly invisible, relegated to a passive role as "resource," and subjected to containment, commodification, and instrumentalisation" (Chen et al., 2013: 3)

"The depth of indigenous knowledge rooted in the long inhabitation of a particular place offers lessons that can benefit everyone, from educator to scientist, as we search for a more satisfying and sustainable way to live on this planet" (Kawagley & Barnhardt 1997:9)

"We who are Tagish and we who are Tlingit, our heritage has grown roots into the earth since the olden times. Therefore we are part of the earth and the water" (Elder's Statement in the Final Agreement between Carcross/Tagish First Nation and the Canadian Government, Ottawa, 2006)

The investigation

This thesis investigates the intersections between 'old' and 'new' academic/Indigenous emerging strains of ecological and ethical water thought in a time of multiple species extinction, the rhetoric of the Anthropocene, and the 'Indigenous Spring' (Lerma 2014). Specifically, I showcase a four year collaborative and participatory water research and mapping project with the Tlingit and Tagish Indigenous culture(s) of the circumpolar north (Yukon Territory, Canada, and Alaska, USA).

This collaborative water research with Carcross/Tagish First Nation (CTFN) provides the framework for a CTFN government Water Act – legislation rooted in the aqua-centric philosophy, traditional oral narratives and empirical scientific knowledge of the inland Tlingit and Tagish first peoples of the circumpolar north. As part of a decolonising strategy, this will

be the first Indigenous water legislation of its kind amongst the fourteen First Nations in the Yukon Territory and will speak directly to Canadian environmental law.

This research is timely as July 1st 2017 marked 150 years of the Canadian Nation State. Reforms and revisions of existing Canadian freshwater policies, law and governance are increasingly prioritized. However, at the same time the 150th anniversary highlights yet another silencing of First Nations' identity and occupancy of Turtle Island (North America). Furthermore, from a water perspective, there are over 140 First Nations without access to safe drinking water, complicated by the historical injustices of forced resettlement and systemic racism in Canada (Hueber & Di Battista 2017).

Challenges to ways of knowing (epistemic justice)

This water research provides a challenge to dominant Eurocentric (water) knowledges and builds into new forms of decoloniality and postcoloniality. With decolonial enquiry as a point of departure, and using intersectional approaches and analyses, I push at the boundaries of water ethics, critical cartography (deep mapping), feminist political ecology, and critical Indigenous theory - all through a hydrological lens.

As a form of earth jurisprudence, the Tlingit and Tagish ways of knowing and relating to their immediate ecologies/hydrologies contributes to debates on the Rights of Nature and the legal definition and categorising of personhood. This work therefore provides material for the creation of a Tlingit and Tagish Water Act rooted in the philosophical assumptions of the Tlingit and Tagish first peoples.

Geographical context

The discipline of (human) geography has gone through a 'spatial turn', and is currently experiencing a 'decolonial turn' coupled with what I anticipate might well be named a 'hydrological turn'. I am influenced by the 'ontological' and 'species' turn that anthropology embraces as well as the environmental humanities.

The immediate currency and relevancy of this research within the Anglo-Euro geographical field is underscored by the latest (August 2017) Royal Geographical Society theme for their annual conference *Decolonising geographical knowledges: opening geography out to the world* which

marks a broad recognition of the need to critique geography's inherent colonial biases from decolonial angles.

Decolonial scholarship is a product of the collective works that many geographers, anthropologists, and Indigenous peoples throughout the world have been engaged with for the last two (or hundreds of) decades. Specifically knowledge practices, the production of knowledge, and the inherent politics of ways of knowing. This water research builds into and expands that body of knowledge as increasingly all bodies of water, salty and fresh, are becoming sites for many forms of academic and civil society scholarship.

Much recent geographical thought naturally considers the many and swiftly changing discourses of the Anthropocene faces. At the same time there is an emerging 'aquatic' rhetoric reflecting an increasing water consciousness. This is evidenced to name but a few, by 2017 (Royal Geographical Society) conferences themes, (University of British Columbia) blogs, (Indigenous) special academic issues, and recent EU/Canadian funded projects such as Blue Communities, Hydro Citizenship, and Decolonising Water.

Building on emerging hydrological metaphors, templates and rhetoric such as a blue dialogue, blue covenant, blue communities, blue gold, hydro-citizenship, the blue hole in environmental history, the blue humanities, liquidscapes, and liquid power, I contribute to the new water culture rhetoric in this project with my concepts of feral waters, aqua-centrism, homo *hydro* sapiens, a hydrological turn, and liquid space. These concepts reflect the Tlingit and Tagish profound relationships with water bodies and to place.

New fields of hydrological inquiry and understanding that attempt to create productive spaces between and amongst the natural and social sciences can be seen within geography, particularly in Canadian geography (Bakker 2014; 2016). This research attempts to further that space as well as providing an alternative way of thinking about the technical and economic oriented Payment for Ecological Services (PES) whose language of 'natural capital' reflects a neo-liberal reading of our collective planetary 'resources'. This thesis therefore puts the classic PES into conversation with an Indigenous cultural, spiritual, scientific, and experiential valuing of water.

Deep mapping, deep geography, and the deep chart

Critical cartography is equally in a state of flux with the digital revolution (Google maps; Google Earth; GIS; GPS etc.), and new methods of investigating and thinking with space and place such as deep mapping. I employ deep mapping in this research in the tradition of counter-mapping, creating the first aquatic focussed deep map in both digital and hard copy form. They are a core visual representation of this water research.

By challenging dominant water narratives and dominant cultural assumptions (or the mono-cultural imaginary), the deep maps offer multi-scalar perspectives on a Tlingit and Tagish sense of (aqua-centric) place. The deep maps further questions such as 'How is water knowledge produced?' and 'What are the (water) narratives of entanglement that intersect and juxtapose power, knowledge and place?' The term deep geography is offered here to embrace deep mapping, spatial storytelling and spatial narrative (Harris 2015). As an extension or deepening of critical cartography, this water research adds another significant aquatic dimension to deep geography.

Framing

This thesis is theoretically framed by a combination of critical Indigenous, (eco) feminist, decolonial and political ecology theory. These theories are put into conversation with the concepts of 'modern' or colonial waters, and the parallel instrumentalisation of water into an abstract chemical formula - H_2O.

Funding

Funding was achieved primarily through a PhD scholarship from the Heinrich Böll Stiftung, Berlin, Germany, with generous supporting monies from the Ludwig Maximillians Universität, Munich, Germany, the Northern Research Development Fund, Whitehorse, Yukon Territory, Canada, and personal funds. Support from the Yukon River Inter-tribal Watershed Council (Yukon Territory, Canada) enabled the 2014 water sampling/place name expedition of the Southern Yukon Lakes (Yukon Territory, Canada).

Current debates

Current debates in this broad interdisciplinary area range from issues of legitimacy from both the natural sciences, the social sciences and Indigenous scientific knowledge. Most relevant

from the social sciences and humanities is the challenge to human exceptionalism, and the philosophical as well as anthropological study of the 'more-than-human'.

Other debates that have poignant relevancy to this thesis are voiced in Pope Francis' 2nd Encyclical *Laudato Si* (2015) where water is a key player; the World Ethics tribunal on *Rights of Mother Earth* (2017); and the social activist and justice Indigenous movement *Idle No More* (2012 to present).

Methodology and methods

Drawing from the principles of Indigenous scholar Tuhiwai Smith's (1999) *Decolonising Methodologies*, I employ a complementary set of hybrid methodologies to realise the intersectionality of this water work. I utilise the critical and analytical characteristics of the environmental humanities in particular, but also the scientific aspects of the social sciences.

Interviews and participant observation was compared and coupled with a water sampling and place name (toponym) expedition of the Southern Yukon Lakes (CTFNs traditional territory) to produce a 'deep chart' (the aqua-face of a deep map) on a Google Earth platform.

Basic assumptions

This research assumes there are ontological differences between cultures and/or worlds. It assumes there are root metaphors bound up in language which frame and influence cultural constructions of the way the world is. It assumes there is an inherent bias in the dominant (mono-cultural) imaginary towards terra-centrism.

Why is this research essential?

Original collaborative water research rooted in decolonial theory promotes a democratisation of water knowledges, when cultures of water(s) are increasingly foregrounded globally (Hayman 2012, 2015, 2017, forthcoming 2018).

In this thesis water is a starting point to rethink ontologies but is also shown to be a model for ethics. It essentially contributes to (re)imagining, (re)contextualising, and introducing new templates for a multi-species hydrological future(s).

On the global water ethics stage, Tlingit and Tagish philosophy is given a voice. Furthermore, this collaborative water research provides the framework for the first Indigenous Water Act in the Yukon Territory.

Prominent problems

Only 200 people speak the Tlingit language fluently in both Alaska, USA, and the Yukon Territory, Canada. Within the CTFN community, the inland Tlingit, there are only three Elders who are fluent. Whilst many of the 1000 CTFN citizens are well versed in Tlingit and Tagish cultural traditions, the Tlingit clan system of Wolf and Crow moieties, and their 9000 year old oral narratives, the Tlingit language continues to be under threat of extinction.

With more weeks spent in CTFNs traditional territory with CTFN citizens and government, the sets of experiences, opportunities for participant observation, and possibilities to interview more CTFN citizens would have been realised. As such interviewees include the three Elders who are fluent in the Tlingit language, and a relatively balanced selection of male and female interviewees from the Wolf and Crow moieties, with five out of the six clans represented.

New terms for new templates

In summary, this thesis examines water from a Tlingit and Tagish Indigenous perspective in terms of its functional and symbolic value utilising Western philosophical tools, Tlingit and Tagish (eco) philosophy, whilst introducing new English words which embody progressive Tlingit and Tagish concepts.

By so doing, this collaborative water work interrogates and challenges received ideas and concepts regarding water. However it goes beyond this by offering new templates of collaborative decolonial work, primarily through the application of deep mapping.

As geographer Sarah Radcliff wrote on the threshold of the RGS *Decolonising Geography* annual conference 2017, geography must adopt and engage with a multi-epistemic fluency. This thesis showcases possibilities and opportunities to do just that.

Abstract

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 consciousness can be found to inform and potentially reimagine contemporary international debates concerning water ethics, water law, water governance, and water management.

A   *Preface*

Within hours of arriving in the Yukon Territory, Canada in August 2012, I was travelling by boat on *Ch'aḵúx̱ Anax̱ Dul.adi Yé* or Bennett Lake to Millhaven Bay for a cultural heritage retreat organised by the Carcross/Tagish First Nation (CTFN) government. I had been invited by CTFN to their traditional territory by Heritage Manager Heather Jones for five weeks. Having been in contact with many of the other eleven self-governing First Nations in the Yukon Territory about potential collaborative water research, it was CTFN who took the initiative in February 2012; the beginning of four years of Participatory Action Research (PAR) focussing on a Tlingit and Tagish relationship with and conceptualisation of water.

Figure 1:   Location of the Yukon Territory, Canada[1]

Inspired by a lecture given by environmental historian David Neufeld on a First Nations' approach to navigating the Yukon River at the Rachel Carson Center in Munich, Germany, I first

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[1] http://geology.com/canada/map-of-yukon-territory.gif accessed 14 February 2017

came to the Yukon Territory in February 2012. There I participated in and helped out at the *Tr'ondëk Hwëch'in* First Nation's cultural heritage gathering in Dawson, as well as visiting *Kwanlin Dün* and *Ta'an Kwäch'än* First Nations' offices in Whitehorse and contacting four other First Nations. All First Nations responded very positively to my proposal for collaborative water research, but it was CTFN who invited me that summer to their traditional territory which embraces the Southern Yukon Lakes – the headwaters of the Yukon River – to further develop ideas of what collaborative water research might look like.

After being most generously hosted and invited to participate in a range of governance and cultural activities by the CTFN government and community, the Natural Resources Manager Tami Hamilton (now Grantham) suggested that as self-governing CTFN was developing various branches of legislation, my collaborative water research would do very well to form the basis for a CTFN Water Act: Water legislation rooted in the traditional oral narratives and cultural practices of CTFNs cultural values – the cosmology of the (inland) Tlingit and the Tagish peoples.
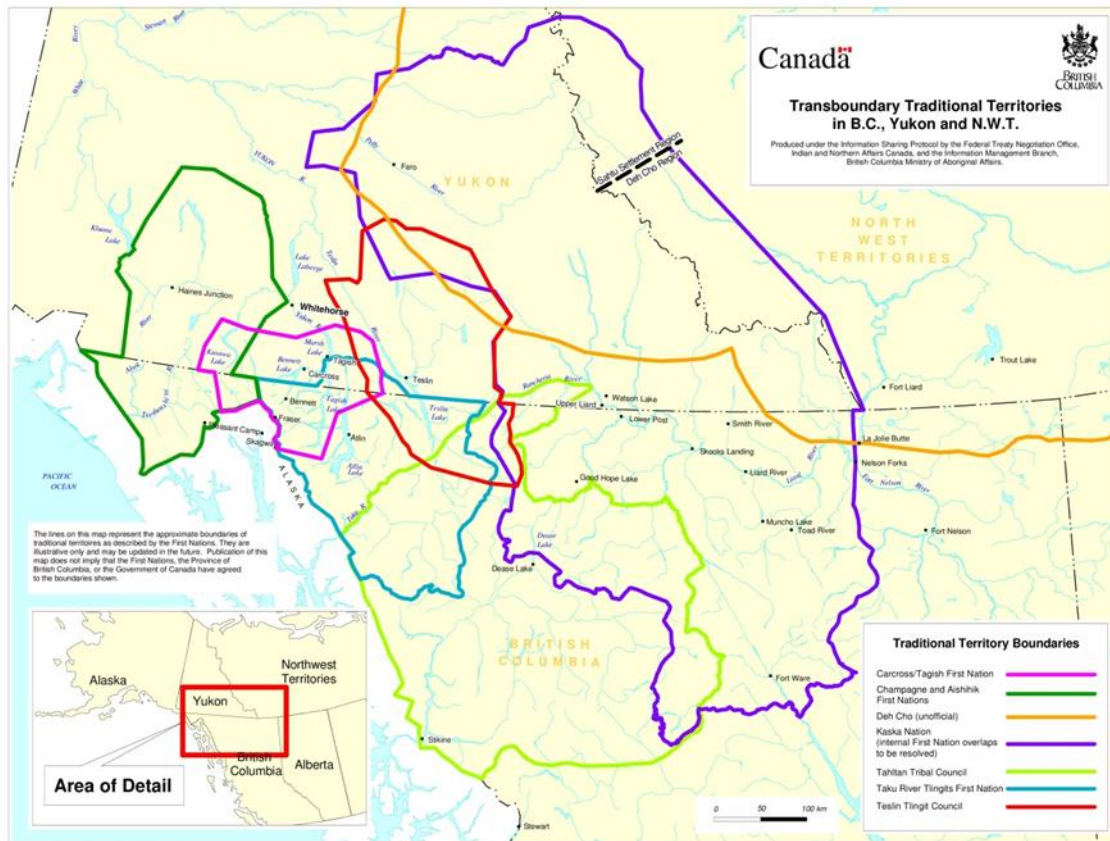
Figure 2:   CTFNs traditional territory straddles the Yukon Territory and British Columbia (pink boundary)[2]

Over the course of the next four years I was honoured and privileged to complete fieldwork in CTFNs traditional territory for a total of 17 weeks in collaboration with the CTFN government and community. During this time Carcross, along with CTFN have been the focus of state visits at the international level. In August 2012 Canadian Prime Minister Harper started his Yukon tour in Carcross campaigning for the development of the north as a 'national dream' (amidst CTFN protestors)[3].   Four years later in September 2016 it was Prince William and Kate[4], representatives of the British Royal Family, who visited Carcross and were hosted by CTFN.

Interest in CTFN through this collaborative water research has led to interviews and advice that has fundamentally enriched the nature and tenor of the fieldwork and writing. To prepare and

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[2] http://www.eco.gov.yk.ca/aboriginalrelations/pdf/transboundary_map.pdf accessed 27 February 2017.
[3] For a Canadian Broadcasting Corporation (CBC) newsletter report see http://www.cbc.ca/news/politics/harper-s-northern-tour-continues-at-yukon-mine-1.1219798 accessed 15 February 2017.
[4] For a CBC report see http://www.cbc.ca/news/canada/north/carcross-yukon-montana-william-kate-1.3784577 accessed 15 February 2017.

train myself for this research I attended many week-long courses and workshops such as ArcGIS training (Lancaster University, UK), the Cultural Study of the Law (Osnabrück University, Germany), and "Into the Depths of an Earthly Cosmology: Science, Storytelling and the Sensory World" course with David Abram and Stefan Harding (Schumacher College, UK). I participated in the 6th World Water Forum in Marseille, France, the Yukon River Inter-Tribal Watershed Council biennial summit in Mayo, Yukon Territory, and the Teslin Tlingit Celebration in Teslin, Yukon Territory, amongst many other invitations to learn and share this water research.

Key conversations have changed the way this water PhD has progressed. Civil engineer and water expert Professor Grambow invited me to the Water Management Department in the Bavarian Ministry of the Environment and Public Health, Munich, Germany for a conversation about water ethics and my water research. Author and water activist Maude Barlow endorsed this work, connecting me to the Council of Canadians, whilst Indigenous scholar Jeannette Armstrong (Syilx First Nation, Okanagan, Canada) congratulated and encouraged me to continue my collaborative water path after my presentation in Grainau, Germany. Anthropologists Tim Ingold and Julie Cruikshank have been more than generous with their time, and continue to give invaluable guidance and critique when I ask. Thank you so much.

I have given many presentations outlining this collaborative water research. Most important are those to the Tlingit and Tagish communities for their critique, advice and guidance. A few I will mention include the Tlingit Clan Conference, Juneau, Alaska; the CTFN government and community for validation and guidance over these four years; the Southern Lakes Water Level Committee (SLWLC), Marsh Lake, Yukon Territory; and the Tagish River Habitat Protection Committee, Tagish, Yukon Territory.

My scholarship with the Heinrich Böll Foundation (Heinrich Böll Stiftung - HBS; the Foundation of the German Green Party) enabled me to join a HBS cluster "Transformation" group to develop transformative visions for a green economy – essentially a pedagogical attitude to build into conversations about the Great Transformation[5]. The Rachel Carson Center (RCC) in Munich, Germany has been a vibrant and rich source of dialogue, international academic

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[5] The Cluster-Transformation webpage of the Heinrich Böll Stiftung can be found here http://www.cluster-transformation.org/mitglieder-2 accessed 15 Feburary 2017

excellence, colloquiums, reading groups, and inspiration. Both (re)sources have enabled me to develop ideas and perspectives on and for this water research.

B   *Acknowledgements*

It has been such a tremendous privilege to listen, learn and work with you. This is only the beginning. Our work breathes on. *Gunalcheesh*!

Figure 3:   Carcross/Tagish First Nation inland Tlingit and Tagish community consultants Colleen James / *Gooch Tláa* (*Daḵl'aweidí* Clan of the Wolf moiety) and Mark Wedge / *Aan Gooshú* (*Deisheetaan* Clan of the Crow moiety) in the Yukon Territory, Canada (left), and coastal Tlingit Elder David Katzeek / *Kingeisti* (*Shangukeidi* Clan of Klukwan, Eagle moiety), in Alaska, United States (right). Photos: Eleanor Hayman

C   *Notes*

C.1   Notes on the Tlingit language

Throughout the four years of this collaborative water research, the Tlingit language within these chapters has been supported by Tlingit language scholar Lance Twitchell (Professor at the University of Alaska South-East, USA), coastal Tlingit Elder David Katzeek, Alaska, USA, and CTFN cultural projects and Tlingit language coordinator Deborah Baerg, Yukon Territory, Canada.

Any discrepancies between the coastal Tlingit and inland Tlingit orthography are my errors.

With the (counter) mapping of the toponyms (place names), I have kept to the Tlingit spelling from the primary source. For example I keep the spelling listed in the Yukon Gazetteer (Yukon Government 2016), as well as that from Angela Sidney's toponym manuscript of the Southern Yukon Lakes region (Sidney 1980).

Tlingit is a native Alaskan and southern Yukon First Nations' language, a branch of the Na-Dené language family that is spoken fluently by roughly two hundred Alaskan Native and First Nations peoples in the circumpolar north. Tlingit culture is far more extensive than the language itself, defining one hundred and thirty Tlingit Tribes, Clans, and Clan Houses comprising 17, 000 people across Alaska (US), British Columbia, and the Yukon Territory (Canada).

Tagish is a northern Athapaskan language, a branch of the Na-Dené language family no longer spoken in the Southern Yukon. Descendants of the Tagish language also spoke the culturally dominant Tlingit language fluently.

Note the geographical regions of the Tlingit and Tagish language, within the Yukon Territory in Figure 4. Figure 5 shows the Tlingit and Tagish language regions within the broader circumpolar north.

Figure 4:   Yukon Territory Indigenous languages (Note the Tagish and Tlingit language regions in light pink and brown)[6]

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[6] Language map source: http://cyfn.ca/wp-content/uploads/2013/08/language-map.jpg accessed 8 March 2017
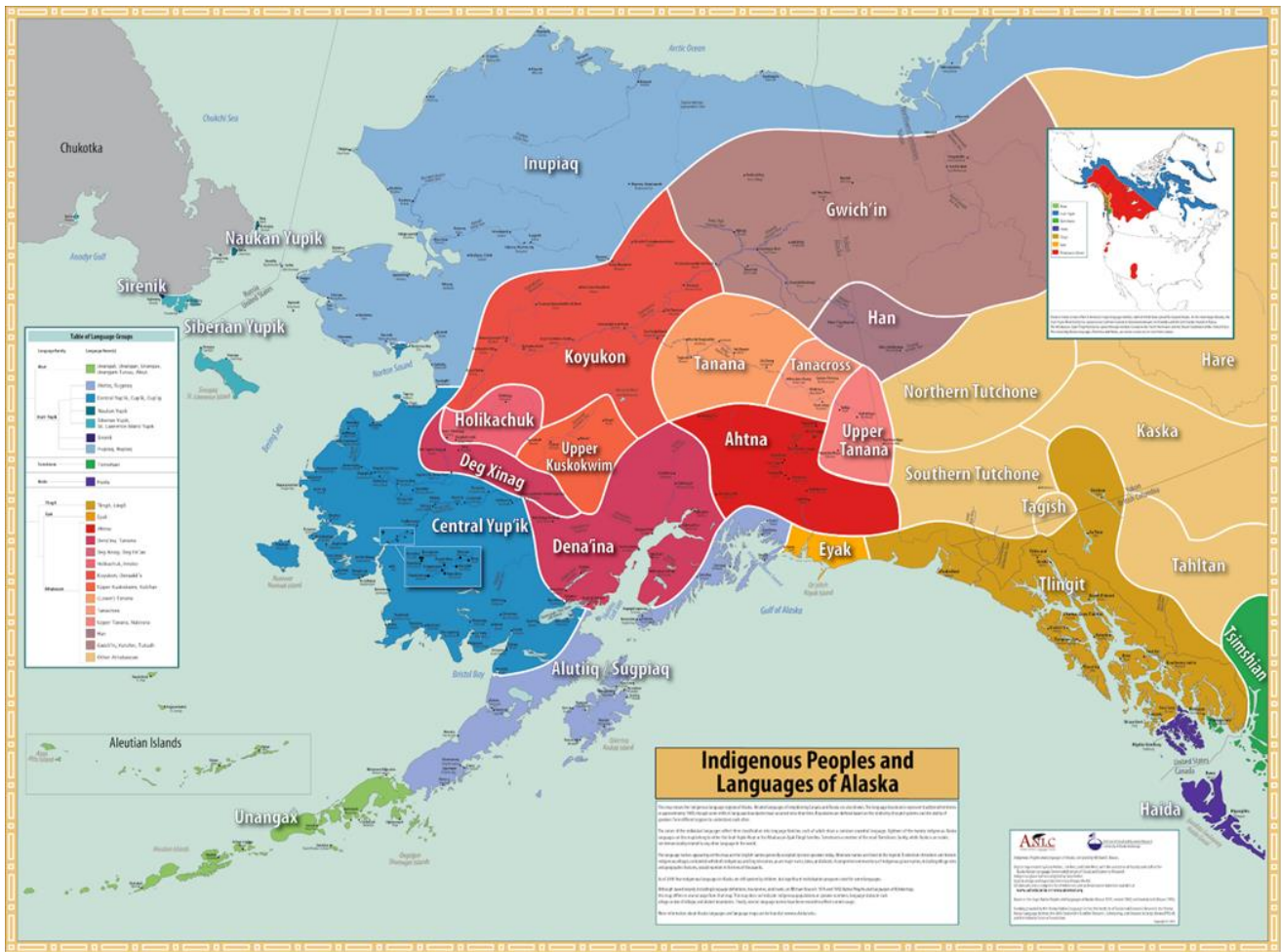
Figure 5:   Indigenous Peoples and Languages of the circumpolar north and Yukon River watershed. (University of Alaska[7])

[7] http://www.uaf.edu/anla/collections/map/anlmap.png accessed 20 February 2017

C.2   Notes on accessing the digital maps

Throughout this water work there are a series of ArcGIS generated maps, time-lapse videos, and a deep chart hosted on the Google Earth platform. These are core visual elements of my work, and fundamental to the water research with the Tlingit and the Tagish.

All six of these maps have their own **QR codes**, currently hosted on the LMU Geography Department server. They also have their own **dropbox** link. All codes and links can be found in appendix B, as well as throughout this thesis.

To view the deep chart the free Google Earth application must first be downloaded on whichever device used. https://www.google.de/earth/download/gep/agree.html

C.3   Notes on capitalisation choices

Drawing from Indigenous scholar Linda Tuhiwai Smith (1999), geographer Juanita Sundberg (2014) and geographer Sarah Radcliffe's (2017) decolonising texts, I follow their choice of capitalising terms such as the West, Western, Other (see particularly Tuhawai Smith 1999:6-8), and Euro-centric, Anglo-European, Eurocentrism, Anglo-Eurocentrism, Indigenous (Sundberg 2014:34; Radcliffe 2017:329).

Whilst being conscious of the dualisms of Indigenous vs Western, and other such ingrained binaries in Western thought, I seek not to perpetuate or reproduce colonial ways of knowing, categorising and measuring the world, but rather to unsettle, and trouble these terms by revealing the complex and complicated assemblages of colonialism, postcolonialism, and decolonialism.

C.4 Notes on the interdisciplinary and cross-cultural approach of this thesis (post-colonial and decolonial positionings, and the more-than-human)

Sundberg (2014) uses the term 'epistemologies of segmentation' to refer to the struggle within (human) geography to challenge dominant Eurocentric thinking, rhetoric, and analysis. As with this thesis, the troubling of underlying assumptions within geography, anthropology, environmental philosophy etc. resonates with strains of poststructuralism, posthumanism, and postpositivist realism. It can also be seen in the scholarship reflecting the 'ontological turn'.

Sub-disciplines that have embraced these epistemic challenges, adopting versatile epistemic fluencies include feminist theory, political ecology (importantly new materialisms), posthumanism, critical race theory, and critical cartography being the most relevant for this thesis. However the interdisciplinary inadequacies of current (geographical) scholarship to reposition, redefine, and refocus the human with the more-than-human, such as new materialisms, (eco) feminism/gender studies, environmental philosophy/ethics, and legal anthropology attempt to do, has led to more fundamental interventions from postcolonial and now decolonial theory.

Multi-species ethnography blends with decolonial thinking examining the more-than-human, and specifically *not* the term non-human. Artist and ethnographer Eben Kirksey writes 'the notion of the non-human often subjects people, plants, and animals to slow violence—marking categories of life as expendable, external to the value system of capitalism' (2017:195). I expand Kirksey's argument in this thesis with the more-than-human to include water, soil and air etc., which in turn contributes to shifts in international (water) law to recognise the Rights of Nature discourse(s).

Postcolonial theory is distinct from decolonial thinking in that it examines the underlying structures of colonialism, but, and this is critical, from within Eurocentric positions. This positionality distinguishes postcolonialism from decolonialism whose task is to 'de-link' from Anglo-European thinking, or as decolonial and border thinking scholar Walter Mignolo calls it 'epistemic disobedience'. Therefore decolonial scholars draw from a broad range of decolonial

scholars and activists (some anti-colonial) from the Latin America[8], Africa, and Indigenous places globally. According to geographer Sarah Radcliffe 'decolonial approaches emerge from, and engage with, a wide range of critical and radical scholarship, including critical Black scholarship, Indigenous theory, and feminist and queer theory…' (2017:329).

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[8] Nelson Maldando-Terres and Ramon Grosfoguel are key intellectuals furthering the so called 'decolonial turn' in Latin America. However, they are clear that they build on the long history of postcolonialism and decolonial thinking (from the late 14th century), and whose key intellectual proponents are Edward Said (1978), Gayatri Spivak, and Hommi Bhabha.

C.5   Notes on the radio interviews (Canadian Broadcasting Corporation)

Following the final presentations to the CTFN community and government in August 2016, interest in the evolution of a Tlingit and Tagish water legislation reached national level. I was interviewed twice by the Canadian Broadcasting Corporation (CBC). MP3 audio files of the interviews can be found with the following dropbox links.

Interviewed by Leonard Linklater on 15 August 2016. Full interview in English (9 mins).

https://www.dropbox.com/s/6qaqiquxln1ltrt/ctfn%20water%20act%20interview_441223_20
16-08-11T14-44-06.000.1350%281%29.mp3?dl=0

Interviewed by Claudiane Samson (vidéo-journaliste), Radio-Canada, Whitehorse on 11 August 2016. Leadin to the interview in French and English (2 mins).

https://www.dropbox.com/s/cuk5w3chcazr96h/TPR%20SAMSON%20d%C3%A9claration%20
eau_441092_2016-08-11T14-14-49.000-1.mp3?dl=0

a daa tutan i yux'atangee: Tlingit for "to weigh your words with care" reflecting the power of the spoken words themselves in the Tlingit language.

acoustic ecologies: "Acoustic ecology, sometimes called ecoacoustics or soundscape studies, is a discipline studying the relationship, mediated through sound, between human beings and their environment. Acoustic ecology studies started in the late 1960s with R. Murray Schafer and his team at Simon Fraser University (Vancouver, British Columbia, Canada) as part of the World Soundscape Project" (Wiki 2016[9]).

acoustic space: "The acoustic environment in which sound is heard is often called acoustic space" (Wiki 2016[10]).

aqua-centric (aqua-centrism): My term to describe both a literal privileging of water and attention to hydro-social cycles, but also a metaphorical disposition thinking in terms of fluidities and circulations

aquacide: 'Ecocide' is taken to mean the desctruction of the natural environment. Aquacide is the destruction/pollution of the earth's waters. Also linked to what Indigenous legal scholar Boaventura de Sousa Santos terms "epistemicide"; a "predatory discourse" which silences and swallows up other forms of knowledge.

aqua-face: An image taken from the James Joyce's novel *Finnegan's Wake* (1939). I utilise it to present an aquatic dimension to otherwise terra-centric mapping practices.

aquatic directional: My term for Tlingit and Tagish toponyms which indicate the flow and/or positioning of water bodies. My term builds on linguist James and Pricilla Kari's research (DENA'INA EkNENA - TANAINA COUNTRY, 1982). This anthropological research describes "accounts of the Tanaina "Directional System" and "Dena'ina Trails". The former will be of interest to readers who may wonder how the Tanaina language deals with directions (of water

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[9] https://en.wikipedia.org/wiki/Acoustic_ecology accessed 16 February 2017.
[10] https://en.wikipedia.org/wiki/Acoustic_space accessed 16 February 2017.

flow, spatial location, wind, etc.) without the key Western concept of cardinal points. The Karis demonstrate that the Tanaina directional system is based on flow of water and contains basic terms for "upstream", "downstream", "across", "down to (bank, water)", etc., which may be modified by the addition of prefixes and suffixes that convey additional meaning" (review[11] by Tlingit linguist John Ritter 1982).

aquatopia: After the book and art exhibition of the same name. *Aquatopia: The Imaginary of the Ocean Deep*: "For most of human history, the depths of the sea, like the depths of the mind, have remained largely unexplored". Aquatopia is a useful concept that I argue should refer to both fresh and salty water. (Atlee 2013[12]).

atmospheric rivers: "Atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. These columns of vapor move with the weather, carrying an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow" (National Ocean and Atmospheric Administration[13]).

dákdesax'aak: mackerel and literally translates in Tlingit as "swims underwater out to sea" (Twitchell 2015).

eek̲ lukak̲ées'i: which translates as snipe, literally "flood on the point of the beach".

flying rivers: also called the sentinels of climatic change.

Haa Tuwunaagu Yis: Tlingit for "healing our spirit".

héen-táak-xóots-Ÿí: polar bear is literally translated in Tlingit as "in the bottom of the water bear" (Crippen 2012).

hinkag áax̲i: red-throated loon or arctic loon is literally translated in Tlingit as "cries on the water" (Twitchell 2015).

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[11] http://arctic.journalhosting.ucalgary.ca/arctic/index.php/arctic/article/download/2397/2374 accessed 16 February 2017.
[12] https://www.questia.com/magazine/1P3-3105425361/aquatopia-the-imaginary-of-the-ocean-deep-at-tate accessed 16 February 2017.
[13] http://www.noaa.gov/stories/what-are-atmospheric-rivers accessed 16 February 2017.

hinyikl'ei̱xi: dipper or water ouzel is literally translates in Tlingit as "dancer in the water" (Twitchell 2015).

homo *hydro* sapiens: My term: a variation on Homo Sapiens Sapiens to denote the plausibility of new forms of hydro-citizenship within a new water consciousness for planetary survival.

hydrobelts (global): A method to define the worlds river basins. Global hydrobelts are "a novel reporting scale for water issues that generates cross-continent 'hydrobelts'. These regions are generated through: (1) natural hydrological basin boundaries, and (2) an aggregation based on the characteristic hydroclimatic features of types of river basins: annual water runoff (q, mm/year) and average annual air temperature (T, °C). The result is eight hydrobelts" (Meybeck et al[14][15]. 2013).

hydro-citizenship: The concept is a work in progress, considering and promoting ethical ways in which citizens[16] and communities live with each other and their environment in relation to water. At the moment it is anthropocentric.

hydrological imaginary: My term to refer to specific ways that water is understood and related to. Building on the notion of the mono-cultural imaginary.

hydrological turn: My term predicting the next phase in geographical scholarship.

hydrological violence: My term to describe the silencing of ontologies of water.

hydro-social cycle: "The hydrosocial cycle is a socio-natural process by which water and society make and remake each other. Unlike the hydrologic cycle, the hydrosocial cycle reflects water's social nature. The concept directs attention to how water is produced and how it is made known" (Linton & Budds, 2014[17]).

hypersea: a term coined by biologist Dianna McMenamin and geologist Mark McMenamin. They argue that Hypersea is a scientific theory. "Hypersea is the sum total of plant, animal,

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[14] http://www.globalwaterforum.org/2013/11/11/global-hydrobelts-a-new-method-to-define-the-worlds-river-basins/ accessed 16 February 2017.
[15] https://www.researchgate.net/publication/235936046_Global_hydrobelts_and_hydroregions_Improved_reporting_scale_for_water-related_issues accessed 16 February 2017.
[16] http://www.hydrocitizenship.com/ accessed 16 February 2017.
[17] http://www.sciencedirect.com/science/article/pii/S0016718513002327 accessed 16 February 2017.

protoctistan, and fungal life on land, plus any viral or bacterial symbionts or parasites living in intimate association with the tissues of these organisms"…"Organisms, which are all primarily water, can interact at arm's length, so to speak, only in water" (McMenamin, 1994:3-4).

Indigeneity: "The ILO 169 Convention applies to the following peoples; both tribal peoples whose social, cultural and economic conditions distinguish them from other sections of the national community and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations, and to peoples who are regarded as indigenous on account of their descent from the populations which inhabit the country at the time of conquest or colonisation"(Indigeneity, Language, Authenticity[18]). See the link for the evolution of definitions by other institutions.

I yá.axch´age?:   Tlingit for "Can you hear me?"

neechkaḵáawu: is the Tlingit expression for a person without a clan or a person nobody wants; literally in Tlingit and as an extremely insulting term, it means a "person on the beach" (Twitchell 2015).

narrative ecologies: My term to describe the living, nested ways in which traditional oral narratives have agency.

"part of the earth, part of the water": Quotation by Virginia Smarch, Teslin inland Tlingit elder (McClellan, 1975). Also part of CTFNs Elders Statement at the beginning of the Final Agreement for self-government with the Yukon and Canadian government.

shtax' héen: Tlingit toponym (hydronym) for the Sitkine River. It literally means "water biting itself"

shuka: This concept in Tlingit culture is "pivotal because it is ambiguous and faces two directions. It means, most literally, 'ahead', or 'before'. It refers to that which is before us or has gone before us in time – predecessors, 'one before', 'one who has gone before', those born ahead of us who are now behind us, as well as those unborn who wait ahead of us. Thus the

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[18] https://johansandbergmcguinne.wordpress.com/official-definitions-of-indigeneity/ accessed 16 February 2017.

term refers to the past and also to the future – to that which lies ahead" (Dauenhauer & Dauenhauer 1990, p.19).

slow activism: My term to describe the inbuilt resilience and wisdom in herent in the Tlingit and Tagish cultural practices. In opposition to Rob Nixon's term 'slow violence' (2011).

slow violence: Environmental storyteller Rob Nixon's term to question the perceptions and rhetoric of the planetary crisis. Nixon writes "Most environmental crises — from climate chaos to deforestation and the poisonous aftermaths of wars — are characterized by a slow-motion urgency. In an age that genuflects to the divinities of spectacle and speed, how do we take seriously the forms of environmental slow violence that are deficient in instant drama but high in long-term catastrophic effects?" (Nixon 2011[19]).

soundmark: "A term derived from 'landmark' used in SOUNDSCAPE studies to refer to a community sound which is unique, or possesses qualities which make it specially regarded or noticed by the people in that community. Soundmarks, therefore, are of cultural and historical significance and merit preservation and protection"[20].

terracentrism (terra-centric): the privileging of land-based histories and stories prevalent in Euro-American cultures.

the social life of stories: Building on the Arjun Appadurai notion that things have social lives. By tracking the place, passage and performance of things, in this case stories, reveals sometimes surprisingly how stories have been, and continue to be used in different settings.

the social life of water: Again drawing on Arun Appardurai's notion that things have social lives. In this case the agency of water to provide an active matrix for both physical and metaphysical actions.

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[19] http://www.huffingtonpost.com/amitava-kumar/writing-about-slow-violen_b_884919.html accessed 16 February 2017.
[20] http://www.sfu.ca/sonic-studio/handbook/Soundmark.html accessed 17 February 2017.

thinking with water: Concept drawn from the title of a book *Thinking with Water* by Chen, MacLeod and Neimanis (2013). Chen et al intend to "bring water forward for conscious and careful consideration, and to explore the possibilities and limits of thinking with water" (Chen et al, 2013:3 in review by Eleanor Hayman 2015[21]).

thinking like a watershed: An attempt to create a paradigm shift in thinking about water management and water governance. "Collaborative watershed governance is a potentially powerful and innovative model. It involves reorganizing decision-making to create more inclusive processes that better align with the ecological boundaries of watersheds rather than arbitrary political borders. It also involves addressing watershed health and function as a priority" (Brandes et al. 2014[22]).

thinking like a river: Drawing on Aldo Leopold's concept of 'thinking like a mountain'.

Tlingit means "people of the tides": which reflects why the Tlingit and Tagish have followed the lunar (aqua-centric) calendar.   Water (and ice) have further provided geographical organisational reference points as well as dictating the seasonal movement for hunting, trapping and fishing for the Tlingit and Tagish on, in and among the Southern Yukon Lakes. The agency of water (including glacial flows and surges, hot springs and melting patterns) have impeded and/or facilitated the exchange of ideas, goods, canoe design and technology[23], as well as marriages between the coastal Tlingit and inland Tlingit and Tagish peoples.

virtual water (trade): "Virtual water trade (also known as trade in embedded or embodied water) refers to the hidden flow of water if food or other commodities are traded from one place to another... Hoekstra and Chapagain have defined the virtual-water content of a product (a commodity, good or service) as "the volume of freshwater used to produce the product, measured at the place where the product was actually produced""(Wiki, 2017[24]).

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[21] https://muse.jhu.edu/article/614500 accessed 17 February 2017.
[22] http://watercanada.net/2014/think-like-a-watershed/ accessed 17 February 2017.
[23] See Twitchell's 2016 new Tlingit dictionary for the relationship between different types of water and different Tlingit canoe designs. http://tlingitlanguage.com/wp-content/uploads/2015/01/dictionary-4.pdf   Accessed 19 December 2016
[24] https://en.wikipedia.org/wiki/Virtual_water accessed 17 February 2017.

water consciousness (new): the impetus to think differently about water to facilitate a more ethical inter-species, more-than-human set of relationships for planetary survival.

water culture(s): How centralising relationships with water is critical for possible futures.

water ethics: The science and practice of valuing water.

water footprint: "The water footprint of a person, company or nation is defined as the total volume of freshwater that is used to produce the commodities, goods and services consumed by the person, company or nation"[25](Chapagain, A.K. and Hoekstra, A.Y., *Water footprints of nations: Value of Water Research*, Report Series No. 16, UNESCO-IHE, Delft, the Netherlands, 2004). The idea of the water footprint is quite similar to the ecological footprint, but focussing on the use of water.

water towers: "Mountains and highlands are often referred to as natural "water towers" because they provide lowlands with essential freshwater for irrigation and food production, for industrial use, and for the domestic needs of rapidly growing urban populations" (Viviroli and Weingartner 2008[26]).

Woochéen: Tlingit term meaning to be in harmony with mind, body, soul, spirit and the environment, especially water (Katzeek 2016, per. Comm.).

Yáa át wooné: Tlingit term meaning, to learn about it [water]. You are going to meditate on it; you are going to think on it; you are going to develop a relationship with it." (David Katzeek, 6 Sept 2014, per. Comm.).

Yakg wahéiyagu: The Tlingit language has a precise and indeed sacred phrase to describe the spirit and agency of all things: *Yakg wahéiyagu*. *Yakg wahéiyagu* is described by Tlingit language scholar Lance Twitchell in his new Tlingit online dictionary as "the ability of everything to comprehend language and intentions. This concept forms the basis of respect, which David Katzeek has referred to as 'the fruit of education'"(Twitchell 2016[27]).

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[25] http://virtualwater.eu/ accessed 17 February 2017.
[26] http://link.springer.com/chapter/10.1007%2F978-1-4020-6748-8_2 accessed 17 February 2017.
[27] http://tlingitlanguage.com/wp-content/uploads/2015/01/dictionary-4.pdf accessed 17 February 2017.

1. Introduction

"The truth about stories, is that's all we are" (King 2003:2)

"The soul of hermeneutics consists in the possibility that the other could be right" (Gadamer in Drenthen 2015:4)

"Descola stakes out the neo-Copernican claim that other people's worlds do not revolve around ours. Instead, good anthropology revolves around theirs" (Sahlins in Descola 2013:xiii)

"If we attend to the character of place itself, rather than merely to the rhetoric that often surrounds it, then place not only appears as a central structure in the very constitution of things, and so also in the constitution of the human, but place also turns out to be foundational to the very possibility of the ethical and political" (Malpas 2014:14)

"We live in a time of un-naming, in a time when old names for the land, names given in honor, happiness and sorrow have been set aside for marketing jingles that commemorate little more than a desire for sales... We who learn and love these old names are therefore people of two worlds, residents of rival geographies ... and when our souls wither and thirst, we seek nourishment in that other deeper geography where the true names are sung by the stones themselves..." (Louis in Mark et al. 2012:167)

(Vignette)

Shtax' héen (Sitkine River) means 'Water biting itself'

It was at *Ch'aḵúx̱ Anax̱ Dul.adi Yé* (Bennett Lake), part of the glacial fed lake system that forms the headwaters of *Shaanakhéeni* (the Yukon River) that I became acutely aware of how the intersecting concepts of (de)colonisation and Indigenous ways of knowing water are often confused, complex and problematic. I was privileged to be heading a boat expedition on the Southern Yukon Lakes – the traditional territory of Carcross/Tagish First Nation with Tlingit and Tagish brothers and Elders Mark Wedge and Leslie Johns, to investigate Tlingit and Tagish place-names, their linguistic contextualisation and correlation with lake water quality.

One of the major differences between older Tlingit and Tagish place names or toponyms of this region as opposed to the colonially imposed English toponyms is the intentionality embedded within them. Tlingit and Tagish toponyms typically embed precise, sophisticated empirical scientific knowledge, more often than not water related. (Ecocentric or as I call it aqua-centric). The now official English toponyms are almost always honouring white, male European or American explorers and academics. (Gendered, racist, and ego-centric).

As Mark, Leslie and I were discussing the naming of new places important for the Tlingit and Tagish peoples, Mark suggested naming them after the people who hunted and/or trapped there. The fast realisation that this was following a colonial model, indeed ontology, changed the way this PhD has developed, and indeed how self-governing Carcross/Tagish First Nation understand themselves from a legal and rhetorical perspective in relation to the dominant Euro-American worldview.

How places are named – how place achieves a particular identity; the relationship to and making of place – is at the heart of this dissertation (Malpas 1995, 2014; Casey 1998; Tuan 1968, 1974; Basso 1996). On the one hand this project is a comparative anthropology of (water) ontologies (Descola 2013; Linton 2010), and as such this project focusses on ontologies and the agency of water (Ingold 2000, 2011; Sidney 1980; Nyman & Leer 1993) in shaping and

co-evolving with human lives and histories. In turn this is framed by competing global water narratives and ethics (Brown & Schmidt 2010; Groenfeldt 2013), and the interpretation or reading of these aquatic texts (Drenthen 2011; Nussbaum 1995; Kearney 2002). On the other hand it is also a detailed ethnographic description of a Tlingit and Tagish philosophy of place (McClellan 1975, 2007; Cruikshank 1990, 1998, 2005; Moore 2015; Sidney 1980). As an original piece of environmental storytelling, I draw on interdisciplinary and cross-cultural sets of academic fields that range from critical indigenous theory, feminist political ecology, critical (GIS) cartography, environmental philosophy - particularly environmental hermeneutics, critical race theory, narrative theory, sensory ethnography, (paleo) archaeology, legal and environmental anthropology, and cultural geography.

I build on some of the most exciting anthropological contemporary work that looks both closely and broadly at assemblages – the intimate links and crocheted connections between people, ecosystems, stories, and policies in what is called by some the Anthropocene. Others have been troubled by such fossil fuelled focussed labelling which is not a part of their (Indigenous) history (Wedge per. Comm 2013), and have offered other terms such as the Indigenous Century and Indigenous Spring (Wedge & James per.Comm 2013, 2016; Lerma 2014), Capitalocene, and Chthulucene (Haraway 2015): How can life be reimagined on ruined land (water)scapes and new multi-species relationships be developed that might sustain life on earth? (Tsing 2012, 2015; Haraway 1991, 2015; Cruikshank 2005; Ingold 2014; Latour 2005; Code 2006; Abram 1996; Neimanis, Åsberg & Hedren 2015; Swanson 2017).

What might conditions of life and knowledge look like in the future? How should and could the human animal behave and react particularly in a water starved blue planet? Anthropologist Philippe Descola (2013) asks for an inter-agentivity, hoping to build a new kind of science and a diplomatic ethnography. Descola argues that the discipline of anthropology is political precisely because it exposes a multiplicity of ontologies. Yates et al. (2017) examine multiple ontologies of water, the politics and conflicts of which are exposed within the settler-colonial state of Canada, and broaden the conversation to applied theoretical work within the realm of water governance. Science and technology scholar Donna Haraway (2016) shifts the argument further to a more geographical stance asking for both a spatial and scalar understanding of how

the writing of the earth by the human animal is accelerating extinctions[28] as well the pollution of cells, fossil records, gases and of course, waters.

There are many questions and challenges of what it is to write as an academic in this moment. It is not only a question of scale and responsibility, but also of ethics. What might an ethical future for both humans and the more-than-human look like? To place four years of collaborative ethnographic water research with the Tlingit and Tagish peoples into a meaningful, respectful context demands new ethical practices, new ecological ethics, and new imaginaries; something I call new *hydrological* imaginaries.

I lean towards these ethical questions by drawing on the scholarship of the pluriverse and ways of worldmaking (Goodman 1978; Cassirer 1923; Mignolo 2011; Dabashi 2015; Armstrong 2010; Viveiros de Castro 2015; Law 2011; Davis 2009), and how this cross-pollinates with evolving ecological philosophical thought (Morton 2007) and the 'ontological turn' within the environmental humanities.

I engage with ecologist Jakob von Uexküll's concept that every organism has its own "umwelt" or environment/reality (Uexküll in Evernden 1985) to expose the intimate human entanglement and politics with the more-than-human (see in particular Anna Tsing's 2015 *The Mushroom at the end of the World: On the possibility of life in Capitalist ruins* that traces the more-than-human complex entanglements with the Matsusake mushroom). Multi-species ethnography within anthropology (and beyond; Gray 2007), or the 'species turn' offers yet another framing of multiple ontologies that this thesis builds on (Helmreich 2010; Haraway 2008). Particle physicist Karen Barad's *intra-action concept* (2007), political theorist Jane Bennett's *vital matter* (2010), and geographer Sarah Whatmore's *hybrid geographies* (2007) produce platforms to rethink relationships with water, but also new ways to think about our

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[28] See environmental artist Lorraine Turi's photograph exhibition titled *Last Seen* documents the last geographical places extinct fauna were recorded. http://lenscratch.com/2017/11/lorraine-turi-the-states-project-north-carolina/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+lenscratch%2FZAbG+%28L++E++N++S++C++R++A++T++C++H%29 accessed 11 November 2017

(the human) place within the earth in a time of anthropogenic triggered global warming and the 6th mass extinction.

New ways of (hydro) environmental storytelling such as ecological and social critic Rob Nixon's *slow violence* (2011) as well as eco-critic Ursula Heise's work on multi-species storytelling and justice in the Anthropocene (2015, 2016), blend with ecocriticism and new materialisms' agendas (Alaimo 2010; Helmreich 2011). In so doing they seek to find new templates to relate to a range of possible water-strained futures. Stories and storytelling platforms such as gaming, and art (for example the World Game *Never Alone*[29] 2015, Studio Ghibli's *Nausicaä of the Valley of the Wind*[30] 1984, Kirksey 2012, and *The Multispecies Salon* 2014[31]) offer insights into both ancient Indigenous cosmologies, but also visions of post-apocalyptic potential realities. Both attempt to access both deep time(s) and deep futures. (See *The Seed Box*[32] for further academic research in the Environmental Humanities on these themes 2017).

Global warming has been called a slow catastrophe, but Haraway (2016) uses the term 'accelerated' problematizing the notion of speed. Glacial time which was once slow, is now fast[33]. Deep time is equally shifting between its measure and relevancy within the political geology of Anthropocene discourses and the Tlingit and Tagish's 9000 year old traditional oral narratives (see Swanson 2017; Åsberg 2017 *A Feminist Environmental Humanities: A thousand tiny Anthropocenes*[34]). Feminist philosopher Cecilia Åsberg (2017) calls for a broadening of feminist post-human, post-natural nature, that promises not just a writing of, but a rewriting of what the environment, and *naturecultures* might mean for a multi-species future(s). Many traditional oral narratives are confirmed by geological and paleo-archeological/paleo-liminological evidence in the Southen Yukon Lakes region. It is not the confirming or the

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[29] For profiles of the Alaska Native cultural consultants (including Tlingit scholar Ishmael (*Angaluuk*) Hope, and trailer for the game see http://neveralonegame.com/our-team/ accessed 19 January 2017

[30] See also the online Environmental Humanities Journal *Resilience* for a review cluster devoted almost entirely to ecocrticial discussions of many of Studio Ghibli's anime films. http://www.jstor.org/stable/10.5250/resilience.2.issue-3

[31] http://www.multispecies-salon.org/kirksey/ accessed 10 November 2017

[32] For futher information regarding *The Seed Box*, please see http://theseedbox.se/ accessed 26 November 2017

[33] Understandings of glacial and ice sheet behaviour are increasingly better understood. Additionally, confirmation of past sea-level rise(s), warming, and various phases of (de)glaciation, produces evidence consistent with First Nations' traditional oral histories. See Menounos et al. *Cordilleran Ice Sheet mass loss preceded climate reversals near the Pleistocene Termination* (2017), for a reinterpretation of west Canada's Cordilleran Ice Sheet behaviour.

[34] A RCC recorded Lunchtime Colloquium. 23 November 2017

authority necessarily that is at stake, but/and rather the urgency of what a broad ontological future might look like.

What is often labelled as new concepts such as multispecies justice (Heise 2015; Swanson 2017), new virtue ethics (Treanor 2014; Hursthouse 2007), or new materialisms (Alaimo 2010; Bennett 2010) are more often than not Western academic discoveries of what many Indigenenous cultures have been practising for thousands of years (Armstrong 2009; King 2012; Berkes 1999; Hayman with James & Wedge 2016). Increasing concerns over the last 30 years in anthropology have highlighted how dominant epistemic frames of reference silence and marginalise other knowledges. Terms such as epistemic barriers, epistemic limitations and epistemic violence (Dabashi 2015; Mignolo 2011; De Sousa Santos 2014; Said 1978; Deloria Jr 1995; Tuhiwai Smith 1999; Kovach 2009) bring different shades to this marginalisation generating many calls for a decolonisation of imperialistic histories and white settler modes of thought and behaviour.

The publication of new data sets and climate and ecological models predicting various assemblages of tipping points and planetary boundaries (Rockström & Steffen 2009, 2015; Lovelock 2007) further problematizes how dominant cultures have both regarded the notion and presence of 'nature' (water) and altered it irrevocably and fundamentally. Just for example, a recent study of the earth's 37 largest aquifers reveals that 21 have reached unsustainable tipping points[35]. Challenging received categories of everything from the notion of race, gender, class, nature, culture and the human animal is part of anthropology's strength that I employ throughout this project.

I take and develop eco-critic Anne Milne's term *feral spaces* (2012) and anthropologist Anna Tsing's term *feral biologies* (2015), with my own term *feral waters* (Hayman 2012) to denote and signify an aquatic positioning and situatedness of thought that draws on movements and moments to decolonise and democratise water knowledges. I use feral waters to open up spaces within and between the environmental humanities and natural sciences within Western academic epistemologies but also and more critically to create spaces between Western

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[35] See the latest report by NASA using data from NASA's Gravity Recovery and Climate Experiment (GRACE) satellites. http://www.jpl.nasa.gov/news/news.php?feature=4626 accessed 16 January 2017

science and Indigenous science ontologies. Sustainability science (Senier 2014) has come close to these sorts of feral waters, attempting to both redefine the concept of sustainability away from its current problematic, institutionalised definition, to one that acknowledges both a deep past and the potential for a deep future.

Feral waters therefore seeks to build into a body of scholarly work creating ontologically conceptual spaces and storytelling (Campbell 1991, 2008; Okri 1998; Harari 2015, 2017; Gray 2007; Conway et al. 1999) to formulate a new water consciousness and a new water culture that decolonises dominant understandings of water. These waters are currently essentialised and often abstracted away from other water knowledges and sciences whose default ontologies regard relationships with water as critical survival and sustainable baselines to be respectfully and mindfully maintained.

A Tlingit and Tagish philosophy of place relies to a large extent on (eco) linguistics (Stibbe 2014) – how a worldview is transmitted through language, and in this particular project, toponyms (place-names).   Conflating human representation with language is an approach in post-humanist and post-structuralist social theory (Kohn 2013; Ingold 2011; Moore 2015; Twitchell 2016; Katzeek per.Comm 2013, 2014; Searle 2010) that has resonance throughout this thesis. This is in direct contrast to the language of the dominant economic and utilitarian valuing of nature (water), particularly through approaches such as Payment for Ecosystem Services (PES), and neo-liberal categories such as 'natural capital'. Economist Jutta Kill underscores this criticism observing that '"Words like 'Natural Capital Accounting', 'Financialization of Nature', 'Ecosystem Services' and 'Biodiversity Offsets' are part and parcel of the 'Green Economy'. They are rapidly becoming part of the stable vocabulary of the nature conservation debate" (2014:5).

Additionally I draw on approaches in environmental philosophy and ecological hermeneutics that encourage thinking differently and listening for different stories[36]. Thinking differently means in the tradition of ecologist Aldo Leopold, for example 'thinking like a mountain' (1949), or 'thinking like a river' (Krause 2010). It also means learning to listen to and think with water. It even destabilises what many mean by 'thinking' itself. Anthropological philosophers embrace

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[36] "Listening for different stories" is a phrase anthropologist Julie Cruikshank was offered by Tlingit and Tagish Elder Kitty Smith in the late 1970s.

and position their collaborative research in a similar vein, for example thinking with a forest's thoughts (*How Forests Think: Toward an anthropology beyond the human* by Eduardo Kohn 2013; *Plants as persons: A philosophical botany*, by Matthew Hall 2011; *Do Glaciers Listen? Local Knowledge, Colonial Encounters, & Social Imagination* by Julie Cruikshank 2005), and by extension builds into much feminist theory and radical political ecology theory (Hayman with James & Wedge 2015). Feminist observations from science and technology scholar Donna Haraway (2016) and philosopher Lorraine Code (2006) emphasise the importance of both positioning and the situatedness of thought within ecological thinking, as well as coping with what in Western academic circles some call the Copernican wound, the Freudian wound, the Darwinian wound and the Synthetic wound[37][38].

Such intersections are crucial to both challenge and open up the current international legal understandings of personhood and non-personhood (or more-than-personhood). Equally it is important to reveal customary law and the practice of other ontologies that do not conform to such philosophical assumptions, biological categories, and taxonomies currently considered to be baselines in earth thought. As such I draw on the Rights of Nature global discourse(s) and Earth Jurisprudence and Gaia[39] literature that attempts to counter (map) and challenge current thinking, human supremacism/exceptionalism, and assemblages of the more-than-human world. Speciesism (Ryder 1970; Singer 1975) came into common parlance in the Euro-American world in 1970, followed by legal scholar Christopher Stone's *Should Trees have Standing?- Toward Legal Rights for Natural Objects* in 1972, bolstering a different sort of environmental consciousness. However the Tlingit and Tagish cultures have long known about respectful relationships with more-than-human actors and agencies through traditional oral narratives

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[37] In Ian Coldwell's review (2008) of Donna Haraway's *When Species Meet* (2007), Coldwell writes Haraway "identifies three great historical wounds inflicted by science upon the primary narcissism of the self-centred human subject: the Copernican wound revealed Earth as only one of many planets in the cosmos; the Darwinian wound placed Homo sapiens in a world of companion species; the Freudian wound showed that the unconscious could undo the primacy of conscious processes, including the rationality that led Man toward his conviction of 'unique excellence'. Haraway adds a fourth: the informatic or cyborgian wound 'infolds organic and technological flesh' and so 'melds the great divide' of human/nature". https://www.academia.edu/7899859/When_Species_Meet_-_Donna_Haraway accessed 20 January 2017

[38] For a more detailed discussion of speciesism and human supremacism in relation to the Copernican, Darwinian and Freudian wound, see philosopher Steven Best's 2012 lecture here https://www.youtube.com/watch?v=pqDPA9cGZGA accessed 21 January 2017

[39] Please see https://de.scribd.com/document/275854639/Thousand-Names-of-Gaia the 2014 Rio de Janeiro conference with Bruno Latour on *A thousand names for Gaia*. Accessed 17 January 2017

such as 'The girl who married the bear', 'Moldy Head', and 'How Crow stole Water' (Swanton 1909). It is the concepts of nature and culture that were/are fundamental to Western science, philosophy, ecology and legal theory that are currently being challenged by Earth Jurisprudence movements (Biggs et al. 2017) and supported by many Indigenous communities in different parts of the earth. What would watershed governance look like for example if water was a legal actor? Attributing agencies to water(s) (including glaciers, trees, fire sparks, fish skins etc), as the Tlingit and Tagish have done, re-imagines the Canadian legal landscape, and particularly its ecological/hydrological philosophical commitments (for example the Peel Watershed crisis with the supreme court of Canada, and the new licence proposals for the headwaters of the Yukon River by Yukon Energy).

The relevancy and timing of this thesis for current watershed management and water governance approaches is evidenced in a number of key ways. The crisis over the Peel watershed (a 26,000 square mile watershed in the north Yukon Territory) involves three Yukon First Nations and the supreme court of Canada, and essentially showcases a clash of water ontologies, (mis)understandings of First Nations' ancestral lands and waters, and a Western rooted legal and ethical system. British Columbia borders the Yukon Territory to the south and provides a second example of new initiatives and projects to decolonise water, not just in British Columbia, but further afield. A 2017 assessment by West Coast Environmental Law reports that "There is also growing recognition of the need to comprehensively examine Indigenous relationships to water at a broader scale, and to address Indigenous water governance" (Askew et al. 2017:4). These official recognitions come after many First Nations in Canada have been facing a lack of safe drinking water for decades (Phare 2010). Even though British Columbia introduced an updated *Water Sustainability Act* in 2016, and the Yukon Government issued a report titled *Water for Nature, Water for People: A Yukon Water Strategy and Action Plan* (2014), both are still rooted in a colonial ontological model of perceiving and valuing water.

Equally the renegotiations (2017-2018) of the North American Free Trade Agreement (NAFTA) face stalemate through Canadian proposals to withdraw water (after the settler-colonial model) as a tradeable good and service between the Canada, the USA and Mexico. Throughout this thesis I address the complex intersectionality of these current multifaceted water issues that as I shall argue, require multiepistemic fluencies, literacies, and chartings to achieve an ontologically diverse (global) water(s) ethic(s).

My introduction therefore positions my collaborative water research, but also provides a guide to the mappings/chartings of these aquatic and epistemic assemblages that are critical in framing a Tlingit and Tagish relationship with water.

Last but not least, I ally this interdisciplinary and cross-cultural collaborative water research with the natural sciences; in particular climate modelling, (Participatory) Geographical Information Science (GIS/PGIS) and digital mapping techniques that support the intellectual project of reconciling ontological difference and furthering the decolonisation of (water) knowledges, specifically through *deep mapping* theory[40] and practice (Bodenhamer, Corrigan & Harris 2010, 2015).

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[40] Also see a similar and competing term 'cybercartography' coined by D.R.F. Taylor in 2007. Cybercartographic atlases so far have only been 2D from the Geomatics and Cartographic Research Center. See https://gcrc.carleton.ca/index.html accessed 19 January 2017. As will be revealed through chapter 5 of this thesis, I have critically used the 3D Google Earth platform for showcasing the Tlingit and Tagish water knowledges.

2. Literature Review

"Perhaps the outrage meriting a name like Anthropocene is about the destruction of places and times of refuge for people and other critters" (Haraway 2015:160)

"If we appreciate the foolishness of human exceptionalism, then we know that becoming is always becoming with—in a contact zone where the outcome, where who is in the world, is at stake" (Haraway 2008:244)

The digital revolution is fundamentally altering how human and more-than-human governance, mapping, identities and knowledges are produced, recorded, transmitted and archived. Water technologies, remote sensing, water knowledges, water law, and water governance strategies are no less affected. In fact hydrological technological expertise and modelling are arguably at some of its most sophisticated high points in recent decades.

2018 brings humanity into a global (even inter-planetary) moment of every increasing and competing water narratives and scholarship reflecting the planetary water crisis[41] but that also includes inter-planetary thought evaluating water potential on the planet Mars and within the solar system (World Economic Forum 2017[42]). Water wars on planet earth continue to witness an unprecedented number of water migrants and migrations (Hayman unpublished Heinrich Böll Stiftung 2016).

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[41] Here I include the acidification of the oceans as well as freshwater pollution and depletion.
[42] See the World Economic Forum 2017 Risk Assessments here https://www.weforum.org/agenda/2017/01/global-risks-in-2017/ accessed 16 January 2017

2018 also immerses humanity into an ever emerging global water rhetoric of water towers, hydro belts, atmospheric rivers, flying rivers (the sentinels of climatic change), water footprints, virtual water, as well as more legal, literary, and philosophical ones such as the hydro-social cycle, watershed mentality, hypersea, aquatopia, aquacide and water ethics. Within this evolving academic and urban water dictionary I add my own terms based on this collaborative water research: aqua-centrism (aqua-centric), feral waters, liquid space, and homo *hydro* sapiens[43].

International institutions such as the United Nations (UN), the World Water Forum (WWF), and a plethora of Non-Governmental Organisations (NGO) since the latter end of the 20th century have been engaged with not only general water related issues in an attempt to meet millennium development/sustainablility goals (Garrik et al., 2017), but are now coupling water stress with gender, poverty, livelihoods, human rights and so forth.

The last decade has seen water issues enter an emerging theoretical and activist legal upturn at the constitutional level. The Rights of Nature, or Earth Jurisprudence[44] movement gives recognition and legal standing to ancient wisdom, Indigenous knowledges and ontologies otherwise. In August 2016[45], the United Nations resolution on *Harmony with Nature* attempted to align human-governance systems with an earth-centered perspective to inspire and achieve UN sustainable development goals with the report titled *Harmony with Nature[46]* (UN General Assembly 2016).

Critical for the relevancy, timing and application of this thesis is the UN's General Assembly unanimous resolution that 2018-2028 is officially the decade for action – Water for Sustainable Development[47]. This thesis also pre-empts not only the UN water decade, but also the

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[43] See the Glossary of Terms for definitions to these as well as important Tlingit and Tagish concepts.
[44] See also the International Rights of Nature Tribunal with this link http://therightsofnature.org/rights-of-nature-tribunal/ accessed 16 January 2017
[45] http://www.un.org/en/ga/search/view_doc.asp?symbol=A/71/266 accessed 20 December 2016
[46] For the full report see http://www.un.org/en/ga/search/view_doc.asp?symbol=A/71/266 accessed 25 January 2017.
[47] The UN water decade will start on 22 March 2018 (World Water Day), and proceed for exactly ten years http://www.unwater.org/new-decade-water/ accessed 10 November 2017.

Canadian project to explore water governance within First Nations' customary law which fully funded, will run from 2018-2026. Following the *Truth and Reconciliation Commission's* final report on the genocide inflicted on First People's in Canada (2016), the attention paid to Indigenous customary laws and practices is increasingly sensitised[48]. This thesis will feed into the next decade of intersectional research with First Nations, water(s), and customary law.

The International Labour Organization's Indigenous and Tribal Peoples' Convention (ILO convention Number 169, 1989) has been ratified by 22 countries and is the most important element of international law protecting Indigenous peoples' rights (SIWI 2017). The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP 2007) is a development of the ILO convention, and as the ILO does, is a comprehensive treatise on the rights of Indigenous people, including the rights to their lands and waters. UNDRIP was endorsed by the Canadian government in May 2016 and has sought to align federal policy with the legal and normative implications of UNDRIP's content. UNDRIP is highly relevant for the future of Canadian water practically, ethically and epistemically, especially as First Nations in Canada face increasing water insecurity (Askew et al. 2017:14).

In June 2015 eco-centric rhetoric was firmly established in the second encyclical letter of Pope Francis, *Laudato Si[49]* (Praise Be to You), with the subtitle On Care for our Common Home (2015). Analysis of both language and content reveals particular attention to water. On 15 February 2017 Pope Francis made a further bold statement concerning Indigenous peoples and resources at the Third Forum held by the International Fund for Agricultural Development (IFAD) and is worth quoting at length:

> "…the central issue is how to reconcile the right to development, both social and cultural, with the protection of the particular characteristics of Indigenous peoples and their territories. This is especially clear when planning economic activities

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[48] This comes off the back of three reconciliation conferences held in 2017 as part of Canada's 150th anniversary.
[49] For *Laudate Si* text (2015) see http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si_en.pdf accessed 2 February 2017

which may interfere with Indigenous cultures and their ancestral relationship to the earth. In this regard, the right to prior and informed consent should always prevail, as foreseen in Article 32 of the Declaration on the Rights of Indigenous Peoples. Only then is it possible to guarantee peaceful cooperation between governing authorities and Indigenous peoples, overcoming confrontation and conflict" (IFAD, summary of Bulletin, Holy See Press Office 2017[50]).

Water-centered activist, social and ecological justice, and civil rights Indigenous movements such as *Idle No More* (2014 onwards), *Standing Rock* (2016 onwards), and uprisings against hydro-electric dams and fracking, are as increasingly frequent as are the academic publications showcasing nuanced work that thinks on, about, and with water. Workshops, conferences, forums and institutions such as Under Western Skies (September 2016), the Oxford Water Network, UK, the POLIS Project on Ecological Governance[51], Canada, and (Un) Settling British Columbia[52] (May 2017) are just a few examples of the growing international expertise and awareness of the political ecology of complex water knowledges.

Whilst dominant assumptions that view water as a resource, water as commodity, water as capital are being unsettled and problematised, so too are negotiated and contested concepts of "identity"[53] , "identification" and relationships between and within both the human and more-than-human world. As the Euroacademia International conference (December 2016) on just such a theme asks, "If identities are socially constructed and not genuine formations, they still hold some responsibility for inclusion/exclusion – self/other nexuses." The same can also be said of the social construction and creation of nature (water), and how interpretations of

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[50] http://press.vatican.va/content/salastampa/en/bollettino/pubblico/2017/02/15/170215a.html accessed 21 February 2017.
[51] In particular the Water Sustainability Project which publishes reports looking specifically at the relationship between freshwater, Indigenous peoples, law, and collaboration.
[52] A three day conference inspired by the 2015 book *(Un)Settling Canada: A National Wakeup Call*, by Arthur Manuel and Grand Chief Ron Derrickson.
[53] See also the latest Reith lectures by philosopher Kwame Anthony Appiah (2016) on *Mistaken Identities.* Here Appiah rejects common understandings of identity, and questions a more plastic concept.
http://www.bbc.co.uk/programmes/b07z43ds#play accessed 28 November 2016. Importantly Appiah in his second of four lectures makes the point that it is stories that tie people together. In this vein, see *If this is your land, where are your stories? Finding Common Ground* by J.Edward Chamberlin (2004) for a Canadian Indigenous perspective.

'nature(s)' build into different, complex and competitive understandings of identity and identification in its broadest sense (Plumwood 1993; Evernden 1985, 1992; Abram 1996; Callicott 1997; Bateson 1972; Berry 1999; Merchant 1990).

This unsettling of received notions of 'science', 'nature', 'culture' with all the assumptions and paradigms associated with them is increasingly at the center of debates within and without academia. Finding common ground between 'Western science' and 'Indigenous science', sometimes also known as Indigenous knowledge (IK), and traditional environmental knowledge (TEK) is most recently seen as a possible solution to many crises today (Berkes 1999; Ingold 2014; Blackstock 2017[54]). Post-colonial themed conferences encourage spaces for academics, activists and governmental departments to address water governance, and water management issues within decolonial and postcolonial frameworks. Just as an example of the tenor and timbre that many of these conferences elicit, I list a couple of lecture/paper titles from the 2016 postcolonial conference in Bremen, Germany: "Syilx knowledges: A decolonial strategy" by Syilx First Nation Elder Jeannette Armstrong, and Hamid Dabashi's[55] "Can non-Europeans think? Intellectual traditions and decolonization of epistemology"[56]. These conversations continue to underline the uneasy relationship between and with power and knowledge, (Said 1978; Mignolo 2011, 2013) providing yet another contextual background for this thesis.

I draw on the latest thinking in environmental hermeneutics, ecophenomenology as well as (eco) feminist literature (specifically feminist posthuman phenomenology), new materialisms and post-colonial arguments to establish close readings and interpretations of the idea of nature (water). These Western and philosophical rooted understandings are evolving a space within which the many other multiple Indigenous ways of thinking, being and knowing can be far better understood and appreciated. There are many instances where common ground is

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[54] Indigenous scholar Michael Blackstock writes and campaigns for a fusion of Indigenous and Western science to address water issues in Canada. Blackstock's Blue Ecology paradigm calls to 'interweave First Nations' cultural knowledge and Western science', primarily through a change in attitude (2017).
https://www.civicinfo.bc.ca/local_content/event_docs/5646/FINAL_Blue%20Ecology_program_Nov%202017.pdf accessed 19 November 2017
[55] See an interview with Hamid Dabashi here for a nuanced set of reflections on the dominance of European philosophy
https://newhumanist.org.uk/articles/4912/can-non-europeans-think-an-interview-with-hamid-dabashi accessed 11 January 2017
[56] Such as the 2016 Post-Colonial conference in Bremen, Germany.
https://mlecture.unibremen.de/ml/index.php?option=com_mlplayer&template=ml2&mlid=3552 accessed 11 January 2017

being achieved. However, such understandings are again complicated by what Indigenous scholar Tara Yosso (2005) writes regarding critical race theory: "Theory, then, is a set of knowledges. Some of these knowledges have been kept from us— entry into some professions and academia denied us. Because we are not allowed to enter discourse, because we are often disqualified and excluded from it, because what passes for theory these days is forbidden territory for us, it is vital that we occupy theorizing space, that we not allow white men and women solely to occupy it. By bringing in our own approaches and methodologies, we transform that theorizing space" (Yosso in Anzaldúa 1990: xxv, emphasis in original).

Research into the philosophy of place combines geographic philosophy and sensory ethnography (Pink 2009, Howes and Classen 2014) and for this project I pay special attention to, and build on, Marshall McLuhan's notion of 'acoustic space' (Findlay-White and Logan 2016). In addition I acknowledge current trends in cognitive psychology and cognitive neuroscience concerning the hippocampus (Nagel and O'Keefe 1978[57]) and its relevance to spatial awareness in humans. Senses of space and place weave themselves into the work of anthropologists exposing comparative ontologies, where as I have already described, they intersect with multi-species ethnography and animal studies. This challenges the inherited categories of space and place, and foregrounds the water research with the Tlingit and Tagish peoples.

I follow philosopher and hermeneutic scholars Martin Heidegger and Hans-Georg Gadamer's position when they investigate the profound intersections between hermeneutics and language. By doing so I draw on philosopher and geographer Jeff Malpas' work as well as conversations with Tlingit language scholars Lance Twitchell (2017) and David Katzeek (per. Comm 2013-2017) to reveal the ontology revealed within the Tlingit language as well as through Tlingit toponyms that are knitted into both a very literal and metaphorical sense of place for the Tlingit and Tagish people.

In *Thinking Topographically* (2014) Jeff Malpas emphasises that "it is not merely that the human is articulated topographically and spatially, but that the topographic and the spatial itself

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[57] See in particular Nadel and O'Keefe's 1978 early work titled The *Hypocampus as Cognitive Map* http://www.cognitivemap.net/HCMpdf/Title.pdf which he updates and reworks in the 2013 *Handbook of Spatial Cognition*, Waller & Nadel eds.

determines key elements of the structure and form of the human. Understanding the human topographically means understanding the human as determined in its being-human through its relation to place and by means of the relatedness that is articulated in place. "

This theme naturally leads onto new ways of thinking with or understanding the importance of narrative from a number of disciplines. Environmental historian William Cronon's (1992) paper comments that "human acts occur within a network of relationships, processes, and systems that are as ecological as they are cultural. To such basic historical categories of gender, class, and race, environmental historians would add a theoretical vocabulary in which plants, animals, soils climates, and other nonhuman entities become the co-factors and co-determinants of a history not just of people but of the earth itself (1992:1349).

It is for this reason that Indigenous languages facing extinction contain within them bodies of sophisticated ecological knowledge, biological and cultural diversity and ways of being in the world that will be lost. As anthropologist Wade Davis writes "a language is not merely a set of grammatical rules or a vocabulary. It is a flash of the human spirit, the vehicle by which the soul of each particular culture comes into the material world. Every language is an old-growth forest of the mind, a watershed of thought, an ecosystem of spiritual possibilities" (2009:3). The cosmology embedded in the Tlingit language of which there are only 200 fluent speakers is showcased in this project to add to global water ethics conversations that provide thick descriptions of both understanding and being in/relating to the world. Three other ethnographies of note in the Americas that illuminate the link between anthropological ontologies and language are Richard Nelson's *Make Prayers to the Raven: A Koyukon view of the Northern Forest* (1982), Keith Basso's *Wisdom Sits in Places* (1996), and Eduardo Kohn's *How Forest's Think: Toward an Anthropology Beyond the Human* (2013). These anthropological accounts work effectively in ontological and ethical debates as they build into decolonial space in ambitious and radical ways. Decolonising colonial conceptions and perceptions of land, water, judicial law, language, and thought is ultimately a democratising of (water) knowledges.

Critical Indigenous theory focusses not just on decolonisation, but also a (re)centering of Indigenous ways of knowing and being, often involving revitalisation of not only language but also core cultural practices that embed the human animal with the more-than-human world in complex and often sophisticated ways. Indigenous traditional oral narratives have particular power and within the Tlingit and Tagish cosmology are located geographically within the land

and waters offering a storied landscape vision of interactions with animals, glaciers, and spiritual beings for over 9000 years. This includes creation and flood stories verified by specific geological/hydrological events (for example the floods in the southern Yukon are revealed in the palaeontological record, the volcanic eruption in 1850, and further north narratives detailing encounters with mammoths now confirmed by mining activities that expose mammoth skeletons). This is just one aspect of critical indigenous theory. A second is to consider whether problematizing Indigenous cosmologies from within Western methodological and philosophical frameworks is not simply furthering the colonial project. For instance, Indigenous scholar Vine Doloria Jr showcases in *Red Earth, White Lies* (1995) a rather different history of many Native American peoples to that described by Western scientists who speculate that First Nations migrated over the Bering Straits[58] some 12,000 years ago at the end of the Pleistocene. However countless references to many 10,000 year old traditional oral narratives that have been successfully passed done over generations challenges this theory.

Destablising and unsettling the power of a single story, or what philosopher Lorraine Code in *Ecological Thinking: The Politics Epistemic Location* (2006) calls the mono-cultural imaginary is also a project of narrative theory and notions of corporeality. Some of these have remained fixed or even ossified in time leading to static or reductive notions in (Western) narratives and ways of telling stories. Narratologist Daniel Punday writes, "Both our [Western] ways of telling stories and the narratologies that we have constructed for analysing those stories deploy the body in very specific ways as part of a strategy of textual representation" (2003: viii-ix). Looking closely at Indigenous traditional oral narratives from modern day (Western) narrative positions may only reveal in part ancient ontological clarity. By way of example (Chapter 5), I pay close attention to fluids (particularly water, but also the employment of blood, urine and feces) within Tlingit and Tagish storytelling to reveal how the Tlingit and Tagish understand themselves linked into, and even extensions of, their various ecologies/hydologies. I draw on and develop Jude Law's work on *The Social Life of Fluids: Blood, Milk and Water in the Victorian Novel* (2010) to think differently about the social life, circulation of and relationship to water

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[58] There is a theory that humans (and possibly other large mammals) migrated over a land bridge, now called Beringia – connecting Russia with Alaska, USA – at the end of the last ice age when sea levels are modelled to be lower. The educational and interpretative center/museum in Whitehorse, Yukon Territory is named after this: The Beringia Center http://www.beringia.com/ accessed 28 January 2017

within this project. *Multiple Ontologies and the Problem of the Body in History* by anthropologists Oliver Harris and John Robb (2012) adds yet another dimension to narrative corporeality. Pertinently, I reveal how water is used as a model for the virtue of respect within a Tlingit worldview (Langdon 2013).

Although the Tlingit language (verb-based) does not think as the English language (noun-based) does in terms of the language of environmental ethics, or virtues or sustainability, the essence of place-based Tlingit pedagogy in essence employs an ethic of interactions with, rather than dependency on, the more-than-human. Reviewing current global water ethics debates, it is quite clear that the Tlingit and Tagish 'water ethic' can be instrumental in informing these conversations as I show in Chapter 9 (Can you hear it?).

2.1   Postcolonialism and decolonialism; theory, alliances, spectrums, and complexity in the Anthopocene(s)

'There is no western modernity and progress without coloniality and its exploitative relations'
(Schulz 2017a:129)

'Decolonising knowledge necessitates shifting the geography of reason, which means opening reason beyond Eurocentric and provincial horizons, as well as producing knowledge beyond strict disciplinary impositions' (Maldonado-Torres 2011:10 in Radcliffe 2017:330)

'Decolonisation is a process which engages with imperialism and colonialism at multiple levels. For researchers, one of those levels is concerned with having a more critical understanding of the underlying assumptions, motivations and values which inform research practices' (Tuhiwai Smith 1999:20)

'Decolonisation offers a different perspective to human and civil rights based approaches to justice, an unsettling one, rather than a complementary one' (Tuck & Yang 2012:36)

Shifting the geography of reason is one of the core tenets of the 'decolonial turn' within academia. However decolonising the Anthropocene(s) is necessarily a part of the process, lest the Anthropocene rhetoric and historical basis become standardised as yet another mono-cultural narrative. *Decolonising the Anthropocene* is therefore a task I examine in Chapter 7 in

the light of highly contested terms, rhetoric and assumptions about and underlying this politically geological era. I ask 'whose Anthropocene is it?', whereas Schulz (2017), in a Chapter claiming the same title, asks 'Who tells the grand narratives of human history in the Anthropocene?, and Who (and what) is included and excluded in the dominant 'myth-making' processes of our time?' (Schulz 2017: 136).

Providing yet another insight into the idea(s) of the Anthropocene and its accompanying imaginaries is Astrida Neimanis, Cecilia Åsberg, and Johan Hedren's call to "consider the objectives and imperatives of the environmental humanities particularly for "our" time — a time that is, for certain, a thick, queer, non-linear, multispecies and ethical time that can hardly be said to have a universal subject or one Grand Narrative to accompany it" (2015:4).

If the Anthropocene is considered to begin with the onset of the industrial revolution and modernity, it is clear that colonialism in the form of cheap labour (slaves) and the extraction of resources in colonised lands, provided the economic and human energy for colonial countries to develop at the cost of much of the rest of the world. Walter Mignolo argues that modernity and coloniality emerged hand-in hand, and as Radcliffe (2017) extrapolates, attention is therefore focussed on the colonial present which is not exceptional and situated 'elsewhere' (in a colonial past), but is 'integral to current socio-spatial relations and across multiple differentiated terrains and scales' (Radcliffe 2017:330). Decolonial thinking is therefore profoundly geographical.

2.2   Decolonising Water

'Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard` (Article 25 of the United Nations Declaration on the Rights of Indigenous Peoples 2007)

Aboriginal scholar and lawyer Virginia Marshall (Wiradjuri Nyemba 2015) and Indigenous scholar and lawyer Aimee Craft (Anishinabee 2017[59]) advocate powerful decolonising positions regarding First Peoples's conceptualisations and valuing of water, the intersections with Indigenous customary law and practice, and settler state epistemic violence. Marshall and Craft focus on Australia and Canada colonial water models respectly, revealing through their work the inherent social and ecological injustices of settler colonialism through superimposed legal frameworks that marginalise or even silence First People's ancestral water rights and heritage. .Based in an entirely different ontology perspectives and relationships with water and water bodies from First People's in both Australia and Canada reveal that they are not yet conceptualised within Western water governance strategies or water management models.

As argued in Chapters 4, 5, 6 and 8, control of waters, whether technically, or epistemically, was required by colonial powers to ensure and promote resource extraction from colonised countries. As witnessed by (mainly Indigneous) protests against various pipelines transporting (and spilling) oil through international watersheds, similar frameworks still exist albeit under a different neo-liberal hydrological rhetoric. Tlingit waters became imperial waters regulated by a legal system designed to support extractive technologies and policies. Water activist Maude Barlow includes international trade agreements such as the North American Fair Trade Agreement (NAFTA), to prove this point (Barlow 2017).

Marshall frames the epistemic control of water with her concept of *Aqua Nullius* (as opposed to *Terra Nullius*) emphasising settler perspectives of virgin waters (Hayman 2012). Hydrologist Karen Bakker underscores and problematizes the significance of water as foundational to First Nations' identity, culture, and ontologies, by using the term *unceded waters* (*Unceded Waters: Indigenous Water Governance in Canada* 2017[60]).

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[59] https://humanrightshub.ca/event/anishinaabe-nibi-inaakonigewin-indigenous-water-law-prof-aimee-craft/ accessed 2 December 2017
[60] For full details of Karen Bakker's *Unceded Waters* project 2017, see
http://www.fondationtrudeau.ca/sites/default/files/bakker-project-web-en.pdf accessed 20 November 2017

Decolonising water is the central theme of this thesis that has been researched and developed collaboratively with CTFN since February 2012. Euro-American interest in decolonising approaches is now being seen with the Royal Geographical Society's annual conference (August 2017) in the UK with the title *Decolonising Geography*[61], whilst Canadian natural and social scientists have acquired funding for a *Decolonising Water* project running from 2018-2026.

Ultimately the relevance of this thesis based on collaborative water research builds into wider conversations and debates concerning planetary water(s), and moves to transform, ethically[62] and otherwise, destructive relationships with the more-than-human.

2.3 Water Ethics – introducing a new water culture and a new water consciousness?

"Given that stories—especially histories but also scientific narratives about the environment—operate in the realm of ethics and morality, it is important to understand that ethical frameworks, generally speaking, will have some idea of a goal of human flourishing. Who defines what this goal might be is crucial" (Deane-Drummond in Kelly, J. et al. eds. 2017:55)

Philosopher and phenomenologist Gaston Bachelard *Water and Dreams: An essay on the imagination of matter* (1942), geographer Yi-Fu Tuan's *The hydrologic cycle and the wisdom of God: a theme in geoteleology* (1968), and cultural critic Ivan Illich's *H_2O and the Waters of Forgetfulness* (1986) are arguably some of the most accessible thinking to paradigm shifts about water in relation to the human animal in the West in the last 100 years. As existential phenomenological accounts (particularly Bachelard 1942), they build on the tradition established by philosopher Edmund Husserl. Husserl theorised there were two distinct attitudes whereby humans conceived of reality. The first he called the 'natural attitude' which

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[61] http://conference.rgs.org/AC2017/274 accessed 20 November 2017
[62] The 2015 annual conference for the International Society for Environmental Ethics (ISEE) for the first time in its history, hosted three sessions on Water Ethics. *Global Water Ethics* (Routledge 2017) was published as a result of these sessions.

is the supposed standard way most humans perceive their realities, most often based in the constructed theory and laws of Western philosophy, science and technology. Husserl termed the second the 'phenomenological attitude' which opens the human to the nature of experience, existence and ultimately consciousness. There are many strands of phenomenology taken up by thinkers such as philosopher Maurice Merleau-Ponty and most recently eco-philosopher David Abram in *The Spell of the Sensuous* (1996). However in the West many poets and nature writers have also employed the phenomenological attitude, for example, poets such as Rainer Rilke and Gary Snyder, nature writers such as Barry Lopez and Loren Eisely, and Indigenous writers such as Linda Hogan and Thomas King. Anthropologists Gregory Bateson, and Tim Ingold have employed a phenomenological attitude to critique the human relationship with 'environment', and as Husserl did, see a crisis within human society/culture. Here are the spaces to be embraced where Western styles of knowledge overlap distinctly with Indigenous forms of empirical scientific knowledge.

By way of example, in a 2014 TEDX lecture in Yellowknife, NWT, Canada, anthropologist Tim Ingold speaks directly to the acute challenge that anthropology is committed to and attempts to mediate between: the wisdom, sensitivity and judgements of inhabitants experiencing environments, and Western scientific discourse – both of which are equally valid. Ingold reflects on the gap inbetween them, drawing on the rhetoric of the difference between the concepts of the earth and the globe. For humans, with *earth* terminology we are *in*habitants but with *globe* terminology we are *ex*habitants. Philosopher Astrida Neimanis in her 2017 *Bodies of Water: Posthuman feminist phenomenology* agrees and makes the point that "'Water in the Anthropocene' – tellingly produced for the 'Global Systems Water Project' – uncannily visualizes this distancing and placelessness…'Water in the Anthropocene' pulls out too far; we lose our embodied grip altogether; we are situated nowhere". I draw on a Tlingit and Tagish sense of water(y) embodiment and profound sense of place rooted no less in place-based education in Chapter 5 (Bodies, Fluids, Flows and Circulations), making the contrast with this distancing and loss of a sense of place.

2.4   The Social Life of Water, and Cultural Flows

It has been recognised at least for the last fifteen years that water management, governance and policies do not privilege social/cultural spheres, either at all or enough. Attempts to correct this are often problematic. Integrated Water Resource Management (IWRM) was an early attempt to position water management within a social/cultural context.   According to the Stockholm International Water Institute's (SIWI) definition IWRM is "the sustainable development, allocation and monitoring of water resource use in the context of cultural, social, economic and environmental objectives. It is cross-sectorial and therefore in sharp contrast to the traditional sectorial approach that has been adopted by many countries. It has been further broadened to incorporate participatory decision-making of all stakeholders" (Cap-Net, 2005 in 2017:3[63]). However IWRM is criticised for not going far enough to embrace social and cultural contexts. In February 2017 SIWI published a Human Rights-Based Approach (HRBA) to IWRM, including a section on customary law and Indigenous peoples. This HRBA to IWRM brings water conversations closer to Rights of Nature discourses, and is therefore highly relevant to Tlingit and Tagish potential water legislation.

A second approach attempts to frame and position the hydrological cycle with social and cultural processes: Socio-hydrology "studies how people organise themselves in the landscape with respect to water" (Sivapalan et al. 2012). More precisely socio-hydrology claims to study the co-evolution of humans and water in the landscape, and uses quantitative approaches.

A third approach draws from collaborative work with aboriginal peoples in Australia and is known as 'cultural flows'. Since 2011 the National Cultural Flows Research Project[64] has been

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[63] Cap-Net (Capacity Development in Sustainable Water Management) is part of the United Nations Development Program and based at the Stockholm International Water Institute (SIWI). The *Human Rights-Based Approach to IWRM* manual, published February 2017 is available for download here http://www.cap-net.org/2017/01/24/10321/ accessed 15 February 2017.

[64] http://culturalflows.com.au/~culturalflowscom/ accessed 4 June 2016.

compiling research on cultural flows defined as "water entitlements that are legally and beneficially owned by the Aboriginal nations and are of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Aboriginal nations; this is our inherent right" (This definition was endorsed by representatives from thirty-one Indigenous nations at a joint meeting of the Murray Lower Darling River Indigenous Nations (MLDRIN) and the Northern Basin Aboriginal Nations (NBAN) - The Echuca Declaration in September 2010[65]). Cultural flows looks specifically and intimately at Australian aboriginal ontologies, and is therefore radical in terms of water management approaches.

A fourth approach – the hydrosocial cycle – has proponents such as geographers Eric Swyngedouw and Jamie Linton who consider the hydrosocial cycle to have both ontological and epistemological relevance (Linton 2010:229). Linton writes that "the case for the ontological relevance of the hydrosocial cycle is suggested by the fact that practically every body of water on the planet bears traces of human involvement in the form of minute quantities of anthropogenic substances such as chlorinated organic compounds" (2010:229). This trans-corporeal reflection on the hydrosocial cycle intersects with feminist posthuman phenomenology that I shall come to later in the introduction, and that I address in Chapters 4 and 5. Lastly and importantly for the competing water narratives in the Yukon Territory is Swyngedouw's notion that "analysing physical flows of water in particular places 'narrates stories' about social structure and cultural norms" (in Linton 2010:231).

All four approaches offer elements of theoretical and applied ways of knowing and conceptualising human-water relationships with varying degrees of anthroporelationalism[66]. Throughout this water research I consider how these approaches intersect with a Tlingit and Tagish aqua-centric ontology.

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[65] Definition of cultural flows taken from the Cultural Flows webpage
http://culturalflows.com.au/~culturalflowscom/index.php?option=com_content&view=article&id=16&Itemid=125 accessed 15 February 2017.
[66] According to the Deutsche Referenzzentrum für Ethik in den Biowissenschaften, anthroporelational is "In the context of the environmental ethics debate, anthroporelational means that only human beings have the ability to attribute (whatever kind of) value to nature. Nature's value thus always has to be understood in its relation to the human being, who assigns and respects this value". http://www.drze.de/in-focus/biodiversity/modules/anthroporelational accessed 1 February 2017.

2.5 Storytelling Water

"Shifting the analytical focus towards non-alphabetic texts constitutes a metaphorical opening of the coffin in which indigenous knowledges are encased. … Following their own logics and traditions, these non-alphabetic texts require their own explanatory framework to be deciphered. Elizabeth Hill Boone and Walter Mignolo call these forms of knowledge 'alternative literacies', which, as Brander Rasmussen explains, have 'the potential to radically disrupt a colonial legacy maintained by narrow definitions of writing and literacy'" (Fellner & Hamscha 2017:173)

"We can control our novels and narratives to some extent, but we cannot control the effect they might have on the world" (Okri 1997:50)

(Vignette)

Áax'w Sáani X̲oo (among the ragged lakes)

On October 21-22 2016, I was invited by CTFN government to present at a workshop on Land-Use planning with all First Nations (Carcross/Tagish First Nation, Teslin Tlingit Council, Taku River Tlingit First Nation and Kwanlin Dun First Nation) whose traditional territories overlap with the southern Yukon Lakes – the head waters of *Shaanakheeni* (the Yukon River). Both Mark Wedge / *Aan Gooshú* (Deisheetaan Clan, Crow Moiety) and Colleen James / *G̲ooch Tláa* (Dak̲l'aweidí Clan, Wolf Moiety), my CTFN community consultants, were invited to give opening introductions to the two day workshop. Colleen chose to open with an ancient Tlingit water narrative of the trickster *Yeil* (Crow). As one of the most important long-ago oral (water) narratives, it is Crow that frees freshwater from the control of Petrel (a sea-bird). By using ingenious means, Crow escapes with all the freshwater and (re)distributes it over the land. However, by so doing, Crow is changed from a white-feathered bird to a black one.

Colleen not only showed the continued relevance of a traditional Tlingit/Tagish oral narrative through performance, but also illustrated for our workshop how Crow and his freeing of water from a sole controller was 'flipping the script'. Crow was a game-changer and challenged the status quo of how water was/is perceived. Water was not the sole property of Petrel, but now available for all to have a relationship with and respect.

This set the tone for the workshop with the profound acknowledgement to, for and of the ancient practice of storytelling. Importantly, Crow shapes the hydrological landscape by dripping the stolen water from his beak, but also provides a metaphor for the possibility of paradigm and governance shifts regarding relationships to land/water, and forms of water governance outside the dominant hydrological imaginary.

The power of oral narratives – storytelling – has been showcased by a number of Indigenous scholars, for example Jeannette Armstrong in her PhD thesis (2009), where she draws on her Syilx language and culture to posit that knowledge coming from stories is able to offer a certain sort of empirical science that many societal members can use. In contrast Western scientific knowledge tends to be accessible only to scientists. Importantly Armstrong draws

comparatively on continental environmental ethics to emphasise how an alternative valuing of the earth is necessary. I will pick up on this point in Chapters 6 and 9, where I refer specifically to storytelling and a Tlingit and Tagish water ethic. Other scholars such as Yukon anthropologist Julie Cruikshank have developed anthropologist Frederick de Laguna's and Catherine McGellan's extensive ethnographic research of the circumpolar north, focussing on *The Social Life of Stories* as told by three Tlingit and Tagish women. In a similar genre typographer and poet Robert Bringhurst's *The Tree of Meaning: Language, Mind and Ecology* (2006) and *A Story a Sharp as a Knife* (1999) which showcases Haida[67] oral traditions has been influential here, as much as anthropologist Hugh Brody's *Maps and Dreams* (1981).

Hermeneutic scholar Richard Kearney takes a hermeneutic approach in a 2014 Boston lecture titled *The Ethics of Narrative* when he argues that "narrative can achieve for ethics often what moral arguments sometimes cannot" (2014).   Furthermore in *On Stories* (2002) Kearney supports the power of the oral tradition by arguing that the art of storytelling is what gives us a shareable world (2002:3) and makes the case that the current cyber-culture is not necessarily a threat to storytelling, but rather offers alternative, interactive possibilities of non-linear narration (2002:128).   This last point is critical to my Participatory Action Research (PAR) mapping methodology – specifically *deep mapping* - in Chapter 5 where I present the Tlingit and Tagish storied water knowledges mapped in correlation with Tlingit and Tagish toponyms on a Google Earth platform.

2.6   Transformative Science (the Great Transformation) and intersections with Narrative Theory and Method: literacy biases, and current debates in Eurocentric Science

"Transformative science engages in an active dialogue with societal stakeholders and accepts the challenge that comes with this by explicitly questioning and reflecting its own implicit

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[67] The Haida Indigenous peoples are neighbours with the Tlingit on the west coast of Canada, and share some traditional oral narratives. Revival of the critically endangered Haida language is showcased with a 2017 film *Edge of the Knife* http://www.cbc.ca/news/canada/british-columbia/haida-gwaii-movie-saving-language-1.4379454 accessed 4 November 2017.

assumptions. This presents a fundamentally new challenge of systemic change within the organizations responsible for the production of knowledge" (Schneidewind et al., 2016:7)

Transformation research offers one of the more radical examples of *epistemic disobedience* (Mignolo 2009:1) within the Eurocentric scientific community, particularly German speaking countries. As a fast evolving debated and challenged discourse variously titled 'the great transformation' or 'leap', transformation research is one of the few Eurocentric avenues where post and decolonial approaches, and/or ontological differences have the potential to be given voice.

It is with this Eurocentric scientific epistemic positioning, particularly with inter- and trans-disciplinary foregrounding of reflexive, action orientated, method driven research that recognises different knowledge systems, where this collaborative water thesis is situated. Importantly Uwe Schneidewind presents the term 'transformative literacy' which at its core "integrate[s] various types of knowledge, take[s] a critical stance towards conventional research paradigms and strive[s] for a new contract between science and society (Schneidewind et al., 2016:10). This complements geographer Sarah Radcliffe's 'multiepistemic fluency' (2017:331), and geographer Juanita Sundberg's 'multiepistemic literacy' (2014:42), both of which are considered fundamental tenets of the decolonising discourse.

Uwe Schneidewind recognises one more approach that he suggests should be incorporated into transformation science. The method and approach of narrative theory that has the potential to introduce innovative strategies for transformative futures as argued by business analysts Caroline Bartel and Raghu Garud in *The Role of Narratives in Sustaining Organizational Innovation* (2009). Storytelling and narrative form the framework and worldview of the Tlingit and Tagish peoples, and has provided the philosophical and value laden basis of this thesis, especially in relation to the creation of a Tlingit and Tagish Water Act. This parallels with Bartel and Garud's observations that the power of different forms of narrative can hold and sustain the complexity of past innovations as well as providing a platform to mobilise and generate new innovations. The consistency between the performance and practice of Tlingit and Tagish 9000 year old oral narratives and innovation narratives as advanced by Bartel and Garud within organisations is remarkable. Bartel and Garud observe that "innovation narratives enable

coordination across actors and activities by enabling translation… Translation results in a transformation of ideas and people as innovation processes unfold over time" (2009:108).

As described throughout this thesis, traditional oral narratives not only perform as retainers of cultural memory, repositories of salient virtues and eco-philosophical values, but are regarded as living, offering temporal, even scalar perspectives on modern day issues. Geographer Karsten Schulz adds yet another decolonial dimension arguing that "there is a growing awareness among scholars from various disciplines that storytelling and mythical thought have long prefigured philosophies on human-nature relations and left their traces in our collective social imaginaries (Williams et al. 2012; Vetlesen 2015 in Schultz 2017:47).

2.7   Traditional Ecological Knowledge (TEK) and Indigenous Knowledge (IK)

The intersection of various terms such as Western science, native science, traditional ecological knowledge (TEK), and Indigenous knowledge (IK) is fraught with colonial biases and misunderstandings, complicated by a historical past that has almost continually rejected the authority and validity of Indigenous ecological/hydrological knowledges. Who gets to define these terms, and in which language has a bearing on very practical issues such as the nature of ownership (licensing permits for example), and legal notions of personhood. These terms therefore map out complex, sensitive, and highly critical spaces that are constantly being (re)negotiated.

Philosopher and phenomenologist Martin Heidegger's notion of *techne* (*The Question concerning Technology* 1954) is useful when thinking through some of these scientific spaces. Heidegger believed that our present civilisations nihilistic direction was due to the dominant imaginary that (still) views nature (water) only in technological, utilitarian, and instrumental terms (such as H_2O). Arguing that the essence of technology lies in a particular type of thinking, a certain mono-cultural imaginary, and not in the material form of technologies themselves, Heidegger's thoughts about *techne* challenge's the philosophical framework of the way modern science is put to work, and asks pertinent questions about the value of alternative, empirical, and phenomenological ways that science(s) can be.

In a parallel vein environmental historian Richard White's *The Organic Machine: The Remaking of the Columbia River* (1995) builds on the complex historical relationship and conflicting claims and/or interpretations of a river. As White seeks to "blur boundaries, emphasise impurity, and find, paradoxically, along those blurred and dirty boundaries ways to better live with our dilemnas… we might want to look for the natural in the dams and the unnatural in the salmon" (1995:xi). My term feral waters seeks to accomplish a similar task by arguing that by taking water as a point of departure in this project, a more fluid and less terra-centric relationship can be revealed through a Tlingit and Tagish ontology. (See also Staicey Alaimo's *Bodily Natures* (2010) and Astrida Neimandis' *Bodies of Water: Posthuman Feminist Phenomenology* (2017), admist various blending and blurrings of *natureculture* long in the academic record).

Traditional cultural practices such as hunting, trapping and fishing value nature (water) in a very different way to neo-liberal regimes and policies that often place a monetary value on the services nature provides. See the contrast between environmental systems scholars Stefanie Engel and Maureen Schaefer's (2013) paper on Payment for Ecosystem Services (PES) that has proponents for and against *Ecosystem services — a useful concept for addressing water challenges?* Anthropologist Paul Nadasdy's work in the south west Yukon with the Kluane First Nation reveals another IK component in *Hunters and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations in the Southwest Yukon* (2003). Nadasdy argues that often IK is forced to conform to both Western terminology and rhetoric as well as the economics of neo-liberal regimes for IK to carry the authority it needs to have a voice. However the neo-liberal utilitarian rhetoric of 'resources', 'harvesting', 'stock', 'services', and 'management' for example is often antithetical to First Nations core philosophical concepts and ways of being in the world.

In *On the role of traditional ecological knowledge as a collaborative concept: a philosophical study* (2013) Indigenous philosopher Kyle Whyte problematizes TEK arguing on philosophical grounds, as I do throughout this water research, that what counts as (water) knowledge(s), who defines it, and which (water) knowledge(s) are privileged is fundamental to the application and interpretation of governance, policies and science. (I engage with this particularly later in this introduction regarding counter-mapping).

Regarding IK or TEK, which have floating definitions depending on the stakeholder, Whyte reflects "Perhaps what is important is not only defining TEK; rather, what should be additionally

explored is the role that the concept of TEK plays in facilitating or discouraging cross-cultural and cross-situational collaboration between Indigenous and non-Indigenous institutions such as tribal natural resources departments, federal agencies working with tribes, and co-management boards" (2013:2). I would like to extend this applied paper by Whyte further by arguing as I do in chapter 4, that the experience of intersectional ontologies of water in the Yukon Territory – between the Tlingit and Tagish water, and colonial or 'modern water' is fraught. Anthropologists Martin Holbraad, Morton Pedersen and Eduardo Viveiros de Castro in *The Politics of Ontology: Anthropological Positions* (2013) encapsulate this tension succinctly with their parsing of powers and difference. They write that anthropology is attuned to "the "powers of the weak"—to the many complex connections, some of them crucially negative, between power differences (politics) and the powers of difference (ontology)" (2013).

2.8   Legal anthropology

"Non-Indigenous Australian law teachers, like myself, are being challenged by Indigenous jurisprudence to critically re-evaluate our own national identity, legal history, and assumptions about what constitutes the 'good' and 'just' society" (Thomas 2005:6)

Chapter 6 focuses on challenging philosophical assumptions and dominant paradigms within international law that have narrow ideas of personhood. As already mentioned, the extension of ethics and rights to the more-than-human is part of the global Rights of Nature discourse, but also pushes a reconsideration from a philosophical perspective on the tenor of moral standing and the concept of sentience. This builds into other arguments previously described about comparative anthropological ontologies. I draw on work by the philosopher Mary Midgely's *The Myths We Live By* (2004), research scientist Matthew Hall's *Plants as Persons: A Philosophical Botany* (2011), and geographer Amba Sepie's *More than Stories, More than Myths: Animal/Human/Nature(s) in Traditional Ecological Worldviews* (2017).

As one aspect of this water project is to research Tlingit and Tagish water knowledges as a potential framework for Carcross/Tagish First Nation water legislation, an informed legal anthropological and philosophical space is showcased throughout many of the chapters. Sam Marlowe's PhD in part addresses some of these issues with his thesis titled *Oral Narratives,*

Customary Laws and Water Rights in Canada (2013). Marlowe makes the important point that "because of the limited research of the customary law practices of Indigenous peoples, many conflicts arise as the courts of the colonizers engage in legal processes that place limitations pertaining to the mere existence of the institutional practices prior to the imposition of these foreign legal systems" (2013:145). He makes a second important point referring to the (un)acknowledged legitimacy of oral narratives with "the aboriginal perspective on the existence of a system and philosophy of law is presented through the oral tradition and therefore comes under attack on its reliability as admissible legal evidence by biased courts" (2013:154). Anthropologist Bruce Miller's *Oral History on Trial: Recognising Aboriginal Narratives in the Courts* (2012) is a thorough examination of the status quo regarding oral narratives, not just from a legal, but also anthropological perspective, complementing anthropologist Julie Cruikshank's work. Literary scholar J.Edward Chamberlin makes a similar point in the title of his book *If this is your land, where are your stories? Finding common ground* (2004) referring to a meeting in British Columbia between government officials and the Tsimshian Indigenous people over water and land claims. Not only is this an example of a colonial power not recognising a cosmology different from theirs, but it illustrates the central and critical importance of stories and storytelling for the Tsimshian, as it is so for many Indigenous peoples, not least the Tlingit and Tagish.

I take the Tlingit and Tagish relationships with glaciers which they acknowledge as sentient, to push my points home in Chapter 7. In particular drawing on Tlingit migration oral narratives and Cruikshank's *Do Glaciers Listen? Local Knowledge, Colonial Encounters, & Social Imagination* (2005). However I am not advocating that First Nations are locked into an ancient or all too often, romanticised past. On the contrary CTFN community consultants Mark Wedge and Colleen James are quite clear that cultures evolve and so too does the Tlingit culture. Most often First Nations are juggling two ontologies, that of their own unique culture, and that of Eurocentric ideals. The relationship between the two is often tense and certainly not clearcut, especially in the Yukon Territory with the Peel Watershed conflict (2018), and the Yukon headwaters license controversy (2018). However what this collaborative water project reveals is that whilst a Euro-American ontology tends to follow in the tradition of the philosopher René Descartes and the binaries of mind/body, wild/civilised, nature/culture resulting in a passive 'nature' (water) primed for exploitation and profit, a Tlingit and Tagish ontology recognises and respects the more-than-human world as authentic actors in the playing out of reality.

(Eco) feminism, eco-phenomenology (such as Brown and Toadvine's *Eco-Phenomenology: Back to the Earth Itself* (2003), *Minding Nature: The Philosophers of Ecology* (1996), especially David Macauley's chapter titled "Hannah Arendt and the Politics of Place: from Earth Alienation to Oikos" (1996: 102-133)), challenge the notion of a passive nature, and for this water work, narrow, essentialised readings of water. These dominant understandings of water have been labelled by geographer Jamie Linton as 'modern water' in *What is Water: The History of a Modern Abstraction* (2010). However, in the past few years, there have been a series of academic moves to find spaces where hybrid work and conversations can benefit both Western science and traditional ecological knowledge. Referring specifically to water are eco-philosophers Cecilia Chen, Janine MacLeod, and Astrida Neimanis's *Thinking with Water* (2013), Kyle Whyte and Chris Cuomo's *Ethics of Caring in Environmental Ethics: Indigenous and Feminist Philosophies* chapter in The Oxford Handbook of Environmental Ethics (eds. Stephen M Gardiner and Allen Thompson 2017), and the recent Third Bremen Conference on Language and Literature in Colonial and Postcolonial Contexts: "Postcolonial Knowledges", held in Bremen, Germany in March 2016[68]. Being part of these conversations has led to a greater sensitivity to possible hybrid, collaborative, interactive water futures that is a theme that runs through all my chapters.

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[68] This collaborative water research was presented at this *Postcolonial* themed conference in Bremen.

2.9   The Yukon River Watershed: hydrological and geological characteristics

Figure 6:   *Shaanakheeni* (water coming from the mountains)/ *Ch'ak̲úx̲ Anax̲ Dul.adi Yé* (Bennett Lake). Southern Yukon Lakes – the headwaters of the Yukon River. Looking West, August 2012. Photo: Eleanor Hayman

In this part of the introduction I describe the most pertinent hydrological and geological aspects of the Yukon River watershed, focussing primarily on the Southern Yukon Lakes, CTFNs traditional territory. I explore this further in chapter 5, but there has been relatively little attention paid to this region according to hydrologists. Most importantly, this contextualisation gives a background to the water quality sampling I undertook collaboratively in August 2014 by boat and car, providing the first comprehensive baseline water quality data of the Southern Yukon Lakes. This was accomplished to correlate the hydrological descriptions embedded in over 75% of the 130 Tlingit and Tagish toponyms of the region, with actual on the ground contemporary water quality data. This had two aims. Firstly to critique and/or validate the empirical hydro-science embedded within the Tlingit and Tagish toponyms. Secondly to ascertain whether or not there was evidence for hydrological and climatic change.

The Yukon River watershed covers most of the Yukon Territory, Canada, and a large part of Alaska, USA. Historically the Cordilleran ice sheet covered the Yukon Territory in the south and to the east at its glacial maximum. Radiocarbon chronology dates this last glacial period – the McConnell - from roughly 26000BP to 10700BP (Bond 2004:77). The more recent and frequent glaciations in the Pleistocene have been tracked and recorded as a series of seven glaciations and deglaciations. The last glacial maximum reached Whitehorse some 10700 BP according to

terrestrial and aquatic macrofossils in lacustrine clay and silt sediments. For a comprehensive and visual record see geologist Jeffrey Bond's *Late Wisconsinan McConnell glaciation of the Whitehorse map area (105D),* Yukon (2004). Importantly for this research in relation to glacier surges, floods and the Tagish traditional oral narratives is one of the most recent glaciations in the Carcross and Tagish regions, some 10000 BP. (Refer to Figure 7).
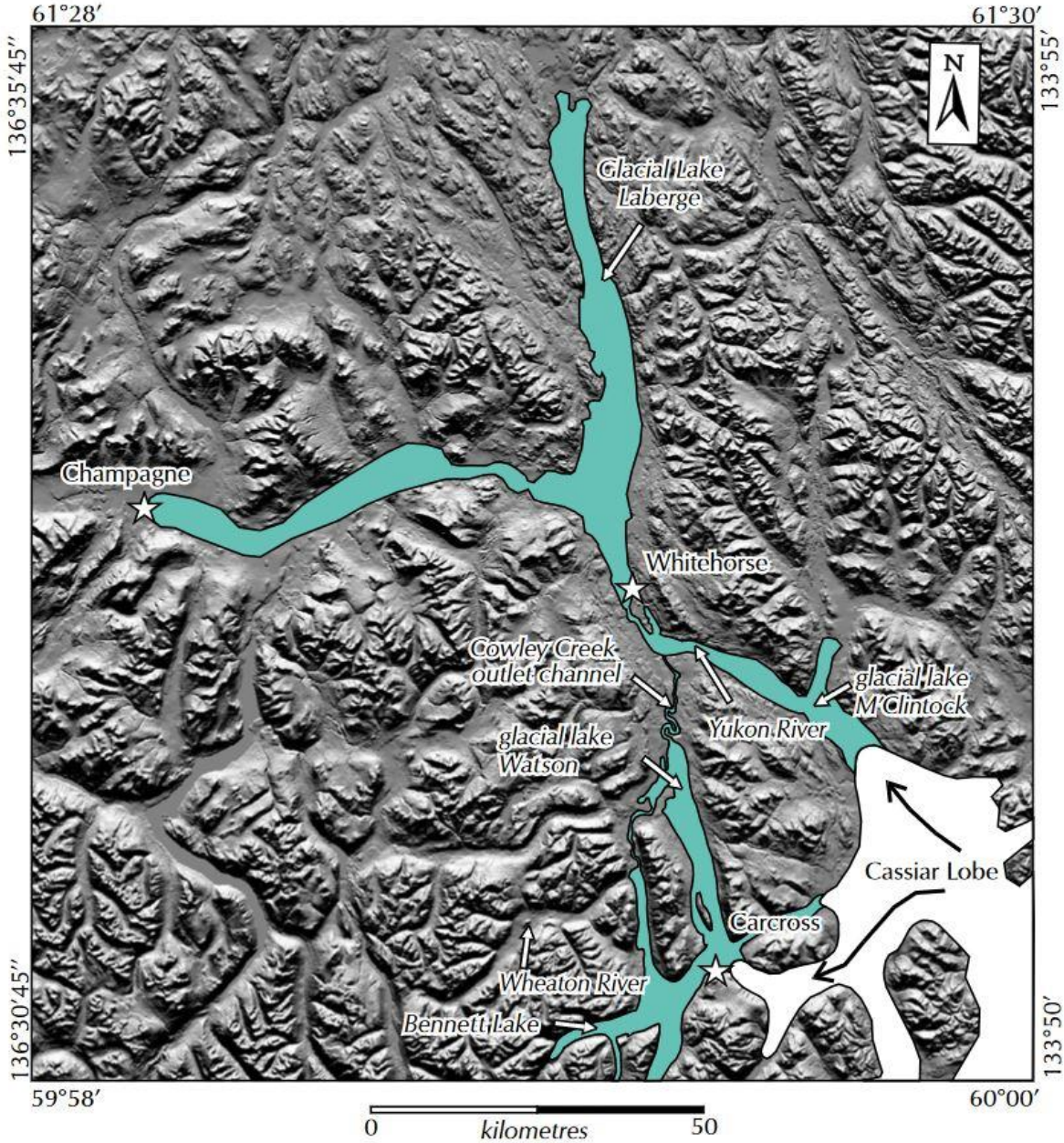
Figure 7:   One of the last advances of the Late Wisconsinan McConnell glaciation. Notice the location of Carcross and Bennett Lake (Bond 2004)

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Ice patches are another unique phenomena within CTFNs traditional territory. Due to increasingly warm temperatures and ice melt, the ice patches are releasing many archeological First Nations artefacts up to 9000 BP (Hare et al. 2012). Locations of the ice patches and details of the artefacts are included on the toponym counter-map. The ice patches within CTFNs territory have been nominated to become a UNESCO world heritage site.[69]

Flowing some 3,200km from its source, the Llewellyn glacier (see Figures 8 & 9), the Yukon River streams north and then east before pouring into the Bering Sea. It is one of the longest salmon runs on earth. The headwaters of the Yukon River – the Southern Yukon Lakes - are fed by glacial melt, snow melt and precipitation (only 200-323 mm per annum). See hydrologists Lauren Hay and Gregory McCabe's *Hydrologic effects of climate change in the Yukon River Basin* (2010). Flow rates therefore vary between summer and winter months, as does water quality and biochemical composition as a result of increasing permafrost melt. See hydrologists Timothy Brabets, Bromwen Wang and Robert Meade's *Environmental and hydrologic overview of the Yukon River basin, Alaska and Canada: Water-Resources Investigations Report 99-4204* by the USGS (2000). Lake levels currently vary as a result of both increasing glacial melt, but also as a result of the hydro-electric dam managed by Yukon Energy at Whitehorse, the capital of the Yukon Territory 77 km to the north.

Figure 8: Llewellyn glacier in far background. Photo taken from Atlin road looking south-west. August 2016.
Photo: Eleanor Hayman

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[69] http://www.cbc.ca/news/canada/north/yukon-ice-patches-unesco-nomination-1.4459595 accessed 24 December 2017
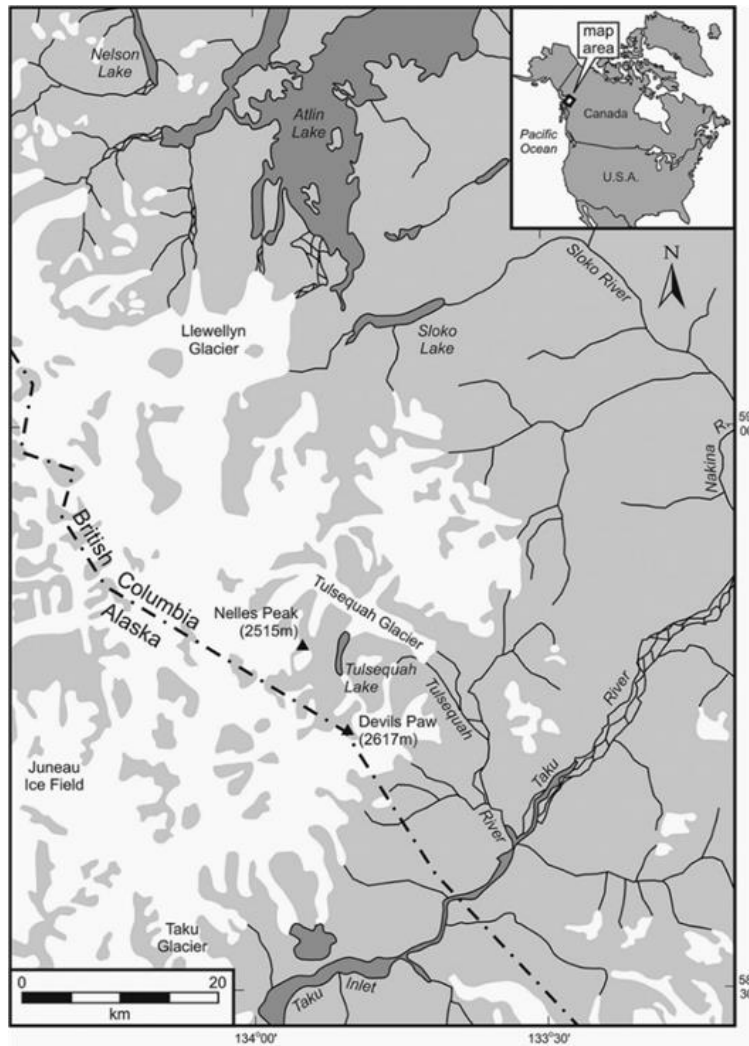
Figure 9:   Location of Tulsequah and Llewellyn glaciers and Juneau Icefield, in John J. Clague, Johannes Koch and Marten Geertsema (2010)

Bathymetric depth varies quite considerably amongst the Southern Yukon Lakes system with Teslin and Atlin Lake being the deepest and is reflected by different lake temperatures and subsequent fish species.   Consequently freeze-up varies within the lake system with the shallowest parts freezing over as early as October, and the deepest by early January. However 2015 was particularly warm with many lakes never freezing over (Wedge per. Comm 2017). Ice break-up[70] is around April, again dependant on lake depth and air temperature. (See Appendix

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[70] As part of the deep chart Google Earth platform I prepared a time-lapsed sequence of satellite images of the break-up of ice at Tagish. This can be seen in isolation from the deep chart Google Earth platform with these dropbox links and/or these QR codes in appendix B.

B for the QR code and/or dropbox link to the Tlingit and Tagish toponym counter-map as a reference for all of this section).

The Southern Yukon Lakes geologically speaking, are part of the Pacific Ring of Fire as evidenced by the volcanic field just east of Atlin (British Columbia), and the volcanic complex adjacent to Alligator Lake to the south west of Whitehorse. This is part of a broader geological region called the Northern Cordilleran Volcanic Province (NCVP). (See Figure 10). Fault lines are a result of tectonic rifts, and the broader region regularly experiences low level earthquakes (Katzeek per. Comm 2015). Tectonic rifts are known sites for alkali basalt abundant in Atlin's volcanic field. Alkali basalt is a volcanic rock characterised by, amongst other minerals, iron oxide or ochre. Alkali basalts have high concentrations of sodium oxide (Na_2O) and potassium oxide (K_2O), and around the Southern Yukon Lakes (and possibly Alligator Lake[71]) are responsible for the alkaline salt licks that have attracted large herds of moose and caribou in the far and recent past. The presence of ochre is referenced three times within Tlingit toponyms (Vermilion rock creek for example) and has traditionally been harvested for daubing on potlatch houses, painting pictographs, and smearing on glaciers to encourage surging.

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[71] Alligator Lake is also the location of one of many ice patches that have revealed large amounts of caribou dung as well as hunting artefacts and clothing with a radiocarbon dating of 9000 BP.
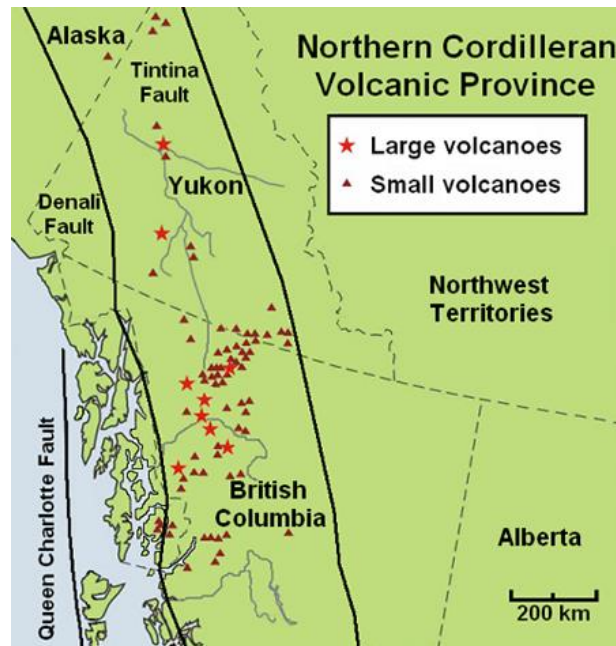
Figure 10: Map of north-western North America. Minor and major volcanoes of the Northern Cordilleran Volcanic Province[72] (Wiki 2016)

In geologists M. Russel and J.K. Harder's paper titled the *Thermal state of the upper mantle beneath the Northern Cordilleran Volcanic Province (NCVP), British Columbia, Canada* (2006), they present evidence for the "regions of alkaline magmas [that] erupted over this portion of the northern Cordilleran volcanic province" This corresponds precisely with the Tlingit toponyms for Atlin and Como Lake – which reference an alkaline geology and water bodies. (Caribou and moose require these alkaline salt licks and so migrate through such areas). Additionally, using geothermometry, Russel and Harder estimate high geothermal temperatures in this region, generated from magmatic heat, again referenced by Tlingit toponyms denoting warm/hot springs in this region. (See Figure 11).

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[72] https://en.wikipedia.org/wiki/Northern_Cordilleran_Volcanic_Province accessed 16 February 2017.

Figure 11: *Yat'aayi heen* (Warm Springs) south of Atlin, looking east towards the Codilleran volcanic field. Ajacent to the west is the Teslin Tlingit Council sign for *Yat'aayi Heen <u>Geeyi</u>* (Warm Bay; a bay in Atlin Lake). Photo: Eleanor Hayman, August 2016

Tlingit toponyms reflect other physical geographical features and the rich biodiversity of this region. Flora and fauna appear to have remained relatively stable over the last 4-500 years. For example the deep charting (toponym/water quality) expedition I undertook collaboratively in 2014 revealed there were still otter tracks at Land Otter Sandbar, and bald eagles nesting at *Ch'aak' X'aayi* (Bald Eagle Point) on the west shore of Marsh Lake. A recent publication by the Yukon Government titled *Yukon Southern Lakes: Boreal Cordillera Ecozone* (Ecoregions of the Yukon Territory, Part 2[73]) describes this geographical area as one of many ecozone's in the Yukon delineated by geology, vegetation and climatic conditions. The Southern Yukon Lakes system falls into one of these Western classified ecozones, classified as sub-arctic with around a quarter of its surface area consisting of discontinuous permafrost.

From the Tlingit toponym record, most of which was ground-truthed on the 2014 expedition, the boreal forest, riparian areas and wetlands are still habitats for red willow, red alder, willow,

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[73] http://www.emr.gov.yk.ca/oilandgas/pdf/bmp_yukon_southern_lakes_ecoregion.pdf accessed 13 February 2017.

grass, cotton wood, hemlock, jackpine, pine, poplar and rosehip (*K'incheiyi Heeni* – Rosehip Creek). The Tlingit (and to an extent the Tagish) toponym record is embedded with references to the bald eagle, land otter, swan, porcupine, fox, golden eagle, groundhog, wolf, beaver, sawbill duck, ptarmigan, caribou, gopher, brown bear, moose, seagull, muskrat, linx, goat, crow, deer and fish hawk. Fish species in Tlingit toponyms include grayling, pikefish, ling cod, whitefish, rainbow trout, pike, bullhead[74], sockeye salmon, silver salmon, geese and eulachon (hooligan or candlefish), all of which mirror specific hydrological and bathymetric characteristics of water bodies. However anthropogenic impacts such as the hydro-electric dam at Whitehorse have impacted the salmon run, effectively eliminating salmon from the Southern Yukon Lakes. Equally the muskrat population, another important trapping animal for First Nations, has virtually disappeared from Marsh Lake (Wedge & Johns, A. per. Comm 2013, 2014). Lastly, the Carcross caribou herd has been so stressed as a result of the construction of the Alaska Highway and other human generated developments and settlements that the herd dwindled to just 200 a few decades ago. CTFN and five other First Nations self-imposed a ban on caribou hunting and now twenty-six years later the herd is slowly replenishing.

Tlingit toponym references to geology such as ochre (iron oxide), charcoal (occurring because of wildfire or volcanic activity), (green) flint, slate (metamorphic rock derived from clay or volcanic ash), limestone (sedimentary rock containing amounts of silica in the form of flint etc.), silt (mineral origin is quartz and feldspar – of magmatic origin), and igneous rock, collapse cultural, hydrological and biological categories together. A complete, sophisticated, and complex empirically based scientific narrative of the region can therefore be understood through the toponyms alone. Additionally, the toponyms embrace historical, cultural, and acoustic ecological narratives, offering a multi-scalar, even multi-dimensional (i.e. acoustic references) rich matrix of the Southern Lakes region.

A thirty mile section of the Yukon River was designated as a Canadian Heritage River in 1991 and runs from Lake Laberge to the confluence with the Teslin River. Every decade there are

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[74] Just as an example, the bullhead, a type of catfish is able to survive in waters that are low in oxygen, brackish, turbid and relatively warm, which as the Tlingit toponym of Bullhead creek reveals, is just south of Atlin and north of Warm Bay. Warm water contains less dissolved oxygen than cold water. Tlingit empirical water knowledge intersects with biological and ecological knowledge to produce a complex biocultural deep map of the region.

reports to assess its cultural value(s), but mainly with respect to the Klondike goldrush in 1898. First Nations heritage is barely mentioned (Downie 2011). However other more recent reports take a different approach and make a concerted effort to find collaboration and intersections between Euro-American science and TEK. For example anthropologist Nicole Wilson et al. in *Indigenous Knowledge of Hydrologic Change in the Yukon River Basin: A Case Study of Ruby, Alaska*, maintains that "the value of Indigenous knowledge is not only established through the incompleteness of science, but also driven by the ethical objective to prioritize the research agendas of Indigenous communities" (2015:94).

2.10 Settler colonialism and white supremacy from a Tlingit and Tagish perspective

Deterritorialisation is a term coined by philosophers Gilles Deleuze and Felix Gattari in their 1972 book *Anti-Oedipus: Capitalism and Schizophrenia.* Anthropologists have appropriated the term to refer to a dislocation between culture and place. I find this terms works well to support the aspirations of settler colonialism, particularly Canadian settler colonialism where the intention of 'civilising the Indian' and total assimilation into Canadian culture has been in play since the Indian Act of 1869. (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*[75] to see the division in opinion on a number of critical perceptual 'racial' issues).

This process of deterritorialisation took many forms for Indigenous people in Canada, no less so for the Tlingit and Tagish culture. Tlingit and Tagish children were sent to Christian missionary residential schools, the remains of one lies just outside Carcross. In these residential

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[75] See the report here http://nctr.ca/assets/reports/Modern%20Reports/canadian_public_opinion.pdf accessed 4 January 2017.

schools, children were regularly beaten for speaking Tlingit and Tagish (Wedge & James per. Comm. 2013, 2014), as well as other forms of psychological and sexual abuse. The multi-pronged assault on indigenous peoples included waters and land being officially appropriated by the State, and critical cultural and spiritual Tlingit and Tagish ceremonies such as the potlatch (*ku.éex'*)[76] were outlawed.

The results of the settler-colonial ethical behaviour have been devastating for the Tlingit and Tagish First Peoples. 4% of Canada are Indigenous: First Nations, Metis or Inuit. 1 in 4 Indigenous people are in prison. Almost half of children under 14 years old in Canada in foster care are Indigenous[77]. In 2015 the *Truth and Reconciliation Commission* officially called this systematic deterritorialisation 'genocide' in a series of reports[78]. In the preface of the final report summary, and after 6 years of research, the Commission writes, "These residential schools were created for the purpose of separating Aboriginal children from their families, in order to minimize and weaken family ties and cultural linkages, and to indoctrinate children into a new culture…" (*Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada* 2015).

This very brief contextual background outlining the settler state's deterritorialisation strategy towards the Tlingit and Tagish cultures over the last 100 years is critical to acknowledge within this project as it showcases how connections to place can be 'unmade' by force. However, the resilience of Indigenous communities, in spite of the attempted severing of their relationship to their land and waters - their philosophy of place – over several generations is testament to the collaborative water research that this thesis is based on.

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[76] For detailed accounts of the form and function of Tlingit potlatches please see
http://www.sheldonmuseum.org/vignettes/tlingit-potlatches accessed 3 June 2017
[77] Taken from
http://www.canada.com/health/Tragic+number+aboriginal+children+foster+care+stuns+even+experts/8354098/story.html accessed 2 December 2016
[78] The online reports can be found here http://nctr.ca/reports.php particulary the summary report here
http://nctr.ca/assets/reports/Final%20Reports/Executive_Summary_English_Web.pdf accessed 14 December 2016

Self-determination, in the Yukon Territory particularly, has taken 11 of the 14 First Nations over 20 years to accomplish. All are struggling with self-governance issues with the Yukon and Canadian governments, mostly over water and land claims that include the protection of or rights to (the) waters. The inland Tlingit and Tagish, particularly Carcross/Tagish First Nation's traditional territory embraces most of the Southern Yukon Lakes, the headwaters of the Yukon River. Here, as I shall detail more fully in chapters 4 and 9, there are specific conflicts of both attitude and ontological difference. For example Yukon Energy, the region's main energy provider that manages the hydro-electric dam at Whitehorse is seeking changes to their licence conditions in order to keep the Southern Yukon Lakes raised during the winter[79]. The Southern Lakes Water Level Committee (SLWLC) was formed to analyse the scientific data of the impact of such a change in Yukon Energy's licence and met regularly for two years in Carcross, Tagish and Marsh Lake. Their final 2015 report was generally critical of such a move with negative reactions from First Nations and other many other Yukoners[80]. Carcross/Tagish First Nation is fundamentally against any great change in the lake system due to a variety of factors including the unpredictability of the glacial fed lakes as a result of increasing evidence of climate change. There are arguments at a more fundamental level concerning the technological choice to build the hydroelectric dam at Whitehorse thereby stopping the salmon run to the Southern Yukon Lakes. As a keystone species and main foodsource for the inland Tlingit and Tagish, disrupting the salmon run, intentionally or not, is yet another form of cultural assimilation by the settler state. It is another testament to recognising other ontologies of water.

The CTFN government is currently in negotiations with a private company to develop their own micro-hydro facility at two locations on *Tsalgi Shaayi* (Gopher Mountain) or Mount Montana (close to Carcross), and are awaiting decisions on federal funding for possible geothermal

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[79] For more details see https://www.yukonenergy.ca/energy-in-yukon/our-projects-facilities/hydro-enhancement/southern-lakes-enhanced-storage-concept/ accessed 10 February 2017
[80] The SLWLC Final Report (2015) with a summary of my presentation can be found here http://www.slwlc.org/assets/report-slwlc-final-march-10-2015.pdf accessed 13 February 2017.

development[81] (Lepine per. Comm 2016). The first comprehensive Yukon Territory geothermal survey was presented to the Yukon Government in March 2016[82]. Energy sovereignty is linked to water sovereignty, and are part of tough economic and social decisions the CTFN government is making.

2.11 Waters, genders and the practice of Tlingit and Tagish water knowledges

Daa kahéeni (amniotic fluid; or looking at a body of water – all encompassing) (Katzeek per. Comm 2016)

"Our first environment is water. We live in water throughout gestation inside our mother who then gives birth through water" (Biggs et al., 2017:13)

"To rethink embodiment as watery stirs up considerable trouble for dominant Western and humanist understandings of embodiment, where bodies are figured as discrete and coherent individual subjects, and as fundamentally autonomous" (Neimanis 2017:4)

Feminist political ecology has many alliances with critical Indigenous theory as both reveal the silencing and/of marginalising of various voices. As I have previously argued in *Shaped by the Imagination: Myths of Water, Women, and Purity* (Hayman 2012), the imagination of water or what I call the hydrological imaginary within the dominant worldview is a complex blend of gendered and historical narratives. Whilst feminist political ecology can go some way to revealing these complexities, it is fraught with its own past located and arising from within a patriarchal Euro-American context. Feminism does not sit well with many Indigenous cultures for this reason. (See Suzack, Huhndorf, Perreault & Barman's *Indigenous Women and Feminism: Politics, Activism, Culture* 2010).

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[81] According to the geothermal report on Carcross, "the temperatures exceed 75°C between 1,500 and 2,500m depth". In Tagish it is around 88 degrees at 2,500m depth. According to the Tlingit and Tagish toponyms and descriptions of them by Tlingit and Tagish Elder Angela Sidney, there are many hot or warm springs in the area which the Tlingit had specific names for.

[82] For reports and maps see the Yukon Government webpage here http://www.esc.gov.yk.ca/geothermal.html accessed 6 October 2016. Particularly pp 155-166 which focuses on Carcross' geothermal potential and Tagish at pp 254-265.

In chapter 4, I explore a Tlingit and Tagish relationship with water through the lens of Tlingit and Tagish women, critiquing how feminist political ecology itself needs to be decolonised. I look carefully at what geographer Jamie Linton calls 'modern water' in *What is Water? The History of a Modern Abstraction* (2010), and argue that modern water is gendered, paralleling the control and management of both water and women in Western culture. Furthermore, the pursuit of what environmental historian Donald Worster calls 'imperial water' – the bringing of colonial waters under a Western epistemological and material control (Linton, 2010: 59), is couched in the rhetoric of virgin and passive waters. Tlingit and Tagish ontological waters as I show have been increasingly colonised by modern water over the last 100 years, with modern water's corresponding labelling as resource, commodity and the abstract scientific formula H_2O.

Chapter 5 employs what Astrida Neimanis calls a posthuman feminist phenomenology in *Bodies of Water* (2017), where she argues that "figuring embodiment as watery, then, is a deliberate extension of feminist theories of embodiment into distinctly posthuman waters" (Neimanis 2017:9). However, as Tlingit and Tagish notions of embodiment are decidedly watery or fluid, I argue that that notion of posthuman is misleading, but rather another example of the feral waters that are emerging. Feral waters where Indigenous ontologies can come more readily into serious dialogue with Euro-American ontologies.

2.12 (Critical) Environmental hermeneutics and perspectivism

"Hermeneutics starts from the assumption that people make sense of their lives by placing themselves in a larger normative context of texts and other meaningful things. An environmental hermeneutics will focus on the fact that environments matter too, because environments embody just such contexts" (Drenthen in Thompson and Gardiner 2017:1)

"The worst realities of our age are manufactured realities. It is therefore our task, as creative participants in the universe, to redream our world. The fact of possessing imagination means that everything can be redreamed. Each reality can have its alternative possibilities. Human beings are blessed with the necessity of transformation" (Okri 1997:49)

(Vignette)

Áa Tlein (Big Lake)

Memories of the water-related practices of medicine men or shamans were few throughout this water research. However Tlingit and Tagish elder Kitty Grant described not only the ritual use of water in hunting moose, but also how water was used in healing shamanic practices in a number of key ways. In her own words:

"Sometimes you went to grandpa Dixon … he was a big medicine man. They were related to us. So was Alice. They were all related to us. Grandpa Dixon's gone a long time ago. He tell us stories and stuff. Because he knows [many]. I got sick there one time, I was so sick. There were no doctors, nothing up there. Grandma tell him, they say you are good and can heal people… And he told everybody around to make a campfire. And he sang. And he blew on my head - it was just like cold water went through me. You going to be strong just like that *Áa Tlein* [Atlin] - that big lake. And you're going to be around a long time".

In a similar fashion, when Kitty Grant's mother was ill Kitty was told to, "go down and get your grandpa. And so I did and he asked what he should do. Grandma said she should go back with her kids to Carcross. And so I went and sat down beside him and he started singing that swan song. And he puts a white hanky over her face and put [swan] feathers on it. I sat in front of him, and he said 'watch your mum – just put your hand on your mum's head'. And he blew on my head and holy smoke! It was just like sitting in an ice block. And mum just went 'haaa'. And he bought her back. He brought her up and gave her some water in a cup, and he gave her half".

There are many respectful rituals when hunting which varies from family to family. Kitty "was told by dad, my grandpa and grandma. 'When you shoot a moose, make sure it is down. And you get water. Put that water in your mouth - you drink half. Put the other half in the moose's mouth. And tell him, say thank you. He needs that water to travel with'".

These illustrations reveal a particular connectedness and intimate knowledge of the working of water from both a practical perspective, and a metaphysical one. Water is considered to be a source of strength and vitality (Twitchell 2017; Grant per. Comm 2013). This is where the philosophical approach of hermeneutics, and perspectivism can guide and inform ontologies of water.

As an evolving seam of thought within philosophical hermeneutics, environmental hermeneutics is increasingly being tasked to show "how conflicting interpretations of the environment are intertwined with different notions of personal and social identity" (Drenthen 2017:2). It draws on philosopher Paul Ricoeur's hermeneutics as David Utsler writes in *Paul Ricoeur's Hermeneutics as a model for Environmental Philosophy* (2009). However at a first critical reading this places the human animal back in the supremacist or anthropocentric position.

However there are surprising similarities between hermeneutics and how the Tlingit and Tagish regard their traditional oral narratives. One theme within hermeneutics as eco-philosopher Martin Drenthen reflects is, "we may find we have gotten stuck with stories and interpretations about our world that have been told before, petrified interpretations, or fixed narratives that do not always properly articulate the actual meaning that these places have for us now" (2017:4). The Tlingit and Tagish over time use their oral narratives to elucidate different aspects of reality and/or experience. They are often, but not always, used as a method to seek clarity in contemporary difficult situations (Wedge per. Comm 2015).

Ricoeur's understanding of hermeneutic interpretation is possibly closest to anthropologist Viveiros de Castro's term *perspectivism*, when Ricouer writes that one of hermeneutics' aim is the understanding of 'texts' that "speak of possible worlds and orienting oneself in these worlds" (Drenthen 2017:5). Viveiros de Castro's perspectivism and multinaturalism has been picked up by anthropologists such as Philippe Descola, Bruno Latour (2013) and Julie Cruikshank (2012), and I too use it to better showcase the Tlingit and Tagish ontology and relationship with water within a wider Indigenous context (chapter 6). Indigenous perspectivism aims to dissolve or go beyond the dichotomies of nature and culture. Viveiros de Castro's 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." (Viveiros de Castro's *The Relative Native: Essays on Indigenous Conceptual Worlds* (2015:229-230) in review by Eugene Anderson, 2016:42).

Perspectivism is good to think with within this water research. 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 so often articulated in Tlingit and Tagish oral narratives as I will showcase in the following chapters. A Tlingit ontology for example acknowledges four ways that refer to 'spirit'. According to coastal Tlingit Elders, one of them *Yakgwahéiyagu,* is "the living spirit inside of all things (human, nonhuman, inanimate) that senses and feels the world around them" (Katzeek in Twitchell 2016). The title of this thesis – "Marrying the Water" honours these ideas of perspectivism within the Tlingit ontology. 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. This is so that humans through 'marriage' might have the opportunity to experience and understand other worlds. Through *marrying the water*, this collaborative water research showcases a Tlingit and Tagish relationship with water that is both respectful and reciprocal.

2.13 Ethnopysiography, toponyms and biocultural diversity

Haa saaxú, haa latseení, hà Kus Teyea (Our names, our strength, our way). (Hayman with
James & Wedge counter-map title 2016)

"The word for our bodies contains the word for land, so when I say that word, it means that
not only is my ability to think and to dream present in that word but the last part of that word
also means 'the land'" (Armstrong 1998: 176)

Wooch Keekt Yal.at Yaakw (the star constellation in Western science known as Orion's Belt)
translates as "boats steered together side by side" in Tlingit (Twitchell 2016)

Ethnophysiography is a relatively new academic field forged by geographers David Mark and
Andrew Turk (2003) who consider it the ethnoscience of landforms. Mark and Turk are worth
quoting at length: "Ethnophysiography seeks to document and compare terms used in various
languages and cultures to refer to the natural landscape and its parts, and the meanings of
those terms. Ethnophysiography is an important part of efforts to construct ontologies of the
geographic domain because the categories of landforms, water bodies, etc. are not clearly
differentiated in nature the way terms for kinds of plants and animals typically are" (Mark &
Turk 2003). Methodologically speaking, ethnophysiography is instrumental within this Tlingit
and Tagish water research as it challenges received and blanket notions of landscape naming
and categories, and applies this critique to Indigenous uses of mapping including GIS. Indeed
cognitive linguist scholars Niclas Burenhult and Stephen Levinson in *Language and landscape:
a cross-linguistic perspective* (2008) write concerning these variables in landscape ontologies,
"With the rise of geographic information systems and global positioning systems playing a
central role in navigation, resource management, emergency services and the like, these
ontological issues have come to have huge practical import" (2008: 138). In particular
Burenhult and Levinson acknowledge the deep cognitive neurological foundations developed
over thousands of years in the human brain – the hippocampus – as I have already mentioned
in relation to Tlingit and Tagish oral narratives. Based on case studies, they recognise that
linguistically this has two (they say universal) manifestations; water/landform terms and
toponyms (2008:138).

Research that reveals how water and water bodies shape cognitive linguistic mapping is not unprecedented. Take for example linguistic anthropologist James Kari's work with the old Athabascan language – Ahtna, estimated at some 5000-1000BP, in Alaska (2011). Kari shows definitively that the language and toponyms contain precise navigational knowledge, particularly directional and orientation indicators. Anthropologist Keith Basso's work with the Navajo also illustrates a frequency of water related place names that embed stories or experiences (1996). Geographers Seiber and Wellen's work with the Cree in Quebec unpacks complex hydrological Cree terminology (2013), whilst anthropologist Steven Feld's acoustic research with the Indigenous Kaluli people of Papua New Guinea reveals how the sound of water animates and shapes the Kaluli musicology (1990). Mark, Turk & Stea (2007) coined the term ethnophysiography and apply their methodology to the Yindjibarndi in northwest Australia. Here they take water as a medium with which to analyse Yindjibarndi linguistic conceptualisations and expressions.

The Tlingit language reflects a complex combination of all the above. Whether it is from the origin of clan names, houses and clan origin stories, to the high concentration and density of water-related toponyms, to directionals within toponyms, or to the many aquatic acoustic references within toponyms, water has fundamentally shaped the Tlingit language and linguistic categories that sometimes differ enormously or subtly from Western hydrological categories and meanings. Ethnophysiographical work therefore enables a deeper and more nuanced understanding of a Tlingit and Tagish relationship with water, and further opens up spaces for geographical ontologies.

Unsettling assumed categories of language, landscape and indeed toponyms reveals the ontologised fluid geographies of the earth. Philosophical geographers Barry Smith and David Mark (2003) in *Do Mountains Exist? Towards an Ontology of Landforms*, problematize 'mountain' classification in terms of environmental modelling, framed by the processes of surface hydrology and fluvial erosion and deposition (2003:13-18), contributing to the relevance of the ontological debate for the natural sciences.

Importantly for the methodologies employed within this water research, phenomenology has been utilised to support ethnophysiographical approaches which I shall address briefly in the next section. However, it is important to place my use and analysis of the Tlingit and Tagish toponyms of the Southern Yukon Lakes into some context. Firstly the Tlingit and Tagish

toponym manuscript and map that I use for toponym analysis on CTFNs traditional territory is compiled by Tlingit and Tagish Elder Angela Sidney, who was assisted by anthropologist Julie Cruikshank. It is not a colonial rendition of what might be supposed to be First Nations' 'folklore' which is often a problem in toponym analysis. Secondly the layering and/or palimpsests of toponyms - the oldest Tagish language, followed by the Tlingit language – offers a rich cultural history of the region, where linguistic collisions illuminate changes in climate, vegetation, cultural identities, and ontologies, but mainly an ancient tradition of sophisticated empirical hydrological, geological, geomorphological, metereological and acoustic[83] scientific knowledge. The current toponyms listed in the Yukon Gazetteer (2016[84]) are by and large colonial impositions, revealing a gendered, white, individualistic, supremacist approach to the naming of places. There are some exceptions where Tlingit toponyms have simply been anglicised, such as Lake Atlin, or Tutshi Lake.

In a review on anthropologist Thomas Thornton's edited book on coastal Tlingit toponyms (2012) Tlingit linguist Patrick Moore observes that "While place names are indeed a rich index of Tlingit history, values, and cultural practices, the Tlingit sense of place is expressed through multiple linguistic systems, including motion verbs and direction terms" (Moore 2012:187). This observation is as valid for the inland Tlingit toponyms as it is for coastal Tlingit toponyms. However, Tlingit (and Tagish) toponyms reveal a whole range of positive correlations between place-based biocultural knowledge, reflecting not only rich biodiversity in the riparian landscape, but potential biocultural markers indicating (or not) change over time. Whilst there is literature confirming the positive correlation between areas of high biodiversity and cultural diversity[85] at a global scale (Fagundez & Izco 2016:23), there is only a handful of papers looking closely at the relationship between toponyms and biodiversity at regional scales (Fagundez & Izco 2016; Signorini et al. 2016). Whilst this research focusses predominantly on water-related

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[83] From my toponym research, this is unique. Attention to aquatic acoustics is picked up along the Yukon River in the village of Ruby, Alaska. In Wilson et al's *Indigenous Knowledge of Hydrologic Change in the Yukon River Basin: A Case Study of Ruby, Alaska*, the Elder's interviewed make several points about the changing acoustics of ice break-up (2015:98). https://watergovernance.ca/wp-content/uploads/2013/11/WilsonARCTIC2015-1.pdf accessed 15 February 2017.
[84] Most recent version of the Yukon Gazetter is accessible here http://yukonplacenames.ca/wp-content/uploads/2016/02/GAZETTEER-OF-YUKON-2016.pdf accessed November 2017.
[85] Fagundez and Izco (2016:23) also make the point that there is the inverse relationship too. Language/cultural loss (extinction) is positively correlated to biodiversity loss (extinction). The NGO Terralingua campaigns to preserve biocultural diversity. See the webpage here http://terralingua.org/ accessed 12 February 2017.

toponyms (which are over 75% of all Tlingit toponyms), these aqua-centric toponyms cannot be isolated from the overall density and distribution of other toponyms reflecting the biodiversity of this region.

Environmental historian Will Cronon (2016) refers to toponyms as 'rich historical documents', but actually for the Tlingit and Tagish at least, they are far more than this. As I will show in Chapter 4,5, 8 and 9, Tlingit and Tagish toponyms are far more than documents. They are living, breathing thick descriptions saturated with many qualities of water knowledges, and everything connected with those waters, including traditional oral narratives that speak of a particular Tlingit and Tagish identity with place - a particular ontology.

2.14 (Eco)-phenomenology

"…phenomenology is the Western philosophical tradition that has most forcefully called into question the modern assumption of a single, wholly determinable, objective reality" (Abram 1996:31)

Aspects of eco-hermeneutics, and eco-phenomenology merge by asking whether humans have an inter-corporeal relationship with the earth. Drawing on phenomenologist Merleau-Ponty's work, there have been a plethora of ecological philosophers who have developed thinking challenging the dominant paradigm where the earth is simply a set of resources solely for human needs, and opening up spaces which are much closer to many indigenous cosmologies, particularly the Tlingit and the Tagish. It might be argued that in Europe it was philosopher Arne Naess' *Deep Ecology* which engaged scholars in a new set of critiques in environmental theory about the worth and intrinsic value of the more-than-human world. In the United States, ecologist Aldo Leopold's 'land ethic' in *A Sand County Almanac* (1949) and his classic line "a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (1949:224-225) has again been the catalyst for a wealth of eco-poetry for example poet Gary Synder's *Practice of the Wild* (1990), and nature writing such as Barry Lopez's *Of Wolves and Men* (1978) and *Arctic Dreams* (1986) have encouraged a more sensitised and discursive critique of the human sense of place within a multi-species animate earth. Similarly anthropologist and psychologist Gregory Bateson's *Steps*

to an Ecology of Mind (1972) is remarkable in linking the human psyche through and within the environment. One of his powerful metaphors is "You decide that you want to get rid of the by-products of human life and that Lake Erie will be a good place to put them. You forget that the eco-mental system called Lake Erie is part of *your* wider eco-mental system - and that if Lake Erie is driven insane, its insanity is incorporated in the larger system of *your* thought and experience" (Bateson 1972:492, italics in original).

Throughout this water project, many of these ideas have influenced the process of my collaboration with the Tlingit and Tagish. Just one example to illustrate. The Tlingit say '*Haa daséigu a tóo yéi yatee:*' Our Life is in the water . . . Our breath is in the water" (Katzeek per. Comm 2013). The Tlingit word for 'breath' is *daséikw, x'aséikw; x'aséikw, daséikw óox* which is the same for 'life' (*daséikw, x'aséikw; x'aséikw, daséikw ḵustí*) and is a foundational concept in the Tlingit concept of *Woochen* which means 'one, in harmony and balance with the earth, spirit and body' (Katzeek per.Comm 2017). This is extraordinarily close to the idea of an inter-corporeal relationship with the earth as eco-phenomenology suggests, as well as Ricoeur's hermeneutic notion of *Oneself as Another* (1986). Moreover it gives another perspective on the Tlingit and Tagish Elder's statement at the beginning of the Final Agreement with the Yukon and Canadian Government to become a self-governing First Nation. The Elder's write that the Tlingit and Tagish have 'grown roots into the earth since the olden times' and are 'part of the land and part of the water'[86]. I explore this inter-corporeality and trans-corporeality[87] with human bodies and water/water bodies within the Tlingit language and Tlingit and Tagish oral narratives in Chapter 5, and is intergral to the CTFN Water Declaration (chapter 10).

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[86] *"Tagish Khwan ha setiyi kha Lingit ha setiyi, ha shegun awe ch'agudaxh xhat yaxh yenaxh kawsia. Ech-awe ya tl'etgi in ha siti, kha yah hin / Héen."*
This is translated as "We who are Tagish and we who are Tlingit, our heritage has grown roots into the earth since the olden times. Therefore we are **part of the earth and the water**." (Elder's Statement, CTFN (first three lines); Final Agreement between CTFN and the Canadian Government, Ottawa 2006).
[87] Trans-corporeality is a term coined by Stacey Alaimo in her book *Bodily Natures: Science, Environment, and the Material Self* (2010).

2.15 Critical cartography, deep mapping, and weaponising maps

A core visual aspect of this water project is counter-mapping (refer to appendix B for all counter-maps' QR codes and dropbox links). Utilising Participatory Action Research (PAR) methodology and building on Participatory Geographic Information Systems (PGIS) approaches, I worked with CTFN citizens, and CTFN government staff, particularly my two community consultants Mark Wedge and Colleen James, to represent Tlingit and Tagish water knowledges in two cartographic forms; a 2D poster, and a 3D Google Earth kmz file: a deep chart (appendix B).

Current maps of the region privilege colonial visions of the way the world is. In particular the Euro-American toponyms superimposed on the far older Tlingit and Tagish ones that exemplify a silencing of not only the Tlingit and Tagish ontology, but a far older water consciousness. Counter-mapping argues for the democratisation of knowledges where different voices and different knowledges can be heard. Counter-mapping takes many forms reflecting the community and materials to hand. It is often a very powerful form of environmental storytelling, but implicit within its own complex history is a keen tension between what has been appropriated and by whom. Geographers Joe Bryan and Denis Wood profile these tensions in *Weaponsing Maps: Indigenous Peoples and Counterinsurgency in the Americas* (2015). Many Indigenous groups are using GIS mapping technology to map spatial data, mostly to make more effective decisions for resource conservation, use and planning. (See *Tribal GIS: Supporting Native American Decision Making*, eds.Taylor, Gadsden, Kerski & Warren 2012). Geographer D. R. Fraser Taylor with the Geomatics and Cartographic Research Centre (GCRC) works in a similar direction but using online 2D Google Map templates, often with Indigenous communities. Fraser Taylor uses a different term – cybercartography, and has worked to embed Indigenous knowledge within the 2D landscape. In the *Developments in the Theory and Practice of Cybercartography: Applications and Indigenous Mapping*, (eds. D.R.Fraser Taylor & Tracey Lauriault 2014), the volume showcases comprehensive case studies concerning the ethics and future of such work. However, it makes little comment on how communities without GIS expertise, or a team such as GCRC can accomplish such maps and atlases.

With the Tlingit and Tagish counter-mapping I showcase an aqua-centric rather than a terra-centric narrative of the region, rooted in the Tlingit and Tagish privileging of water in their

cosmology. Aqua-centric refers to the privileging of water in the Tlingit and Tagish cultures through their toponyms, oral narratives and cultural practices, and thereby reflected in the counter-map which pays special attention to watersheds, bathymetric data, flow direction, hot springs, macro/micro hydro locations, ice patches, ice fields and glaciers, and fresh/salt water. As over 75% of the 130 Tlingit and Tagish toponyms are directly water related, this allows a correlation between the embedded hydrological knowledge within toponyms, as well as a vision of toponym density and where or where not toponyms are located. Linguistically, the toponyms for each location show ecological and cultural change over time, from the older Tagish language, to the more recent Tlingit and finally the colonial English toponyms. These palimpsests of water knowledges form the basis for the 3D Google Earth platform (chapter 8).

These aquatic palimpsests narrate competing ontologies over time and space. However, as a static 2D map, they are not best represented from an *oral* cultural perspective that orients itself by the direction of water flow, and towards/away from the sea. I build on the evolving methodology of deep mapping (Bodenhamer, Corrigan & Harris 2010, 2015; Least Heat-Moon 1991), to better represent these qualities and characteristics. Using the free Google Earth platform allows the Tlingit and Tagish government and community to take charge of their own water narratives, knowledges and data and not rely on expensive online platforms or a GCRC team. It further offers a living, breathing, multi-media, interactive deep map, or as I have called it due to its aquatic nature, a deep chart. The deep chart, Google Earth and cartography are critically explored in Chapter 8, and how they support the decolonisation project.

2.16 Decolonising hybrid methodologies

My methodological approaches are influenced as much by Indigenous philosopher Linda Tuhiwai Smith's *Decolonising Methodologies: Research and Indigenous People* (1999) and indigenous methodology scholar Margaret Kovach's *Indigenous Methodologies: Characteristics, Conversations, and Contexts* (2009), as they are from Euro-American sciences, of which I am a part. Here I situate myself as a white, European single mother of four children.

As has been clear for a large portion of this introduction, I take a combination or hybrid methodological design, almost all qualitative. I do this in order to flesh out as comprehensively

as possible a sophisticated, holistic Tlingit and Tagish aqua-centric worldview that does not commit to classic Euro-American scientific categories.

I utilise the reflexivity foundational to (eco) feminist research. In Kovach's words, "…decolonising methodologies demand a critical reflexive lens that acknowledges the politics of representation within indigenous research" (2009:33). Working collaboratively with the CTFN government and community was therefore essential for the four year water research period. I was extremely privileged to be guided in reflexive self and research examinations by my two community consultants Colleen James and Mark Wedge both when I was in the Yukon Territory, Canada doing the collaborative fieldwork, and when I was back in Germany by email and Skype.

Participatory Action Research (PAR) methodology is critical to collaborative research as it demands that both the planning and process are conducted with the community. In 2012 I was invited to spend five weeks on CTFNs traditional territory[88], and after being asked to participate and discuss in a variety of environments, it was suggested that this research form the background material and framework for a Water Act – legislation rooted within the Tlingit and Tagish ontology. Colleen James and Mark Wedge were not only involved in the production of knowledge from a practical point of view, but are acknowledged as collaborators in all the chapters and papers that I publish (see bibliography). Additionally the counter-mapping projects (the 2D poster, and deep chart on the Google Earth platform) were accomplished with their geographical and cultural water knowledges. The maps are designed for the educational, cultural, heritage, linguistic and legal benefit of and use for the CTFN government and community (see the intellectual claimers on the 2D poster and 3D deep chart on the Google Earth platform). PAR has the advantage that it democratises the design and process of collaborative (water) research. In my experience, it is still the least used of methodological approaches, and can be misused and misappropriated.

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[88] Anyone who wants to conduct research in the Yukon Territory must apply in advance for a Yukon Scientists & Explorer's Licence. If working with a First Nation, there needs to be a written letter of consent attached to the licence. An example of one of my licences is Appendix B. http://www.tc.gov.yk.ca/scientists_explorers.html accessed 12 February 2017. Another example of sound scientific and ethical research practice.

A phenomenological (and environmental hermeneutic) methodology is concerned with the study of experience, and importantly challenging (or as is termed 'bracketing') preconceived ideas or assumptions. As such phenomenology's narrative enquiry complements indigenous methodologies. Kovach reflects "It is recognised that story as both form and method crosses cultural divides. However the way that a culture employs story differs (2009:96). Hermeneutic phenomenology leans towards interpretation, rather than a thick description of experience, and argues that description itself is an interpretive process.

The methods used here were therefore semi-structured interviews where the interviewee was asked in advance to consider his/her memories and experiences with water and water bodies. Colleen James attended almost all open-ended interviews with me which encouraged the Tlingit and Tagish Elders to be more relaxed and comfortable talking about their relationships to and experiences/stories about water and water bodies. Three of the Elder's interviewed were fluent in the Tlingit language, so they were encouraged to clarify Tlingit water related terminology. Lastly, Ida Calemagne in a second working session audio recorded all of the 130 Tlingit toponyms, and gave her permission for them to be uploaded online for the deep chart (Google Earth platform). Each interviewee was gifted a leather pouch I handmade filled with tobacco – a sacred gift, and each Elder was paid the stipulated CTFN honorarium for their time.

The selection of the interviewees was based on the Tlingit clan system. The Tlingit clan system has two moieties (or halves). One side is Wolf, the other Crow. Within CTFN[89] the Wolf moiety has two clans; *Daḵl'aweidí* (People of the Inland Sandbar), and *Yanyeidí* (People of Hemlock House). The Crow moiety has four clans; the *Deishitaan* (People of the end of the trail), *Kookhitaan* (People of the cellar), *Ishkeetaan* (People of Deep Pool in the River), and *Ǥaanaxteidí* (People of Sheltered Harbor Rock). The clan leaders of each clan were invited for an interview as per Tlingit protocol. If that Elder[90] was unavailable for interview, then he/she would defer down to the next Elder in line. Colleen James guided me so there was a balance between both the Wolf and Crow and within the clans. It was not always possible to have representatives from all clans due to time restrictions. As I was there during August and

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[89] For more detailed information as to each clan meaning and history, visit the CTFN website here http://www.ctfn.ca/origin-clans accessed 12 December 2016. Note the coastal Tlingit have slight different named moieties.
[90] Anyone over the age of 60 years within CTFN is considered an Elder.

September (2012, 2013, 2014, 2016), many Elders were out on the land and unavailable for interview. I also interviewed community intellectuals and other knowledge keepers by recommendation. For a list of interviewees please see Appendix C.

All interviewee's were asked permission as to whether they could be recorded by digital audio recorder and video. Most agreed to the audio. Some agreed to video. A few refused any form of media recording. However, as far as possible I kept field notes of my impressions. All signed the CTFN intellectual property consent forms based on the CTFN TEK protocol. (Appendix D and E). To all those who had agreed to being recorded by digital audio, I made copies on CDs and gave them to the interviewees.

Based on these interviews, I extracted key Tlingit and Tagish single sentence concepts to put together a skeleton CTFN Water Declaration as another point of departure for the evolution of a CTFN Water Act. This can be found in Chapter 10.

A second method is participant observation where the researcher pays close attention to all aspects of his/her environment by getting involved and participating as fully as possible with the community. I involved myself in many aspects of CTFN government and community life in a number of ways. I was fortunate to be invited to a three day heritage retreat at Millhaven Bay (Mark Wedge's cabin) on the first day I arrived in Carcross (August 2012). CTFN government involved me in discussions with Yukon Energy, a CTFN Open House, a retreat with the Land Use Department, assisstance at the CTFN Culture Camp. The CTFN community invited to a potlatch, two hunting expeditions, and to people's cabins for discussions and tea. I volunteered many times, cleaned salmon for the CTFN community after the salmon were helicoptered in from the neighbouring Taku River Tlingit First Nation, and prepared food and cleaned at the Teslin Tlingit Celebration. I was with the CTFN government and community in total for seventeen weeks between 2012 and 2016.

Secondary data sources consisted of archival research in the Yukon College Archives, Whitehorse, Yukon Territory; books, papers and journals, academic lectures; Yukon Government bathymetric data, Teslin Tlingit toponyms from the Yukon Gazetteer, ice patches GPS located; United States Geological Survey (USGS) satellite data; Alaska Department of Native Resources, Alaska Native Language Archive, BC Treaty Commission, Council for Yukon Nations, GeoYukon, Geomatics, and the Yukon Native Language Project.

Quantitative research was limited to water sampling for the deep chart (toponym/water quality) expedition I led with Mark Wedge and his elder brother Elder Leslie Johns for seven days from 10-17 September 2014, covering the northern section of the Southern Yukon Lakes - CTFNs traditional territory. Time and lake conditions prevented more sites being sampled. See water quality sampling sites in appendix G.

The Yukon River Inter-Tribal Watershed Council (YRITWC) is an NGO that represents 73 tribes and First Nations in the Yukon Territory and Alaska. As the Yukon River has the fourth largest drainage basin in the world the YRITWC aim is surprisingly simple: To be able to drink water directly from the Yukon River. Partnering with the USGS since the accord at the biennial summit in Mayo, Yukon in 2013, where I was present, the YRITWC has a comprehensive water quality monitoring and training programme. The YRITWC has also partnered with the National Geographic Society to produce an interactive 2D map called Fieldscope where groups and individuals can upload and research water quality data of the Yukon River watershed. This is titled the Indigenous Observation Network which as their website defines, "The Indigenous Observation Network (ION) is the largest international, Indigenous initiative combining Indigenous Knowledge and western science to research, sustain and protect the Yukon River Watershed, its resources and cultures" (ION[91], 2017). However, although there are fixed locations along the Yukon River with dissolved oxygen, pH and water quality data, there is no comprehensive data for the Southern Yukon Lakes.

I was trained to use the YSI handheld water quality sampling instrument by the YRITWC[92]. Not only did I record pH, dissolved oxygen and water temperature at almost all toponym sites by boat, but also mid lake for YRITYC and CTFN records. (Probe depth was standardised at 30cm). Flow rate (in knots), air temperature (in degrees Celsius), lake depth (in m), water conditions, weather conditions, wildlife signs and local knowledge were recorded. Two on-shore grab water samples were taken at Little Atlin Lake. For the raw data in an Excel sheet please see Appendix H.

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[91] Indigenous Observation Network's (ION) Fieldscope 2D interactive map and website found here
http://yukon.fieldscope.org/v3 accessed 13 February 2017.
[92] For the YRITWC water quality sampling manual see
http://media.wix.com/ugd/dcbdaf_be50005004f4436d9a4d57353009e4be.pdf accessed 13 February 2017.

With LMU ArcGIS support two water surface temperature maps of the Southern Yukon Lakes were generated from 12 September 1985 and 14 September 2009 using USGS Landsat satellite imagery data. See Figure 12.
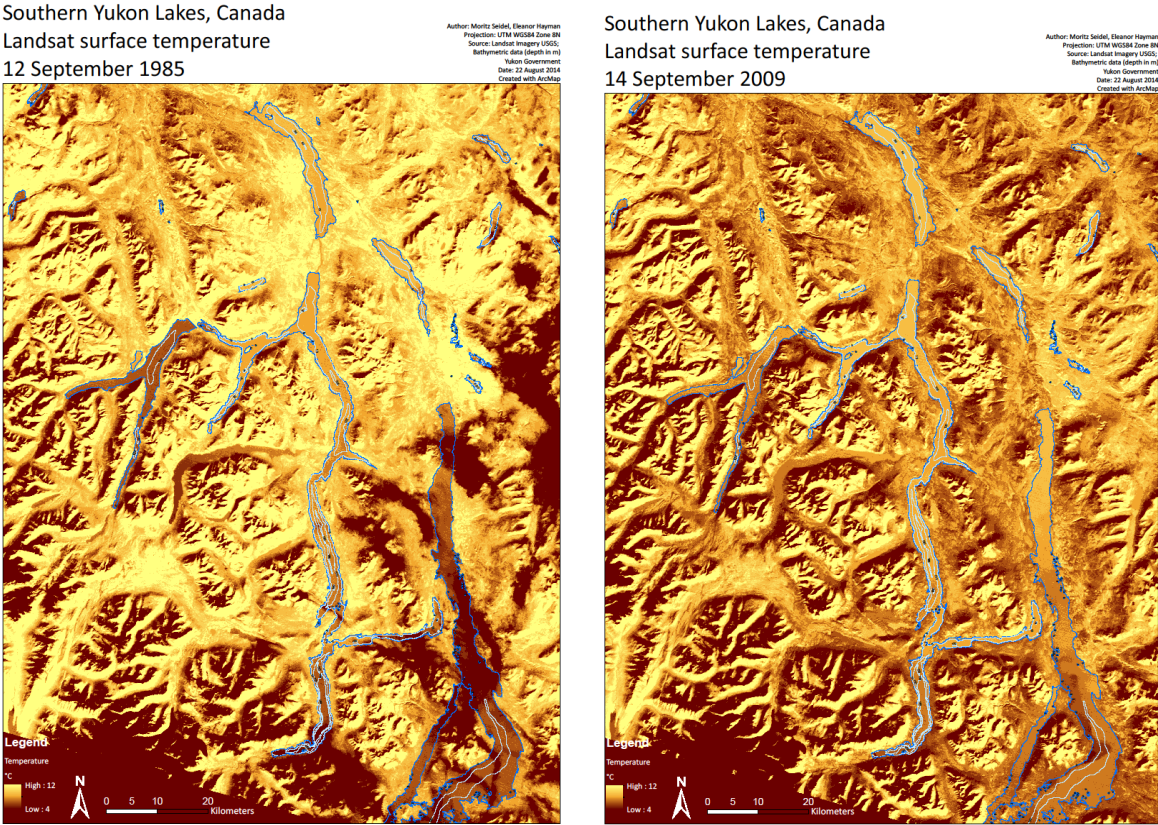
Figure 12: USGS Landsat surface water temperature comparative maps

These Landsat 5 maps are 24 years apart, and show in some areas of the lake system a slight increase in lake surface temperature. These maps were referenced to whilst actively on the deep chart expedition, as well as a visual analysis afterwards[93]. However the Landsat 5 data is not refined enough to make any clear conclusions when making comparative analyses between all three data sets. What can be said is that Landsat 5 data for this region for this time period

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[93] Millhaven Bay, does show small increase in water temperature. For example on 13 September 2014, Millhaven Bay (mid bay) was 11.6 degrees Celsius. On 14 September 2009 according to Landsat 5, it is slightly below. Within ArcGIS, by clicking on Millhaven Bay with the mouse, individual pixels are correlated to temperature, so there is more accuracy for the temperature in degrees.

is relatively accurate. Ground-truthing the water temperature of these individual bodies of water was a secondary aim of the expedition.

At each toponym/water sampling location, photographs were taken and compared to the descriptions given by Angela Sidney in her toponym manuscript (see *Place Names of the Tagish Region, Southern Yukon* by Angela Sidney 1980). Firstly to identify similarities/and or change, and secondly to build on her Tlingit and Tagish cultural and spatial narratives by adding those of Mark Wedge and Leslie Johns. Fieldnotes were taken to describe the behaviour and substance of water, visible wildlife, and vegetation.

All of the CTFN community and six clans have the ability on the deep chart Google Earth platform to add their own traditional water/ecological knowledges. The advantage of unlimited space on the deep chart (private kmz. File) allows the overall methodology of the deep chart for the CTFN community to be much more democratic than any other medium CTFN have used so far.

2.17 Relevancy of approach and practical application for current water(shed) management and water conservation issues

Mulitfaceted chartings – multiepistemic fluencies – multiepistemic literacies

"There is also growing recognition of the need to comprehensively examine Indigenous relationships to water at a broader scale, and to address Indigenous water governance" (Askew et al. 2017:4)

"I propose that ecological thinking can effect a revolution in philosophy comparable to Kant's Copernican revolution, which radically reconfigured Western thought by moving 'man' to the center of the philosophical-conceptual universe. … Ecological thinking interrogates and endeavors to unsettle the self-certainties of Western capitalism and the epistemologies of mastery it underwrites (Code 2006:3-4)

"Canada's relationships with Indigenous peoples—and the institutions, laws, and policies governing these relationships—remain fraught with significant challenges 150 years into Confederation. These tensions are certainly evident in freshwater governance in B.C. where

First Nations are often marginalized or even excluded from the major decision-making regime, yet the outcomes have a significant impact on Indigenous rights and important cultural, spiritual, and economic water uses" (POLIS Report, November 2017)

This research engages critically with the multiplicities and assemblages of Tlingit and Tagish relationships with water. The intersections of water governance, water policy and water law, are charted in relation to the 'ontological', 'decolonial', and 'species' turn. Opening up the conversation to such watery possibilities is part of what might be called a posthuman water ethic.

The recognition of alternative ways of storying worlds, of multiple water ontologies within more-than-human timescales is put into conversation with current water narratives and conflicts. For example the Peel Watershed longstanding dispute in the north Yukon Territory. This applied hydrological ethics and citizenship is part of moves to decolonise water, reimagine international water law, and revitalise the spirit and intent of UNDRIP. The latest report *Between Law and Action: Assessing the State of Knowledge on Indigenous Law, UNDRIP and Free, Prior and Informed Consent with reference to Fresh Water Resources* (2017) "accepts the premise that implementing UNDRIP provides an opportunity to explore and reconceptualize the relationship between international law, Canadian constitutional law and Indigenous legal orders" (Askew et al. 2017:4).

Watershed thinking is yet another shift in standard water management protocols, and reimagines human and more-than-human ecological embeddedness. Thick multi-layered descriptions of the Peel Watershed crisis reveal that the significance of decisions taken will have impacts far beyond the damage to a highly complex set of nested ecoystems[94]. A recent report

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[94] The Yellowstone to Yukon (Y2Y) wildlife corridor is similarly impacted, posing hard questions for multi-species ethnography. Y2Y conservation corridor   https://y2y.net/news/updates-from-the-field/deciding-the-fate-of-yukon2019s-peel-watershed accessed 10 November 2017

clarifies, "Its [Peel] resolution could not only dictate the future of the watershed, but also redefine the legal relationship between indigenous people and the country's provincial and territorial governments under treaties they have signed in recent decades" (5 November 2017, New York Times[95]).

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[95] https://www.nytimes.com/2017/11/05/world/canada/yukon-indigenous-treaties.html accessed 10 November 2017

3. Overview of chapters

3.1 Part One – Ontologies of Water: Aquatic Intersections (Chapters 4 & 5)

3.2 Part Two – Decolonising the Hydrological Imaginary (Chapters 6 & 7)

3.3 Part Three – Applications: Counter-Mapping, and the Tlingit and Tagish Living Water Ethic (Chapters 8, 9 & 10)

Chapters 4 and 5 synthesise and probe at the complexities inherent in competing ontologies of water(s). Situating a Tlingit and Tagish watery ontology through cultural practices, toponyms, and traditional oral narratives, these chapters deepen hybrid postcolonial approaches that honour what has been called Indigenous jurisprudence and customary laws. These destabilise and upset the mono-cultural imaginary with regard to the intersections of water, the body, narrative and ecology.

Chapters 6 and 7 focus on decolonisation with regard to water, personhood, and knowledge. A Tlingit and Tagish relationship with glaciers is showcased to support alternative ontologies, particular with reference to the perspectivism approach.

Chapters 8, 9 and 10 discuss in depth the applied aspects of this water research. Showcasing the first deep chart on a Google Earth platform, I push at the boundaries of deep mapping by creating a deep chart. Negotiating concerns over epistemic violence and hydrological violence the deep chart is a practical tool for the Tlingit and Tagish offering another introduction to the making of place over different scales and times. Finally environmental virtue ethics is compared to a Tlingit and Tagish water and land based pedagogy (chapter 9), and its role in the evolution of a Water Declaration rooted in the Tlingit and Tagish philosophy (chapter 10).

4. *Héen Kas'él'ti X̱oo* [96]: Among the Ragged Lakes

Feminist Political Ecology

4.1   Introduction

"When our ancient people talked about water, what the Western world calls H$_2$0, 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).

This chapter is about water. Not bottled water or the chemical formula H$_2$O, but water understood and celebrated within the Tlingit language and Tlingit/Tagish culture. By extension it is also a commentary on the dominant vision of water that is gendered, narrow and now naturalized within global water governance rhetoric – a 'water' often referred to as 'modern water'. A Tlingit and Tagish relationship with water can be traced through over nine thousand years of Tlingit oral tradition (in particular narrative storytelling) but is also reflected in Tlingit and Tagish place names around the Southern Yukon Lakes, where over three-quarters of place names are water-related. In a Tlingit and Tagish cosmology, stories emerge from and are co-dependent with ecological processes, something that I call "slow activism." How might "slow (and therefore radical) activism" – a powerful and highly sustainable form of environmental storytelling - act as both a counterpoint to dominant water rhetoric as well as a means of resistance to essentialized readings of water? Indeed, who gives voice to water in the context of water management? How do the framings, possession, and control of water and its circulations in and out of social spaces, undermine or promote particular worldviews? [97] These

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[96] In the Tlingit language *Heen Kas'él'ti X̱oo* means 'Among the ragged lakes' (Sidney 1980).
[97] Drawing on Jules Law's introduction and title, *The Social Life of Fluids* (2010) and the philosophy behind Julie Cruikshank's *The Social Life of Stories* (1998).

questions are gaining new and urgent momentum in this – so-labeled - epoch of the Anthropocene and its associated politics of climate change. In the circumpolar north where global warming is providing a catalyst for nations hungry for 'untapped resources', these questions are of unprecedented urgency (Fox 2014).

The ecological crisis that Earth currently faces forces a critical analysis of some of the most fundamental assumptions within the dominant culture – that is, the conceptual and imagined space of Western, patriarchal, capitalist society. Many Indigenous intellectuals, feminist philosophers, environmental historians, cultural anthropologists, and science technologists are of a similar voice – that there is a requirement for a 'revolution of the mind,' a 'new consciousness,' a 'paradigm shift,' and a 'reconfiguration of Western thought' to deal with and counteract this ecological crisis and the specter of global climate change (Code 2006; Wedge per. Comm 2014). One of the most convincing tools to affect this shift is also a fundamental assumption of this chapter: that there is not one single reality defined by the assumptions of the dominant culture, but rather multiple realities that can be known. Māori Indigenous scholar Linda Tuhiwai Smith elaborates with these words: "The globalization of knowledge and Western culture constantly reaffirms the West's view of itself as the center of legitimate knowledge, the arbiter of what counts as knowledge and the source of 'civilized' knowledge. This form of global knowledge is generally referred to as 'universal' knowledge…" (Smith 1999:63). Simply put, the assumption of this collaborative research is that there is not a uni-verse but a pluri-verse (Blaser 2010; Law 2010; Mignolo 2013). As one counter-story to the notion of the uni-verse and its assumptions about water and approaches to water 'governance', and together with Carcross/Tagish First Nation (CTFN) community consultants Mark Wedge and Colleen James, I explore how Tlingit cultural practices and performances in relation to *héen* (water) are one of many critical pluri-verse realities.

This chapter is primarily concerned with the ideological or structuring principles in cultures which present specific 'constructions of gender, nature and the relationship between the two' (Agrawal in Bavington et al 2004:163). The first section introduces a Tlingit and Tagish cosmology and organizational structure, which is in a process of revitalization after over a century of colonial suppression. The second section identifies a problematic relationship between Indigenous philosophy and notions of feminism(s) implicit within feminist political ecology, which itself is a product of particular Western historical circumstances. In the third section I synthesize the idea of 'modern water' and argue that it is stitched into petrified

dualisms (i.e. nature/culture, wild/civilized, male/female) that exist both as relics of a particular colonial history and now as a normalized way of understanding water. The final sections offer a Tlingit worldview as a counterpoint to dominant and essentialized understandings of water. This chapter writes a Tlingit and Tagish voice into a common environmental water (hydro-commons) history and fundamentally enriches and adds alternatives in moral debates on water ethics and approaches to water 'governance'.
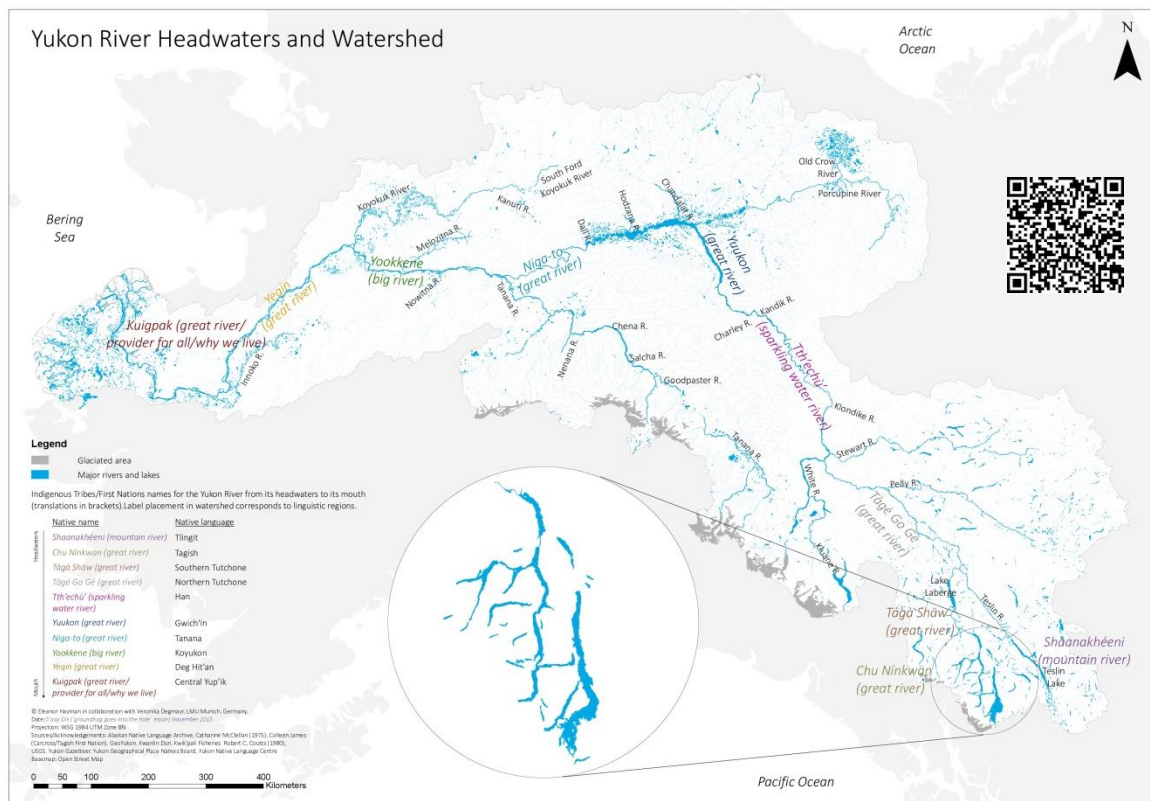
Figure 13: Yukon River Watershed counter-map. Copyright Eleanor Hayman

PDF version available online at
www.dropbox.com/s/ja3jgclxizc2jbd/Yukon%20Watershed_17_11_600dpi.pdf?dl=0 or
http://documents.routledge-interactive.s3.amazonaws.com/9781138204294/13_Figure1_Yukon_Watershed_18_11.pdf

4.2   Tlingit and Tagish Culture, and Tlingit Language

Tlingit is a native Alaskan and southern Yukon First Nations' language, a branch of the Na-Dené language family that is spoken fluently by roughly two hundred Alaskan Native and First Nations peoples in the circumpolar north. Tlingit culture is far more extensive than the language itself,

defining one hundred and thirty Tlingit Tribes, Clans, and Clan Houses comprising 17,000 people[98] across Alaska (US), British Columbia, and the Yukon Territory (Canada). Tagish is a northern Athapaskan language, a branch of the Na-Dené language family no longer spoken in the Southern Yukon. Descendants of the Tagish[99] language also spoke the culturally dominant Tlingit language fluently. Two of the last fluent speakers of Tagish in the CTFN community were Lucy Wren / *G̲ooch Tláa* (*Dak̲l'aweidí* Clan, Wolf Moiety) - Colleen James' grandmother, and Angela Sidney / *Stóow* (*Deisheetaan* Clan, Crow Moiety) - Mark Wedge's aunt.

The violent imposition of colonialism with its patriarchal values such as male authority over women and children, and control of property wrought havoc on the traditional Tlingit/Tagish matrilineal and egalitarian clan system. This is most clearly evidenced by the Indian Act of 1876. This piece of Canadian legislation was and continues to be a powerful tool for the federal government, reflecting assumptions held about Indigenous peoples by the dominant Euro-Canadian, late 19th century society (Coates 2008:1-2). The Indian Act's core aims were 'assimilation, protection, and civilization' of "aboriginal" communities into a Canadian system. The Act defined who and how an individual was a 'status' Indian. Often referred to as the 'double-burden,' the Act marginalized women for being both Indian and female. By redefining status, the Act further destroyed the matrilineal and egalitarian clan structures with the assumption that patriarchal nuclear families were the 'natural' model for all cultures. The Act rejected clan matriarchs, outlawed cultural and spiritual ceremonies, and placed control of lands and resources with the Department of Indian Affairs. However, despite repeated and systematic suppression and assimilation by European colonizers, the Tlingit clan and kinship system continues to show astonishing resilience.

The long road to self-government for many Yukon First Nations began in 1973 with Elijah Smith and a delegation of Yukon Chiefs starting Land Claims with the Canadian Government based on the historic document '*Together Today for Our Children Tomorrow*' (1973). The *Umbrella Final Agreement*, finally signed in 1993, reflected twenty years of gruelling negotiations and addressed aboriginal self-government, settlement lands, and hunting and fishing rights. Self-

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[98] Source: http://penn.museum/collections/shotridge/the_tlingit.html accessed 18 February 2014

[99] More information on the Tagish language with audio examples found here: http://www.ynlc.ca/languages/tg/tg.html _accessed 10 March 2014

government for many Yukon First Nations has gone a long way to reverse the colonial process, especially as the Indian Act 'ceases to apply' with the signing of a Final Agreement with the Canadian government. Many Indigenous traditional practices, structures, values, ceremonies, and authorities have been revived. However land is no longer clan owned but under the collective control of each First Nation government.

The Tlingit clan system is rooted within two moieties or halves – Wolf and Crow –and provides the fundamental balancing force and point of reference in Tlingit society, in particular CTFN (Wedge per.Comm 2013). Gender is not significant in terms of hierarchies or privileges within Tlingit society. Rather, individual recognition and a deep consideration of each person's virtues, attributes, and achievements are highly valued and reflected in Tlingit language, philosophy, and history. Tlingit/Tagish women continue to hold as many strong leadership positions as men. Historically Tlingit women were primary educators for language and culture, primary negotiators in trade agreements, and often in charge of trade finances. Gender does not delineate status or power. One example demonstrating that gender has a fundamentally different role in Tlingit society than in colonial society is shown within the Tlingit language. Simply put, the 3rd person pronoun that refers specifically to humans is ungendered. Linguistically this introduces another complex historical/conceptual construction of how gender can be imagined. Together with a rich and powerful oral tradition of storytelling, these linguistic, cultural, social, and spiritual elements form the strong philosophical basis of Tlingit identity and sense of place.

It is readily recognized by many individuals in First Nation communities that they are as much a part of the patriarchal capitalist system of mastery and exploitation as they are an intimate part of and advocates for a matrilineal Tlingit clan culture. This is critical to acknowledge as it problematizes the tendency to classify knowledge into either Indigenous or Western (Agrawal 1995). First Nations themselves work within dualistic rhetorical frameworks such as Traditional Ecological Knowledge (TEK) and 'Western' scientific knowledge. Yukon First Nations and CTFN in particular cannot be essentialized into either Indigenous or Western categories, categories that are themselves a product of a particular way of viewing the world.

This chapter draws extensively on collaborative ethnographic water research[100] undertaken between 2012 and 2016 with the inland Tlingit/Tagish CTFN community whose traditional territory embraces the Southern Yukon Lakes in the Yukon, Canada, the headwaters of the Yukon River. The villages of Carcross and Tagish were well established before first contact with European traders in the 1800s. CTFN is one of fourteen First Nations in the Yukon Territory, eleven of which (including CTFN) are now self-governing. CTFN signed their Final Agreement, a legal treaty that designates settlement lands and deals with economic, wildlife, natural resources, and heritage issues, with the Federal and the Yukon Government on 22 October 2005[101]. The first Act drawn up by CTFN Government was a Family Act rooted in Tlingit oral traditions and its defining value system. This collaborative water research is a potential framework to develop legislation for a CTFN Government Water Act, located as the Family Act is, in the fundamental teachings of over nine thousand years of Tlingit/Tagish narrative storytelling. Tlingit oral narratives reveal what could be considered as one of the first sets of environmental (water/*héen*) ethics and philosophy that is inherently part and parcel of Tlingit values embodied in Tlingit oral tradition.

4.3   Indigenous women and feminism: Decolonizing Feminist Political Ecology?

There is growing scholarship and sophisticated critique by Indigenous scholars on the nature, epistemology, and colonial history of 'feminism.' Implicit within this scholarship is a theorizing of Indigenous feminism(s)/native feminism(s) that includes a healthy amount of skepticism and rejection of Western feminism historically located at the nexus of patriarchy, colonialism, and white supremacy (Smith 2011). First and second wave Western feminist movements were generally catalyzed by white, middle class academics, and native women's concerns were not addressed. Furthermore European-based cultural labeling, constructions of gender, and notions of feminism are simply that – constructions and terms reflecting European frameworks

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[101] For a comprehensive background to Final Agreements in Canada see the Report on the Royal Commission on Aboriginal Peoples. http://www.aadnc aandc.gc.ca/eng/1100100014597/1100100014637

and generally all in the dominant English language. Therefore feminism is widely regarded as an intimate part of the colonial project by many Canadian First Nations (Bev per. Comm 2013; Grey 2004:12). With this background it is no surprise that the academic field of feminist political ecology is troubled by the notion that ideas of feminism, indigeneity, women, and gender do not sit comfortably together.

My collaborative water research with CTFN centers on the Tlingit word *héen* (water). *Héen* is a powerful destabilizing and de-familiarizing setting for feminist political ecology. In contrast to the blanket term 'feminism', feminist political ecology is far more nuanced with its central concerns about power and relationships. While definitions of feminist political ecology certainly draw on many feminist approaches and perspectives, feminist political ecology itself claims a particular sensitivity to situated knowledges, or knowledges born out of specific spatial and embodied practices (Elmhirst 2011:130). In other words, feminist political ecology has a particular set of competencies for tracing, tracking, interrogating, and unsettling dominant assumptions about relationships between gender and water and resulting water governance ideologies and structures. In particular, it places Indigenous knowledge outside of a rather narrow and restrictive anthropological contexts to "encourage a respectful examination of local knowledges within the global context" (Turk 2011:57). While it is clear that a decolonization of knowledge - specifically gendered and Indigenous knowledges within feminist political ecology – must be further problematized theoretically, collaborative research does offer rich opportunities for the very nature and intent of feminist political ecology to be 'interrupted and challenged' (Cruikshank 1998:165). Indigenous scholars, for example, are vocal in concerns about the (post) colonial re-ordering of conceptual space, the essentializing tendencies of Western approaches to Indigenous knowledges/cultures, and the imposition of sets of gendered roles on Indigenous communities (enforced in a Canadian context by the Indian Act of 1876). These categorizations can be read as sophisticated forms of continued cultural colonization.

The tension between these concepts of Indigenous women and feminism is voiced by Beverly (Bev) Sembsmoen / *Shooaateen* (*Dak̲l'aweidí* Clan, Wolf moiety, CTFN) at Millhaven Bay on the shores of Lake Bennett, Southern Yukon, in August 2013. Bev has worked for the CTFN government since 1996 and was a key technician for CTFN's Final Agreement with the Yukon Government. She considers herself an activist and not a feminist, something she elaborated on in an interview when she stated that she takes issue with the word feminism, arguing that it is

conceptually too narrow. Sembsmoen illustrates this with the recent protest movement *Idle No More* and alludes to both the movement's non-hierarchical structure, its female driven momentum, its focus on responsibility for the more-than-human world, and its location in decolonizing discourses:

> "That's what's going on with Canada right now with Idle No More. It is the women of Canada who are standing up and telling the government 'We've had enough!'…. Well now the aboriginal people in Canada are rising up and saying 'Enough! We're not second class citizens in our own country. If you guys don't like us, you go home because we're already home. Is that feminism? No its not. It's women without a title. Where it's just mothers and grandmothers and great-grandmothers and daughters. We're all saying it's our job to protect mother earth. It's our job to protect families, and water is a critical life source… women are protecting their water sources."

Idle No More began as a reaction to an impending Canadian parliamentary omnibus bill C-45 (now a law) whose perceived threat was that it would erode both Indigenous sovereignty and environmental protection laws on navigable waterways. The intersection of water protection with predominantly female activists offers a particular vision of Indigenous women's relationship with water, but not one necessarily that can be pigeonholed into a particular way of knowing. Activism in the form of ecological and/or linguistic protection and regeneration is most often a function of family circumstances in First Nations communities in Canada that reflect a combination of impacts from the 1876 Indian Act, linguistic suppression in residential schools, and the maintenance (or not) of cultural practices that include hunting, trapping, and fishing. Colleen James summarizes:

> "There are only basic clan laws and oral histories passed down to my generation, a gift not all of us had benefit of. No old people in family, sickness took many, mission school, religion, government, new laws, all played a role in the demise, breakdown of traditional knowledge. Today we search the ashes of the fire, hoping for remnants, artefacts that will help us remember who we really are" (James per. Comm 2013).

Many Elders of Tlingit/Tagish descent are knowledge keepers – gifted storytellers who practice Tlingit/Tagish narrative traditions. A high proportion of storytellers are female, but stories themselves are not gender-specific. Men and women storytellers do, however, often stress different aspects within stories. For example, female Elders have tended to use narrative

storytelling to demonstrate a storied connection to the land and waters, to illustrate how particular waters are mnemonics for particular clan histories, claims and narratives, and how narrative storytelling itself mimics the circulatory, replenishing, sustaining nature of water. Male storytellers on the other hand tend to focus more on the imposition of 'modern water' on traditional water-related material culture and identity, offering highly detailed descriptions of the history, fluctuations, and impacts of the changing hydrology and ecology of the Southern Yukon Lakes region.

It becomes clear then that the problematic intersection of feminism(s), females/males, and indigeneity is further complicated by the themes of cultural identity, nationalism, and decolonization. This is most recently and vigorously discussed by Indigenous scholars in *Indigenous Women and Feminism* (Suzack et al. 2010) who raise the question, "Can feminism inhabit discourses that marginalize the question of gender?" I argue that the most recent literatures on feminism(s), the politics of Indigenous feminism(s), and political ecology during most of the early-twenty-first-century shows that it can. This 'feminist' literature "extends well beyond female-feminist concerns to engage with wide-ranging social-justice and politics-of-knowledge issues of dominance and oppression" (Code 2006:14). More recent critical enquiry on the coloniality of knowledge (Leff 2012) echoes Mark Wedge's concern that dominant systems of governance and (water) management in Canada do not reflect Indigenous ways of knowing. Enrique Leff writes that "decolonization of knowledge leads to inquire how Eurocentric ideas –from Greek philosophy to modern science and technology– were introduced to traditional societies and cultures through conquest, colonization and globalization, invading indigenous modes of thinking and their cultural lifeworlds..." (2012:7). Within feminist political ecology circles, Mollett and Faria (2013) have contributed to this debate by arguing that "the decentering of gender remains unfulfilled in feminist political ecology and that a more complex and messier, notion of 'gender' must be recognized" (2013:116). This insight opens up spaces for dialogue and clearly recognizes that feminist political ecology requires more rigorous problematization within the context of decolonizing gendered and Indigenous knowledges.

The following section illustrates how 'modern' water is a complex blend of gendered and historical narratives, persuasive in defining and influencing global level discourses about water control, management, and governance. This notion of a passive, yielding (feminine) water has been constructed with the ideological footprint that it *needs* to be managed (Bavington 1998). The critical interlacing of colonial ideas about water, gender, purity, and power has suppressed

other water worldviews (Hayman 2012). A Tlingit and Tagish vision of water is rooted in 'baselines' that embrace relationships, reciprocity, and respect. If there is any 'management' talk, it is about managing communities in relation to the dynamics and rhythms of water's flows, floods, and circulations.

4.4   Modern Water

"Modern" water[102] is a complex blend of gendered and historical narratives that have been persuasive, violently or otherwise, in defining and influencing at the global level, discourses about water control, management, and governance. Water became increasingly invisible and abstracted with the technological manipulation of water and urban water infrastructure provision in Western European cities in the nineteenth century (Illich 1986; Linton 2010). Greta Gaard (2001) makes the further link between the positions and treatment of women in Western culture and the treatment of nature (water).

In *Environmental Orientalisms* (2000) anthropologists Suzana Sawyer and Arum Agrawal trace how this thinking further exposes a form of labeling within the colonial imagination which ossifies the gender/water/race nexus when they write "native topographies and peoples [were labeled] as feminine spaces to be violated, and thereby instantiated a sexual/racial hierarchy between colonizer and colonized" (2000:72). Environmental historian Donald Worster's concept of "imperial water" illuminates the hydrological violence imposed on pre-modern waters in the form of the Western hydrological discourse (Worster 2006:5-17). 'Imperial water' is intimately linked to Sawyer and Agrawal's narrative of gendered and sexualized 'virgin waters', and highlights how, through a reading of both water and gender, fractures across new lines of race, class, and ethnicity are illuminated. One could describe this as *hydro*-orientalism: by bringing colonial waters under a Western epistemological and material control, colonial powers forced the development and diffusion of the ontology of modern water on lands and waters they 'discovered' (Linton 2010).

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[102] I draw on but am not limited to Linton's concept of 'modern water' as 'intellectual abstraction, scientific specification, material containment and alienation from society and from the rest of non-human nature' (2010:19). No notion of gendered water is included. For my article on gendered water (see Hayman 2012).

4.5   Challenging the dominant water story: Storytelling Water North of the Future

"If we start drinking that water [bottled water] I think we're starting to forget who we are"
(Elder Norman James/ *Ḵaakligé, Daḵl'aweidí* Clan, Wolf Moiety, CTFN, August 2013)

"The essence of being Tlingit is what comes in exploring – that name - *héen*" (Elder David

Katzeek/*Kingeistí*, Eagle Moiety, *Shangukeidí* Clan of Klukwan, Juneau, Alaska, November

2013)

In this section, I explore three ways relationships with water are framed within the Tlingit and Tagish culture. They reveal and challenge cultural identity, nationhood, and spirituality, and are framed within the circulation of water in and out of human bodies, and the body of social space itself.

Elder Norman James/ *Ḵaakligé* (*Daḵl'aweidí* Clan, Wolf Moiety) grew up in and around Carcross and Tagish. He is one of three fluent Tlingit speakers in the CTFN community. His words at the beginning of this section highlight the historical consciousness of the colonial project (Kohn 2014) and the current links and concerns with distant cultures of consumption. Colleen James illustrates how relationships with water and ice are shifting as a result of warmer temperatures, the endangered Tlingit language, and Tlingit cultural revitalization projects. She takes the practice of packing (carrying) water for daily use as a critical component in closely observing ecological patterns and rhythms. Elder Mark Wedge concludes with a commentary on the critical importance of narrative storytelling, what stories do, how they can behave and their evolving social life and function – all essential aspects in understanding 'storytelling water'. The selected narratives act as a counterpoint to dominant utilitarian and managerial attitudes towards water.

I situate these narratives within the context of four 'modern water' dialogues currently taking center stage in the Yukon Territory. First, the Yukon Government released (11 June 2014) a

Yukon Water Strategy that involved a two-year process of community consultations[103]. Second, the CTFN government banned potential hydraulic fracturing projects. As CTFN *Ḵaa Shaadé Héni* Danny Cresswell explains, "It's our responsibility to protect the environment and our Traditional Territory, which includes the headwaters of the Yukon River." [104] Third, the Yukon River Inter-Tribal Watershed Council's recently approved (August 2013) Yukon River Watershed Plan is built around a set of measurable Water Quality Standards, but is also explicit about the role of First Nation and Tribal governments in Yukon River governance. Lastly, the most significant aspect of modern water's ideology for CTFN, is the current proposal by local energy provider Yukon Energy to regulate the Lewes Dam at the exit mouth of Marsh Lake. The proposal would keep the Southern Lakes (Bennett, Nares, Tagish and Marsh Lakes) level artificially raised each autumn to provide extra electricity throughout the winter for the Yukon Territory via the hydroelectric dam at Whitehorse.

CTFN's historical relationship with the Southern Lakes and headwaters of the Yukon River is grounded in an Indigenous notion of respect. This relationship might well be regarded historically in this region as one of the first water ethics. Colleen describes it like this:

> "When you're traversing this land on the water and on the river it's really important to have respect for it like the old people say. That water gives us life and gives everything on this planet life. Also, it can take it just like that in the blink of an eye, in the turn of the wind" (James per. Comm 2013)

Water, respect, and Tlingit identity are closely related. Just as water and blood circulate with similar verb forms in the Tlingit language, so too must respect. Langdon (2013) points out that this circulation is a fundamental prerequisite for existence:

> "It is through the continuous circulation of respect – in thought and deed – exhibited in connections and fulfillment of obligations in various socially and ritually prescribed ways that the Tlingit pursue a morality that will insure the continuity of existence."

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[103] See the 44 page strategy with this link: http://yukonwater.ca/news/updates/2014/06/11/yukon-water-strategy-released!
[104] See Carcross/Tagish First Nation bans controversial fracking practices in Traditional Territory, PR Newswire, December 5 2013. http://www.newswire.ca/en/story/1276597/carcross-tagish-first-nation-bans-controversial-fracking-practices-in-traditional-territory (accessed on 22 February 2014).

This statement reiterates Elder David Katzeek's words at the Tlingit Clan Conference in Juneau, Alaska in November 2013, *"Our life is in the water; our breath is in the water."* Water becomes a root metaphor within a Tlingit cosmology that is itself a highly complex and sophisticated web of spiritual connections and obligations.

The Southern Lakes were and still are to an extent the fundamental matrix for First Nation's everyday life. From transportation routes, to fishing for various types of fish (such as Whitefish, Arctic Grayling, Lake Trout, Herring, and Northern Pike), to drinking water, the Southern Lakes are seamlessly bound up in First Nations' cultural practices. Although not coastal, the Southern Lakes have their own particular 'tidal' rhythm (Wedge per. Comm 2014) to which cultural practices mimic and respond. For example, the glacial and snow fed Southern Lakes reach their peak water level in July/August responding to a combination of glacier and snowmelt at high latitudes (Benkert and Johnson 2011: 4). Traditionally this was the start of the Tlingit and Tagish year[105] when the first of the salmon runs took place. The freeze and break-up (of ice) on the Southern Lakes also provide ice-bridges that are fundamental in making trapping and other culturally important hunting activities possible.

However, social relationships and understandings of ice in particular are changing as a result of shifting hydrological and climate patterns and an increasingly endangered Tlingit language. Colleen confirms, "Ice (*t'éex'*) is behaving differently to what my ancestors told us to expect." Intimate knowledge of ice used to be a prerequisite for dog teams and ice fishing. As Colleen remembers,

> "My mother told me of Grandpa and how he would safely guide the whole family by dog team from Tushi River to Carcross every spring and fall." This knowledge is slowly being lost, as not "many of us have experienced ice life, something so important."

Tlingit language revitalization projects are critical as Tlingit is embedded with extraordinary amounts of precise, detailed ecological knowledge. Environmental change and cultural change in this case are complicated by the violent history of colonialism that remains systemic, evidenced perhaps most strikingly by the recent choreography and rhetoric of the so-called

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[105] The Tlingit year followed the lunar, not the solar calender.

Anthropocene (Hayman with James & Wedge 2017). Colleen underlines the correlation between language, environmental knowledge, and change by explaining that having a limited knowledge of the Tlingit language:

> "Affects relationships with water hugely, in that we are unable to describe water, water behavior, and various forms that water takes." This includes "many descriptions of ice, ice formations, ice sounds, pressure cracks, and air holes" (James 2013 per. Comm.).

Tlingit language revitalization projects are therefore crucial to retain precise descriptions and details of ice and water in response to various forms of global environmental change.

The very nature of traditional ecological knowledge, its relevance, its value, and its ability to adapt is being re-thought by many members of the CTFN community. This is a direct response to the agency of water; there is less snow (*dleit*) in the early winter months, thinner ice, and relatively more glacial runoff at peak flow periods in the Southern Lakes in August (James and Wedge per. Comm 2014). Remote sensing satellite data on the Yukon River Basin appears to coincide with these detailed and close observational accounts, but lacks social sensitivities (Semmens et al. 2013).

Sembsmoen offers a more nuanced analysis of these impacts and how traditional ecological knowledge is understood: "Traditional knowledge is changing now with global warming. Knowledge about our water, about our animals, about the seasons … a lot of it is different now" (per. Comm 2013). Resilience is implicit within accounts of accelerated change driven by rising water temperatures, accelerating glacial melt, and unpredictable hydrological rhythms. Resilience in this case comes in the form of Tlingit '*Haa K̲usteeyí*' which is defined as 'accounts' or 'stories' in English. However, *Haa K̲usteeyí* is more than that. It means 'all of it' and embraces *Haa kusun,* or 'the center of things.' As James describes it, "*Haa K̲usteeyí* is language! culture! food! water! family! community! land! animals! plants! universe! how to treat people! How we live and do things, all of what we know!"[106] (James per. Comm 2013). It is where virtues, ethics, storytelling, and water meet and is part of the essence of what it means to be Tlingit.

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[106] Elder David Katzeek suggested a word other than 'accounts' or 'stories' which was taken up by Colleen James and CTFN elders who referenced the Tlingit *Haa kus tee*.

4.6   Narrative Ecologies

"[Tlingit and Tagish] storytelling is not about anchoring ideas or concepts. It is more about creative thinking, about circular thinking and is rarely coupled with any form of what academia calls 'analysis' " (Wedge per. Comm 2014).

Storytelling is a profound and intrinsic part of life within the Tlingit and Tagish culture, even though many Elders lament its declining importance and performance among the younger generations. Storytelling as method in collaborative research has come under limited critique (Howitt and Suchet-Pearson 2006:48–63; Kovach 2009:54). Both anthropologists Neil McLeod (2009) and Renate Eigenbrod (2014) propose that working with stories or thinking poetically "involves the movement away from the epistemological straightjacket and the colonial box that social sciences have often placed on indigenous narratives" (McLeod 2009:109). Effectively, the positioning of stories highlights situated knowledges and connects disciplines by positioning participants "in the cultural, linguistic, and physical environments where each story is set" (Eigenbrod 2014: abstract). Storytelling resonates with the concept of the pluri-verse that counters the colonial project by actively and openly engaging in "multiple narratives with multiple purposes" (Howitt and Suchet-Pearson 2006: 59–60). Anthropologist Julie Cruikshank adds to this conversation with the reflection that "an enduring value of informal storytelling is its power to subvert official orthodoxies and to challenge conventional ways of thinking" (1998: xiii). This is one of many functions of narrative storytelling. The power of strong stories is a form of both resilience and resistance to other colonizing narratives that flaunt certain ideologies. However, as Robert Bringhurst makes clear, "Oral culture also means much more than telling stories. It means learning how to hear them, how to nourish them, and how to let them live. It means learning to let stories swim down into yourself, grow large in there and rise back up again" (Bringhurst 2006:175). Wedge supports this claim referring specifically to Tlingit and Tagish storytelling etiquette with "How stories are performed, circulate, and play out their social lives is of fundamental importance in Tlingit culture" (Wedge per. Comm 2014).

The imposition of and resistance to modern water's ideology is part of what I call 'narrative ecologies'. Narrative ecologies describe the dynamic social life of stories that reflect and co-evolve with ecological conditions. Stories themselves are sets of nested ecologies that have

agency in unexpected and profoundly spiritual ways within Tlingit and Tagish oral tradition. Stories chart and reflect both a particular idea of dwelling and reciprocity with other species, but also trace a profound relationship with a spirited animate world that is both spoken of and spoken to. The ongoing Tlingit dialogue with its various fluid ecologies and cartographies tracks an ancient understanding of dwelling that continues to have relevance today.

The following examples of the intersections of water with narrative storytelling are all offered or performed by female First Nations Elders. One aspect of their narrative ecologies can be witnessed in the archival record as early as 1915 before any technological structures (dams) were erected on the Yukon River. For 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 (archives are where white people go to learn about history (Cruikshank per. Comm 2014)) 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. Jessie selected an extract from the local newspaper, the *Whitehorse Star* (1915): "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" (Whitehorse Star, 22 October 1915 in Cruikshank 1998:152). In the 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 constructed cultural identities and labeled specific waters in particular and troubling ways for the Tlingit, Tagish and many other Indigenous communities. The colonial labeling of water as 'urban' or 'waste', for example, includes specific ideas and assumptions about its circulation and preferred control (Law 2012). This labeling is in complete contrast to assumptions embedded within water-related Tlingit place names or toponyms. Many Tlingit dwelling places were chosen based on *ishkahéeni* – the availability of cold, oxygen rich spring water that attracts fish, particularly salmon (Katzeek per. Comm 2014). The re-labeling of lakes, streams, creeks, and other water bodies to English after European entrepreneurs and explorers erased the storied connection of Tlingit and Tagish peoples to water and its circulation.

Narrative ecologies include a second register of storytelling that resides in Tlingit oral histories. The power of these strong stories lies in their ability to shape-shift, like water, according to historical circumstance and the audience's needs. Tlingit *Haa Ḵusteeyí* includes mythic time and, like water, are considered to be great teachers. From a Tlingit perspective, stories 'live' and can be self-sustaining; they reside in people and places and perform and generate medicinal guidance for all aspects of the human condition: physical, spiritual, emotional and intellectual. An excellent example of this is Tlingit Elder Elizabeth Nyman *Gágiwdul àt* (*Yanyeidí* Clan, Wolf Moiety, Taku River Tlingit First Nation) who also chose to perform at the International Storytelling Festival in 1994. Elizabeth Nyman spoke of an intimate and animate reciprocity between her *Yanyeidí* Clan and the Taku River. She spoke not only of *Yanyeidí* clan histories and claims to the Taku River, but more importantly stressed passing on a legacy from her ancestors to her descendants where the Taku River would be respected. Synthesized by one sentence in her book she was writing at the time of the Storytelling Festival, Elizabeth confirms a deep link with water and stresses a sense of place unparalleled in Western science: "If only you were taken by boat along the Taku River, you could write down the whole story in a book" (Nyman in Cruikshank 1998: 149-151).

CTFN Elder Angela Sidney / *Stóow* (*Deisheetaan* Clan, Crow Moiety) was the older sister of Dora Wedge / *Yàjindahên* (*Deisheetaan* Clan, Crow Moiety) and Mark Wedge's mother. Like Colleen James' grandmother Lucy Wren / *Ḵooch Tláa* (*Daḵl'aweidí* Clan, Wolf Moiety), Angela was one of many Elders to promote and sustain Tlingit oral traditions. She was quite clear that she had "no money to leave to her children - my stories are my wealth" (Sidney in Cruikshank 1990:36). In collaboration with Julie Cruikshank, Angela Sidney showed how "a single story, carefully told, can be employed to convey different meanings to different audiences." Angela further illustrated that, when potential for conflict emerges among people with different perspectives, successful resolution often involves demonstrating how a story can reframe a divisive issue by providing a broader context for evaluating such issues (Cruikshank 1998: xv).

Water, the stories generated by water/*héen* and water bodies are all agents in the co-construction of a Tlingit and Tagish sense of place. Indeed the CTFN Elders' statement at the beginning of the CTFN Final Agreement with the Canadian government (2005) states very clearly, "We who are Tagish and we who are Tlingit, our heritage has grown roots in the earth since the olden times. Therefore we are part of the earth and the water." Put another way, *Héen* has not only kinetic energy, but profound narrative agency. Tlingit storytelling's most

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animate qualities and its most important living functions – are survival and conflict resolution. An excellent example of this is *Héidu dei ḵáa* or The Man behind the Dam – a story about water and the sacred, related in an interview by Mark Wedge (see appendix A). While Tlingit stories may indeed chart narrative templates and metaphors for water that offer alternatives to 'modern water', it is the fluid social life of the stories themselves – their very animistic essence – that is critical to acknowledge. As Robert Bringhurst concurs, "In an oral culture, stories are given voice. They are also given the silence in which to breathe" (2006: 176).

4.7   Slow violence and slow activism?

I consider 'slow activism' to be the counter-story to 'slow violence,' which refers to the gradual, often invisible violence wrought by climate change, toxic drift, deforestation, and oil spills that exacerbates the vulnerability of ecosystems and of people who are poor, disempowered and often involuntarily displaced" (Nixon 2011). I expand the boundaries of slow violence here to include the colonizing of Yukon water through capitalist-driven commodification and the racialized boundaries of modern water. Slow violence has continued through the impacts of the first Whitehorse hydro-electric dam in 1958, which resulted in a fundamental change in the Southern Lakes water levels. As CTFN Elders describe, the dam created a profound alteration in duck, geese, and swan migratory patterns; muskrat and frog ecologies; and the salmon run, depriving the southern lakes and Yukon First Nations of part of their traditional hunting and subsistence foods (Elder Ida Calmegane / *La.óos Tláa, Deisheetaan*, Clan, Crow Moiety 2013, per. Comm). CTFN Elder Art Johns / *Ts'eiwát* (*Yanyeidí* Clan, Wolf Moiety) has spent most of his life on the land and water closely observing these ecological changes: "We don't have any more [musk] rats here because of the fluctuation of the water... When that water drains, all the muskrats die off here... Everything is gone." He tells of a time when it "used to be just noisy here in the spring with frogs – all over. Now there's none." He agrees that frogs are sensitive environmental indicators. Johns calls the frogs 'our canaries.'

Slow violence is also pervasive in water's very invisibility via pipes and the tap, another component of colonized water that privileges the anthropocentric logics of efficiency, profit, and progress (Chen et al. 2014). Several Elders talked about 'packing water' (carrying water from the stream to the home) as a practice which not only traces a particular relationship with water, but when completed was often rewarded with the gift of a story by Elders (Elder Winnie

Atlin / *Dagé*, *Ishkahittaan* Clan, Crow Moiety per. Comm 2013). James succinctly summarizes why the chore of 'packing water' was critical in the maintenance and evolution of this relationship with water:

> "The reason I mention water packing, is because it was a daily thing that we had to do as children. When you walk down to the river, every day you see something there. And the migratory birds come through here all the time. So, in the spring it was really special, because you have swans and geese and everything just right there at the river's edge. The river ice kinda ends a little ways out from the ice hole, so we got to see a lot. Every day as we had to go down to the river, we got to learn what the ice was doing and when it was doing it. When it was safe and when it wasn't... so when we were growing up, the water packing was a huge part of our everyday thing. I remember it well but I didn't always like it. But the experiences gained through doing it - the ducks and the swans and the Northern Lights, stars and moon... It's something my grandchildren are really disconnected from today" (James per. Comm 2013)

The disconnect James mentions is deepened by Elder Norman James' reference to distant cultures of consumption through the promotion of bottled water. He connects this at a profound level with his Tlingit identity:

> "Long time ago this water you could drink any place, any creeks here – good water. I don't know what's wrong with it now – you have to drink your own bottled water. If we start drinking that [bottled] water, I think we're starting to forget who we are" (James, N. per. Comm 2013)

Whether or not this can be read as part of a post-colonial project of assimilation or the power of the capitalist monoculture remains to be seen. Norman explains how water-related practices are intimately bound up in and stitched into culture. He describes how storytelling and cultural water practices are being eroded by aggressive capitalist forces in the form of 'modern water.' Yet, at a more intimate level, the water humans drink becomes the makeup of the human body and a reflection of ecological relationships.

Slow activism centers on the enduring performances of Tlingit and Tagish storytelling that are bound up in Tlingit and Tagish oral traditions and the verb-oriented Tlingit language. 'Slow' reflects an underlying resilience and adaptability (not unlike the core characteristics of water)

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within Tlingit oral tradition that does not pay homage to the Western capitalist anthropocentric logic of time=money. Slow activism through storytelling connects to a far older set of philosophies and relationships where qualities such as respect and reciprocity are privileged. For example, there are many *Haa K̲usteeyí* that concern marriages between humans and other animals in order for humans to understand alternative worldviews (e.g. 'The girl who married a bear' – see appendix A). Nine thousand years of storytelling evolved a narrative tradition that has witnessed countless climate changes and has adapted accordingly (see 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 that unique combination of knowledges for conflict resolution and survival.

4.8   Conclusion

By way of conclusion and to come full circle, I return to the clarion call for a 'revolution of the mind' and a 'new *water* consciousness' by quoting environmental philosopher Baird Callicott (2012), "Ultimately the only effective way to change what we do in regard to the non-human environment is to change the way we think about it." This collaborative water research explores Tlingit and Tagish relationships with water and water bodies in order to develop legislation rooted in Indigenous philosophy for a CTFN Government Water Act. However, it goes further than that by offering important ways to rethink dominant relationships to and understandings of water and gender, and how so often there is the unquestioned assumption that water 'needs' to be managed and that 'gender', 'feminism,' and 'activism' are fixed categories. These entrenched systems of thought and consequential social and water governance systems are fundamentally challenged by a Tlingit and Tagish cosmology where humans manage themselves in relation to seasonal fluctuations and the hydrological rhythms of water. For example, two of the most well-known Tlingit narratives describe how *Yéil* (Raven/Crow) - the trickster - contrives sophisticated and ingenious ways to release the sun, moon, stars, and water from the command and control of a single individual. Tlingit narratives emphasize a certain form of social justice and freedom from a single, dominating mode of governance (Katzeek per. Comm 2014). This study also calls for a broadening of the feminist political ecology framework to include ethnicity.

Alternative narrative templates and metaphors for water are necessary to counter the dominant rhetoric of global water scarcity with its implied water governance generated through Western anthropocentric understandings of water, gender, property, and even history. Tlingit and Tagish storytelling and narratives of water are resilient, because they are constantly evolving and shape-shifting. It is these fluid Tlingit and Tagish narrative ecologies that continue to circulate and thereby transform and inform relationships with water. Might not this slow activism through storytelling water be one of many voices to counter modern water's slow violence?

5.   Narrative Ecologies and Ecological Narratives: Bodies, Fluids, Flows and Circulations

5.1   Introduction

"*Haa daséigu a tóo yéi yatee*" is the Tlingit language phrase for "Our life is in the water, our breath is in the water" (Katzeek per. Comm 2013). This chapter destabilizes mono-histories and mono-cultures of water, fluids, and bodies violently imposed by colonization in the circumpolar north in the nineteenth century. To do so it charts a Tagish and inland Tlingit ontology of water, water bodies, human bodies, bodily fluids, flows, and circulations. The complexity and sophistication of these fluid circulations is revealed through the 9,000 year old Tagish and Tlingit oral tradition of storytelling, the Tagish and Tlingit place names of this region, and the cultural practices, structures and values embedded within them both. This Tagish and Tlingit vision fundamentally resists notions of firm ground and land biased, concrete, immovable histories – something that I call "terracentrism" – that have characterized many (unquestioned) assumptions prevalent in Western thought. In contrast to terracentrism, a Tagish and Tlingit worldview traces an intimate relationship with and innate respect for, not only complex and fluid earth processes, but also the social lives of oral narratives themselves. Both earth processes and narratives are perceived through a fluid lens and understood in terms of their own particular agencies, flows, and circulations. However, contemporary analysis of narrative and indeed fluids (water and blood in particular) reflects a particular way of understanding and characterizing corporeality (bodies) and hydrology (water bodies and flows). This can be linked to the rise of the modern novel and scientific culture in the eighteenth century which continues to influence corporeal (body) understandings, narrative analysis and the dominant perception of water today (Law 2010; Punday 2003).

In collaboration with Carcross/Tagish First Nation (CTFN) community consultants Colleen James/*G̱ooch Tláa* (*Daḵl'aweidí* Clan of the Wolf moiety, CTFN) and elder Mark Wedge/*Aan Gooshú* (*Deisheetaan* Clan of the Crow moiety, CTFN) I explore 9000 year old Tagish and Tlingit expressions and understandings of water, bodies, bodily fluids and circulations through oral

narratives and place names (toponyms, more precisely hydronyms) in the southern Yukon Territory/northern British Columbia, Canada. These expressions reflect a particular philosophy of existence that places humans (their bodies in particular) in a direct, fluid, consequential, and reciprocal relationship with everything else more-than--human. This challenges and pre-dates modern Western academic "enlightened" discoveries in fields such as new materialisms, animal studies, environmental philosophy and eco-psychology. However these expressions do much more work than this. They offer a compelling voice and methodology to inform global conversations and debates in water management, water security, water legislation, and water ethics – critical for the growing global water crisis.

5.2   Carcross/Tagish First Nation (CTFN)

CTFN's traditional territory embraces the Southern Yukon Lakes, the headwaters of the 3000km Yukon River in the Yukon Territory, Canada. CTFN is one of eleven self-governing First Nations in the Yukon and home to descendants of the ancient Tagish peoples of the region (Moore 2015) and the more recent inland-Tlingit peoples following the lucrative fur and "grease" trade and inter-marriages.

The Tlingit clan system now provides the social structure for governance, attention to virtues and spirituality within the inland Tlingit and Tagish CTFN community that continues to have strong cultural and clear linguistic ties with the coastal Tlingit in Southeast Alaska. Tagish, a northern Athabaskan language, is no longer spoken in the CTFN community but maintains an increasingly strong influence within oral storytelling and place names. Many "newer" inland Tlingit toponyms simply mimic the far older Tagish place names of this region or indeed are a combination of both Tagish and Tlingit (Moore 2015:5-6). Indeed out of all the Athabaskan languages in North America Tagish is considered one of the very oldest. In this respect, what is fascinating is the astonishing number of Tagish (and Tlingit) place names that "echo" the sound or ecological acoustics of a particular place. These "acoustic ecologies" or as I call them "acoustic narrative ecologies" are unique linguistically in the circumpolar north and indicate a fluid sensory cultural identity with place.

Community consultant Colleen James' grandmother Lucy Wren/*Gooch Tláa*, and Mark Wedge's aunt Angela Sidney/*Stóow* were some of the very last fluent Tagish and Tlingit speakers in this

region. Both elders - Lucy Wren and Angela Sidney - (with the facilitation of anthropologist Julie Cruikshank, linguist scholars John Ritter and Jeff Leer, and the Yukon Native Language Centre) compiled the only comprehensive record of Tlingit and Tagish toponyms (place-names) of the Southern Yukon Lakes region in the late 1970s. These toponyms are not simply identifying tags but offer precise, nuanced ecological and cultural oral texts, many of which reference ancient Tagish and Tlingit oral narratives (McClellan 1975).[107]

This collaborative water research draws on specific interdisciplinary methods and resources. In particular the research intersects three sources of knowledge. Firstly empirical scientific knowledge gained through interviews with CTFN Elders and intellectuals. Secondly an exploration and analysis of Tagish and Tlingit toponyms, over 70% of which detail water quality, flow, movement, color, temperature, turbidity, ice break-up patterns and rhythms, oxygenated content, and geological source. Thirdly a comparison with remote sensing satellite imagery and water quality sampling analysis of the Southern Yukon Lakes. This water research complements anthropologist Daniel Monteith's extensive empirical geological and coastal Tlingit toponym linguistic research that also evidences a highly sophisticated and deeply ecologically embraced coastal Tlingit philosophy (Monteith et al. 2007).

5.3   Rewriting enduring grammar

This research privileges a Tagish and (inland) Tlingit relationship between bodies and places. By tracing the circulations of fluids, real and imagined, between and within them, I put a Tagish and Tlingit worldview into conversation with the emerging academic fields of "new materialisms" and "corporeal narratology".[108]

According to coastal Tlingit elder and educator David Katzeek/*Kingeisti* a Tlingit understanding of the world is rooted in "accounts (stories) [that] provide scientific data and laws proven for thousands upon thousands of years where all things are bound together"(Katzeek per.Comm

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[107] This supplements anthropologist Catharine McClellan's My Old People's Stories: A Legacy for Yukon First Nations (Inland Tlingit Narrators and Tagish Narrators) (1975), recorded in the late 1940s and early 1950s.
[108] This is in turn in dialogue with older anthropological discourses from Mary Douglas (1970) and Ernst Cassirer (1923) concerning the representation of the (human) body and fluids in symbols and myth.

2014). Conversations with inland Tlingit and Tagish elders voice almost identical attitudes when describing their own cosmology. "New materialisms" then appears to be catching up with a Tagish and Tlingit worldview by acknowledging that there is a critical "sense of the human as substantially and perpetually interconnected with the flows of substances and the agencies of environments"(Alaimo 2012:476). Both understandings destabilize enduring European colonial cultural ideologies and practices that from the 1800s onwards in the circumpolar north have sought to map and label the world, bodies and fluids into various rigid categories.[109]

By way of example the British Victorian (1800s) obsession to control, regulate, and even possess flows and circulating fluids was transferred to the circumpolar north via colonialism, and reflected a particular historical idea of the body and corporeality. As Victorian literature scholar Jules Law asks "to what extent is a person connected to society through his or her bodily fluids? Is it even possible to possess or to own fluids, which by their very nature circulate and flow in and out of bodies and social spaces? How might such circulations determine – or even thwart – individual will, embodiment and identity?"(Law 2010:ix). Such questions that focus on flows, the agency of matter and intra-actions within a plurality of ecologies, narrative and otherwise, are key to probing at fundamental assumptions and conceptions of both human and non-human bodies and bodily fluids within different worldviews. Speaking from a Western perspective, interdisciplinary theorist Heather Sullivan further suggests that these questions will "help enrich our views as we rethink our material role in the biosphere - sadly at the same time as we damage it and/or change its flows very dramatically"(Sullivan per. Comm 2012).

One influential term that critiques Western standards and assumptions about "time" and "flow" is environmental historian and justice activist Rob Nixon's "slow violence". In Nixon's words "slow violence" refers to the "gradual and often invisible environmental emergencies in the form of climate change, toxic drift and melting glaciers that are ignored by the dominant capitalist economy and whose victims tend to be the poor, disempowered and vulnerable ecosystems"(Nixon 2011). Nixon's term alludes to the fluid nature of earth processes, but it

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[11] See in particular comparative literature theorist Jules Law's *The Social Life of Fluids*, literature theorist Daniel Punday's *Narrative Bodies* and anthropologist Julie Cruikshank's *Do Glaciers Listen?*

also comes with an understanding that dominant, terracentric ways of thinking about human/more-than-human relationships has rendered "slow" ecological catastrophes invisible.

I push Nixon's term further to include the systemic, often invisible marginalizing of indigenous empirical scientific knowledge via the (neo) colonial project. In the circumpolar north this expanded notion of "slow violence" has multiple impacts.   First, the "slow violence" of global warming can be traced to colonial nations' hunger for industrialization which presents itself in northern climates as melting permafrost, glaciers, and pack ice. (Global warming in the circumpolar north is currently accelerating at twice the rate of anywhere else globally.) This is a marked "hydrological violence". Secondly, the resulting and dominating neo-colonial Arctic resource narratives of "opportunity" and "insecurity" so far ignore pre-existing and ancient Indigenous narratives and Indigenous relationships with water and water bodies. Accompanied by the Western academic rhetoric of the Anthropocene – already classified as a geological era influenced solely by the human animal – that is again built on an industrial, oil-based narrative, there has never been a more urgent call for a paradigm shift in prevailing water governance philosophy. As I argue elsewhere, aqua-centric cosmologies that work *with* water are critical cultural knowledge systems as they take water as core educator and ethical model (Hayman with James & Wedge 2017; Wedge per.Comm 2014).

5.4   Bodies - Bodily fluids – Flows - Circulations

The body in many worlds or realities is seen to be "the universal standard of measure for humans but also the ultimate mediator of perception," writes anthropologist Thomas Thornton in *Being and Place among the Tlingit* (Thornton 2008:23). I take the body as a point of entry to gain a fuller understanding of a Tlingit and Tagish vision of fluids (particularly water and blood) and their circulation in and out of bodies and social spaces. What are Tlingit and Tagish assumptions about the body and how are they presented and performed? Tlingit and Tagish oral histories and the Tlingit language sculpt a fluid, animate understanding of reality. Tlingit and Tagish accounts reveal indeterminate boundaries and shape shifting realities where through its permeability, inconsistencies and idiosyncrasies, humans learn and are taught the ways and realities of other animals as well as mountains, glaciers, and rivers.

During my preliminary collaborative water research with CTFN in 2012, I was struck by the remarkable representation of bodies, both human and more-than-human and the agency attributed to both bodily (human) and planetary fluids in Tlingit and Tagish storytelling. Indeed whilst I was conducting interviews and listening to many generations of CTFN citizens, I was specifically directed more than once to look at and think about the Tlingit and Tagish oral narrative titled "Two boys who drifted down the Yukon River". In addition I was privileged to hear the story of "How Crow Stole Water" and "Wealth Woman/*Tl'anaxéedákw*" many times. (Please see Appendix A for the versions recorded by anthropologist Catherine McClellan in the 1950s). This range of Tlingit and Tagish narratives illustrate how bodily excretions such as blood, urine, breath and feces act as tools and symbols and are often powerful extensions of the body. Moreover, the porosity and shape-shifting abilities of human and other animal bodies within these narratives mirrors an implicit relational and reciprocal dialogue with various ecologies. This is further nested within an understanding that water acts as a root metaphor and master verb.

As a case in point, both blood and water are attributed the same set of verb forms in the Tlingit language, which is verb-based and not noun-based, as is the English language (Twitchell per.Comm 2013). In particular, the Tlingit language recognizes animals and material objects not as nouns, but as verbs. *Gandaadagóogu* for instance means woodpecker and comes from *gan* (wood, firewood) + *daa* (around) + *dagóok* (pecking) + *-u*, literally translated as "pecking around the wood". Other examples that native Tlingit language scholar and fluent speaker Lance Twitchell shares are *lítaa* – knife (the one that glides), *gwéinaa* – towel (the one that wipes), and *kooxéedaa* – pen, pencil (the one that writes).

Jeannette Armstrong (Syilx First Nation, Okanagan, Canada) has studied her own Syilx oral literature and argues that an examination of Indigenous oral literature "must also reach beyond the constraints that literacy and the written text have imposed upon the idea of literature" (Armstrong 2009:36). Armstrong creates the term "oraliture" to acknowledge and embrace "both purposes of literary artistry as well as to be an oral knowledge documentation schema". The same concept can be applied to the equally sophisticated and artistic literary Tlingit and Tagish oral tradition. As CTFN citizens reflect, stories and storytelling are not static or fixed but have their own social lives. Mark Wedge emphasizes that "[Tlingit and Tagish] storytelling is not about anchoring ideas or concepts. It is more about creative thinking, about circular thinking and is rarely coupled with any form of what academia calls 'analysis'" (Wedge

per.Comm 2014). Whilst Mark Wedge describes storytelling as creative circular thinking, Colleen James emphasizes storytelling as cultural guidance, and CTFN citizen Beverly Sembsmoen/*Shooaateen* as a blueprint for survival - physical, social and spiritual.

Almost all CTFN citizens who have been interviewed called on and acknowledged the weight and presence of the (human) ancestors and other animal relatives. This is yet another expression of how a Tagish and Tlingit worldview approaches concepts of "time" and human/more-than-human boundaries, much of which is based on a fluid, circulatory conceptual system. By way of illustration, in Tlingit *Shuka* is a broad term for ancestor, but as literature scholar J. E Chamberlin underscores, "the concept is pivotal because it is ambiguous and faces two directions". According to renowned Tlingit scholars, the Dauenhauers confirm that *Shuka* means most literally "ahead" or "before." "It refers to that which has gone before us in time and also refers to that which lies ahead in the future" (Dauenhauer & Dauenhauer 1990:19). Chamberlin claims that it "identifies the necessary conditions, material and spiritual for storytelling" (Chamberlin 2006:10). *Shuka* is the beginning and end, the circulation of what I have come to understand as Tlingit (and Tagish) "narrative ecologies" (see Chapter 4). *Shuka* collapses all notions of a Western linear time and charts a worldview that reflects both a particular idea of dwelling and exchange with other species and traces a geography of a spirited animate world that is both spoken of and spoken to (Hayman with James & Wedge 2015:198).

The Tlingit storytelling that Tlingit Elder Nora Marks Dauenhauer and Richard Dauenhauer showcase in their many Tlingit cultural books tackles some of the core Tlingit themes within narrative more broadly. Nora Dauenhauer was a native Tlingit speaker and emphasizes how Tlingit narrative struggles to express metamorphosis, shape-shifting and relativity. She writes that "relativity is a difficult concept to convey and various devices are used to express it, most often a literal putting on or off of a bear skin. Part of the problem is how to express spiritual reality in physical terms. Another part of the problem is of human perceptions – optically and culturally seeing and interpreting what we see. Things are not only relative, but our perception of reality is often insufficient at best and deceptive at worst" (Dauenhauer & Dauenhauer 1987:24). The devices used in Tlingit (and Tagish) oral narratives to convey a permeable set of "skins" anticipates contemporary thought in environmental philosophy, ecological ethics and sensory anthropology as well as "new materialisms".

Whilst Tlingit and Tagish storytelling has many more fluid models and porous references embedded within it, the very notion of Tlingit and Tagish storytelling itself is predicated on the idea that it has a fluid social life. Stories, like water and bodily fluids, circulate and percolate. Anthropologist Julie Cruikshank has worked extensively on this issue with Tlingit and Tagish speaking southern Yukon Elders Angela Sidney, Kitty Smith, and Annie Ned. In *Life Lived Like a Story* (1990) and *The Social Life of Stories: Narrative and Knowledge in the Yukon* (1998) Cruikshank suggests these elders "use narrative to dismantle boundaries rather than erect them. In so doing, they raise significant epistemology issues both about past Western classificatory practice and about contemporary theoretical constructions" (Cruikshank 1998:3). For example the Eurocentric tendency towards land based histories or "terracentrism" is disrupted by a Tlingit and Tagish cosmology where water and water bodies define and determine histories. However, a Tlingit worldview pushes further than this by rejecting tight geographies, real and imaginary. A Tagish and Tlingit cosmology destabilizes notions of firm ground as well as fixed and narrow ideas such as water as a relatively static and mapable resource. One key way in which this is continually realized is through the Tagish and Tlingit tradition of oral narratives. In particular these aqua-centric narratives reflect water as both literal and ethical model. Yet another way is through Tagish and Tlingit toponyms, almost all of which are informed by an "on the water" (canoe/boat) perspective which are remarkable in describing "soundmarks" as well as "landmarks" critical for navigational positioning and historically tie Tagish and Tlingit people to specific places for survival.

This close aquatic relationship the Tlingit and Tagish have with navigation and canoe design can be seen from pictographs in the Yukon River headwaters region, as well as by moosehide sail technologies, and current Tlingit war canoes. Pictographs and petroglyphs, not least because of their subject content, but their place and positioning along the coast and on the shores of lakes, emphasise again a perspective from on the water. Often recording elements of a traditional oral narrative, and when used for shamanic rituals, found in water sacred areas (Emmons and De Laguna 1991:81).

Figure 14: Pictograph of Tlingit canoe with eight paddlers. Reproduction drawn by Ukjese van Kampen (2012:183). Ocre on rock.

Tlingit canoe designs and technology again track a unique tradition of water knowledge(s), but also material knowledge that remains unrivalled in this region. Detailed descriptions can be found in the eco-linguistic record. *yáxwch'i yaakw* for instance refers to a small canoe with high carved prow or "sea otter canoe". *jaakúx* is a hide canoe (usually made from caribou skins), whilst *seet* is a dugout canoe designed to go through shallow waters. This type of canoe is also referenced in the toponym record, where there are two places described for their ease of pulling canoes from one lake body to another. *s'ísaa yaakw* refers to a sailboat, literally "cloth canoe" and can be seen in Figure 15 (Twitchell 2017).

Figure 15: 1880s photograph by Miller-Chase, labelled as 'Miners on the Yukon'. (PO049-24. Sealaska Heritage Institute Archives).

Figure 16: Tlingit designed (war) canoes at the Teslin Tlingit Celebration 2013. As a tourist had recently lost their life on Teslin Lake, respect and recognition for the body meant that no canoes were paddled, no one swam in the lake, and no water was used in any way. Photo: Eleanor Hayman 2013.

One particular aqua-centric narrative I was referred to is the Tlingit and Tagish oral narrative of "The Two Boys Who Drifted down River". There are at least four versions of this Tlingit/Tagish oral narrative and all were recorded by anthropologist Catharine McClellan (1975) in the early 1950s (see Appendix A). To summarize, two brothers are warned not to play on unstable lake ice. (According to Teslin Tlingit speaking narrators, the lake refers specifically to the Southern Yukon Lakes, the headwaters of the Yukon River). However both boys ignore the advice and find themselves drifting down the Yukon River on an iceberg with their grandmother's dog. By using blood from the dog's nose they stop the iceberg from melting further (in another version it is to make the iceberg float to the riverbank). Eventually they reach the shore (in one version they reach "salt water"*At'l* – the Bering Sea) and follow a path that leads them to a camp. Here they meet a community of humans who are unable to either talk or eat properly on account of their tiny mouths (in some versions they have no mouths at all). In addition woman are unable to give birth naturally and have only ever experienced very painful caesareans. The boys "open" (in some versions it is "tear") the people's mouths so they can now talk and eat food other than maggots. The boys teach and help the women to give birth naturally. The people are no longer afraid and are very grateful.

Some common themes evident in this oral narrative are the metaphors of circulation, facilitation, transformation, and flow. All four versions of these narratives employ these specific narrative devices. Ice melts, breaks-up and flows downstream. Mouths are cleaned and opened facilitating verbal communication and consumption. Vaginal births become the standard. Knowledge is transferred and circulated eliminating fear and pain.

The graphic, even violent imagery of the breakup of ice and flow down the Yukon River is mirrored and repeated with the tearing open of the mouth and use of the vagina - bodily orifices whose flows and functions are critical for human life. The Yukon River provides both metaphoric and literal cultural structure but also acts as ecological agent and reference point for all flows and circulations. Water is the text and educational model for the ethical evolution of respect, reciprocity and transformation.

5.5   Fluids – Flows – Circulations

Tlingit and Tagish oral narratives often express an ideology of enabling circulations and celebrating natural water and ice flows. In a similar way toponyms also embrace this by defining the "environment in terms of its action, motion and processes" (Thornton 2008:81). This particular area of linguistic research or what might also be called exploring philosophy of place/sense of place/spirit of place is particularly revealing. According to ethnophysiographer Andrew Turk, "language (as well as pictorial representations) provides the basis for understanding alternative worldviews, including cultural aspects of place" (Turk et al. eds. 2012:57). For instance 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* or 'Bay taking the place of the glacier' which describes the "geographical process of glacial recession and bay formation". Anthropologist Thomas Thornton lists two other hydrographical and geological related place names; that is John Hopkins Inlet whose Tlingit translation is 'Inlet moves toward Mount Fairweather', and Hugh Miller Inlet, which is 'Where the Glacier Ice Broke Through' (Thornton 2008:81). What is more almost half the toponyms in coastal Tlingit and over three quarters of Tagish and inland Tlingit (often the Tlingit toponyms mimic the older Tagish) toponyms are water related, denoting local hydrologies and rhythms (Sidney 1980; Thornton 2008). Many Tagish and Tlingit toponyms refer specifically to the type, color, geological source, temperature and quality of water (or the lack of it) and/or to migratory animal patterns that also reflect the type of flow, direction, movement, and rhythm of water and water transformations to and from ice. See Figure 17 for the CTFN toponym counter-map: a visual representation of toponyms in in Tlingit, Tagish and English.

Figure 17: Toponym counter-map. Copyright Eleanor Hayman

PDF version available online at
https://www.dropbox.com/s/aty0262uryivafz/CTFNposter_03_02_600dpi.pdf?dl=0 and
http://documents.routledge-
interactive.s3.amazonaws.com/9781138204294/13_Figure2_CTFNposter_03_02_600dpi.pdf

- Chinook Creek is *Goon Heeni* (Spring Creek) in Tlingit (a creek referring to oxygen rich, cold spring water). In the Tagish language it is *Tóok'ats Tóo'e'* (cold water spring).

- In the Tagish language Mile Creek is *Too Desdleije* (grey-colored, muddy water). Possibly this refers to its geological limestone source (Moore 2015:5-6).

- Lindeman River in Tlingit for *Tl'oox'u Heeni* (murky river – referring to its geological source (Johns and Wedge per. Comm 2014).

- Lewes Lake is *Aa Kawlikuxu Ye* (drained-out place) in Tlingit. In the Tagish language it is *Tékhaaje'* (stumpy bottom).

- The mouth of a stream on Little Atlin Lake is *Ax' Sh Tududlitlewu Ye* ('Where one keeps oneself company') It locates the place where a warm spring empties into the lake, thawing the ice early creating the first spring fishing spot in the area (Sidney 1980).

- Teslin River in Tlingit is *Deisleen Íxde Naadaayí* (Teslin running downstream)

- In the Tagish language *Tadedéze'* (it's wavy all the time) refers to a small lake on the summit of a pass between Jake's corner and the Teslin River (Sidney 1980).

In the Tagish language (often mimicked by the Tlingit language (Moore 2015)) there are examples of how the *sound* of a place - or what I call an "acoustic narrative ecology" signifies a seasonal, hydrological or meteorological characteristic peculiar to the location (Hayman with James and Wedge 2017). Rather than being a visual "landmark", this is "soundmark", and can be understood as a form of acoustic mapping. "Sound is considered…both as an acoustic signal and as a performance in space and time" (Truax in Schubert 2011). Unique to this region and the Tagish and Tlingit languages many place names either mimic a natural sound, or refer to the soundmark of that place. This is yet another indicator or characteristic of a fluid, multi-sensory and holistic relationship with the more-than-human world that defines the essence of Tagish and Tlingit cultural structures and values. For example (see toponyms that are underlined on the toponym map, Figure 17 above):

- Tagish Narrows in the Tagish language is *Taagish Too'e'* (the sound of the break-up of ice)

- Windy Arm in Tlingit is *Tsei Zhele' Mene* (Howling Rock Lake).

- In Tlingit, Judas Creek is *Kuk'aheeni Tlein* ('Big Fish Tail Creek' because of the noise fish made/make with their tails when they jump)

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- The pass between Caribou and Nares Mountain close to Carcross is *Xoots Leitu<u>x</u>ka* (bear windpipe) on account of thunder storms that often get "trapped" in this pass) (James per. Comm 2014).
- *T'akhu* is Tlingit for Taku River that originates from the sound geese make when they rest at the mouth of the Taku River during their annual Artic migration (Cruikshank 1998:149).

The Tlingit and Tagish languages model hydrological phenomena through many metaphors or analogies attributed to the body as well as paralleling water body/human body domains via flows and diffusion. Body referents are the most important prefix to names in both coastal and inland Tlingit many of which refer to body orifices such as the mouth and nostril (Thornton 2008:81-102). For example around the Southern Yukon Lakes:

- Delayee Lake in Tlingit (which follows the Tagish) is <u>*Kaa Yoowu At Satin Ye*</u> (Where a stomach is lying)
- A rocky point on the west side of Marsh Lake in Tlingit is *Te X'aayi Lutu* (Point inside nose)
- Streak Mountain north of Squanga Lake in Tlingit (that follows the Tagish) is *Kaa Leelk'u Shakanoox'u* (one's grandmother's skull)
- A submerged rock on Taku Arm in Tlingit is *Shaltlaa<u>x</u>* (mouldy head)
- Bennett in Tlingit is *Té X'aayí Lutú* (nostril of rock point).

Animal body parts are also common:

- A small lake near Tagish village in Tlingit is <u>*Gu<u>k</u>l'i Waa<u>k</u> Eeti*</u> (Swan eyes place)
- The pass between Nares Mountain and Caribou Mountain close to Carcross is in Tlingit *Xoots Leitu<u>x</u>ka* (bear windpipe). Colleen James has recorded the summer thunderstorms that get "trapped" in this pass and generate an extra-ordinary loud set of sounds and reverberations between the two mountains – not unlike a bear's growl. This toponym circulates back to the Tagish language as it reflects a narrative of sound and not sight.

Whilst Thornton's detailed examination of coastal Tlingit toponyms suggests that the anatomy of a body provides a "tool for organizing disparate geographic elements into meaningful wholes", the body theorist and feminist Elizabeth Grosz pushes further. Grosz challenges the bias of modern culture towards sight and the visual by suggesting touch as the basis for the body's place in the world. She argues that it "produces a very different way of thinking about the body" (Grosz in Punday 2003:76) and uses the obvious example of skin and orifices as the point of exchange between the inside and outside, and for the transfer and circulation of fluids. Narratology scholar Daniel Punday sustains this argument by concurring that "touch represents a concern for our ongoing interaction with the world and the inseparability of body and identity" (Punday 2003:77). This concept of the function of skin and orifices in relation to exchange and touch, provides another perspective on the oral narrative "The Two Boys who drifted downstream". The privileging of touch (skin) above sight (eye) is also evidenced in place names, particularly Caribou Mountain which in Tlingit is *Métáatl'e Shéch'ée* (wind blowing on the forehead) and in Tagish *Yaadéwduwanúk* (blowing against the face).

5.6   Metaphors we live by?

Metaphors are critical components within Tlingit cosmology as concepts structure perception, relationships and ultimately reality. Cognitive linguists George Lakoff and Mark Johnson emphasize that metaphors within language largely determine what is thought, experienced and practiced (Lakoff and Johnson 1980:124). They continue that conceptual systems depend, reflect and even mimic the physical environments they have developed in. Nora Marks Dauenhauer and Richard Dauenhauer (American linguist and poet, and Tlingit knowledge keeper and translator) concur by tracing the form and use of metaphor within the Tlingit language. Indeed metaphor itself is referred to in Tlingit as *x'aakaanax yoo x'atank* – "speaking over a point of land"; a metaphor of a metaphor (Dauenhauer & Dauenhauer 1990:76; Twitchell per. Comm 2014).

An excellent example of the function of metaphors within the Tlingit culture is in Tlingit oratory. Tlingit oratory has important social and spiritual functions and is a central ritual at potlatches "for spiritual healing and the removal of grief" (Dauenhauer & Dauenhauer 1990:xi). It is used specifically to honor, remember, and reinforce connections and relationships with ancestors and the clan system more broadly. Metaphors used here are demonstrably fluid, sensuous,

immersive, offering almost tangible descriptions to support and heal the body, the social body and spirit. For example in the Dauenhauer's *Haa Tuwungaagu Yis*, for *Healing Our spirit (Tlingit Oratory)* Tlingit oratory conventions pull together the poetic, an intimate knowledge of the Tlingit clan kinship system, and powerful metaphors. This is highlighted by Tlingit Elder Jessie Dalton's rhetoric at a clan potlatch in 1968: "They would let their [swan] down fall like snow over the person feeling grief" (Dalton in Dauenhauer 1990:243). The metaphor of immersion is further illustrated by Tlingit Elder Richard King's welcoming address at a clan potlatch in 1988: "It as if his words are like a robe pulled over our shoulders, a strength giving robe" (King in Dauenhauer 1990:155). Carefully chosen words within Tlingit oral tradition are the hallmark of transferring knowledge, emotion, empathy and respect. The art and function of Tlingit meta-rhetoric, or speech about the qualities and fluid strength of words is further revealed at the first *Tlingit Language Workshop* by Tlingit elder A. P. Johnson's words in 1971. He said:

> A person will often say
>
> "I am going to speak to you"
>
> Public speaking
>
> Is like a man walking along a river
>
> With a gaff hook.
>
> He lets his gaff hook drift
>
> Over a salmon swimming at the edge of the river.
>
> When he hooks on it, the salmon way over there
>
> Becomes one with him.

The striking, measured and beautifully articulated metaphor here underscores the remarkable way that water, human bodies and more-than-human bodies connect which in turn reflects how words and oral traditions work by connecting, building and maintaining relationships. It is also about the power of communication, not just with other humans, but with all more-than-human life. As poet, typographer, and author Robert Bringhurst writes, "a language is [not just] a means of seeing and understanding the world. It is a means of talking with the world" (Bringhurst 2006:159-176).

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There is another critical way in which the Tlingit language positions the body in relation to fresh water bodies and rivers and the sea[110]. The dynamic ebbs and flows, cycles and other hydrological rhythms are as evident on the coast as inland. Whilst coastal zones are obviously determined by tidal processes, inland, the Southern Yukon Lakes also have their own 'tidal' rhythm (Wedge per.Comm 2014). For example the Southern Yukon Lakes reach their peak water level in July/August responding to a combination of glacier and snowmelt at high latitudes. These tidal zones or these "in between" spaces are foundational for Tlingit directionals according to anthropologist Thomas Thornton and Tlingit linguist scholar Lance Twitchell (Thornton 2008:276; Twitchell per.Comm 2013). For example the two most common Tlingit directionals are *daak* which means "inland from shore" and *daak* which means "seaward from shore" (Twitchell 2013:276).   This illustrates an eco (or aqua) -centric positioning of the human body. Younger positioning systems utilize "left" and "right" reflecting an ego-centric positioning of the human body. (Please refer to Figure 17, the toponym counter-map for locations of fresh and salt water that includes direction of water flow). Additionally the highly practical importance of describing the body in relation to water bodies and flows is shown by the sheer number of nuanced "aquatic" directionals in the Tlingit language. The following are taken from a *Tlingit Literacy Workshop* in 1986 facilitated by Tlingit linguist scholar Jeff Leer:

- *ixde* (going down river)
- *nande* (going up river)
- *dakde* (going back away from the water/river/lake)
- *ikde* (going down to the shore – beach)
- *dakde* (going out into the lake to the shore)
- *yande* (going from the lake to the shore)
- *diyaade* (going to the other side of the river, lake)

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[110] For Tlingit language body positioning in relation to clothing or opening and closing see Dauenhauer and Dauenhauer, 2002: In the Tlingit language the very verbs that signify blockages or circulations are extraordinarily complex. For example, "Tlingit verbs of opening and closing vary according to the shape of the object in question, the direction involved, and the nature of the action (hinged, sliding, tubular, etc.)" (Dauenhauer & Dauenhauer, 2002:62). Verbs of exposure or concealment are concerned with the body and putting on or taking off clothing and display similar complexities. As the Dauenhauers write: "each phrase depends on the shape of the clothing, how it is put on, the direction of the motion, and the body part involved" (Dauenhauer & Dauenhauer, 2002:64).

Aquatic directionals as well as descriptions of water movement are also embedded within Tlingit and Tagish place names. For example:

- Teslin River in Tlingit is *Deisleen Íxde Naadaayí* (Teslin running downstream)
- Grey Ridge in Tagish is *Taaghahi* (facing the water)
- Carcross in Tlingit is *Naataase Héen* (water running through the narrows)
- Whitehorse in Tagish is *Kóoghâa Nélíní* (place where river runs through). The Tlingit toponym is a translation of the Tagish: *A X̱'áanáx̱ Naadaayi Yé* (place where river runs between)

Inland Tlingit and Tagish toponyms (over 70% of which are water related) supplemented by a highly sophisticated Tlingit (aqua-centric) language positioning system provide precise qualitative water characteristics not only for the the headwaters of the Yukon River, but for Tlingit and Tagish cultural perspectives more broadly. It is for these reasons that a Tlingit and Tagish cosmology can be considered "aqua-centric". However these toponyms did and still do, work far harder than this. Tlingit and Tagish place names are part historical, part ecological, part geomorphological, part geological, part cultural, part spiritual, part acoustic, part sensory, and part hydrological texts and fingerprints of this ancient cultural water-dominated region. As collaborative water fieldwork (or *Deep Mapping/Deep Charting* fieldwork (Hayman with James and Wedge 2017) with CTFN community consultants Mark Wedge, Colleen James, and elders Leslie Johns/ *Yeitl'i Geigi*, Winnie Atlin/*Dagé*, Ida Calmegane/*La.óos Tláa* and Norman James/*Ḵaakligé* has validated, these toponyms are highly "modern" and "active". They continue to have "agency". They are still "at work" (Hayman with James and Wedge 2017).

Narratology scholar Daniel Punday notes the distinctions between what he calls "older cosmologies" that are organized around the human body suggesting a fundamental homology between world, text and self, and newer ones where the scientific approach to the body collapses this homology (Punday 2003:45). This homology between world, text, and self relies on osmosis, permeability and the circulation of the material and spiritual and is seen with Tlingit and Tagish relationships with other animals. Within Tlingit and Tagish oral traditions there are many stories that detail relationships, even marriages between humans and the more-than human-world in order for humans to understand other realities. Some examples are "The girl that married a bear", "The woman who married a land otter", "The man who married an eagle",

"The woman who married a [spruce] tree", "The girl who married the *L'al'* [a fish skin]", and "The girl who married a fire spirit"(Swanton 1909:v-vi).

This Tlingit (and Tagish) notion of fluidity, reciprocity, and circulations between and amongst bodies of water, humans, and other animals is an example of how organisms are considered subjects rather than objects. This anticipates what is considered in Western continental environmental philosophy, international environmental law (Rights of Nature has been recognized at the constitutional level in Equador and Bolivia), and biology to be a relatively new concept. Biologist Jakob von Uexküll for instance is considered to be the founding father of the emerging academic field of biosemiotics, and proposes that every organism has its own "umwelt" or environment/reality. Von Uexküll writes, "We are easily deluded into assuming that the relationship between a foreign subject and the objects in his world exists on the same spatial and temporal plane as our own relations with the objects in our human world. This fallacy is fed by a belief in the existence of a single world into which all living creatures are pigeonholed" (Von Uexhüll in Evernden 1985:81-84). Zoosemiotician Dominique Lestel echoes this reflection, "Once again, the academic organization of knowledge has difficulty conceiving of the pertinent interfaces" (Lestel 2002:57). This is a second example in this chapter of Tlingit and Tagish knowledge preceding or anticipating Western knowledge. It is important to highlight as it characterizes the familiar debate over who defines, what constitutes, who produces, and who validates knowledge. When one form of knowledge or reality is privileged over another, it can be considered another example of "slow violence".

5.7   Bodily Circulations and Symbols

Philosopher Ernst Cassirer and anthropologist Mary Douglas have suggested and even tried to map out how the body is the baseline for cultures, and how cultures emerge from or anchor within/onto the body. Cassirer worked in terms of myth and symbols articulated in his three volume work *Philosophy of Symbolic Forms* (1923, 1925, and 1929) and has been widely influential in Western philosophy with the idea that myth is a central structuring principle of experience. More relevant perhaps is anthropologist Mary Douglas' work on *Natural Symbols* (1970) which tackles the idea that the cosmos and body are symbols of society. Douglas defines four social systems of natural symbols in which the image of the body is used in different ways to reflect and enhance each person's experience of society. These range from flows such as

blood as metaphors for statecraft, to the danger of flows/absorption through orifices/boundaries (something exemplified by Victorian London), to bodily waste products being used advantageously (prevalent in many Tlingit/Tagish oral narratives) and lastly to the body as irrelevance – only the spiritual aspects matter as the body is a symbol of evil.

Douglas argues that "Natural symbols can express the relation of an individual to his society at that general systemic level. The two bodies are the self and society: sometimes they are so near as to be almost merged. Sometimes they are far apart. The tension between them allows the elaboration of meanings" (Douglas 1970:91). Whilst this particular body theory enables a deeper perspective on cultural constructions of the body and bodily fluids within the Tagish and Tlingit cosmology, it fails to incorporate the agency of the environment. This is something Jeannette Armstrong (Syilx First Nation, Okanagan, British Columbia, Canada) argues regarding a Syilx environmental ethic that "[the] principles of Okanagan social order emulating ecological principles and dynamics are delivered as story components which arise out of a knowledgeable, observed awareness of nature's workings"(Armstrong 2009:322). Working with the CTFN community and with fluent Tlingit speakers on the coast, the Tlingit and Tagish cosmology is different to a Syilx First Nation cosmology. However there are some fundamental underlying similarities: Douglas points largely to individual and collective cultural constructions and generally ignores the idea of any ecological agency. Armstrong uses the term *eco-mimicry* and I build that into and extend Douglas's body theory. Armstrong writes for example that "these animalized humans act figuratively as agents to form core thematic intent for humans to choose behavior in coherence with the land and its workings, and so serve as a guide for human individual and social conduct" (Armstrong 2009:323). The question of agency is key to reading the positioning of bodies and bodily fluids in relation to everything else within different worldviews. Thinking beyond Douglas' framework of agency through Tlingit/Tagish narratives seriously challenges current notions of human exceptionalism and anthropocentrism.

5.8   Feral Waters, Fluid Spaces, Water as Collaborator

In the Tlingit language, water is *héen*. *Héen* is a shape-shifter both literally and metaphorically. It slides through sentient glaciers to the ragged lakes embracing the villages of Carcross and Tagish in the Yukon, Canada. It slips from *Shaanakhéeni* (mountain waters) to *Tassayhéeni* (Grayling creek) to birth the sacred headwaters of the 3000 km Yukon River. It is at once a

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gateway to the spirit world [111] and the spirit world itself. *Héen* celebrates ambiguity. It charts the contours of the southern Yukon hydrological rhythms and in turn defines its mythic cartography. [112] Héen shapes mountains, frames storytelling, and circulates as the fertile and critical medium through which the trickster "Crow" or "Raven" in Tlingit and Tagish mythology is born to create the world (Wedge and James per. Comm 2014).[113]

I have sketched out some of the fluid faces of a Tagish and Tlingit aqua-centric worldview. And now highlighting a particular quality or characteristic that celebrates ambiguity. An ambiguity perhaps best personified by *Yeil* or Raven/Crow, the trickster in Tlingit and Tagish narratives. The Raven/Crow cycle of stories and accounts profile the *Yeil* character with both sophisticated wit and foolery. A character that challenges received definitions, plays in the borderlands and is ultimately feral – able to find ways and means, often unconventional, sometimes offensive and usually brilliant – of dealing with troubling situations. *Yeil* is also a creator – he causes things to happen – a powerful source of vibrant, vivacious agency (Wedge and James per. Comm 2014).

I want to draw attention to this feral nature that *Yeil* embodies as it speaks to and reflects many aspects of Tlingit and Tagish culture. I use eco-critic Anne Milne's reading of the term "feral" and "feral spaces" which, she suggests can be read as dynamic spaces, full of promise and anticipation and that "support and embody processes that engender multiplicities and lateral flows in perspectives and perceptions" (Milne in Lynch 2012:331). It is these "multiplicities", these "flows", these "feral waters" between the real and imagined, past and future that offer the radical remapping of human relationships with the more-than-human world witnessed by and through a Tagish and Tlingit aqua-centric cosmology. It encourages a thinking <u>with </u>water and advocates an engagement in water's conversation, its dialogue and circulating feral nature: Its incessant slippages from infrastructures such as pipes, dams and turbines and circulations back again to rain, sweat, tears and mist.

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[111] In *Tagish Stories* by Angela Sidney/*Stóow* (1982) and *I'm Going to Tell You a Story* by Kitty Smith (1982).
[112] Water and water bodies provide a loose geographical framework for the playing out of Tlingit and Tagish myths and texts.
[113] Crow, the trickster hero in Tlingit and Tagish legends not only brings water to the world but uses it as a medium for his own ends (please see Appendix A).

Academic discourses from feminist theorist and primatologist Donna Haraway (1991) pick up on the narrative and indeed performance of *Yéil*. Although Haraway doesn't use the term "feral", she uses the idea of the trickster figure as "both a literary, mythic device as well as a methodology for understanding the world". Haraway proposes that re-describing possible worlds as trickster figures, that is "witty agents", forces us to re-imagine relationships with the more-than-human world by learning how to talk to it. She sees trickster figures, along with cyborgs, simians and women, as odd boundary creatures that have had a "great destabilizing place in the great Western evolutionary, technological and biological narratives" (1991:2). Ultimately Haraway recognizes that these boundary creatures perform critical work in that they "signify" – they are signs that open up spaces, something she calls "possible worlds".

By way of illustration, two creation stories with *Yeil* as protagonist were repeatedly related to me in the course of our collaborative water research and can be found in appendix A (Wedge, James, Katzeek per. Comm 2013). The first narrative reveals how *Yeil* releases the sun, moon and stars from three boxes kept in a house by a great chief. *Yeil* achieves this by transforming himself into a spruce needle which finds its way into a cup of water that the chief's daughter drinks. The chief's daughter becomes pregnant and *Yeil* is born. *Yeil*'s persistent childlike demands to play with the contents of the three boxes results in the sun, moon and stars being released into the sky giving the world light.

In the second story, the world's water is in a well, guarded by a human man (in some versions it is a petrel). *Yeil* or raven (who is at this point a white bird) is thirsty. After failing to convince the man to give him water, *Yeil* waits until the man falls asleep and then places frozen feces over his clothes. The feces melt, the man awakes and *Yeil* tells the man that he has soiled himself. Whilst the humiliated man leaves to clean up, *Yeil* takes all the water in his beak and attempts to escape through the smoke hole in the dwelling. The man realizes what is afoot and tries to stop *Yeil*. After a struggle *Yeil* escapes through the smoke hole with all the water but his feathers have now turned black (as a result of the smoke). As *Yeil* flies away, water dribbles from his beak forming the water bodies (and in some versions also providing the fish) that the Tlingit, Tagish, and other Indigenous communities of the circumpolar north know today.

The working ground rule in both these accounts is a resistance to a single authority, control, management or ownership over entities that all human and more-than-human are entitled to (Katzeek per. Comm 2014).

5.9   Rejecting/Resisting tight geographies

A Tagish and Tlingit "aqua-centric" worldview is grounded in a notion of respect but also an understanding that water puts all life in relation to other lives at multiple scales and across different kinds of bodies. Colleen James puts it like this:

"If we relate that [respect] back inside of our bodies how we treat ourselves and respect ourselves. If each of us humans are eighty percent water. And the ocean is eighty percent water. Water then makes us the same, part of the same family. You are my relatives – all of you. And everything around me is directly related to me because of our dependence on water" (James per. Comm 2014).

This is echoed by anthropologist Stefan Helmreich's work with marine microbiology where he reveals how the "inner ocean" draws "attention to how our bodies' ecologies are networked to wider oceany ecologies shaped by such phenomena as blooms of neurotoxic bacteria which may flow into our nervous systems via drinking water and food chains" (Helmreich 2011).   In terms of academic discourse and the "new materialistic" turn, English and eco-critic scholar Stacey Alaimo calls this "'trans-corporeality' - the movement across human bodies and more-than-human nature—[that] profoundly alters our sense of human subjectivity, environmental ethics, and the individual's relation to scientific knowledge" (Alaimo 2010). However, whilst "new materialisms" might offer the academic world refreshing and novel ways of thinking about the ecological crisis, Tlingit and Tagish ways of approaching and relating to non-human nature have a long tradition of being intrinsically "ethical" and are arguably some of the most ancient forms of empirical scientific knowledge (Katzeek per. Comm 2014).

By way of example, water, respect, and Tlingit identity are closely related. Just as water and blood circulate with similar verb forms in the Tlingit language, so too does respect. In fact this circulation is a fundamental prerequisite for existence. According to anthropologist Steve Langdon talking about Tlingit spirituality, "It is through the continuous circulation of respect – in thought and deed – exhibited in connections and fulfilment of obligations in various socially and ritually prescribed ways that Tlingit pursue a morality that will insure the continuity of existence". In this sense, flows, fluidity and circulations characterize and even define specific values (and some argue virtues) within a Tlingit worldview. The value of facilitating, even encouraging flow is illustrated through Tlingit (and Tagish) oral narratives, language, sense of being, and lived cultural practices. The acknowledged porosity of human bodies with

everything else and as part of everything else, is as Colleen James emphasizes above, not just a particular hue or register of what might also be understood as a water ethic, but a far bolder proposition that water itself can work as a model for an ethical system of respect and reciprocity.

5.10   Conclusion

Wedge (per Comm. 2014) reminds us that Tlingit and Tagish storytelling is about setting free from the (Raven's proverbial box) box and allowing flow; it is about the verb and not the noun; it is about making a point and leaving you with something to think with. *"Tl'anaxéedákw"* (Wealth Woman or Lucky Lady), "The two boys who floated down river" and "How Raven stole water" offer profound readings of the underlying baselines of flow and circulation, framed within the agency of bodily and planetary fluids – urine, feces, blood (scabs) and water – all at work within Tlingit and Tagish storytelling. (See appendix A).

A Tlingit and Tagish aqua-centric voice disrupts, defamiliarizes, and redesigns the narrative of the global water crisis by changing the very ways narrative and water are understood through an exploration of Tlingit and Tagish oraliture. Tlingit and Tagish toponyms provide yet another dimension to the evolution of this aqua-centric and ethical voice. In the light of claims and assumptions about the global water crisis and the current evolution of a global water ethics charter, decolonizing dominant perspectives about water begins by privileging Tlingit and Tagish aqua-centric narratives and conversations.

6. Decolonising Water – Decolonising Personhood – Decolonising Knowledge

"Modern knowledge and modern law represent the most accomplished manifestations of abyssal thinking" (Sousa Santos 2007:46).

"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" (Tlingit Elder David Katzeek/Kingeisti, per.Comm 2013).

"There are other entities in the world that we think of as animate such as the mountains and glaciers. Yet the Tlingit thought of these two peoples with intelligence and with moral values […] (The people of the trees) they had wars with us, they threatened us, they gave their lives to us. The Tlingit people did not think they were resources to be managed…" (Abraham 2012)[114]

First, the understanding of the world by far exceeds the Western understanding of the world. Second, there is no global social justice without global cognitive justice. Third, the emancipatory transformations in the world may follow grammars and scripts other than those developed by Western-centric critical theory, and such diversity should be valorized" (Sousa Santos 2016: preface)

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[114] (Tlingit Elder Elaine Abraham, presentation at the Traditional and Scientific Ecological Knowledge in the Pacific Coastal Temperate Rainforest conference, University of Alaska Southeast, 19 April 2012) YouTube recording; minute 42). Accessed 2 October 2015 https://www.youtube.com/watch?v=jgfH77HvaHQ

Figure 18: Tlingit royal armour[115] made from slats of yew wood bound together. Used for going to battle against the Tree People, as well as other humans. (See coastal Tlingit Elder Elaine Abraham's presentation on the same topic).

This chapter examines the complex and increasingly this century's turn towards "decolonising". Specifically this chapter explores notions of decolonising personhood, decolonising water, and (brought to its logical decolonising conclusion) by expanding the tenets of decolonising knowledge. Drawing on collaborative water research with the inland Tlingit and Tagish peoples of the circumpolar north, I evaluate what decolonising strategies might mean within a CTFN context. This resonates globally with the powerful and evolving *Rights of Nature* international legislative discourse as well as the evolution of the global *Water Ethics* charter (Ziegler & Groenfeldt 2017).

CTFN is one of eleven self-governing First Nations in the Yukon Territory, Canada. Importantly CTFNs traditional territory embraces the headwaters of the iconic Yukon River. By signing the Final Agreement with the Yukon and Canadian Governments in October 2005, CTFN is legally responsible for lands, resources, governance and programs for its 1000 citizens within its

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[115] This example housed at the National Museum of Natural History, Alaska, USA. Donated by John J McLean in 1884. Length 59cm. http://alaska.si.edu/record.asp?id=171 accessed 16 March 2017.

traditional territory.[116] Furthermore, by formally re-establishing the traditional Tlingit system of governance through the Wolf and Crow clan structure, CTFNs nuanced self-determination project challenges modern Western-styled systems of governance. As part of this project, CTFNs first legislative Act was the Family Act (2010), the framework and philosophy of which reflects values and virtues embedded in over 150 traditional Tlingit and Tagish oral narratives[117].

Whilst this unique legislative model may very well set a precedence in contemporary Canadian legal history, there are grave concerns that to be fully functional and operational, this Family Act (and further water and lands legislative Acts) must work authentically within a Western systemic worldview coupled with its neo-liberal rhetoric that emphasises the 'individual', 'ownership' and 'resources' that *need* to be 'managed'. Former Chief Judge of the Territorial Court of the Yukon, Barry Stuart, made these concerns very clear in a discussion he had with myself and the CTFN government at the CTFN government offices in Carcross, Yukon Territory, in September 2014.

These discussions and concerns are not new. Post-colonial, border thinking, feminist and Indigenous theory scholars working within Western academic institutions to First Nation and Tribal community governments, have been aware of such issues and have highlighted the bias and privilege afforded to Western-styled thinking, rhetoric and value-systems for some time (Said 1978; Code 1995, 2006; Smith 1999; Mignolo 2001, 2013; Mignolo & Escobar 2007, 2010; De Sousa Santos 2007; Bennett 2007). All co-join in a combined mission to de-center, de-stabilise and de-familiarise the mono-culture of knowledge. Various terms have been employed to profile this strategy. From "cognitive (in)justice"[118] to a "democracy of knowledges", to a "pluriverse" (as opposed to a "universe" of knowledge). In fact, in the last ten years there has been a concerted effort to appreciate and legally recognise other forms of

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[116] Carcross/Tagish First Nation Final Agreement in *Building the Future: Yukon First Nation Self-Government* Accessed 17 October 2015 http://www.aadnc-aandc.gc.ca/eng/1316214942825/1316215019710

[117] Carcross/Tagish First Nation Family Act 2010. Accessed 23 October 2015 http://www.ctfn.ca/documents/doc_view/42-family-act-2010

[118] Do also see feminist scholar Sandra Harding's concept of 'cognitive injustice': "the failure to recognise the different ways of knowing by which people across the globe run their lives and provide meaning to their existence" and her other decolonising work (1991).

knowledge(s) driven by the publication of Western scientific papers that focus on environmental "tipping points" or "thresholds", now known as "planetary boundaries" that all implicitly or explicitly link (mainly Euro-American) human behavioural patterns with various forms of "ecocide". Specifically for this chapter I focus on "aquacide". Indigenous legal scholar Boaventura de Sousa Santos relates this directly to what he terms "epistemicide" described as a "predatory discourse" which silences and swallows up other forms of knowledge (De Sousa Santos 2007: 46).

One characteristic feature of the mono-cultural imaginary is the narrow anthropocentric definitions of nature's value embedded in many approaches to environmental protection and conservation, particularly the ecosystem service model. The so-called "neo-liberalisation of nature" or treating nature as a form of natural capital or commodity is exemplified globally by the privatisation of water and the recent trend in carbon accounting used in the Paris COP talks (December 2015). This not only privileges a particular way of thinking, understanding and describing the world but even predetermines solutions and answers that both will and ought to be considered (drawing on economist Jutta Kill's work, 2015).

Geographer Jamie Linton (2010) argues that over the last one hundred years water has been framed as an abstraction, resulting in the creation of a new kind of water that he calls "modern water". Modern water is a reduction; a narrow and essentialised H_2O concept, devoid of social and cultural meaning. Modern water is further abstracted through concepts such as "water footprints" and "virtual water" which attempt to make water economically visible on the one hand, but on the other, destroy and exclude other forms of water's value in the broadest sense that desperately includes alternative water knowledges. This is characteristic of De Sousa Santos' epistemicide – modern water exemplifies the attitude that "we can only manage what we can quantify numerically" (Kill 2015).

Recent political and activist action in Ecuador (2008) and Bolivia (2011) attempts to displace neo-liberal economic valuing of nature (water) and instil a very different sort of value. One option has been the legal value of "personhood" usually attributed to humans and corporations within Western driven assumptions of international law. By extending the moral concept of personhood to broader earth communities that include forests, rivers, mountains and whole ecosystems, the Rights of Nature movement can be understood as a powerful decolonising strategy at both the institutional and constitutional level. In New Zealand, having campaigned

for the legal status of the Whanganui River to hold the same rights as a person since 1873, the Maori won their legal battle on 15 March 2017. The Whanganui River Claims Settlement Bill marks a unique moment in New Zealand's legal history, not only for the Maori who claim that 'I am the river, and the river is me'. (This is very similar to the Tlingit and Tagish who consider themselves 'part of the land, part of the water').[119] More importantly, from a legal perspective, is that both the physical and *metaphysical* properties of the Whanganui River are protected as a collective, integrated whole – a much expanded definition of personhood - under New Zealand law. (See also Mount Taranaki (a sacred domant volcano in New Zealand) has similarly been granted a legal personality and will remain under the guardianship of eight Maori tribes (2017)[120].

Anthropologist Erin Fitz-Henry (in Maloney & Burdon 2014) charts shifts in consciousness about personhood within the rights of nature discourse and the Ecuadorian constitutional change in 2012. However, she critically questions what sort of decolonisation is actually going on. Fitz-Henry's concern lies with the tension between different understandings of decolonisation. She suggests that the gap between understandings of decolonisation by Indigenous and radical environmentalists, and others bent on an aggressive anti-neoliberalism or what anthropologist Arturo Escobar has called "alternative modernisation" (2001) has damaging and paralysing consequences.

It is here that feminist and post-colonial epistemological projects work well in exposing blind spots within the dominant mono-culture of knowledge. In particular the decolonisation of Western legal thought, as "we" collectively explore the relationship and tensions between Western science and other knowledges. In *Rhetorical Spaces* (1995) for example, feminist philosopher Lorraine Code argues that feminist epistemological projects have been less concerned with advocating a 'different voice' and more concerned with revealing whose voices have been muffled, marginalised or even silenced. However Code importantly highlights that telling the stories of the experiences that produce various knowledges "locates epistemology

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[119] For the progress of the bill through the New Zealand parliament, see https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/00DBHOH_BILL68939_1/te-awa-tupua-whanganui-river-claims-settlement-bill accessed 16 March 2017.
[120] https://www.theguardian.com/world/2017/dec/22/new-zealand-gives-mount-taranaki-same-legal-rights-as-a-person accessed 23 December 2017

within the lives and projects of specifically situated, embodied and gendered knowers" (1995:155).

Taking up Code's call to "reveal voices" exposes a very different set of responsibilities when the voices are the more-than-human world. Within a Western worldview nature is generally perceived as "an insignificant other, a homogenized, voiceless, blank state of existence" (Hall 2011:1-3), the imaginary of which is intimately bound up with a capitalist mentality. Collaborative water research with the inland Tlingit and Tagish peoples of the circumpolar north reveals a fundamentally different understanding and epistemology about 'nature', and in particularly water. Empirically grounded water research with CTFN situates Tlingit and Tagish oral histories and oral narratives firmly within the decolonising (water) project, and suggests that shifts in dominant understandings of personhood can be accelerated by evolving and then involving Indigenous (water) legislation in global water debates.

In contrast to the Western worldview, the inland Tlingit and Tagish aqua-centric, ecological philosophy is all about relationships and kinship with a sentient nature. Many Tlingit and Tagish oral narratives speak of human marriages with all of the non-human world, for example bears, spruce trees, and fire sparks (Swanton 1909; De Laguna 2007; McClellan 2007). Marriages in this context have the express function of understanding alternative visions of reality through the eyes of the *Salmon People* or the *Tree People*. Preserved in many of these oral narratives is precise empirical scientific knowledge about various bodies of water including human relationships with sentient glaciers. This not only explodes narrow Western perceptions of the agency of water (in all of its forms), but more importantly for this chapter, challenges the narrow definition of person-hood in Western legal thought.

A core concern for Western environmental philosophers engaged with the moral consideration of humans and more-than-humans has been the question of who gets to define "sentience"? (Singer 1975; Callicott 2007). Western thought is rooted in a hierarchical style of thinking based on the premise of exclusion. What is categorised as 'alive' or 'dead', sentient or not, determines action in all sectors of current Western society be it economic, political or legal. Taking the lead now on debates about the nature of sentience are the academic fields of multi-species

ethnography, animal studies and plant neuro-biology[121] which have already impacted legal shifts in the definition of pain, critical for animal husbandry practices that is now extended to industrial fish farming. To be precise about the Western historical element of the moral consideration of nature in Western thought; the first serious argument for more-than-human personhood began with legal scholar and lawyer Christopher Stone's paper *Should Trees Have Standing: Toward Legal Rights for Natural Objects* (1973).

Without surprise the rhetoric of Indigenous-based challenges to Western legal thought is highly problematic. The Western legal concept of "rights" is contested on a number of levels. Anthropologist Adolfo de Oliveira (2008) for example is worth quoting at length as his analysis highlights the problematic "rights" issues (Western notions of individuality) with far older "respect and reciprocity" issues (Tlingit and Tagish notions of customary law).

> "…I suggest we also see evidence for the attributing of specifically Western forms of subjectivity, individuality and autonomy, not just to indigenous persons but to the entire domain of indigenous action, intention, deliberation and production, forms which may very well be in marked contrast to the pre-Western manner in which indigenous people revealed aspects of the world to themselves. Even as anthropological involvement with indigenous people is becoming more and more linked to global political movements for indigenous rights, - that is as the Western legal *persona* increasingly underwrites the political discourse of indigenous autonomy and survival. Politicians and legalists seem to assess the task of describing non-Western forms of personhood, intention and subjectivity as less important than contriving arguments in support of global legislation" (De Oliveria 2008:80).

As Oliveira highlights, Western forms of individuality and autonomy are bound up in the notion of a Western conception of rights, something that is contested by CTFN community consultants Mark Wedge and Colleen James, and further evidenced by Indigenous legal scholar Aimee Craft's collaborative research in understanding Anishinaabe *nibi inaakonigewin* (water law)[122].

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[121] See advances in plant neurobiology here http://www.plantbehavior.org/about-us/ accessed 3 March 2017.

[122]http://static1.squarespace.com/static/54ade7ebe4b07588aa079c94/t/54ec082ee4b01dbc251c6069/1424754734413/Anissinaabe-Water-Law.pdf

Concern by Indigenous Anishinaabe Elders over the use of the word "rights" prompted alternative wording in a water report that echoes a Tlingit and Tagish cosmology. Respect, responsibility and reciprocity are key words that reflect a very different approach and understanding of water within a far older conception of indigenous water legislation.

In the circumpolar north, there is no attempt as yet to put any sort of earth jurisprudence into action at the Western governmental level. However, many Indigenous governance systems, as illustrated, have always recognised a sentient nature. Remarkably, CTFN may well be one of the first Yukon, even Canadian First Nations to challenge Western notions of personhood. Alternative visions of moral consideration for the more-than-human are implicit in CTFNs 2010 Family Act (2010: 6-7)[123], and explicit in the evolution of the forthcoming CTFN Water Act. Even further, CTFN may very well be the first to implement water legislation that not only privileges a Tlingit and Tagish worldview but is able to speak with and to Canadian environmental legislation.

The call to re-vision international law is similarly acknowledged by environmental attorney Cormac Cullinan at the International Tribunal for the Rights of Nature at the November 2017 convention in Bonn, Germany:

"We also need to develop legal systems and institutions that are designed to address environmental issues like climate change where both the main causes and effects are global in nature. The International Tribunal for the Rights of Nature ("the Tribunal"[124]) presents an opportunity to supplement these forms of climate change litigation with an entirely different approach to using law to address climate change" (Cullinan in Biggs et al., 2017:33).

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[123] http://www.ctfn.ca/documents/doc_view/42-family-act-2010
[124] Environmental Attorney Cormac Cullinan describes the Tribunal as 'pioneering ways of integrating law, science and ancient wisdom traditions to craft practical forms of restorative justice that define a path towards ecologically sustainable human societies based on re-establishing respectful inter-relationships with the other members of the Earth community with whom we co-evolved' (2017:38).

The inland Tlingit and Tagish citizens of Carcross/Tagish First Nation live, trap and hunt on, in, and among the Southern Yukon Lakes – the headwaters of the Yukon River. The colonisation of these waters has taken many forms over the last century, something that I call hydrological violence (Hayman, James & Wedge 2017). This hydrological colonisation is revealed through a variety of contexts and discourses. These include the superimposition of Euro-American toponyms denoting male military and academic figures on ancient Tlingit and Tagish place names (over 75% of which are water related and containing precise hydrological and cultural knowledge.) Most damaging to the Tlingit and Tagish salmon culture/peoples has been the hydro-electric driven damming of the Yukon River that prevents (in spite of the salmon ladder) salmon from returning to the Southern Yukon Lakes to spawn[125]. Additionally the local energy provider Yukon Energy is proposing to artificially keep the southern Yukon lakes (CTFNs traditional territory) raised during the autumn to provide extra hydro-electricity for the winter months. Lastly, in the relentless quest for energy sovereignty that strategically trumps all other considerations, is the recent fracking interests in CTFNs traditional territory. All flavours of this hydrological violence have been and continue to be accomplished by framing water as an abstraction. This rhetoric of Western-idealised water management approaches has effectively silenced "Tlingit and Tagish" understandings of water.

Resistance to such colonial philosophy and systems of law that allow hydrological violence on this scale is part of the decolonising research that I and the CTFN government are undertaking through the evolution of CTFN water legislation. As has already been suggested, modern environmental laws with the philosophical basis that nature (water) is only valued as servile, as capital (wealth) and resource to be controlled, bought and sold as object and property, is highly destructive for long-term planetary health and indeed the survival of not just the human species, but many life-forms. Reflecting Tlingit and Tagish principles and relationships with the more-than-human world shifts dominant water imaginaries and supports a 'new' (re-*new*ed in Indigenous terms) global water consciousness.

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[125] The broader philosophy of which has led to over 142 salmon stock extinctions in British Columbia and the Yukon combined (Slaney et al. 1996).

Practically this is being achieved through participatory action research (PAR) with the CTFN community with counter-mapping or re-mapping projects focussing on re-membering and revitalising Tlingit and Tagish toponyms "*Haa saaxú, haa latseení*" (our names, our strength); applications to the Yukon Geographical Place Name Board for Tlingit and Tagish place-name recognition; the formulation of a Tlingit and Tagish Water Declaration rooted in Tlingit and Tagish oral histories and traditional oral narratives (see chapter 10); and a Water Sampling Initiative (Hayman with Wedge & James 2017) of the Southern Yukon Lakes that establishes CTFN hydrological baselines put into conversation with the hydrological power embedded within Tlingit and Tagish toponyms and traditional oral narratives. (Detailed in Chapter 8, with raw data in Appendix D). This has been achieved utilising a Google Earth platform, allowing for a greater democracy of water knowledges (Hayman with Wedge & James 2017).

Water continues to work powerfully within a decolonising discourse in two important ways. Firstly the Tlingit and Tagish culture can be considered aqua-centric. From a linguistic, cultural practice and storytelling perspective water behaves and acts as a cultural, even ethical model for CTFN. Secondly, water is both a physical and metaphorically reality in an inter-generational context. As the source of life on the planet and the element that physically connects all things with the deep past and a possible deep future, aqua-centric thinking may well prove a vital and fluid framework for imagining inclusive legislative futures. Indeed aqua-centric thinking is a tangible, empirically grounded approach that is beginning to have purchase in (Canadian) water policy circles. The most recent publication by the POLIS Institute (2015) released by WWF titled "Changing the Flow: Freshwater report" employs the term "thinking like a watershed".

The evolution of CTFN water legislation must proceed with caution whilst tensions between different cultural constructions of water play out, and the notions of personhood are debated, broadened and slowly implemented. However, the process and practice of the evolution of a Tlingit and Tagish based water law, can only support the increasingly necessary movement to fundamentally transform the ways in which water (nature) is imagined. This is in itself embedded into the broader call for a decolonisation of knowledge.

7. Decolonisng the Anthropocene. Whose Anthropocene is it?

"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" (Cruikshank 2005:69)

"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" (Knight 2004:387)

7.1   Introduction

"The world's glaciers are now mapped" runs the headlines of *The Atlantic* (7 May 2014) rather definitively. The *Randolph Glacier Inventory* (RGI) is the first of its kind to have computer readable profiles for all 200,000 glaciers on this planet, enabling a more complete picture of how glaciers interact with climate change, sea level rise and fresh water (in)security. As future rivers of the Anthropocene, might not 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?

Dominant versions of environmental history have been criticised for been terracentric – that is the bias towards land-based rather than water-based histories (Gillis 2011[126]; Rediker 2012[127]). I would like to broaden the term "terracentrism" to include a particular way of thinking that continues to privilege concrete, wooden and static notions of both mapping and narrative and that is worryingly human-centred (anthropocentric). This reflects in turn certain assumptions about the Anthropocene itself. As Alan Boardman captures succinctly, 'How could the Anthropocene be anything other than anthropocentric? Rather than a turn toward the geological, we seemed to have circled back and elevated the human into a new domain. No longer just a superior species but now also a geological force" (2013). Ways of dealing with the increasing uncertainty of these ecologically stressed times are products of what counts ethically in the Anthropocene. So the question I pose and consider the most fundamental is simply: *Whose Anthropocene is it?*

7.2   A Tlingit and a Tagish Voice

As future rivers of the Anthropocene this chapter puts into conversation the agency of glaciers richly described within Tlingit 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/Tagish community – self-governing Carcross/Tagish First Nation (CTFN) - in the Yukon, Canada. These understandings come in two parts. Firstly CTFNs traditional territory embraces the Southern Yukon Lakes, all of which are glacier fed, constituting the sacred headwaters of the 2000 mile long Yukon River. 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 Tlingit and Tagish have lived for thousands

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[126]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 June 2013
[127] "One of the most unexpected biases of modern thought is terracentrism: the idea that history only happens on land" (Rediker 2012).

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, as tremendous phenomena that surge, destroying villages, but also as holding within their being a significant archaeological record of the voices of the ancestors. All these understandings reflect a close observation of earth's own time that inscribes the human and more-than-human, and not necessarily an earth scripted solely by humans. How might such a Tlingit and Tagish voice disrupt, defamiliarise or redesign the very notion of the Anthropocene 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 Indigenous philosophy. 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. 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'. Rethinking current models of and approaches to water governance through an Indigenous worldview 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 of the colonial process. Furthermore, Indigenous water legislation showcased through contemporary formats and usages, deepens and enriches global debates on ethical and philosophical approaches to water and by extension rivers/glaciers. Introducing the (radical?) idea that such a Tlingit Water Act can behave as a model for Euro-American legal systems to readapt and reimagine relationships with rivers and glaciers, brings different ways of thinking into conversation with each other. It can be seen as part of a bigger project to decolonize water and in the light of claims and assumptions about the Anthropocene – to decolonize the Anthropocene itself, beginning by privileging such conversations.

7.3   Glacial time: who gets to redefine speed?

Glacial time – the notion that everything unfolds in slow 'geological' motion is still a well-used metaphor in archaeological circles. Rob Nixon, the author of *Slow Violence, Gender and the environmentalism of the poor* (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". Rob Nixon advocates a new form of environmental storytelling that counters the influence of the 'instant spectacle'. Tlingit narrative storytelling in this light might be considered both a role model and 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. Tlingit storytelling exposes a fundamentally different set of understandings about water and ice and relationships with water/ice bodies than the dominant Western paradigm which tends to support narrow, essentialised and ultiliatrian assumptions about ice/water. How then does Tlingit and Tagish storytelling destabilise, defamiliarise and inform the dominant way of engaging with water?

A Tlingit and Tagish relationship with water can be traced through nine thousand years of Tlingit and Tagish oral tradition (in particular narrative storytelling) and is also reflected in the Tlingit and Tagish toponyms around the headwaters of the Yukon River, over three-quarters of which are water-related. Stories emerge from and are co-dependent with ecological processes, something that call "slow activism", as detailed previously.

Nine thousand years of storytelling evolved a narrative tradition that has witnessed countless climate changes and has adapted accordingly (see particularly 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. I conclude this section with a very short humorous story that community consultant Mark Wedge related in August 2013. It concerns his friend 'Bugs' who was acting as a hunting guide for European hunters. As they were surveying the mountains for possible places to find sheep, one of the hunter's asked 'Why are there so many huge rocks on these mountains?' Bugs replied 'Because the glaciers dumped them there after the last ice age'. The hunter asked again, 'But where are all the glaciers?' Bugs: 'They've gone back for another load' (Wedge per. Comm 2013).

7.4   What do glaciers do? Mystery and uncertainty

As Knight's epigraph at the beginning of this chapter reveals, glaciology and in particular glacier science is a relatively recent Western academic earth science that has developed rapidly with advances in technology particularly satellite remote sensing. Glaciers are a critical part of the complex global hydrological cycle(s) and are both key players in and victims of climate change. "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" (Knight, 2004:389). Here glaciers are framed in terms of either collateral damage or orchestrating dramatic shifts in climate. Such descriptions are extraordinarily close and yet distant from Tlingit oral traditions depicting glaciers. Tlingit and Tagish understandings of glaciers are framed as anthropologist Julie Cruikshank notes, as inherently social spaces (2001:11) where "human behaviour, especially causal hubris or arrogance, can trigger dramatic and unpleasant consequences in the physical world". 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 told me about the huge animals and giant worms that are said to inhabit glaciers. If killed, these glaciers begin to melt.   Equally if fat or grease is cooked close to a glacier, then the glacier may very well surge, flooding the valley downstream.   Layered glacial memories combine experiential science with protocol when dealing with glaciers. Tlingit oral traditions hold within them precise ecological knowledge about glaciers, flows, circulations, water and water bodies, but equally about value and respect. Taunting, jeering, calling to, speaking carelessly about or inciting a glacier to surge are explicitly warned against in Tlingit oral traditions, but also provide the core elements of glacial narratives that create a complex, sensory glacial imaginary.

At a broader level, and like many glaciers themselves, dominant scripts of glaciers and rivers are in a state of flux. Melting glaciers, breaking pack ice, dissolving ice patches are inscribing new imaginaries which alter archaeological records, economic/mineral development possibility 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. Tlingit and Tagish oral traditions expose not just a rich and historical glacial record

laced with human-glacier encounters and possibilities, but powerful examples of the intersections of people, places, identity and language. As Cruikshank confirms:

"Oral narratives have histories that capture some of the accumulating, vanishing, changing meanings associated with glacier from the distant time of ice ages to the present era of parks, meanings that continue to be enmeshed in social worlds..." (Cruikshank 2001:382)

As future rivers of the Anthropocene, glaciers seen through Tlingit and Tagish oral traditions reveal a 'sedimentation of stories', palimpsests of memory and a particular archaeology of water – essentially 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 collide with ever higher frequencies. The social life of ice articulated within Tlingit oral traditions coupled with current melting patterns offers profound accounts rooted in a storytelling culture that precedes both the efforts of the emerging academic field of 'new materialisms' and contemporary Western artistic work - efforts designed to re-imagine relationships with water and ice and depart from terracentric histories and futures.

In many ways glaciers and rivers transcend academic disciplines. As part of this attempt to put different ways of thinking into productive conversation with each other, I conclude with a brief description of American visual artist Roni Horn's VATNASAFN / LIBRARY OF [glacial] WATER in Iceland who attempts to re-engage human relationships with glaciers posing similar questions concerning understandings of glaciers that Tlingit oral tradition does.

Whilst the Anthropocene might be seen to facilitate certain histories and privilege particular narratives, putting Tlingit oral glacier narratives into conversation with contemporary artistic work may very well provide models for different potential futures. As a case in point Roni horn's *library of water* installation in Iceland features columns of water – 24 columns of water to be precise that are melted ice from retreating glaciers all over Iceland. These columns of glacial water engender a specific water (glacial) narrative that in turn embodies a particular cultural model. The test-tube like qualities of glacial water captured in glass columns reflect both a system of categorisation and a desire to control. However seen through a preservation lens these columns contain an ancient archive of global ecological history infused with potential

blueprints for ecologies, social and otherwise, yet to come. How might the idea of mourning the 'death' of glaciers re-imagine relationships with water? Indeed environmental scientist Janet Fiskio reflects in connection to Horn's Library of water "How can the humanities help to solve the problem of climate change? Is the wrong question. Instead [...] I argue that the humanities needs to pose questions about mourning, responsibility, witness, and hospitality and that these questions will open up a new way of thinking about and responding to climate change" (Fiskio 2012). Tlingit oral narratives offer new ways to think about and respond to climate change. Narratives that describe glaciers as sentient beings - glaciers that listen - glaciers with attitude? But rather than a *library of water* as is the title of Horn's installation, how might the Indigenous notion of *water as library* – a lake as a book - be the 'counter-story intended to redeem the inner enchantment of things ... whose vitality can inspire in the human subject a deeper (ethical, emotional and cognitive) participation in the worldly emergences of forms and bodies' (Iovino 2012).

7.5   Conclusion

In conclusion, the Randolph Glacier Inventory referenced at the beginning of this chapter might well become a defining mark of the Anthropocene, but as Knight cautions "our reconstructions of past glaciations remains tentative, our understanding of modern glacial processes incomplete and our modelling of their future unreliable". Knight's use of the word 'our' is as telling as the environmental glacial narrative he comments on.   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. At a base level it shows how glaciers/rivers/water are understood or becoming understood is often an intensely political act (Linton 2010). Tlingit and Tagish oral traditions speak of glacial histories entangled with and negotiated by humans and bear witness to the uncertainty and unpredictability that are viewed as intrinsic characteristics of natural systems. It is this slow activism that has the ability to disrupt increasingly entrenched notions of the Anthropocene that is again a product of a mono-cultural imaginary.

8.   A deep chart - the aqua-face of deep mapping

This chapter showcases a counter-mapping project with the Tlingit and Tagish peoples of the circumpolar north. Engaging critically with the evolving theory and practice of deep mapping I showcase how collaborative water research designed to provide a framework for Indigenous water legislation is expressed visually on a Google Earth platform. This aquatic counter-map, or as I call it, a *deep chart*, not only empowers the Tlingit and Tagish, but reclaims and revitalises critical cultural values, whilst simultaneously preserving linguistic and cultural memory in a digital form. More broadly, the deep chart is currently being brought into global water ethic debates as a visual ethno-cartographic example of an alternative relationship humans might have with water, paving the way for a new water consciousness. This is in direct contrast to current, dominant and sometimes destructive global water governance and water management models and practices.

8.1   Introduction

This chapter is about charting waters. More precisely, it is about using a digital format to re-chart the dominant model of water knowledge through and with the Indigenous toponyms, oral narratives, and empirical scientific knowledge of the inland Tlingit and Tagish peoples of the circumpolar north.

The production of geographical knowledge is of central concern to critical cartography, cultural geography, critical Indigenous theory, and post-colonial studies. Tlingit and Tagish water knowledge is intimately tied to the hydrological personalities and agency of *Shaanakhéeni*, the Southern Yukon Lakes and headwaters of the Yukon River, as well as the Pacific Ocean. That knowledge is reflected imaginatively, narratively, and materially in a number of key ways. Firstly, most of the Tlingit and Tagish toponyms of the region are aqua-centric. Secondly, many of the Tlingit and Tagish 9000 year old traditional oral narratives have a "hydrological anchor" and a situatedness of thought that reveals a profound historical relationship to specific and usually aqua-centric places and cultural practices. Drawing on this aqua-centric cosmology, I think through Tlingit and Tagish oral traditions *with* water. I argue that thinking with water

opens up ethical spaces where, as the anthropologist Cecilia Chen argues, "alternative ways of storying and mapping waters can give voice to inclusive and evolving vocabularies of water places, thereby transforming collective ways of thinking" (Chen et al. 2013:9). One way in which this "ethical space" can be articulated is through deep mapping[128].

Deep mapping responds to the recognition that there are *at least* two cognitive modes of knowing and constructing reality. One is a 'paradigmatic knowledge' that includes geospatial technologies such as remote sensing and Geographical Information Science (GIS). These technologies are based in a positivist conviction which forms the basis of much of modern Western scientific thought. The second is 'narrative knowing', which locates the construction of experience in narrative (Cleaver 2009). Educationalist Jerome Bruner contrasted these two modes of knowing: "Narrative thinking accepts ambiguity, but paradigmatic thinking has little tolerance for uncertainty. Paradigmatic thinking strives for universal understandings of general principles which must pass rigorous logical tests for truthfulness. In contrast, narrative thinking develops understanding dependent on the observer's previous experiences"[129](Brunner in Peters 2003).

A Tlingit and Tagish cosmology is constructed with both empirical scientific knowledge and narrative knowing, embracing the complexity of both. One idea here that is critical for ways of thinking and a Tlingit and Tagish cosmology is the notion of a pluriverse, or a multiplicity of worlds that exist. A Tlingit and Tagish worldview automatically acknowledges an ontological view that many worlds exist, and not just human constructed ones. A 'multiplicity of worlds' is also a concept located in Western philosophy that draws on Nelson Goodman's work, in particular his book *Ways of Worldmaking* (1978) that evolves and defends German philosopher Ernst Cassirer's revolutionary philosophy of symbolic forms (1923, 1925, 1929[130]). Together with German philosopher Hannah Arendt's concept of 'going visiting' (imaginatively entering into the worlds of different people with different views, and listening to their stories), it

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[128] A competing term for potentially the same concept as deep mapping is *Cybercartography* (Taylor and Lauriault, 2014). Indeed the subtitle for this volume is "applications and indigenous mapping."

[129] Jerome Bruner's ways of thinking is discussed in this journal entry by Erin Peters (2003) accessed online 20 September 2016. http://mason.gmu.edu/~epeters1/Journal_Entry_6.htm

[130] For more detailed information see http://plato.stanford.edu/entries/cassirer/ accessed April 2016

underscores again a holistic mode of knowing located in a dialogical enquiry. Educationalist Patricia Hannam and Eugenio Echeverria in their book *Philosophy with Teenagers: Nuturing a Moral Imagination for the 21st Century* utilise these ideas and write, "dialogical enquiry with its distancing, bridging, reasoning, translation, perspective-taking, dialogue and storytelling is essential in learning how to make good judgements (Hannam & Echeverria 2009). This is a continuation of many core Tlingit and Tagish concepts and virtues that recognise, respect and uphold[131] the many different worlds of the more-than-human.

8.2   Critical Cartography and Google Earth

Colonial mapping embeds assumptions and biases about projections, scale, nation-state borders, and the naming and categorising of places/features into its geographical representations. Critical cartography challenges these assumptions and biases by viewing maps and mapping as relationships between power and knowledge. The father of critical cartography, geographer John Brian Harley, is worth quoting at length:

> "The dominant view of modern Western cartography since the Renaissance has been that of a technological discipline set on a progressive trajectory. Claiming to produce a correct relational model of terrain, maps are seen as the epitome of representational modernism, rooted in the project of the Enlightenment, and offering to banish subjectivity from the image … Furthermore this model for maps has coloured the critical values of historians of cartography: they often assess early maps by this modern yardstick, thereby excising from the accepted canon of mapping not only maps from the pre-modern era but also those from other cultures that do not match Western notions of accuracy" (Wood & Fels 2006).

Critical cartographers have shown that maps not only create reality but construct ideologies; they also have agency in and of themselves. How spaces and places are produced through mapping is inherently political, and the Google Earth platform I have employed for our counter-

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[131] Translated into Western continental philosophical language, this means that all aspects of life have intrinsic value. They are animate, they have spirit. See also the Amerindian perspectivism approach developed by the anthropologist Eduardo Vivieros de Castro (2015) and Philippe Descola's *Beyond Nature and Culture* (2013).

mapping project, is no less contested both from its US military surveillance origins, to the form of ideological space it (re)presents.

The Google Earth counter-mapping project builds into anthropologist Stefan Helmreich arguments in his *From Spaceship Earth to Google Ocean: Planetary Icons, Indexes, and Infrastructures* where he is concerned with the iconography, functionality, and evolving rhetoric of Google Earth and its relationship to Google Ocean. Helmreich reflects that Google Earth is "a shimmering image meant to be consumed," but also that it "can invite more hands-on—or fingers-on-the-mouse—thought-experimenting, too, some of which may interdigitate with forms of online and offline political organizing" (Helmreich 2011:1218). The counter-mapping project takes this thought-experiment as a point of departure. Although I recognise the contested and problematics inherent on a Google Earth platform, I argue that in fact Google Earth offers a digital mapping rhetoric and ideology that complements a Tlingit and Tagish spatial philosophy. A Google Earth platform underscores a particular sort of authority to the complex and intersectional water narratives and water relationships in the region as well as opening up the possibility for metaphorical space.

The relationship to Google Earth is therefore complicated, and I stand in agreement with many of digital cartographer Jason Farman's arguments in *Mapping the Digital Empire: Google Earth and the Process of Postmodern Cartography*, where he counter's many of Google Earth's critiques. Particularly, I show how the counter-mapping project may very well be a "way in which recontextualization and subversion from the 'master representations' of maps can be achieved within the authorial structure of the digital map rather than re-authoring the existing software" (Farman 2010:12).

Many of these master representations are being contested—decolonised—by digital cartographic approaches that include cyber-cartography as well as deep mapping. Deep mapping, as I define it, critically utilises geospatial technologies and digital platforms to weave multiple, often marginalised narratives together, better approximating a democracy of (water) knowledges.

Addressing digital cartographic tools, geographer Jason Farman suggests that "who draws the borders, how space is represented, and who names locations on the map" (Farman 2010) is an increasingly interactive and contested domain. Whilst I critique various ideologies of space and mapping in this chapter, I suggest that the style of deep mapping I have embraced on a

Google Earth platform offers one of the best opportunities currently in existence for more democratic, liquid, and sensory representations of ontologies of space. By continuing to think *with* water, I negotiate what I have called this 'liquid space'.

Deep mapping attempts to capture experiential, emotional, sensory, acoustic, spiritual and metaphorical space as well as the more quantifiable signatures of a specific geographical region. As an evolving field, theorists and practitioners claim that deep mapping is an open-ended conversation, subject to negotiation, using multiple forms of media to layer multiple narratives (Bodenhamer et al. 2010, 2015). As Farman suggests, Google Earth "uniquely engages its users, not as disembodied voyeurs, but as participants in a global dialog" (Farman 2010:12), and on this point the Google Earth platform complements the philosophy of deep mapping as well as my chosen Participatory Action Research (PAR) methodology. All three participatory and dialogic approaches are ethically critical for counter-mapping projects which attempt to further the postmodern cartographic and post-colonial project of decolonising water, decolonising mapping practices, and decolonising dominant assumptions about what counts as knowledge.

Western maps are generally terra-centric[132] in the construction of place. Landforms are emphasised, along with relief that stops at the shoreline or river bank. Charts, on the other hand, are working 2D dialogical documents that provide details about water bodies, water flows (tides and currents), and hydrological seasonal variations that are often not visible to the naked eye. However the 2D navigational charts currently in existence internationally do not integrate any form of cultural heritage or linguistic memory.

The Tlingit and Tagish cosmology is aqua-centric, in contrast to most anthropological and historical descriptions of other cultures, especially Western ones that are typically terra-centric in their framing of reality and history. Indeed all research understood through an exploration of Tlingit and Tagish toponyms, traditional oral narratives, and cultural practices (Hayman with James & Wedge 2017) reveals a profound aquatic understanding of not only the Southern

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[132] Terra-centrism as a concept was introduced by Marcus Rediker in his chapter 'Hydrarchy and Terracentrism' in *Aquatopia*, a book that accompanies a major exhibition at Nottingham Contemporary and Tate St Ives, UK in 2013. Other references can be found in Bozovic & Matthew, 2016. I have coined the term aqua-centrism or aqua-centric, to denoted a water based relationship, thinking and worldview.

Lakes region, but the Tlingit relationship with the Pacific Ocean as well. Employing the concept of a "chart", it is more accurate to term this project as deep charting, or the aqua-face of deep mapping.

Charting offers a watery lens with which to challenge traditional Western moral philosophical thought and its conception of agency that has long been coupled with human exceptionalism and anthropocentrism, and widely acknowledged in environmental and feminist philosophical circles as a foundational flaw in human relationships with and understandings of nature. A deep chart helps to rewrite the default Western grammar of agency by revealing the 'social life' of water through the Tlingit and Tagish languages and through their values/virtues of reciprocity, relationships and respect. By charting water's social life at multiple scales and dimensions, as the Tlingit and Tagish deep chart does, new points of departures are generated for "deep" geographies (Harris in Bodenhammer et al. 2015). Deep geographies transcend academic disciplines that do not regularly bring critical indigenous theory, eco-psychology, eco-linguistics, eco-phenomenology, environmental hermeneutics, critical ethno-cartography and decolonising strategies that include counter-mapping together.

In the remainder of this chapter I continue to review Tlingit and Tagish empirical scientific knowledge. Furthermore I describe the process of utilitzing the Google Earth platform to create the deep chart, showcasing how this might further the democratisation of water knowledges.

8.3   Collaborative, ethnographic water research with the inland Tlingit and Tagish peoples

"Tagish Khwan ha setiyi kha Lingit ha setiyi, ha shegun awe ch'agudaxh xhat yaxh yenaxh kawsia. Ech-awe ya tl'etgi in ha siti, kha yah hin / Héen."

We who are Tagish and we who are Tlingit, our heritage has grown roots into the earth since the olden times. Therefore we are part of the earth and the water." (Elder's Statement, CTFN (first three lines); Final Agreement of CTFN with the Canadian Government, Ottawa 2006[133]).

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[133] Please see the 2006 Final Agreement. http://cyfn.ca/wp-content/uploads/2013/08/carcross-tagish-fa.pdf accessed 14 March 2015

(Please refer to Figure 17 for the remainder of this chapter. The 2D counter-map of Tlingit and Tagish place-names has complementary functions to the Google Earth deep chart. Indeed, the work embedded within this 2D version, led to a far richer and better informed 3D deep chart.

Tlingit and Tagish understandings of water are ancient examples of how "character and ethical formation are intimately tied to our relationship with the narratives through which we view the human place in the natural world" (Treaner 2014). Moreover as literary scholar Renate Eigenbrod argues, "working with stories or thinking poetically may assist the inclusion of nation–specific indigenous knowledges as it is a strategy that connects disciplines, positions participants in the cultural, linguistic and physical environment where each story is set, eschews definitions of indigeneity and creates relationships" (Eigenbrod 2014). A deep chart recognises and employs this strategy of working with stories. Oral narratives in many indigenous cosmologies have profound performative qualities and make real that of which they speak (Blaser 2010:xv)[134], supporting continental philosophies such as (environmental and narrative) hermeneutics and phenomenology; they are foundational frameworks for transferring knowledge, ethical behaviour and spiritual thought. A deep chart is therefore an attempt to give voice to alternative water knowledges on specific Indigenous (in this case Tlingit and Tagish) ontological terms. Its digital format encourages inter-generational dialogue, allows a more complete sensory world to be presented, and is able to store an infinite number of water narratives that can be scientifically, culturally, and acoustically correlated and contrasted.

8.4 Critiques and approach to a deep chart via the Google Earth platform

In this section I look critically at Google Earth as a digital charting platform and highlight areas where compatibility and functionality with a Tlingit and Tagish worldview intersect. In spite of cultural geography's expanding critique of Google Earth (Farman 2010; Helmreich 2011; David & Fels 2011; Crampton and Kryger 2006; Crampton 2005), I show how digital, fluid and acoustic ways of expressing water knowledge important to the Tlingit and Tagish peoples can be

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[134] See amongst many indigenous scholars and anthropologists Mario Blaser's *Storytelling Globilization: From the Chaco and beyond*, Duke University Press, Durham & London (2010: xv).

presented on a Google Earth platform. (See appendix B for the QR code and dropbox link for the Google Earth private kmz file).

Cultural geographer Veronica Della Dora's (2012) critique of Google Earth provides a point of departure: "these [Google Earth] mapping technologies … move away from the static map-object towards an ephemeral interactive mapping environment in which the map is constantly redefined…"(Della Dora 2012:3). Google Earth allows liquid space – a methodology of thinking with water spatially, bodily, linguistically and historically – to be presented more fully than in 2D form. Materially and metaphorically, liquid slides between scales, privileges no cardinal points, interacts between users, and is a dialogical, fluid nest of memories, that allows for constant amendments and updates. Finally, this liquid space has the ability to build in other sensory elements such as audio, and kinesthesis, shifting the bias away from ocular-centrism.

Before moving on to the particulars of the deep chart, it is critical to highlight concerns about intellectual property and indigenous knowledge from CTFN government as well as in legal anthropological circles. To these ends, the deep chart is currently a private kmz file.
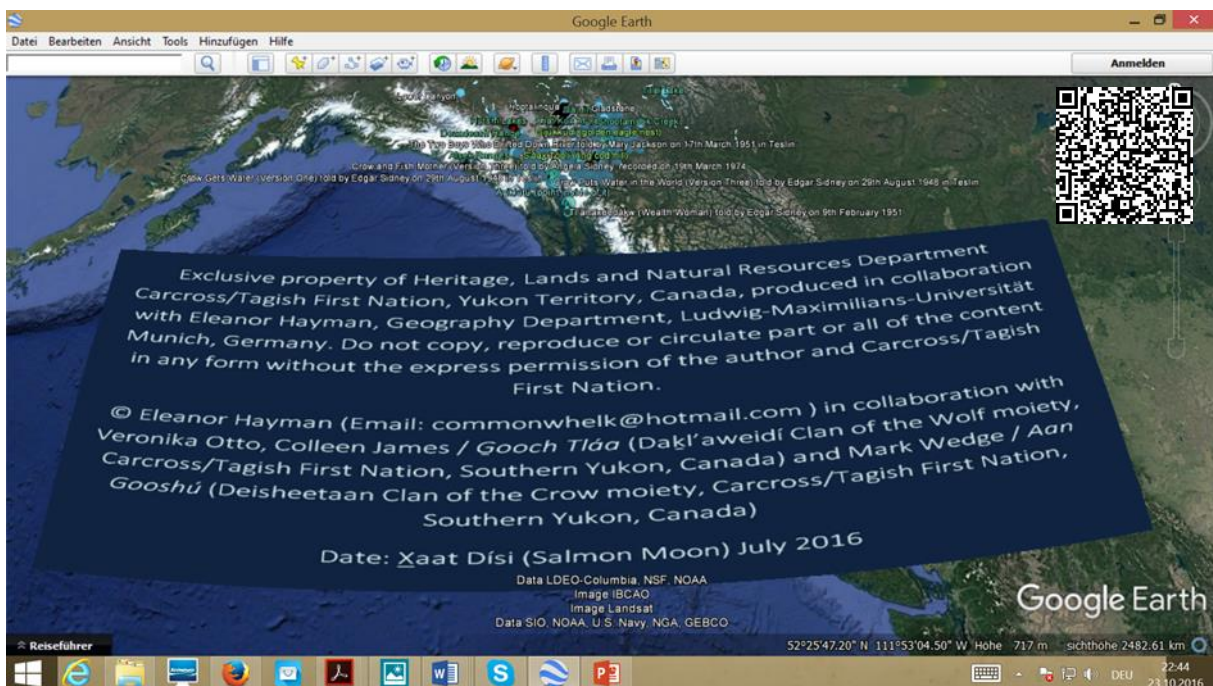
Figure 19: Deep chart Google Earth kmz private file: Once the file is opened intellectual property and copyright stipulations are shown in a banner above CTFNs traditional territory

Files available online at http://www.geographie.uni-muenchen.de/department/dokumente/hayman_eleanor/CTFN_Deep_Chart_Photobucket_Version.zip

The multimedia capacity of Google Earth is highly relevant when trying to capture and express a traditional *oral* culture's worldview. Fluent Tlingit speaker and Tlingit and Tagish Elder Ida Calmegane made audio recordings for this collaborative water research of all the 130 Tlingit toponyms that are now geo-tagged alongside current toponym photographs, toponym descriptions including cultural heritage and traditional oral narratives, as well as quantitative water sampling data. Tlingit and Tagish toponyms are relatively easily incorporated onto the Google Earth Platform via polygon, point or path applications.
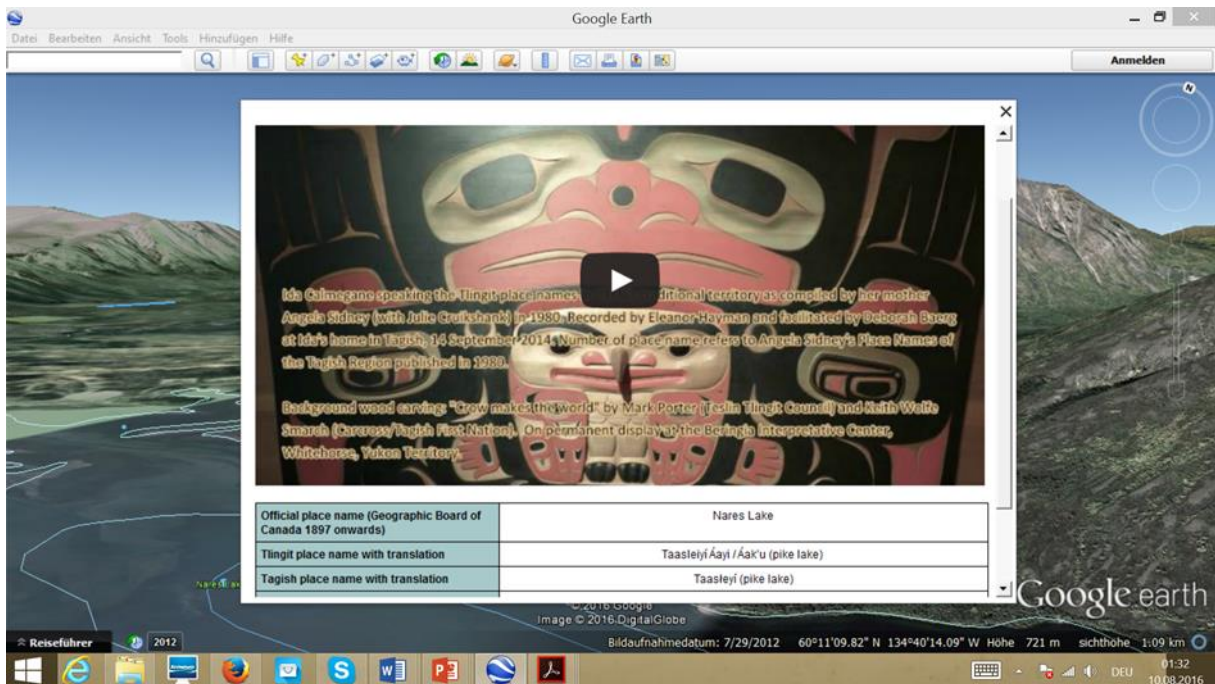
Figure 20: Screenshot of the Tlingit language audio file integrated into the Tlingit and Tagish toponym table with descriptions and photographs. Users can see the location of the place name in 3D format, see the written Tlingit toponym with English language translation and description, and hear the pronunciation of that Tlingit toponym in Tlingit.

Tagish and Tlingit toponyms often express the soundscape, soundmark, or acoustic ecology of a particular place that is unique to toponym research globally. These acoustic ecologies are not something general, but a highly specific, often seasonal, sound; they are almost always aqua-centric. For example *Taagish* means "the sound of the break-up of ice". Expressing a toponym acoustically, not just the sound of the name spoken but its referential soundscape or soundmark, is possible within the Google Earth platform. Fleshing out a location's acoustic ecologies creates the depth that is indicative of the deep chart.

Importantly the Tlingit and Tagish toponym expeditions (2013, 2014 and 2016) with Tlingit and Tagish elders and intellectuals fostered a deeper understanding of how water bodies and landforms have been conceptualised within a Tlingit and Tagish cosmology. The Google Earth platform facilitates an intersectional comparison and assessment of whether (or not) the empirical scientific knowledge embedded within toponyms is congruent with water temperature, pH and oxygenation[135]. Additionally, it allows a comparison from of the late 1970s data with the 2014 data, offering indicators of ecosystem change, possible climate change, and other environmental stressors[136].
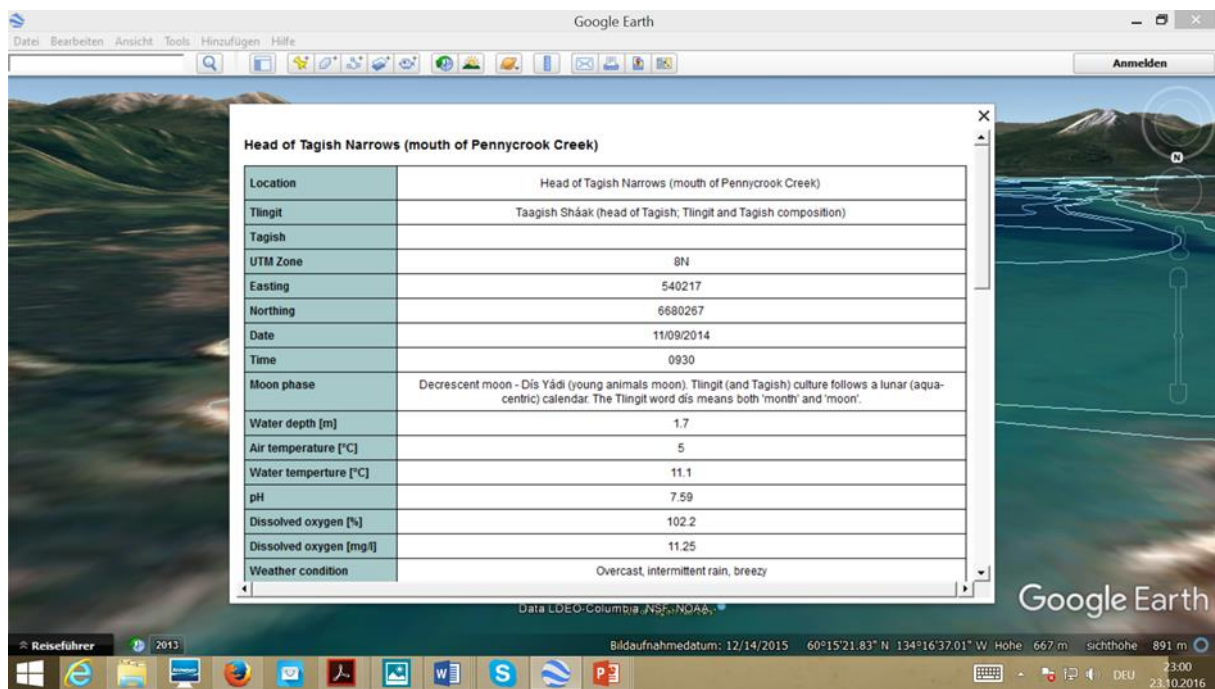
Figure 21: Example of baseline water quality sampling in correlation with Tlingit and Tagish toponyms (2014). Photographs of the toponym are visual when scrolling down on the water quality table

Two time-lapse animated videos of ice break-ups were generated by downloading free online images courtesy of USGS Landsat satellite (path 58, row 18) which passes over this region every

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[135] Water quality data taken with the YSI handheld multi-parameter water quality meter, loaned courtesy of the Yukon River Inter-Tribal Watershed Council, Whitehorse branch. http://www.yritwc.org/
[136] For example the construction of the Alaska Highway altered surface water flow, influencing beaver dam building behaviour. Another example is the construction of the Lewes Dam and hydro-electric dam at Whitehorse, effectively preventing salmon reaching the Yukon River headwaters to spawn, depriving First Nations of one of their key foodways and cultural practices.

16 days. Satellite images from 1991 and 1997 were two years with relatively cloud free images, so these were sequenced with a focus on the Tagish narrows. This stretch of water is particularly important because of its acoustic-based toponym, its ice phenology, and unique fish trapping method. Therefore, the multiple sensory layers begin to reveal the agency of water within the Tlingit and Tagish worldview. (Refer to Figure 22 below including QR codes and dropbox link).
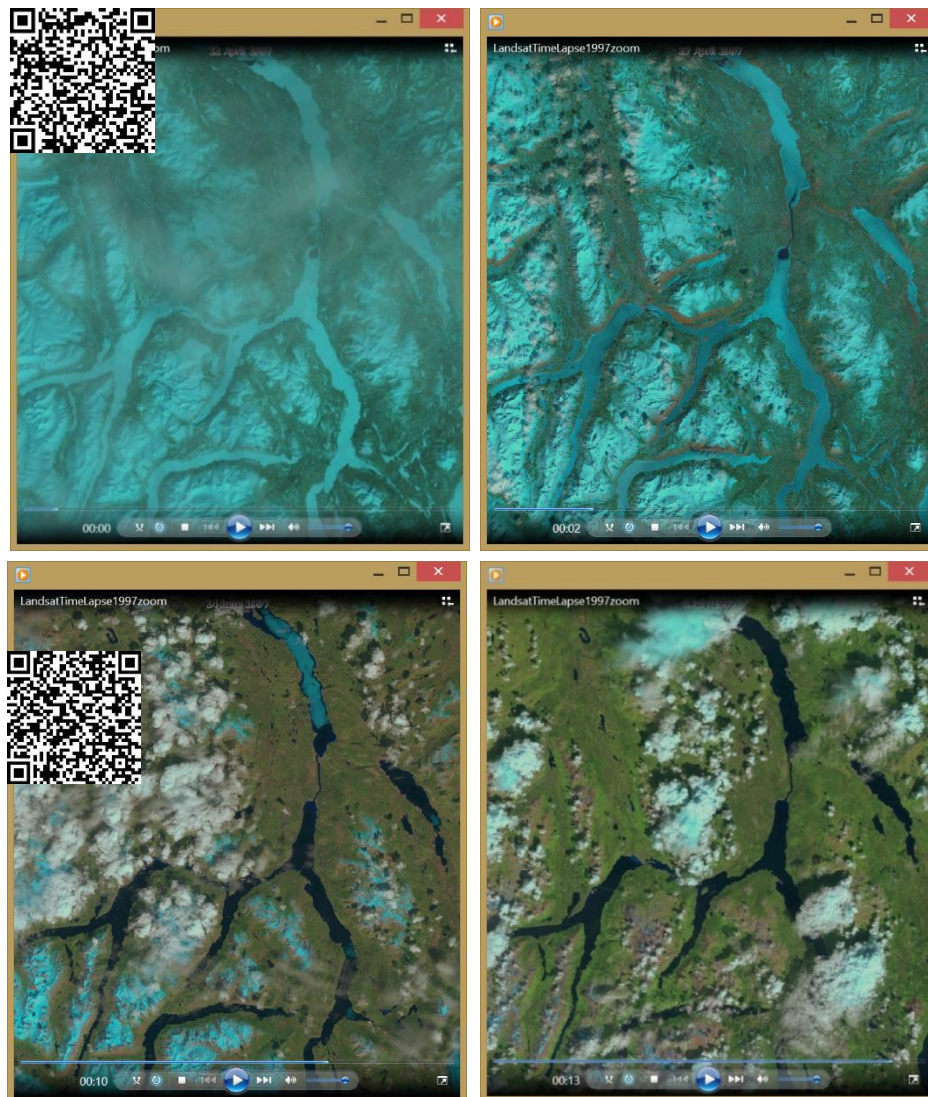
Figure 22: Two time-lapse animated videos of ice break-ups were generated by downloading free online images courtesy of USGS Landsat satellite (path 58, row 18) which passes over this region every 16 days. Satellite images from 1991 and 1997 were two years with relatively cloud free images, so these were sequenced with a focus on the Tagish narrows.

Available online at https://www.dropbox.com/s/p1e50mohbp09l3q/LandsatTimeLapse1991_3zoom.avi?dl=0 and https://www.dropbox.com/s/gxcllkjc71q7w4b/LandsatTimeLapse1997zoom.avi?dl=0

For the QR codes and video links for both 1991 and 1997 please also see appendix B.

Tlingit and Tagish toponyms geo-tagged on the deep chart are embedded with sophisticated empirical scientific water knowledge and further augmented by conceptualisations of water taken from CTFN citizens' oral histories from 1948 onwards[137]. These traditional oral (water) narratives are often thousands of years old and refer to precise geographical locations and/or geological and hydrological events, for example the flood story and *k'yán* (hemlock at base) – Mount Jubilee, or Fish Mother and *x̱áat tlein áayi* (big fish lake) - Little Atlin Lake. These cross-sectional sources of water knowledge provide an inter-active account of how water/ice/glacier relationships[138] are conceptualised from a Tlingit and Tagish perspective.

By showcasing comprehensive photographs, acoustic files and the descriptive meanings of Tlingit and Tagish toponyms embedded within a three-dimensional digital Google Earth scape, I privilege a unique set of water narratives embedded within an ancient linguistic ontology in visual/audio form. It further shows how different sources of water knowledge operating from within different ontologies can actually work productively together. Mark and Turk (2003, 2007, 2011) have called this type of scientific research "ethnophysiography", which they posit not only investigates categories of landscape features from a linguistic perspective, but also includes the study of "knowledge systems, beliefs and customs of a people concerning landforms and landscapes. Thus, ethnophysiography is related to the study of 'place' and 'place attachment', termed *topophilia* by Tuan and examines how these significances are tied into the traditional beliefs, often embedded in creation stories that help to make sense of the world, its physiographic entities, and their relationship to everyday activities, including traditional cultural practices" (Mark & Turk 2007).

The practice and science of ethnophysiography here builds into other philosophical and phenomenological studies of the aqua-centric making of place and/or the spirit of place (Bachelard 1994; Illich 1986; Casey 2013; Malpas 2006; Vuntut Gwitchin First Nation & Smith 2009; and Bang et al. 2014), as well as the fields of ecological hermeneutics and critical

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[137] For online transcripts of many of these traditional Tlingit and Tagish oral histories, see anthropologist Catherine McClellan's My Old People's Stories: A Legacy for Yukon First Nations (2007). Part II (Tagish Narrators) http://www.tc.gov.yk.ca/publications/tagish_stories_part2_2007.pdf. Part III (Inland Tlingit Narrators) http://www.tc.gov.yk.ca/publications/inland_tlingit_stories_part3_2007.pdf. Accessed 1 October 2016

[138] Glaciers, like rivers are considered sentient. However, peculiar to glaciers is their sense of smell and hearing. Cooking grease near a glacier is considered highly disrespectful and can encourage glacial surging. For more details see Julie Cruikshank's *Do Glacier's Listen? Local Knowledge, Colonial Encounters, and Social Imagination*, (2006)

Indigenous studies which focus on the function and power of storytelling (Ricouer 1986; Kearney 2002; King 2003; Treanor 2014; Nussbaum; Armstrong 2009).

Perhaps surprisingly, Google Earth offers opportunities to express a deeper understanding of the Tlingit and Tagish relationship with water. Many of Google Earth's attributes mimic core elements of a Tlingit and Tagish aqua-centric ideology. These include virtual human body positioning in relation to water flow, upstream/downstream directionals, and the ability to add soundmarks that reflect aqua-centric seasonal water ecologies.

Although satellite imagery available through Google Earth is increasingly sophisticated, there is not yet an ability to access under water or under the earth water bodies in the circumpolar north, such as is the case with the Great Lakes in Canada and of course Google Ocean. By incorporating bathymetric data imported via a kmz file courtesy of Yukon Government, I attempt to create aquatic depth, important to the aquatically rich empirical scientific data embedded in Tlingit and Tagish toponyms. In biological terms, certain fish species only frequent certain depths, certain levels of oxygenation, pH and water temperature. This is seen very clearly in the relationship to bathymetric depth and fish species proliferation in the 2D Tlingit and Tagish place name counter-mapping poster. This is not just significant in the circumpolar north, but in all areas of the earth. The presence of fish—and other animals and plants—indicate very clearly what is going on from an ecological/aqua-centric perspective,[139] as well as serving as key indicators of various forms of hydrological stress.

Satellite Landsat imagery (path 58, row 18[140]) offers yet another way to express hydrological characteristics indicative of Tlingit and Tagish cultural practices on the Google Earth platform. Surface water temperature data was isolated from the September 1985 and 2008 satellite images, combined with bathymetric data and correlated with the September 2014 water quality sampling and toponym fieldwork undertaken on the Southern Yukon Lakes.

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[139] As CTFN Tlingit Elder Art Johns noted during a CTFN government meeting in August 2016, "we always follow the fish when there are problems with hunting everything elsewhere. We know exactly what fish are spawning and running in each season."
[140] All freely available satellite information from USGS. For Landsat science and history, see NASA's website. http://landsat.gsfc.nasa.gov/?page_id=2295 accessed 20 September 2016

Most importantly for the CTFN community is that the Google Earth platform can be used as a place for updating and sharing culturally relevant water knowledge. For the CTFN government, this tool has many significances and applications for CTFN educational, governmental, cultural, heritage, land use planning, and legal environments. The deep chart is a uniquely tailored visual and acoustic living expression of the Tlingit and Tagish co-evolution with *Shaanakhéeni* and their making and conceptualisation of place.

8.5   A collection of violences

Colonial strategies in Canada have relied heavily on the demarcation of territories and parcelling out of or control over 'natural resources'[141]. Cultural critic Edward Said has called this "geographical violence." It could equally well be called "colonial" violence but Said intuitively links this to place when he writes "virtually every space in the world is explored, charted and finally brought under [imperialist] control" (Said 1990:79). Cultural geographer Robert Rundstrom (1995) points towards another violence that he labels 'epistemic violence'. Epistemic violence includes the process of mapping that forces Indigenous ways of thinking into reductive categories framed by a dominant English language and technology. For example the normalisation of GIS systems with its base maps and toponym nomenclature. With respect to the Tlingit and Tagish, there is a concern that "Indigenous knowledge and culture are made to accommodate the technology and not the converse" (Sieber & Wellen in Mark et al. 2011:xvi).

Paralleling Rundstrom's 'epistemic violence' I have called twentieth-century anthropological accounts of Indigenous water disempowerment as a form of 'hydrological violence' (Hayman 2012). Over the last century, (colonial) narratives of water have tended to portray water as an abstraction, a passive 'resource' that is only of instrumental value. Reducing water to its

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[141] Cultural geographers McCreary and Milligan write: "These strategies for policing indigenous peoples were not born of a calloused ignorance of Indigenous traditions; rather, nearly 100 years of attentiveness to indigenous knowledge and practices enabled and contoured efforts to secure settler resource extraction through the surveillance, restriction, and disruption of Indigenous practices. In McCreary, Tyler. A., Milligan, Richard. A., "Pipelines, Permits and Protests: Carrier Sekani Encounters with the Enbridge Northern Gateway Project" in *Cultural Geographies,* Vol 21(1), pp115-129, (Sage Publications, 2014). http://www.academia.edu/3824194/Pipelines_permits_and_protests_Carrier_Sekani_encoun ters_with_the_Enbridge_Northern_Gateway_Project accessed 20 December 2014

chemical formula, H_2O, allows various quantities of water to be controlled, typically by elites and state institutions, historically in the name of colonialism, but currently more often in the name of privatisation. Geographer Jamie Linton summarises "essentially, modern water is a way of knowing, accounting for, and representing water apart from its social context (Linton 2010:111).

The modernization of water singularizes water, while bringing it under what can be termed an anthropocentric and epistemic control. This type of modernization influences much of international water policy making and creates the need for concepts such as water 'governance' and water 'management' (Bavington 2013:121) that only continue to police and reaffirm this modern water philosophy and/or agenda.

8.6   Rival geo-locational baselines

In the southern Yukon Territory maps are generally produced by the Yukon Government, Yukon Energy,[142] mining, and tourism companies. Each of these uses their own baselines (a baseline is a base for measurement or construction of a particular value system or world view) transmitting colonial and positivist visions of the world through their particular ethno/capitalistic cartographic privileges. The default language for toponyms is English; since there is no attempt at cross-linguistic comparison, English geographical definitions are portrayed as universal categories. Scholar of spatial language analysis David Burenhult provocatively asks, "How translatable are language terms across languages and what ontological categories do they commit to?" (Burenhult & Levinson 2008:138). While the Yukon Gazetteer[143] does prioritize First Nation toponyms, the principles of nomenclature that guide the decisions of the Yukon Geographical Place Names Board[144] are limited to the following definition: "Naming for rivers, lakes, creeks, and other physical features shall be used for the entire feature." The problem is that Tlingit, Tagish and many other Indigenous toponyms for

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[142] Please see the proposed Southern Lakes Enhanced Storage Concept here
https://www.yukonenergy.ca/media/site_documents/Southern_Lakes/Baseline_Studies/Overview%20of%20Baseline%20Stu dies%20South ern%20Lakes%20Enhanced%20Storage%20Concept.pdf accessed 2 June 2016
[143] http://www.yesnet.yk.ca/firstnations/pdf/yt_gazetteer_10.pdf accessed 25 December 2014
[144] For further details, please see page 2 of the Gazetteer of the Yukon (2010) with this link
http://www.yesnet.yk.ca/firstnations/pdf/yt_gazetteer_10.pdf   accessed 10 May 2015

the Yukon River change dramatically over the course of a long river or lake system. Simply adopting one name (usually after a male European or US academic or military explorer) and applying it to an entire water feature is a toponymic actualization of cartographic colonialism. (See Figure 13 again). The Yukon watershed counter-map showcases all the culturally diverse Indigenous linguistic communities along the length of the Yukon River, and the changing names of the Yukon River. This builds into and complements the philosophy behind the deep chart.

As First Nation fluent speakers and Tlingit linguists will attest, there is no direct translation for many words, expressions or concepts from Tlingit into the English language. This is a broad linguistic concern in Indigenous communities, evidenced by the hydrolographical research conducted with the Cree Indigenous community in Canada by geographers Renne Sieber and Christopher Wellen. They focussed on perceived and actual discrepancies between the Cree way of knowing and GIS mapping. Sieber and Wellen go on to say that "We interrogate limits to the ability of GIS to portray Cree knowledge, assessing the extent to which differences between how ways of knowing affect engagement with GIS, on the one hand, and how, conversely, local needs for recording traditional knowledge in multimedia and mapping environments play out in reality" (Wellen & Sieber 2013).[145]

Another equally pressing concern is with the Western mode of navigation. This style of navigation is *ego*centric in the sense that the (human) body is the primary locus with directions often comprising of left and right. In the Tlingit language and worldview, directionals are expressed in relation to the flow of water - upstream and downstream, and in relation to the sea – seawards and inland (*aqua*-centric). The complexity of the Tlingit language is revealed particularly when in relation to water. For example, down on the beach/shore is *éeñ*. Down to the beach/shore is *yeeñ*. From the woods onto the beach/shore is *éeçi*. Out of the water onto the beach/shore is *dáaçi* and shoreline, whilst beach/shore itself is *neech*[146].

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[145] For an overview of Sieber & Wellen's research please see
http://pure.rhul.ac.uk/portal/files/24549171/KES_Chapter_8_EadesSieberWellen_Nov_2013_GEedits.pdf accessed 12 May 2015
[146] For a Tlingit-English online dictionary (2012) please see
http://www.sealaskaheritage.org/programs/Language%20Resources/Tlingit_dictionary_web.pdf accessed 11 May 2015

A further example is "Indian John of Tagish's" map of the Southern Lakes region, hand-drawn from memory on 18 September 1887 at Lake Lindeman for Canadian surveyor George Dawson. "Tagish John" draws the southern lakes from an upstream/downstream perspective, and not in relation to a Western system of the cardinal points of north, south, east and west. This map alongside what is known as the Kohklux map are unique in a number of ways. As the first hand-drawn examples by the Tlingit and Tagish peoples, they are the only known existing geographical visions or spatial cognitive mappings for this region that contrast with colonial mapping techniques and philosophy. Both the Tagish John map and the Tlingit chief *Kohklux* together with *Tu-eek* and *K̲aatchxixch*[147] (his wives) map privilege water bodies, and concretely show the importance of travel and navigation by water for the Tagish and Tlingit. The third GIS generated map on the right-hand side shows a modern representation of the Yukon River headwaters, and illustrates the accuracy, sophistication and aqua-centric spatial awareness of the mental/cognitive maps of *Kohklux, Tu-eek* and *K̲aatchxixch*, and Tagish John.

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[147] For more information see
https://www.academia.edu/6705979/Encounters_with_Kohklux_Historical_Images_of_the_Charismatic_Chilkat_Chief_Shotridge accessed 8 January 2016

Figure 23: The ArcGIS generated poster for "Tagish John's" 1887 map is contrasted with coastal Tlingit Chief *Kohklux* with *Tu-eek* and *Ḵaatchxixch* (his wives) map, and a remotely sensed (2015) outline of the headwaters of the Yukon River – the Southern Yukon Lakes. Copyright Eleanor Hayman

PDF version available online at https://www.dropbox.com/s/j171amq18dosd1o/Triple_Map_18_11.pdf?dl=0

As linguistic scholar Niclas Burenhult summarises, sophisticated geo-locational tools have a built-in ontology that "map[s] indigenous names to an imposed universal ontology of geographic entities derived from an English conceptualisation of landscape reality" (Burenhult & Levinson 2008). CTFN community consultant Mark Wedge adds to these different conceptualisations of reality by pointing out that "Western worldviews tend to stress history as a linear flow of time. The Tlingit and Tagish think more spatially – so our knowledge is profoundly contextual and place based" (Wedge per. Comm 2014). The Tlingit and Tagish worldview is located within and expressed through ancient oral traditions that prioritise spatial narratives. Cognitive psychological studies of cultural memory in oral traditions support this. For example psychology scholar David Rubin writes "Humanists have noted that oral traditions contain the concrete rather than the abstract. If imagery is divided into two components, object and spatial, then oral traditions are mostly spatial (Rubin 1995:61). This is why a deep chart is far more powerful than the written word when it comes to showcasing Tlingit and Tagish empirical scientific and cultural water knowledge. It specifically honours that oral component which is otherwise so difficult to do within academic chapters and papers.

Lastly, Tlingit and Tagish conceptualisations of waterscapes/water bodies query the dominant relationship between scientific measurement and descriptive narration. Indigenous studies scholar Hartmut Lutz highlights this point. Lutz writes that "acknowledging that Aboriginal oral traditions record, store and transmit centuries or even millennia of empirical knowledge about how to live well with the land and all its creatures, we have to acknowledge that any empirical knowledge that is conveyed as 'theory coming through stories' must be read on par with abstract scientific formula or the periodic table" (Lutz 2014). Anthropologists Julie Cruikshank (1990, 1998, 2005, 2006) who worked extensively with the Tlingit and Tagish, and Keith Basso (1996) who worked with the Navaho on toponyms, add that oral narratives are not simply *containers* of historical, ecological, cultural, or sacred knowledge, but rather are also 'living' and evolving organically wherever they are used.

8.7   Conclusion

This chapter expands the notion of deep mapping to embrace the significance of aqua-centric spatial knowledge through a deep chart: a counter-map that specifically embodies aqua-centric expressions at the heart of the Tlingit and Tagish cosmology. Inland Tlingit and Tagish

oral narratives and empirical scientific knowledge are driven by a Tlingit language worldview that understands water as a root metaphor and baseline verb. This can be observed in Tlingit and Tagish toponyms, oral narratives, cultural practices and the nature of the Tlingit language itself which is verb-based. Tlingit directionals are always in relation to the flow of water and/or in relation to the sea. Water is secondly utilised as a metaphor and medium within which to think methodologically for the functionality of a deep chart.

A deep chart goes some way to authentically represent the marginalised and often silenced Tlingit and Tagish aqua-centric cultural and empirical scientific knowledge. By using a Google Earth platform, no one scale or directional is privileged. Furthermore the oral nature of Tlingit and Tagish oral traditions can be honoured through the use of video and audio files (subject to intellectual property considerations), and is furthermore a database for the preservation of inland Tlingit language toponym pronunciation (dialect) as well as the toponyms themselves[148]. As many Tlingit and Tagish toponyms echo the sound of a particular seasonal ecological environment, references to an historical soundscape is a unique acoustic narrative at the intersection of the inland Tlingit/Tagish oral tradition and the dynamics and environmental flows of the Southern Yukon Lakes.

This chapter speaks up for a democracy of water and cartographic knowledge. As an evolving process and product of critical cartography, post-structuralist cultural geography, and critical Indigenous concerns about the representation of power, knowledge and place, a deep chart acknowledges the complex registers and plasticity of competing knowledges. On the cusp of a new water consciousness and fuelled by calls for a decolonisation of water and a decolonisation of practices for charting/mapping waters, a deep chart offers a compelling perspective on the social life of water mediated by the social life of stories that are always, already embedded within it.

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[148] Almost all are not recorded as official, or unofficial place names in the Yukon Government's place name Gazetteer (2016).

9. *I yá.axch´age? /* Can you hear it?

Héen Aawashaayi Shaawat / Marrying the Water[149]

"When we say *yáa át wooné*, that means to learn about it [water]. You are going to meditate on it; you are going to think on it; you are going to develop a relationship with it" (Katzeek Per. Comm 2014)

9.1   Introduction

Conversations with coastal Tlingit and inland Tlingit/Tagish Elders and intellectuals illuminate a clear and resilient perception of water as a relative, facilitator, connector, educator, healer and transformer. This perception of water works within a Tlingit and Tagish cosmology in a number of ways that challenges the dominant hydrological imaginary. Water provides a living normative framework for the circulation of virtues, in particular, respect that establishes a mode of morality for the continuation of human existence (Langdon 2013). Water functions metaphorically within many traditional Tlingit and Tagish oral narratives offering fluid, transformative imaginaries that act as guides for human relationships with more-than-human worlds. Water inscribes a place-based cultural identity through its agency, shaping Tlingit and Tagish clan names and clan origin stories, and almost all Tlingit and Tagish toponyms. Lastly, as the primordial element in Tlingit and Tagish creation myths, it is water that gives definition, hydrological character, life and sacred qualities to the land.

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[149] In addition 'To take care of, protect and provide for it with unconditional love' (David Katzeek Per. Comm., 31 May 2016).

In Tlingit, respect is *yáa át wooné* and is considered one of the most powerful words in the Tlingit language (Katzeek per Comm. at the Tlingit Clan Conference: Sharing Our Knowledge, Juneau, Alaska, 6–10 November 2013). *Yáa át wooné* is the cornerstone of Tlingit beliefs and values, and a prerequisite for Tlingit identity and even existence[150]. Implicit within *yáa át wooné* is a call to listen; to pay attention. Not just to other human voices, as in the ancient Tlingit and Tagish oral tradition of storytelling, songs and ceremonial oratory, but to the greater more-than-human ecological voices.

Modern Western philosophy rooted in the Aristotelian tradition is slowly recognizing that respect, not just for humans and other animals, but for ecosystems and planetary life more generally is a prerequisite for the so-called 'leap' or 'great transformation' needed for industrial societies to evolve towards holistic greener societies. However, it is not simply about changing anthropocentric practices, but challenging a now normalized and ingrained post-Enlightenment shift that privileges anthropocentric thinking, otherwise known as the monocultural imaginary[151]. In this sense, many Indigenous cultures precede this 'new' form of thinking. For example the Tlingit and Tagish cultures have extended respect (and intrinsic value) to all of the more-than-human world for many thousands of years. Not only this, but the Tlingit and Tagish cultures have been pursuing holistic ecological practices and what is touted to be the 'new' ecologically minded virtues of the twenty-first century,[152] since time immemorial[153].

Using examples from Tlingit oratory, Tlingit place-based education, Tlingit and Tagish storytelling and Tlingit and Tagish toponyms, the critical importance of listening within a Tlingit and Tagish cosmology is explored. Building on earlier collaborative water work (Hayman with James & Wedge 2015) I examine how a Tlingit pedagogy that emphasizes listening, meditating and keen observational skills is critical for developing relationships with more-than-human worlds that in turn sustain *yáa át wooné* embedded within storytelling. As storytelling and *yáa*

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[150] Elder David Katzeek, abstract for Sealaska Heritage Institute lectures, 2013.
[151] Coined by feminist philosopher Lorraine Code (2006).
[152] See especially Rosalind Hursthouse (2007) and the Roman Catholic Pope's 2015 encyclical – *Laudate Si*.
[153] See, too, the emerging academic field of 'new materialisms' that again, reinvents indigenous holistic thinking.

át wooné mimic the circulatory, replenishing and sustaining power of water, I show how water, respect and identity intersect within the Tlingit and Tagish culture.

Tlingit and Tagish peoples co-evolved and co-constructed their social, moral and linguistic structures with and within southern Yukon and Alaska – subarctic lands formed and shaped by water and ice, salty and fresh. The character and unique aquatic personality of this region has been imagined for thousands of years in the minds and oral narratives of the Tlingit and Tagish, something I call a *hydrological* imaginary. However, in contrast to the dominant hydrological imaginary where 'modern water' is perceived as an economic resource with only instrumental value, the Tlingit and Tagish ontology[154] differs radically. Glaciers, rivers and lakes, for example, are understood "to apprehend the world from distinct vantage points . . . to have points of view, exhibit agency, and engage in reciprocal responses" (Cruikshank 2012).

The Tlingit language has a precise and indeed sacred phrase to describe the spirit and agency of all things: *Yakg wahéiyagu*. *Yakg wahéiyagu* is described by Tlingit language scholar Lance Twitchell (2016) in his new Tlingit online dictionary as 'the ability of everything to comprehend language and intentions'. This concept forms the basis of respect which David Katzeek has referred to as 'the fruit of education'. *Yakg wahéiyagu* and *yáa át wooné* are therefore intimately linked in the Tlingit worldview and provide a profound point of departure for thinking about knowledge production in this chapter.

Anthropologist Julie Cruikshank frames the recognition or oppression of different knowledges very elegantly with what she calls two key ontological questions: 'What is not recognized as knowledge in dominant regimes? What is lost when local knowledge in Canada is trimmed and transformed to fit the requirements of science, policy and governance?' (Cruikshank 2012). These questions are highly pertinent for current debates on water ethics, and colonial modes of knowledge production more broadly. Indeed this perspective on Tlingit and Tagish water knowledge(s) destabilizes the 'binaries inherited from European philosophy in which Indigenous peoples appear as either victims of colonization or heroically resistant' (Cameron et

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[154] Other Indigenous ontologies are also open to perspectivism, but I focus only on the Tlingit and Tagish cosmology here.

al. 2014). Being cautious not to perpetuate what I have called hydrological violence (Hayman, with James & Wedge 2015) – that is, reproducing colonial hydrological ways of knowing and being – I present Tlingit and Tagish hydrological knowledge in this chapter in the spirit of ontological pluralism and as a critical step towards actively decolonizing and hearing water.

9.2   Carcross/Tagish First Nation (CTFN)

Since February 2012 collaborative water research with Carcross/Tagish First Nation has followed the participatory action research path, informed by post-colonial and (eco) feminist/feminist political ecology studies which overlap with critical Indigenous theory. CTFN community consultants Colleen James and Elder Mark Wedge are actively involved in much of the fieldwork among and on the headwaters of the Yukon River and continue to revise and advise on all written work, publications and the mapping of Tlingit and Tagish aquacentric toponyms. Equally, the inspiration for the title and much of this chapter is due to coastal Tlingit Elder educator and fluent Tlingit speaker David Katzeek's guidance. This chapter therefore reflects both coastal and inland Tlingit practices and philosophies, tightly woven with the Athabaskan linguistic group, the Tagish peoples, with whom the coastal Tlingit inter-married some 500 years ago.

The collaborative water research in this chapter explores critical *hydrologies* of indigeneity through an analysis of hydrological imaginaries embedded in traditional oral narratives, aquacentric toponyms and cultural practices. These are deeply geographical themes as 'knowledge is deeply embedded within spatial environments' (Warf 2015: 134). Deep mapping (or on account of its acutely aquatic perspective, deep charting – see chapter 5) is one way to represent such complex, empirical, sensuous hydrological Tlingit and Tagish knowledges, while at the same time supporting the shift towards democratizing and decolonizing mapping practices. The exciting performance of such critical hydrologies of indigeneity is shown not least by the forthcoming CTFN water legislation, but the fact that this Tlingit/Tagish water legislation might well be a first, not just in the Yukon Territory, but in Canadian legal history since colonization.

9.3   Narrative, environment (water) and virtue ethics

It is increasingly well-documented and recognized at the national policy level[155] that the global water sector is in a critical shape (Grambow per. Comm. 2015). Driven by utilitarian ideals, technological advances and a narrow idea of water simply as a resource, water management strategies and goals are often unsustainable. In an attempt to reimagine human relationships with water, there have been calls for a global water ethic from diverse groups including civic society, Indigenous organizations, social justice movements[156] and policy-makers.

From an academic perspective, the field of environmental philosophy is gaining increasing prominence as it challenges anthropocentric and destructive ways of valuing of nature (water). One of the most exciting recent contributions to biocentric, ecocentric and anthropo-relational[157] thinking is from environmental philosopher Brian Treanor in *Emplotting Virtue: A Narrative Approach to Environmental Virtue Ethics* (2014). Treanor's critical analysis of virtue ethics within an ecological context cross-pollinates with narrative theory and provides this chapter with a profound point of departure. In Treanor's words, 'what we need is a *narrative, environmental virtue ethics...* that indicates the significance of both narrative and environmental virtue in a complete understanding of what it means to live, act, and fare well in the twenty-first century' (2014:187). Indeed, Treanor argues convincingly that a 'fully developed environmental ethic should address not only what we should *do*, but also who we should *be* ...' (2014:160, italics in original). One of Treanor's key themes is the critical role played by narrative in not just the formation and cultivation of a virtuous character, but its transformative role too.

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[155] Interview with Professor Martin Grambow, civil engineer and Bavarian ministry for the environment, interview May 2015, www.professoren.tum.de/en/honorary-professors/g/grambow-martin-g/.
[156] For example, Idle No More, the Mother Earth Water Walk, and the Indigenous Environmental Network.
[157] For more information, see www.drze.de/in-focus/biodiversity/modules/anthroporelational, accessed 21 June 2016.

In *Poetic Justice* (1995) philosopher Martha Nussbaum addresses the role that narrative plays in human ethical education and ethical judgement in depth. Nussbaum argues that reading '... can be a bridge both to a vision of justice and to the social enactment of that vision' (1995: 12). Nussbaum refers specifically to novel-reading from a Western historical perspective and not storytelling/listening within far older oral cultures, but the outcome might very well be the same, if not more pronounced[158]. The stories different cultures tell themselves mirror a particular set of virtues and values that can inform local policy-making and public life. One example where this approach is used in a living legislative way is CTFN's Family Act. Drawn up in 2008 the Family Act follows the CTFN (Tlingit and Tagish) clan-based governance model (see Visions North 2009 report[159]) which draws on the two CTFN statutes of government books on virtues and values. Book One is titled *Traditional Beliefs and Practices: Our Place, Our Responsibilities* and Book Two, *Government of Carcross and Tagish Traditional Family Beliefs and Practices[160]*. The Family Act is guided by virtues and values distilled from pertinent Tlingit and Tagish traditional oral narratives sketched out in Book Two. Tlingit and Tagish fluent speaker and Elder Angela Sidney is much quoted when she made clear the value and inter-generational critical importance of storytelling. Sidney's famous quotation "my stories are my wealth", has profoundly influenced how Indigenous and modern ontologies are both intersected and understood in the Canadian north. The CTFN Water Act that this collaborative water work lays the framework for will follow a similar formula.

As mentioned at the beginning of this chapter, the role and agency of water within Tlingit and Tagish culture provides a living model for linguistic, technological, metaphorical, corporeal, navigational and storytelling practices and performances at a profound cultural level. The unique Tlingit and Tagish embodiment of water as model within their cosmology offers a particular vision of water, or a water ethic that can inform applied philosophical and legal debates concerning water governance and management. It is both a source for water justice but also

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[158] Cognitive psychology studies conclude huge differences in memory within oral tradition: active engagement/involvement by listening; passive, detached by reading.

[159] www.aadnc-aandc.gc.ca/DAM/DAM-INTER-YT/STAGING/texte-text/vnss09_1100100028411_eng.pdf, accessed 18 July 2016

[160] See www.ctfn.ca/documents/legislation, accessed 18 July 2016, for pdf copies of CTFN Statutes of Government showcasing Tlingit and Tagish virtues and values through traditional oral narratives.

furthers discussion within international environmental law on the definition and nature of both personhood and inter-generational justice (see Hayman with James & Wedge forthcoming 2018). The evolution of this particular sophisticated water consciousness has been developed through the art of listening that is at the heart of the Tlingit virtue of *yáa át wooné*.

9.4   *A daa tutan i yux´atangee, yáa át wooné* and the art of listening

Most obviously the Tlingit and Tagish cultures are rooted in a 9000-year-old *oral* tradition. Storytelling is a core cultural practice drawing on and living out rich and encyclopaedic oral histories. Listening well is a critical virtue developed from a young age. Tlingit pedagogy in fact begins before a child is born. In coastal Tlingit Elder David Katzeek's words:

> "I want to describe the approach and methodology of our people, when we are beginning to learn. At the very beginning the mother is bearing the child in her womb. *Hayn too ye ati*. She has water in and around that child. They [Tlingit family] would speak to that child before it was even born. They would say [to the child in the womb] when the mother came into the tribal house . . . 'For you desiring to come to our world, we are very grateful and we are very happy.' *Gunalscheesh A!* They would say thank you without question or debate. 'You are a precious child of the Earth'. . . Then they would say . . . 'You are a human being, and being human means that you will listen to those who instruct you, to those who teach you, to those who love you, and care about you.' 'Most precious child of the Earth'. They are talking to that little baby that's not even born! . . . They are telling that child already the first cornerstone of the Tlingit language and the Tlingit educational system: this is to learn, to listen, to pay attention, to be still, to be quiet; to become focused. That is the essence of being Tlingit. That is the essence of being a human being" (Katzeek per. Comm 2015)

These qualities, particularly listening skills, that are developed within Tlingit pedagogy are foundational for developing relationships with the more-than-human. As already discussed in previous chapters, many Tlingit oral narratives describe marriages between humans and other animals, humans and trees, humans and fire sparks, and humans and fish scales. When it comes to learning about water, David Katzeek explains with an example of 'the woman who married the water' as an analogy to these ancient traditional Tlingit oral narratives for this research. 'Marrying' in the Tlingit sense of the word means developing a powerful intimate and spiritual

relationship. In terms of 'marrying the water' it is about hearing the cry of the water and answering it:

"When we say *yáa át wooné* that means to learn about it. . . . You are going to meditate on it, you're going to think on it, you're going to develop a relationship with it . . . They tell the story of the woman who married the water. And they [some of the audience] are going to say 'how can a woman marry the water?' You see in Western languages, in European languages, marrying means the man and woman coming together and having a real intimate relationship . . . No! . . . When you develop a relationship . . . you are going to learn about that individual. You are going to begin to study that individual in such a way that you appreciate them . . . We [Tlingit people] say in the English translation 'the woman who married the water'. However in reality you are developing a relationship with that resource called water, so that you can really appreciate it. When things come that might be detrimental to that relationship, you are able to raise a yellow flag and be able to think carefully. You see education *is* developing a relationship" (Katzeek per. Comm 2015)

Another critical Tlingit concept that follows from *yáa át wooné* is *Woochéen*. As David Katzeek again explains *Woochéen* is to be in harmony with mind, body, soul, spirit and the environment, especially water:

"A lot of people translate *Woochéen* as 'we are all supposed to work together as human beings'. That is part of it but not all of it. We are to work *with* it, we are to be in harmony with it. We are not to destroy it, we are to work *with* it. . . . You are going to work with the water – you are not going to work against it. Big words '*Woochéen*'. You are to work together. And what it means is that the mind, the body, the soul, and the spirit – all of that being is put together and focused on one particular subject. That is how you begin to develop a relationship" (Katzeek per. Comm 2015)

Learning to listen, actively listening, are the core Tlingit teachings here. However, the other side of listening well in Tlingit pedagogy is to speak well. Tlingit teachings emphasize the concept of *a daa tutan i yux´atangee* which means 'to weigh your words with care' and reflects the power of spoken words themselves.

Coastal Tlingit Elder Nora Marks Dauenhauer has worked extensively on Tlingit oratory and narratives. In *Haa Tuwunaagu Yis*: *For Healing Our Spirit – Tlingit Oratory* (1990), she and her husband, the late anthropologist Richard Dauenhauer, comment that 'ceremonial oratory is a gift and an invitation to respond appropriately, either verbally, if words are called for, or emotionally, through listening and becoming involved' (1990: xx). Precise protocols exist so that words are respectfully acknowledged and also shown to be received. Coastal Tlingit elder George Jim explained the importance of this protocol in an interview conducted by the Dauenhauers in 1989:

> We don't like to see words go to waste.
>
> We lay our *at.oow*[161]
>
> For the words to fall on.
>
> This is when the opposite clan
>
> Knows that its words
>
> Have been received.
>
> (George Jim, interview, 1989, in Dauenhauer & Dauenhauer
>
> 1990:263)

A daa tutan i yux´atangee is not only reserved for humans, but is highly relevant for all other more-than-human interactions as well, often with survival implications:

> They [brown bears] listen to us
>
> When we say to them,
>
> I'm over here for my food, too
>
> This is when they turn away from us
>
> We call them
>
> Big ears,
>
> Big ears
>
> They are listening to us right now

---

[161] *At.oow* is a key and complex concept in Tlingit culture and is closely translated as 'property'. Ice bergs and glaciers can be *at.oow*. For a more detailed explanation, see Dauenhauer and Dauenhauer (1990).

> From a while back
>
> They are listening
>
> To the way we have been speaking of them.
>
> (Coastal Tlingit elder Austin Hammond, Fairbanks, Alaska, 1988
>
> in Dauenhauer & Dauenhauer 1990:227)

A daa tutan i yux´atangee is critical at all times, even when not in the direct presence of another animal, glacier or river[162]. Other animals and particularly glaciers[163] are always listening, and by example encouraging humans to do the same. The whole geographical region is conceived and imagined in fluid, animate and sensory terms where listening is privileged above the many other senses such as sight and smell.

Another example is the older Tlingit tradition of speaking respectfully to salmon as they return from the sea to spawn in fresh, cold, oxygen-rich water upstream known as *ish* in Tlingit. The precise Tlingit expression is *Hoi Hoi* and respectfully acknowledges the salmon for their journey, and potential sacrifice as food (Langdon 2013). A last example taught by inland Tlingit and Tagish Elders is never to throw stones into the water as this is met with meteorological consequences such as strong winds whipping up lake waves (James per. Comm 2016). The lakes listen and react.

Inland Tlingit and Tagish oral narratives further emphasize the role and function of listening through two fundamental stories of the region. The first is the traditional narrative of Game Mother/Animal Mother and her role as creator of all animals over the Bennett Lake and Nares Lake systems which lie to either side of the village of Carcross.

By listening patiently to all the songs the animals sung as they were created and modified by Game Mother, the Tagish people came to know each animal's unique song, and understand the worldview through that animal's song expression:

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[162] See inland Tlingit elder Elizabeth Nyman talking about the Taku River with Tlingit linguist Jeff Leer (1993).
[163] For more information, see anthropologist Julie Cruikshank's ethnography of the region (1998).

A Tagish man of the *Dakleiweidi* moiety reputedly saw Animal Mother give birth to all animals in the interior. Following the event she hung a 'swing' up between four mountains near Carcross... After each kind of animal had danced on the swing and sung a song, Animal Mother then gave them their characteristic attributes of today, often exchanging the teeth, horns or other feature of one animal for something from another. She told them what to eat and how to behave in general. The Tagish man sat for two summers and one winter, during which time he did not even eat. He also learned the song sung by each animal so that the Tagish *Dakleiweidi* can sing them today. (McClellan 1975:90)

Colleen James remembers the Pike song taught to her and many others by CTFN Elder Angela Sidney, and specifically sung at *Taaseliyi aayi*, literally in Tlingit 'Pike Lake', but today officially known as Nares Lake after the British naval officer and Arctic explorer George Nares[164]. This points to an inland Tlingit and Tagish understanding of many songs concerning relationships with aquatic life as well as mammalian life. However, it should be clear that separating out the senses into what might be called a Eurocentric bias and analysis is not my intention. It is clear from Tlingit and Tagish oral traditions that senses blend and interconnect. The narrative of Game Mother blends kinaesthetic movement with an acoustic pulse that provides the memory framework within oral tradition. Many Tlingit and Tagish oral narratives are about movement and journeys, and this movement is reflected within both toponyms and the verb-based Tlingit language itself. The majority of Tlingit and Tagish toponyms are aquacentric and are concerned with movement, either literally, corporeally or metaphorically (see Figure 17). Tlingit and Tagish toponyms reveal complex, sophisticated cultural, ecological and even acoustic knowledges.

At the same time, there is the realization by the Tlingit and Tagish that the art of listening, so well-practised by the ancestors, is being lost. Coastal Tlingit Elder George Davis lamented this loss articulating it in poetic Tlingit, in Sitka, Alaska in 1980:

Yes, now

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[164] A classic and very common example in this region. Almost all indigenous place names have been replaced by obscure European and American male military officers and explorers, often called a phallocentric and systematic oppression of First Nations' philosophy of place and experiential connection with the land and waters (see Hayman, with James & Wedge forthcoming 2017a).

When the sound,

Yes,

Kept fading,

Of what we heard faintly

Of the way our grandparents used to say things,

Yes

(George Davis (3), Sitka, 1980, in Dauenhauer & Dauenhauer 1990, p. 227)

In spite of coastal Tlingit Elder George David's lament, there are many and various examples from this collaborative water research and in the literature, of the continued importance of listening carefully, and speaking and acting[165] respectfully. Coastal Tlingit Elder David Katzeek has offered crucial insights into listening to the Tree People and to the Salmon People[166] through his work with Tlingit scholar Lance Twitchell, as well as interviews recorded in and around his home Tlingit village of Klukwan, Alaska in 2014. David Katzeek opened his first interview with me with a question that has framed this chapter. David Katzeek asked: '*I yá.a̲xch´age?* [Can you hear it?].' Katzeek was referring to the competency of this research to actually listen to and understand the voice of water.

"I am up here working with Eleanor Hayman who is from Germany. We are doing a study on human relationships with the water, and why water is so important to human beings. Particularly how we [Tlingit peoples] understood the scientific kind of information that we have regarding the water, and all the stories that relate to water. It is so important. And I will just say this. . . . This is what the elders would say . . . Can you hear it? Can you hear it? *I yá.a̲xch´age? I yá.a̲xch´age?* It is important that this type of work be called out today, for it is so easy to walk through life not hearing the Earth calling out to the people regarding the way in which we are interacting with it. Can you hear it? *I yá.a̲xch´age*? What kind of

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[165] CTFN community consultant Colleen James reflected that even throwing stones into the water is disrespectful (James per.Comm 2014).

[166] The Tlingit language reflects the Tlingit worldview. There exist Tree People, Salmon People and Water People that have their own agency in the world (Katzeek, per. Comm 2014). For example, in the Tlingit language Aas Kwáani refers to the Tree People, literally 'People of the Trees'. As Tlingit scholar Lance Twitchell states in his new Tlingit dictionary, 'this term is used ceremonially, often when speaking to the spirits of the trees' (2017).

words are speaking to you and to me? Are we listening? Are we paying attention?" (Katzeek per. Comm 2014)

David Katzeek further illustrated the power of listening to water's voice by composing a song in Tlingit to the *Klehini* river as we sat by it, but also emphasizing the profound connection that the Tlingit language has with water:

"Can you see it? Can you see it? Can you see it? Can you see how the Chilkat River is flowing? Can you feel the river flowing? . . . It is flowing like joy, like happiness, like celebration! Chilkat River is flowing like the river that it is!

I can compose a song just by looking and feeling the spirit of that water. I sang to the water. I sang about the water. The joy, the celebration . . . The connection that our [Tlingit] language has with the resource. And it comes – the spirit of love for the resource. Not taking it for granted. . . . The water gave me the words. It is like the water saying, 'can you see the Earth celebrating?" (Katzeek per. Comm 2015)

9.5   Sensory geographies and the ethnography of sound

Theories of the intersections and interactions of space and place with humans and other animals have long interested geographers and philosophers (see Tuan 1972; Malpas 1999; Casey 2013), anthropologists (Cruikshank 1998; Ingold 2000; Thornton 2010) and ecopsychologists (Gibson 1977; Abram 1996). Most recently human ecologists and environmental philosophers have contributed to this broad field inspired by particular shifts in thinking, be it spatial, ecological or sensory. Theories of perception initially tended to focus on vision, driven by the Eurocentric 'visual' history of 'landscape'. Shifting this visual bias sociologist John Urry writes, 'Each sense contributes [in its own way] to people's orientation in space; to their awareness of spatial relationships; and to the appreciation of the qualities of particular micro- and macro-spatial environments' (Urry 2011: 388). Anthropologist Tim Ingold in *The Perception of the Environment* (2000), and phenomenologist and geographer Edward Casey (2013) have further successfully shown how space is converted to place through a process of engagement; a combined multi-sensory experience that is shot through with the cultural values assigned them.

Only in the last fifteen years has sound become established as a serious focus for many human–ecology projects inspired particularly by musician and ecologist R. Murray Schafer, and anthropologist Steven Feld's various urban and rural anthropological work (Feld 1990, 1993). Although linguistically the Tlingit language does not use waterway terms for music intervals, rhythms or melodies, many Tlingit linguistic concepts are rooted in water imagery, movement and orientation, particularly the orientation of the human body towards and/or away from salt and fresh water bodies; and upstream or downstream. This is the kernel of Tlingit understandings of the human condition in relation to water. From a (eco- or *aqua*) linguistic perspective, this is very powerful. For example, *yán* means the shore, but also a positioning linguistically such as shoreward and landward; and even in its third interpretation/meaning in the Tlingit language refers to 'work' being done or completed (Twitchell per. Comm 2016; and dictionary 2017). The shore as a liminal, in-between zone is also a reference for estranged or problematic Tlingit kinships such as in *neechkakáawu*[167] which is a person without a clan or a person nobody wants; literally in Tlingit and as an extremely insulting term, it means a 'person on the beach' (Twitchell 2017).

Further descriptions of other Tlingit relatives – the more-than-human world – often have a water directional/reference or directional description embedded within them. From an eco-linguistic (Stibbe 2014) analytical perspective a Tlingit worldview can be understood to present a relational, respectful discourse not just between the human and other animals but between many animals and water itself. Activities and types of movement are in relation to water or the hydrology and geography of water. For example the fish that in the English language is called mackerel is *dákdesax'aak*, literally translated in Tlingit as 'swims underwater out to sea' (Twitchell 2017). The polar bear, *héen-táak-xóots-Ýí*, is literally translated in Tlingit as 'in the bottom of the water bear' (Crippen 2013). Three excellent bird examples are *eek lukakées'i* which translates as snipe, literally 'flood on the point of the beach'; *hinyikl'eixi* is the dipper or water ouzel and is 'dancer in the water'; and *hinkag áaxi*, the red-throated loon or arctic loon,

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[167] "'*neéhkkàawu*'' This is a term used, to describe someone new and who knew nothing about living in the north, it is still used, however it's 'Cheechacko '. It was used by people around me to describe a person, or a person was just called Cheechacko when I grew up! It's Tlingit and is turned into a recognizable word to describe a 'greenhorn' in English. 'Person on the beach' nobody wants to be responsible for this person!" (James 2016, per. Comm).

is 'cries on the water' (Twitchell 2017). These few examples in themselves suggest a particular, indeed profound understanding and relationship with water based on 'a scientific under-standing of how organisms (including humans) depend on interactions with other organisms and a physical environment to survive and flourish, and also an ethical framework to decide why survival and flourishing matters and whose survival and flourishing matters' (Stibbe 2014).

Locational formative metaphors in Tlingit thought are shown in some aquacentric place names. For example, *Shtax' héen* (Sitkine River) literally means 'water biting itself' while *Daa kahéeni* or amniotic fluid, translates literally as 'water from beginning to end, all encompassing. It also means looking at a body of water – all encompassing' (Katzeek per. Comm 2014). Some idiomatic expressions couple water with intelligence. For example, 'water in the head' refers to a smart person (Twitchell 2017; James per. Comm 2015). Lastly, water animates almost all Tlingit and Tagish toponyms around the headwaters of the Yukon River. Unique to toponym research in the southern Yukon region is the recognition that many of these key toponyms mimic or reflect the soundscape (or soundmark) at that location; and almost all those soundscapes reflect the agency of water and ice, or the interaction of wind/fish/geese/earth with water, an example of Bull and Back's concept of 'deep listening'.

In 2003 Michael Bull and Les Back published the first *Auditory Culture Reader*. By privileging listening over seeing they argued that listening, or what they term *deep listening*, reveals four aspects of sound as a core way of knowing and being in the world:

- Sound makes us re-think the meaning, nature and significance of our social experience.
- Sound makes us re-think our relationship to community.
- Sound makes us re-think our relational experiences, how we relate to others, ourselves and the spaces and places we inhabit.
- Sound makes us re-think our relationship to power (Bull & Back 2003:4).

I would like to suggest that such deep listening is in fact a key pedagogic teaching element and virtue instilled in the Tlingit educational system, facilitated by traditional oral narratives and a particular relational relationship with water and water bodies.

9.6 Crow's critical role in shaping the Tlingit/Tagish hydrological imaginary and Tlingit/Tagish identity with water

CTFN have adopted the Tlingit social structure; that is that Wolf and Crow head the two moieties. This is rooted in the inland Tlingit and Tagish understanding that Wolf was the last to dance and sing on Game Mother's swing/trampoline above Carcross, and that Crow was the creator of the world. The Wolf and Crow moieties that structure the Tlingit and Tagish socially, showcase another critical Tlingit philosophical principle - that of *Wooch yax̱h datí* or balance.

"It should be noted that *Wooch yax̱h datí* (balance) is the most important aspect and the essence of Tlingit beliefs. This means that it is important to maintain the balance. It is as simple as that. If you lose your balance you will become dizzy lose your equilibrium and actually become dysfunctional" (Katzeek per. Comm 2016)

The Tlingit use of metaphors to accentuate water-related phenomena or abstract ideals is comprehensive, if not unique in the circumpolar north. These combined narrative traditions have not only provided a sustainable social structure for thousands of years but have been the genesis of the complex Tlingit and Tagish oral tradition of songs, greeting songs, potlatch songs, love songs and honouring the dead oratory (Swanton 1909; Dauenhauer & Dauenhauer 1990; Wedge per. Comm 2014; James per. Comm 2014). Many traditional stories, not just from the Tlingit and Tagish, originate in, on or around lakes, rivers and the sea. This is not limited to the Tlingit and Tagish, but seen throughout many other Indigenous peoples from the Inuit in north Alaska and the Yukon Territory, to Greenland and northern Siberia; many have similar aquacentric oral narratives, something common perhaps for the circumpolar north (for example Kiana Oman 1995).

Critical themes that flow through much of Indigenous oral literature are those of right relationship or right kinship or the right (good/appropriate) way of dealing with situations. Exemplified by the Tlingit *yáa át wooné* many of these virtues can be said to be spiritual at base because as Allen emphasizes, 'harmony, relationship, balance and dignity are [its] informing principles because they are principles that inform our spiritual lives' (1989: 11).

Tlingit scholar Nora Marks Dauenhauer identifies some specific themes running through Tlingit oral narratives and Tlingit ceremonial oratory. These include the conflicts between virtues and vices such as loyalty, alienation, self-concept, pride, arrogance, revenge, and of course *yáa át wooné*. One of the most unusual aspects of Tlingit and Tagish storytelling is the theme of transformation. At the beginning of a Tlingit and Tagish understanding of time, humans and other animals could all talk with and understand each other. However, in more recent storytime, one of the key ways in which humans understand the worldview and ways of other animals is by 'marriage' as David Katzeek has already alluded to earlier in this chapter. Many Tlingit oral narratives speak of humans marrying the spirits of spruce trees, sparks from fires, stars, fish scales, bears and salmon (Swanton 1909; McClellan 2007). Other ways of understanding more-than-human worlds include humans transforming or being transformed into otters and salmon to inform and educate their fellow humans about alternative worldviews (water animals). Dramatically, in the Raven cycle of stories, *Yeil* or Raven/Crow transforms himself first into a hemlock needle, then into a human baby to enable him to release the sun, moon and stars imprisoned in three boxes for the benefit of the whole Earth. In this narrative, water provides the rhetorical device for enabling these transformations through its symbols of flow, transformation and source of life (see appendix A).

In another foundational Tlingit narrative, *Yeil* steals water not simply to distribute it over the earth, but to form and shape all the lakes and rivers in the Yukon and Alaska. *Yeil*'s role in these two narratives shapes not only the physical tangible world, but establishes the agency, function, relationship and idea of water in the Tlingit and Tagish imagination - a 'hydrological imaginary'. Crow lays down crucial ethical and relational water management (a counter to Eurocentric water management) concepts through these narratives: sources of life should never be owned, tamed or imprisoned. Crow also establishes a baseline water ethic, founded in *yáa át wooné*. Other ancient stories in Tlingit and Tagish oral narratives in the Southern Lakes region reference a flood confirmed in the paleo-hydrological record (Kennedy & Bond 2003; Smith 1994) and outline a crucial aquacentric phase in the cultural memory of the Tlingit and Tagish. Survival relied on reading the late-glacial advances and retreats roughly 10,000 years ago and predicting potential floods. Simple but effective teachings for our contemporary water crisis point to shifts in conservative and damaging valuing of water that will require a number of qualities. These include intelligence, the willingness to transform and a profound *yáa át wooné* for all life.

These oral narratives, including other Tlingit and Tagish songs and ceremonial oratory are remarkable, not least for the messages embedded within them, but also the fact that they have been kept in a stable form over centuries, and even millennia. These are oral traditions that rely entirely on the human memory for storage and transmission. Recent research that connects oral traditions with cognitive psychology, neuroscience, linguistics, folklore and rhetoric shows how complex and sophisticated oral storytelling cultures endure through a practice of 'deep listening' (Bull & Back 2003).

As psychologist David C. Rubin argues (1995), 'oral traditions are systems of multiple constraints. These constraints include the organisation of meaning, imagery, and patterns of sound… these constraints lead to stability without fixing the text; they limit the choices of what can be sung in a given context, and they cue memory' (1995:10). Rubin also suggests that sensory cues within oral narratives are key to being retained in the memory (1995:78). I expand the notion of deep listening here to include a type of cultural memory practice that allows for oral narratives' biological survival. Indigenous scholars confirm much of Rubin's findings, for example, that there is a powerful spatial element coupled with movement and specific locations in many (Tlingit and Tagish) oral narratives[168] (Rubin 1995; Kiana Oman 1995; Dauenhauer & Daunenhauer 1990). Within Tlingit and Tagish oral narratives, it is water again that provides the medium and model for almost all spatial narrative exploration and adventures. Similarly, water provides the model for the mnemonic device of looping. Storytelling often involves a looping back on itself – which as Indigenous scholars remark, is a mnemonic device so listeners can pick up the thread of a long tale. Previous research has also shown how oral narratives themselves have social lives that are circulatory (Hayman with James & Wedge 2015).

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[168] For example, the oral narratives of Smart Beaver Man, Crow, The Two Boys who Drifted Down the [Yukon] River, Wealth Woman, Skookum Jim and the Frog and the long-ago Flood stories.

9.7 *Shuka*, and Rosalind Hursthouse's new virtue of 'respect for nature' or 'being rightly oriented towards nature'

Philosopher Martha Nussbaum argues that political justice can be developed through a virtue-based, ethical outlook (Nussbaum 1993). Nussbaum further contends that a virtue-based ethical outlook can help answer core sustainability questions such as what do we owe future generations? And how can we specify what we/they need? Environmental philosophers Rosalind Hursthouse (2007) and Brian Treanor (2014) might well argue that such an approach needs a fundamental revision to include the environment as a core value in this thinking.

I suggest that the Tlingit notion of *Shuka* addresses both issues, and has been a powerful Tlingit term for many thousands of years (Katzeek per. Comm 2016). According to the Dauenhauers in *Haa Tuwunaagu Yis: For Healing Our Spirit – Tlingit Oratory* (1990), *Shuka* as a concept in Tlingit culture is:

> "… pivotal because it is ambiguous and faces two directions. It means, most literally, 'ahead', or 'before'. It refers to that which is before us or has gone before us in time – predecessors, 'one before', 'one who has gone before', those born ahead of us who are now behind us, as well as those unborn who wait ahead of us. Thus the term refers to the past and also to the future – to that which lies ahead" (Dauenhauer & Dauenhauer 1990:19)

Figure 24: The Teslin Tlingit Council sign for their burial ground. Note how the word *Shuka* is used. Photo Eleanor Hayman 2016

This reflects a critical element within a Tlingit and Tagish aquacentric cosmology. For example, the Dauenhauers emphasize that the 'narratives in *Haa Shuka* recall the fundamental covenants between humans and [other] animals, the physical and the spiritual and the symbolic representation of these covenants through *at.oow*' (1990: xxiii). These covenants are practised through the Tlingit/Tagish principle of 'all my relations'. Indeed CTFN Elders make it very clear within our collaborative water research that all life on Earth is related through water, salty and fresh. They confirm that in their belief system they are 'part of the earth, part of the water' (after Virginia Smarch, Teslin inland Tlingit Elder, in McClellan 1975). Water therefore offers a literal temporal model where it (water) is the primordial agent that materially connects present generations with both the deep past and a possible deep future. Water is not only a model for the circulation of the Tlingit and Tagish virtue of *yaa at woone*[169], but also the model for the pivotal Tlingit concept of *Shuka*. It is most importantly a form of what Eurocentric practices and international law call inter-generational justice. From an eco-linguistic mandate, these are the storytellings, the sustainable discourses that can inform global water ethical debates.

9.8   Aquacentrism

Aquacentrism or aquacentric positioning/thinking is a term I use to counter and expand the notion of terracentrism. As previously described, I understand terracentrism[170] to be the tendency to privilege land-based/biased histories and narratives in Western thought. Although they do not use the term terracentric, environmental historian John Gillis (2011) and eco-critic Dan Brayton (2012) have both noted how environmental history and literary studies have been viewed through a terracentric ecological lens that has typically been 'green' and not 'blue'.

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[169] Anthropologist Steven Langdon writes that 'it is through the continuous circulation of respect in thought and deed exhibited in connections and fulfilment of obligations in various socially and ritually prescribed ways that the Tlingit pursue a morality to ensure the continuation of existence' (Sealaska Heritage Institute lec¬tures, October 2013).

[170] Terracentrism as a concept was introduced by Marcus Rediker in his chapter 'Hydrarchy and Terracentrism', in Aquatopia, a book that accompanies a major exhibition at Nottingham Contemporary and Tate St Ives in 2013. Other references can be found in Bozovic and Matthew (2016).

I employ the term 'aquacentrism' to underline an aquatic orientation, cultural evolution and fluid thinking within Tagish and Tlingit cosmologies. Environmental historian Rainer Buschmann has previously used the term 'aqua-centric' to draw attention to cultures displaying an 'oceanic aqua-centric consciousness' (2005: 2), but Buschmann's angle on this term is more ideological highlighting how 'Western historians are quick to point out that the Pacific is in fact a European artefact, and they generally allow for little indigenous involvement' (2005:2). I understand the Tlingit and Tagish culture to be specifically aquacentric based on a critical Tlingit and Tagish relationship with water, evidenced by both material culture and a place-based hydrological imagination referenced through oral narratives, local toponyms and the Tlingit language itself.

Intangibly, the aquacentric evolution is witnessed within the Tlingit verb-based language where water and blood use interchangeable verb forms (Twitchell per. Comm 2014). Core directionals are in relation to the direction of water flow (upstream, downstream) as well as to the relative position of the sea (inland from the sea, towards the sea). The agency of water has provided a model for defining Tlingit and Tagish social structure and identities through the power of names and naming. This is clearly seen in Tlingit clan names as well as clan/house origin stories. For example, *Ishkeetaan*, a CTFN clan, means 'People of Deep Pool in the River House'; *Goon Hít* in Alaska means 'Spring (of water) House'; the *Yaakwdáat Ḵwáan* means 'People of the Mouth of Body of Salt Water' that includes communities such as Yakutat, Icy Bay, etc. *Lḵóot Ḵwáan* or the People of the Chilkoot Area, literally 'People of the Lake that Puked', includes communities such as Haines, Chilkoot, Skagway, Dyea, Chilkoot Trail and Lynn. In fact, *Shgagwéi* or Skagway literally means in Tlingit 'bunched up water' or 'whitecaps on the water' (all references in Twitchell 2016).

One meaning of the word Tlingit is 'people of the tides' which reflects why the Tlingit and Tagish have followed the lunar (aquacentric) calendar. Water (and ice) have further provided geographical organizational reference points as well as dictating the seasonal movement for hunting, trapping and fishing for the Tlingit and Tagish on, in and among the Southern Yukon Lakes. The agency of water (including glacial flows and surges, hot springs and melting patterns)

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have impeded and/or facilitated the exchange of ideas, goods, canoe design and technology,[171] as well as marriages between the coastal Tlingit and inland Tlingit and Tagish peoples.

The construction of hydrological space, but also linguistic and imaginative space has long been dominated by Western constructs and their parcelling out of the world, whether it be cartographically, imaginatively or literally. Understanding a Tlingit and Tagish cosmology through an aquacentric, or 'thinking *with* water', perspective reimagines post-colonial space. Tlingit and Tagish toponyms of this region are highly sophisticated and rich aquacentric understandings of place that are remapping or reimagining the current, dominant and imported hydrological imaginary of the region through the deep charting practice and performance.

An aquacentric approach facilitates a reconsideration of what it means to be human within the context of contemporary international legal and philosophical scholarship. Water begs greater attention from the international legal community as a medium to think with for a possible inter- and intra-species future. A potential aquacentric path to international law and environmental ethics requires serious dialogue with far older aquacentric cultures and philosophies, many of which have a deeply intimate hydrological knowledge that has provided an ethical model for behaviour. This collaborative water research provides a framework for Tlingit and Tagish water legislation, but also acts within broader philosophical and legal systems.

9.9   Deep charting and deep listening

Thinking *with* water through and with Tlingit and Tagish oral traditions opens up ethical spaces where 'alternative ways of storying and mapping waters can give voice to inclusive and evolving vocabularies of water places, thereby transforming collective ways of thinking' (Chen 2013:9). As a post-colonial and critical Indigenous theoretical approach, this collaborative counter-charting project showcases Tlingit and Tagish toponyms. Many of these toponyms are unique

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[171] See Twitchell's (2016) new Tlingit dictionary for the relationship between different types of water and different Tlingit canoe designs.

within global toponym research as they either personify a specific location, or act as a soundmark for a seasonal and/or hydrological site.

As detailed in chapter 8 I have produced both 2D and 3D deep charts (see Appendix for QR codes and dropbox links). The 3D deep chart utilizes the free Google Earth platform which through its multi-media, multi-layered GIS technologies is able to privilege the profound and unique acoustic (listening) or audio/oral element foundational to Tlingit and Tagish cosmologies (see Hayman with James & Wedge 2017). Such shifts in how geographic knowledge and in particular cartographic and GIS applications and knowledge are (re)produced has only recently become possible through such digital online applications which include Neatline, Geolive as well as Google Earth platforms. Sensory studies scholar and critic David Howes suggests that:

> "The practice of cartography has metamorphosed from the production of two-dimensional scalar projections into cybercartography or 'multisensory mapping'. This development is partly due to advances in technology. But it is also inspired by a growing awareness of what the study of indigenous knowledge systems, which tend to be nonpictorial, such as Inuit wayfinding, can contribute to our understanding of human spatial orientation. At the Geomatics and Cartographic Research Centre at Carleton University, there are many innovative cybercartographic forms being developed, which take their inspiration from indigenous practice" (see Lauriault & Fraser Taylor 2013).

Deep charting responds to the recognition that 'paradigmatic knowledge' (that here specifically includes geo-spatial technologies such as remote sensing and Geographical Information Science (GIS)) – based in scientific thought, has been privileged to the detriment of 'narrative' knowing – located in the construction of experience through narrative (Cleaver 2009). Deep charting is a form of counter-mapping or reclaiming the map and the practice of mapping itself. Deep charting critically utilizes new geo-spatial technologies and associated media to weave together multiple narratives in an attempt to capture experiential, emotional, sensual, acoustic, spiritual and metaphorical space as well as more quantifiable signatures of a specific region. As such deep charting practices with the inland Tlingit and Tagish peoples can be seen as a move towards decolonizing both 'water' and 'mapping practices' themselves.

Specifically the deep chart *counters* all current maps and narratives of this region in specific ways. Tlingit and Tagish deep charting counters the:

• privileging of land over water (maps by definition do not reveal bathymetric (water) depth, water temperature, qualities, currents or navigational hazards);

• privileging of modern water (valued as commodity) over Tlingit/Tagish water (valued as relationship, reciprocity and respect);

• privileging of written (visual) 'text' over oral (acoustic) storytelling and place name 'texts' – an acoustic ecology;

• privileging of explorer/entrepreneur/military (male) place names (glory/narcissism) over Tagish and Tlingit place names (which detail precise hydrologies and ecologies of the region from water ecology to navigational hazards, to geomorphological change over time, as well as references and mnemonics for sites of oral storytelling narratives);

• privileging of egocentric over eco- (or aqua)-centric directionals. (Eurocentric philosophical and corporeal constructs privilege an egocentric relational concept – left and right directionals are in relation to the body. Tlingit and Tagish directionals are in relation to the flow of water – upstream/downstream – and in relation to the sea – inland from the sea/towards the sea);

• privileging of recently imposed colonial borders over First Nations traditional territorial borders;

• privileging of modern navigational practices over ancient indigenous salmon cultural harvesting practices. For example, the introduction of the Lewes Dam (see deep chart – Figure 13) to 'flush out'[172] ice in the Yukon River for the Tutshi paddle-steamer to pursue its tourist goals. This effectively stopping the salmon run to the Southern Yukon Lakes and fundamentally altered many First Nations' reliance on salmon as core protein resource. More than that, salmon provided a literal and metaphorical value system as keystone species in the Tlingit and Tagish culture. Salmon shaped and still shapes key attitudes and values. The Tlingit and Tagish are a 'salmon culture' (James per. Comm 2015; Wedge per. Comm 2014).

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[172] See Yukon Energy's report on the history of the dams in relation to the current project to keep the Southern Yukon Lakes raised in the winter months to provide extra hydro-electric power, accessed 18 July 2016, www.yukonenergy.ca/media/site_documents/Southern_Lakes/FACT%20SHEET%20Southern%20Lakes%20Enhanced%20Storage%20Concept.pdf

Deep charting intentionally creates space(s) for ontological difference, specifically, in this case, for different hydrological imaginaries that are either marginalized or have been silenced. This deep charting gives voice to aquacentric wisdom embedded within a unique hydrologically rooted Indigenous ontology.

9.10 Conclusion

The Western terracentric cultural construction of space and place, along with Western perspectives on virtue ethics continue to influence (water) policy-making and attitudes towards a societal transformation to a greener (I argue it should be a 'bluer') ethos at a global level. Tlingit and Tagish cultures have withstood the assimilation strategies associated with aggressive colonial thinking for over a hundred years. However both Tlingit and Tagish cultures continue to remain under threat from state-led systematic marginalization of their values and virtues. Many of the core emancipatory principles that the Tlingit and Tagish cultures promote based on their aquacentric cosmology may well be a blueprint for informing a global water ethic, for example, the principles of *yáa át wooné* and *Shuka*. These principles have shaped a Tlingit and Tagish hydrological imaginary and water ethic, and offer remarkable potential to inform water ethics dialogues and are increasingly democratically showcased via modern technological GIS spatial platforms. Only via a collaboration on these terms – a complete revaluing of how water is listened to (can you hear it?), thought *with* and understood as a relative/relation (marrying the water) – can the human species evolve into *homo-**hydro** sapiens*. Embracing an aquacentric ontology – a deep water consciousness – and actively working to decolonize not only water but knowledge itself, may very well be a deciding factor for planetary survival on this, our shared blue earth.

10.   Carcross/Tagish First Nation *Water Declaration* (working draft)

This chapter showcases the current working draft of a Tlingit and Tagish Water Declaration. This Water Declaration is a succinct and pithy distillation of core philosophical Tlingit and Tagish conceptual ideas and beliefs concerning water, and is a product of my collaborative water research. It sets out in clear terms how water constructs and produces knowledge, and defines identities in the Tlingit and Tagish cultures. Although still in a state of evolution, this Water Declaration is the first of its kind in the Yukon Territory.

CTFN Water Declaration

Héen – Water

"Tagish Khwan ha setiyi kha Lingit ha setiyi, ha shegun awe ch'agudaxh xhat yaxh yenaxh kawsia. Ech-awe ya tl'etgi in ha siti, kha yah hin / Héen." We who are Tagish and we who are Tlingit, our heritage has grown roots into the earth since the olden times. Therefore we are part of the earth and the water. (Elder's Statement, CTFN (first three lines); Final Agreement of CTFN with the Canadian Government, Ottawa 2005).

"*Haa daséigu a tóo yéi yatee*" Our life is in the water, our breath is in the water. (David Katzeek, Tlingit Clan Conference, October 2013, personal communication).

"Ldakát át ayakghwahéiyagu khudzitee" The spirit in all things. (Lance Twitchell website; 2017).

The Tlingit language has a precise and indeed sacred phrase to describe the spirit and agency of all things: *Yakg wahéiyagu*. *Yakg wahéiyagu* is described by Tlingit language scholar Lance Twitchell in his new Tlingit online dictionary (2017) as "the ability of everything to comprehend language and intentions." (Eleanor Hayman with Colleen James and Mark Wedge 2017)

"*Shuka* is a powerful word in our [Tlingit] language. It means the beginning and the end. A word that is used in the religious world is "eternal". This *Shuka* is with us whether we accept it or not. We live with it. It becomes part of our ways. If it has been bad by our actions because of our lack of knowledge it will be bad. IT IS A LAW! *Yei áwé!* This fact is revealed in all our

oral literature. You don't have to believe it even as other truths are not believed, but it does not change the truth, just like the law of gravity! When we respect ourselves we are respecting the earth. We are of the earth and water as first our oral literature was of the earth and water. Raven and Eagle were on the waters" (David Katzeek, email communication, April 2016).

"When we [Tlingit people] say *'yáa át wooné '*, that means to learn about it [water]. You are going to meditate on it; you are going to think on it; you are going to develop a relationship with it." (David Katzeek, 6 Sept 2014, personal communication).

A lot of people translate the Tlingit concept *Woochéen* as "we are all supposed to work together as human beings". That is part of it but not all of it. We are to work *with* it, we are to be in harmony with it. We are not to destroy it, we are to work *with* it. You are going to work with the water - you are not going to work against it. Big words "*Woochéen*". You are to work together. And what it means is that the mind, the body, the soul, and the spirit - all of that being is put together and focused on one particular subject. That is how you begin to develop a relationship. (David Katzeek, 6 Sept 2014, personal communication).

Tlingit teachings emphasize the concept of *a daa tutan i yux´atangee* which means "to weigh your words with care", and reflects the power of spoken words themselves. (Katzeek, April 2016 email comms.)

Key Questions:

- How does *héen* work, function, define identities, and construct knowledge in the Tlingit and Tagish cultures?

- How has *héen* influenced and co-evolved with the Tlingit and Tagish worldview?

- How has *héen* given meaning and shape to Tlingit and Tagish cultural practices, traditional oral narratives and place-names?

- How do we re-establish relationships, obligations and responsibilities towards *héen?*

Key Tlingit and Tagish concepts based on interviews, participatory action research and Tlingit literature

Foundations of a Tlingit and Tagish approach to héen:

Héen as relative (Colleen James; Harold Gatensby; David Katzeek; Mark Wedge)

Héen gives one meaning to the essence and description of the Tlingit people. One meaning of Tlingit (as a people) is "people of the tides".

Héen as inspiration for "Marrying the Water", mimicking traditional oral Tlingit and Tagish narratives. (Swanton, McClellan, Katzeek etc.)

Traditional linguistic concepts:

Héen as giving place-based meaning, location in the world through the language. For example "Inland from the sea. Towards the sea", and "upstream" and "downstream" are core aqua-centric directionals in the Tlingit language. (Tlingit Elders, Twitchell dictionary: 2013, 2016).

Héen and respect as one of the most powerful words in the Tlingit language *yáa át wooné* (CTFN community and David Katzeek)

Héen as indicator in the Tlingit language of many animals', movement and positioning in relation to water – particularly birds and water animals. (Lance Twitchell in his 2015 online Tlingit dictionary). Activities and types of movement are in relation to water or the hydrology and geography of water. For example the fish that in the English language is called mackerel is *dákdesax'aak,* literally translates in Tlingit as "swims underwater out to sea" (Twitchell 2015). The polar bear, *héen-táak-xóots-Ÿí,* is literally translated in Tlingit as "in the bottom of the water bear" (Crippen 2012). Three excellent bird examples are *eek̲ luka̲k̲ées'i* which translates as snipe, literally "flood on the point of the beach"; *hinyikl'eix̲i* is the dipper or water ouzel and is "dancer in the water"; and *hinkag áax̲i*, the red-throated loon or arctic loon is "cries on the water" (Twitchell 2015).

Traditional concepts:

Héen as primordial shapeshifter (Nora Dauenhauer: 1990)

Héen as listener (Ted Hall: 2013)

Héen as healer (Kitty Grant regarding Shamanism/medicine men: 2013, Louise James regarding hot springs: 2013, and Lance Twitchell as spring water as medicine in Tlingit online dictionary: 2015)

Héen as spirit/spiritual dimension (Mark Wedge: 2013, Ted Hall: 2013, Tlingit oral narratives: 9000 BP)

Héen as *"haa latseení"* (strength)   (Lance Twitchell: 2015, Louise James – bathing in lakes and rivers: 2013)

Héen as nourishment within a Tlingit/Tagish *Salmon Culture* (Colleen James: 2013)

Héen as a book that can/must be read – ecological or hydrological literacy (Elizabeth Nyman: 1993)

Héen as *"hà kus teyea"* (the Tlingit way) and basis of Tlingit and Tagish cultural practices (CTFN Elders via Colleen James and Teslin Tlingit Council biennial celebrations: 2013)

Héen and Fish mother, *X̱at Tlaa,* provider of food (south end of Little Atlin Lake, place that never freezes over in winter (hot spring there? – description in Angela Sidney's Place Name manuscript, 1980)

Héen as agent with Fog mother/Fog woman/Creek maiden stories that Crow *Yeil* marries (Colleen James: 2013, Keith Wolf Smarch: 2012 etc.)

Traditional cultural practices

Héen and Tlingit follow a lunar, not solar calendar (i.e. dependant on the tides/water revealing-concealing) (Mark Wedge: 2013; coastal Tlingit/inland Tlingit Catherine McClellan: 1975)

Héen as identity with Clan names *"Haa saax̱ú"* (CTFN). Also with coastal Tlingit, tight relationship between Clan names – locations and the agency of water.

Héen as basis for over ¾ place-names in the region. Empirical scientific knowledge – hydrological, ecological, geological embedded within them (CTFN-Angela Sidney: 1980)

Héen as agent in many Wolf and Crow Clan origin stories and histories of their arrival in the Yukon region (Angela Sidney, Lucy Wren, Elders in everything recorded by Catherine McClellan: 1950 onwards.)

Héen as trade for wrongdoing/corrective wrongdoing. Story of *Atlin*, and man who wronged his wife. Prevented war, healed rifts. (Colleen James: 2013)

Héen and drowning. Tradition is that the lake is respectfully left alone – no boating/canoeing, swimming, or fishing setting net etc. at all until body is found and Elders have decided on appropriate protocol. (Teslin Tlingit Council, TTC celebration 2013; Kitty Grant: 2013)

Traditional beliefs:

Héen in glacier form is recognised as sentient, alive - with attitude (in Cruikshank: 1998 etc.).

Héen as soundscape and/or soundmark as in the *Taagish* name "the <u>sound</u> of the break-up of ice" (CTFN_ Angela Sidney: 1980)

Traditional virtues/values

Héen as teacher – humility, lowest path (Mark Wedge: 2012)

Héen as teacher of virtues – courage, discernment, humility (Annie Austin, Louise James: 2013).

Héen as teacher of duty. Chore of collecting water (and wood) by children as first duty when arrive in camp. (Colleen James, Leslie Johns: 2014.)

Héen as cultural generator of oral storytelling (water carrying rewarded by oral storytelling) (Winnie Atlin: 2013)

Héen as amphibious agent – the frog (shamanic power) in Tlingit and Tagish stories (Ida Calemagne: 2013; David Katzeek 2014)

Héen as cultural practice (as ice) connecting places for trapping (Keith Wolf Smarch, Leslie Johns, Mark Wedge, Seki Wedge, Heather Jones: 2013, 2014)

Modern ways of relationships with water

Héen as nexus for activism (Bev Sembsmoen: 2013). For example, the "Idle No More" movement birthed in Dec 2012 by three women - Amnesty International says "changes to the

Canadian Environmental Assessment Act, the Fisheries Act, the Navigable Waters Protection Act, and the proposed Safe Drinking Water for First Nations Act have profound implications for the rights of Indigenous peoples as set out in treaties, affirmed in the constitution, and protected by international human rights standards." By Amnesty International

Héen as connection for female strength and power (Colleen James, Bev Sembsmoen, Shirley Lord, Idle No More: 2013)

Héen in traditional/modern ceremonies:

Héen as essential in ceremony in hunting (cup of water to respect killing of moose/caribou. To say thank you that the moose offered itself. Drink half of the water yourself, put the other half in moose's mouth, so the moose can go on its spiritual journal. Equally on returning fish bones to the water. Kitty Grant: 2013)

Héen as core part in "warming of the hands" (Tlingit Clan Conferences 2013 and 2015)

Héen ceremony with all First Nations of the Yukon River Watershed in the Yukon River Inter-Tribal Watershed Council biennial meetings. Honouring the water – ritual of mixing waters from the entire watershed (Harold Gatensby; David Waterhouse: 2013).

Héen as agent in origin flood stories and Raven stories (How the Tlingit and Tagish peoples came into being amongst and within a hydrological aqua-centric world) (Colleen James, Keith Wolf Smarch: 2013)

Héen as basis for empirical scientific knowledge (*ishkaheeni* is oxygenated, cold water) (David Katzeek: 2013)

Héen as Tlingit Shamanic tool – water as metaphor (Kitty Grant: 2013)

Héen as aquatic "directional". Aqua-centric relationship with the direction of the flow of water in Tlingit language and philosophy (Twitchell: 2013, David Katzeek: 2014, Angela Sidney: 1980)

Héen as sense of place and therefore identity (revealed through cognitive mapping with CTFN and Norman James: 2013)

Héen as framework for aqua-centric cultural rhythms (glacial fed southern Yukon lakes rise and fall, also freeze up and break-up of ice). (Mark Wedge: 2013, Colleen James: 2013, Angela Sidney: 1980)

Héen as currency in relation to 'modern water' and the erosion of Tlingit and Tagish identity (Norman James: 2013)

Héen as inspiration for patterns/designs/symbols in Tlingit material culture – for example ceremonial masks, ceremonial woven hats, ceremonial totem poles (Keith Wolf Smarch: 2013, David Katzeek: 2014)

Héen as shaper of water-based technology including canoe design and fishing methods (esp. coastal Tlingit canoe design and as example Deasdeash Lake place-name in Yukon Toponyms)

Héen as metaphor within Tlingit and Tagish storytelling "Living Water" and living stories. Circulation metaphors especially (Tlingit and Tagish oral narratives; for example "The Two Boys who drifted down the [Yukon] River)

Héen as shaper of celestial constellations. For example, the constellation of what the West has called "Orion's Belt" is described within a Tlingit worldview as "Canoes tied in a line" (Twitchell, 2017).

Héen as metaphor for chaos and calm (emotional states) within storytelling. For example "whirlpool" translates literally as "navel" and is a metaphor for chaos (Twitchell, 2017). Similarly a "slack tide" is a metaphor for calm.

Héen and agency in traditional oral narratives. For example The Flood Story; Animal Mother; Wealth Woman; Two boys who drifted down the Yukon River; Crow steals Water; Crow and Fish Mother.

Héen is not only a model for the circulation of the Tlingit and Tagish virtue of *yaa at woone*, but also the model for the pivotal Tlingit concept of *Shuka*. It is most importantly a form of what Eurocentric practices and international law call inter-generational justice. From an eco-linguistic mandate, these are the storytellings, the sustainable discourses that can inform global water ethical debates.

This CTFN Water Declaration *"Héen Hà Kus Teyea"* is based on interviews conducted with CTFN Elders and intellectuals in August/September 2013 and 2014; conversations, discussions, meetings and presentations with CTFN community and government 2012-2016; conversations and interviews with coastal Tlingit Elders and educators 2013-2016; Yukon River Inter-Tribal Watershed Council staff and biennial conferences 2010-2014; Tlingit Clan Conferences 2013, 2015; *Ha Kus Teyea* Celebration at Teslin 2013; archival/email research specifically Tagish and inland Tlingit Elders with anthropologists Catherine McClellan and Julie Cruikshank research material 1949 - 2006.

11.   Conclusion

Recent water governance strategies in the Yukon Territory (2014) and British Columbia, Canada (2016, 2017) increasingly recognise that colonial water management models have by and large failed. Recommendations for increased co-management of watersheds from all stakeholders, particularly First Nations is considered fundamental to any sustainable water future in Canada. More importantly is the recognition that different water knowledges and water ontologies, particularly First Nations empirical scientific knowledge, need to be incorporated. A 2016 report is clear that "Indigenous water/watershed plans are increasingly important to enable communities to develop protocols and policies that guide their communities' actions and decisions to protect their traditional values, laws, title and rights. Given the unique relationship that First Nations have with the environment, alternative approaches to governance, such as rooting co-governance arrangements in traditional values, laws and customs, are critical for collaborative and respectful water/watershed governance" (CIER, FNFC 2016[173]). However reports like these do not go into any substantial detail of how this might be achieved or what it might look like.

This criticism of not involving First Nations in environmental decision making processes is long in the tooth and seemingly parallels the enduring ontological problem of varying, contested, and competing conceptions of 'nature' (water), or indeed the separation of nature from culture.

(Re) centering or foregrounding Indigenous ontologies and relationships with water as this thesis shows, challenges ingrained assumptions and enduring grammar to ways of understanding the human relationship with the more-than-human.   Challenges to the categorisations of 'Indigenous', 'science' and 'water', forces the global community to reconsider and reimagine possible planetary futures.

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[173] http://www.fnfisheriescouncil.ca/wp-content/uploads/2015/09/BC-Systematic-Review-Communique_REFORMATTED-Nov1.pdf accessed 4 March 2017

This collaborative research seeks to distil Tlingit and Tagish water knowledges and customary Indigenous water law to provide a framework for a CTFN Water Act. The CTFN Water Declaration (Chapter 10) and the deep chart (chapter 8 and appendix B) are two living, breathing models to action such a Water Act, both applied, and performing products of this thesis.

As the concepts of indigeneity and ontology continue to evolve and be interrogated, the spaces needed for serious decolonising conversations become more likely. Whilst many of these are normative concerns, there is a very considered practice and applied performance (as illustrated by the vignettes in this thesis) of attempts by CTFN community and government to recalibrate colonial models of inter-governmental meetings and workshops, particularly concerning water and land. Using the medium of storytelling highlights and disrupts the power of the colonial imaginary in everything from white, male, English toponyms to settler legal frameworks. It is one active decolonising strategy to challenge the more than not accepted notions of modern water, with all the trappings associated with governance, management, control, property and conservation.

From the Euro-American academic record, particularly cultural geography, there has been very little serious attention paid to ontologies otherwise such as Indigenous political ecology, critical Indigenous theory, and postcolonial studies. Whilst from a Euro-American academic perspective there are considered and critiqued 'spatial turns', and most recently 'ontological turns', collaborative cross-cultural (water) research still remains largely the domain of anthropology.

A Tlingit and Tagish philosophy of place is as much a product of Crow's determination that water should not be the property or under the control of a single individual (institution), as it is about basic (water) ethical concepts rooted within a Tlingit and Tagish pedagogy. At a profound level, the multiplicities of being 'part of the land, part of the water' affirms what many scholars are recognising from the realms of physics, astronomy, eco-criticism and environmental philosophy.

Moving away from universalising claims of water management protocol to occupy Tlingit and Tagish philosophical space are steps to realise multiple ontologies of water. In this way a politics of ontology might be introduced, and also be critically challenged from Indigenous and anthropological positions.

In the same way that satellite imagery with remote sensing analysis can be usefully teamed up with participatory (counter) mapping, so the momentum to further more hybrid postcolonial – Western science alliances, as shown with this thesis, can be productive for water specifically and Indigenous jurisprudence more generally. However, through the course of this water research, it was apparent that maps, as do the stories we (humans) tell ourselves, silence as much as they reveal. It is crucial that such water research remains reflexive, and continutes to interrogate the ways in which it (re) and (de)contructs accounts of the way worlds are (or could be).

The Tlingit, the Tagish and the making of place, therefore builds into making a case for more-than-human geographies by unsettling the dominant hydrological imaginary and arguing for a more critical hermeneutic approach to considerations of relationships with water in an increasingly water-starved planet.

12.   Bibliography

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Appendix A: Tlingit and Tagish traditional oral narratives

All Tlingit and Tagish traditional oral narratives in this section were either related to me, or I was referred to them by Tlingit and Tagish elders. They have been referenced throughout this water research as they either elucidate on central aquatic themes and approaches, or offer clarity on storied locations and aquatic geographies throughout the region. Many of the ones below, and a select more pertinent to aquacentric locations where these stories occurred are incorporated into the deep chart on the Google Earth platform.

Community consultant Colleen James was quite clear that this story about Crow/ Yéil, should be one of the key stories about water because it tells the story of how the Yukon River headwater lake system in the region were formed and how the fish appeared in the lakes. Many other CTFN community members also told me various versions of this 'Crow steals water' story as did David Katzeek. This version was told by Angela Sidney in 1950 and recorded by anthropologist Catherine McClellan.

'How Crow Got Water' (Version One)
September 27, 1950, Carcross

Crow went outside.

It was the wintertime, and he got some frozen excrement and brought it back inside.

He dropped some under the man [who had the water].

Soon it began to thaw out and smell.

Crow says, "ax súnee (my uncle, father's clan), what's that smell? Look what

you've done. You've done something to yourself!"

The old man says, "How come I did that? Maybe I stepped on it."

So he went outside to clean himself up.

And Crow drank as much water as he could. He almost burst.

When the old man started coming in, Crow flew up through the smokehole.

And Crow always makes a noise when he flies up.

The old man was mad.

He said to his powers of the roof hole, "Grab him!"

So Crow got stuck. He tries to fly, and he can't fly.

The old man gets dry pitch and smokes him. [Angela explained that this dry pitch makes good kindling.]

Finally Crow is almost choked, but he gets away.

Then he drops down a little ways. He is so full, he can't move.

He takes a good rest, and then he starts to fly, and he drips fishes and lakes all over the place.

In: *My Old People's Stories: A Legacy for Yukon First Nations*. 2007. 3 vols. Julie Cruikshank, ed. and additions. Catherine Kernan, illustrations. Occasional Papers in Yukon History 5 (1-3): 257. Whitehorse: Government of Yukon, Cultural Services Branch.

The Man Behind the Dam - *Héidu dei ḵáa*

'The Man Behind the Dam' (in Tlingit: *Héidu dei ḵáa*) is a Deisheetaan (Beaver) Clan story rooted in the time when the coastal Tlingit were first exploring the Yukon interior. As Mark Wedge, Tlingit community consultant, stresses, the story is considered to hold within it great and sacred teachings. Water in this story is a connection to the spirit world and acts as both teacher and keeper of knowledge[174]. (Another version of this story was told by Angela Sidney to Catherine McClellan in Carcross, in 1951. Angela Sidney was Mark Wedge's aunt).

'*Héidu dei ḵáa* - The Man Behind the Dam'

August, 24, 2013, Tagish by Mark Wedge

'It's a story about the sacred. It's about many things but the story that I tell you started when the Tlingit were coming from the coast. They were coming inland and trading with the Tagish and Athabascan people on the interior in the Yukon here. People would come inland and would

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[174] A version of this story is recorded by Catherine McClellan in My Old People Say: An Ethnographic Survey of the Southern Yukon Territory, Part II, pp 471 – 473, 1975

start trapping. They used to use beaver nets when they were trapping before the metal traps came. The beaver nets they would place under the ice or in the water. They would make bells. They would use moose hoofs and the dew claws they call it to make little bells so that when something was caught in the trap they would know. Because oftentimes if they didn't take it out right away the animals would get away or tear up the beaver net.

Anyway this man called *Naatz* was coming inland and trapping beaver. There was ice on the lakes and snow and he wasn't having any luck. His luck wasn't with him. Things weren't going his way. So he would go to this lake and would try to set his beaver net and try to catch beaver. But it just wasn't happening – he wasn't having luck. As he was walking along this lake he noticed this wolverine was following him. So he turned around and talked to that wolverine. He said are you following me, do you have something to tell me. And the wolverine walked around this beaver house on the lake four times. It stood on top of the beaver house and raised its hands four times. And he spoke to that man and said 'I'm going to help you. I want you to set your net where the water goes over the beaver dam. That's not where they would normally set nets. He said 'You're going to catch something but what you catch is not for you to keep. You have to learn what it has to teach you then set it back. So he did that. He set his net where that water went over the beaver dam and in no time those bells started ringing. So he started pulling it up. There are some variations in the story. Some say it was a human head he saw come up first; it had red hair and gold eyes and gold eyebrows. Others say it was a beaver's head that came up and had gold eyes and gold eyebrows. When he pulled it up a little further he saw that it had six legs. And then he looked at it and pulled it up further and he seen that it had two tails. And he looked at it and he looked at it and then he set it back. ...As soon as he did that he learned what it had to teach him. He seen this *Héidu dei ḵáa* – the man behind the dam they call it. He would go and set his beaver net and in no time the bells would start ringing – just like his luck changed. Beaver would come and you could almost throw that net on top of the ice and beaver would climb into it. So in no time he caught a whole bunch of beaver. These beavers came through. They offered themselves to him. His luck changed.

And he had a caribou shank toboggan. They used to make these toboggans out of the caribou shanks. They would sew them together. The reason they would do that is that caribou shank only pulls one way – it won't slide backwards. So when he filled up that toboggan with beaver hides he was turning around and going to head back towards the coast. Usually when people

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are travelling like that they are harvesting the land as they travel. You know for food and whatnot. As he's walking along this trail he sees porcupine tracks. So he thought well, 'i'm going to harvest that porcupine'. Usually in the wintertime won't travel very far. The snow's deep and whatnot. So he left his toboggan and started following the porcupine tracks. Following it, following it. And he was just about ready to give up because it went quite a ways. You know he was just going to turn around – he sees what looks like a track went in this cave. So he figured that's where that porcupine was. He followed the tracks and went in the cave. When he went in that cave he heard voices. 'Ah look at that - somebody came in here. Close that door. Lock it up.' And a great big rock rolled in front of that door. Well he tried to move that rock. He couldn't move that rock. He pushed on it and tried to move it. Nothing. So he looked around and tried to find another way out. There was nothing he could find another way out. Pretty soon he was pretty tired and ready to give up. He didn't know what to do. He lay down and was just about going to sleep when a little mouse came to him. Came to him and whispered in his ear. 'You use your head. You've got everything it takes to get you out of here'. So he was inspired. He was crawling around and he felt these porcupine droppings all over the floor. So he put them into a pile and used his flint and he made a spark and he started the porcupine droppings. And fire started smouldering and started making a smoke and he heard those voices again. Those voices said ' Ah look at that – he's making a big stink that man. Open that door and kick him out'. Right away that door opened up eh and so he went out. So he went out and started going back towards his toboggan. When he was getting there he seen this wolverine and it was fresh snow. He don't know how long he was in this cave. There was fresh snow all over and he was getting close to his toboggan and he seen this wolverine lift its head up, get up and shake the snow off and walked away. So he went and got his toboggan and started back'.

The Two Boys Who Drifted Down River

October 19, 1950, Carcross by Jimmy Scott James

Two kids play on the ice all the time, everyday, one little dog with them.

Finally they fall asleep close to open water. When they are asleep, the ice breaks off with them. No help for that—they start to float down then.

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They float—don't know how many days. They don't know how many days. It never comes close to the shore—the ice. After, the ice [begins to] melt away. And they have that little dog. And they kill that little dog. And they put that little dog's blood around the ice so it can't melt away quick.

Finally they go down [river], they go down [river], and finally they come to the shore.

They come to the shore, and they start to go back—back to where they [first] floated down the creek.

They look around for grub—for porcupines, for anything, these two kids.

Finally they come to a man-eater, a big giant cannibal. And they got mixed up with him.

He chased one brother up the tree. And [the other] brother was chased around back on the hill. They hollered and called. Afterwards, [the cannibal tried to chop] down the tree with the kid [in it].

Finally [that boy's] brother is coming. And he tells that cannibal, "Give me your ax, I'll chop it down for you". The ax is dull. And that boy says, "Come close where I'm chopping!" He does it [comes closer]. And the ax slips and cuts his [the cannibal's] face, and the blood runs out. The boy keeps doing it. And he keeps doing it, and he keeps doing it. Finally he hits [the cannibal] on top of his head and kills him.

His brother comes down, and his brother asks him, "What's he got in his head anyway? He acts so crazy!" His brother says he don't know. So finally his younger brother says, "Let's chop it open—his brain—[and see] what's in it." There were no mosquitoes in the world before that, but after he start chopping [the head] open, all the mosquitoes fly out of his head. That's how mosquitoes come in the world.

After that they went along and saw somebody coming. He has got two faces—double.

One is in front, and one is on the back side.

 And he sees people walk ahead of him and also behind.

They follow the man. He has a big dog. They come to that Two Faces and ask,

"Where are the people?" The man says he doesn't like to hear it [to hear the question]. He is carrying rocks in his hands. They don't trust him. After that they come across to a camp, and they miss that old fellow. He called his dog: they killed that man and the dog runs home.

And then they came to people. By gosh, they find good people who treat them good.

The people tell the boys, "Don't camp underneath a little hill. Don't camp in the biggest timber, and don't camp in the meadow!" After that they leave from there. The people gavethem clothes and moccasins and grub.

After that, they went again. They went up the river all the way.

They come across another people again. Those people have no mouths. In the summertime when they kill anything—meat—they leave it for the fly blows. When after the blows are big, they dry them and live on that.

After that, those kids [act] like small children. They feel around the mouths of the people. And it looks like their lips are stuck together with skin.

The boys knock down [one of] the kids. One boy holds him down, and the other boy tries to open [the kid's] mouth. He makes it, too. He just tears it open. And that little boy talks [then].

And after that kid can talk, he hollers and runs right down to his home. And the two boys follow him down again. Everybody is surprised about it.

After that the people all sit down in a line, and they ask the boys, "What did you do to that boy to make him talk?" And then everybody says, "Go ahead!" So they tear the mouths [open]. Those two boys are busy!

And after, the people are glad of it, and they eat everything—meat—and no more fly blows [maggots].

The boys stay a long time with them. And the same way—[those people] give them lots of things to take home. They appreciate the boys' [help].

[One of] the same people—one woman—has got a camp way back. And she cries.

She says she knows they are going to cut some scars open, and it's going to hurt. Her husband sharpens a big knife, and he's going to skin her. The girl is in a family way [pregnant]. They are going to cut every time, every time [that a woman gives birth].

They ask the other women, those two kids, why the other woman was crying. They tell all about it then. The two little boys say, "you leave it to us. We will show you pretty good. That's the way they did up country. "

After that, those two kids dig a hole in the lady's camp. After that, when she got sick, the two boys hold her like their [own] people [did for childbirth]. Finally the baby was born.

All the girls are all dancing. "You showed us! You taught us how!"

And after that, they were going to go the next day, and they give them more clothes again and more grub. And then they leave again.

And the first night [after] they leave, the little brother asks the older one, "Why is it that they told us 'Don't camp under big trees?'"

The [older] brother doesn't know.

So they made camp in the largest green timber on purpose. After that they hear a big tree squirrel. And it swallows the little brother.

And the oldest brother runs back to those people again to get them. And they come back, and they help him kill the big tree squirrel.

And they cut open its stomach. And they take that kid out. Already he's nothing but bone.

There is another íxt' [Tl., shaman] with them. And he gives the brother some gloves.

"Hit around your brother this way!" And the boy hits him and his brother comes back to life again.

Mouldy Head or *Aak'wtaatseen* (Alive in the Eddy)[175].

August 28, 1950, Carcross by Angela Sidney.

It was winter time. And this little boy wanted some food.

So his parents gave him a piece of salmon. But he said it was mouldy.

The t'úh kwani(Tl., King Salmon/people) didn't like this.

The next summer the little boy was snaring sea gulls.

His family told him, "Don't bother it! Don't bother it!"

Just the same he tried to catch it. He set snares.

Finally he caught one. It started flying out to the water, and he started chasing it.

He ran, and he fell into the deep water.

The people couldn't find the boy.

They couldn't find his body. They thought he was lost. They look down the river.

The Salmon People got him.

He had a little brass necklace, something fancy, I guess, for fun.

It was around his neck.

About a year after, they [the King Salmon People] came back.

And they [his parents] caught him and brought him to life again.

Just as quick as he went under water, he was in a different world.

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[175] For detailed notes by coastal Tlingit Elders, please see this Alaskan educational supplement (2003). http://www.ankn.uaf.edu/Curriculum/Tlingit/Salmon/MoldyEndNotes4-02.html accessed 17 June 2016.

But he knew he was with different people.

It was water all right, but he could walk around as if he was on land.

They were just like humans.

He lived there for a long time—I don't know how long.

Finally he got hungry. He saw fish eggs all around, and he started to eat them.

You can eat whitefish eggs raw, but not salmon eggs. You always cook them.

The kids saw this boy and said, "Look at Shaanatláax (Tl., head/mouldy)!"

This was the same way he had called the t'úh kwani [King Salmon/ people].

"Oh, look, he eats somebody's poop!" Oh gosh, he felt embarrassed.

He didn't eat any more.

The old folks said, "Well, maybe he's hungry. Take him to the point and play with him there. You are going to see a fish there. Club him and cook him.

But make sure no bones or anything fall into the hole where they put the cooking stick.

Put the bones all back in the water!"

"O.K.," they said, "Come on, let's go to the point!"

So they went there. And they began to shove each other around.

And then they said, "Oh look at the fish!"

There was a big fish swimming. Right then they clubbed it and cooked it.

The boy ate it all.

The kids say to him, "Make sure that none of the pieces fall into that hole!"

But a fish eye did fall into the hole.

They noticed after a while that one of the kids was missing.

But when they got through playing, they went home without him.

Not long after, he came back. There was something wrong with his eye.

So they ran back and looked and found the fish eye.

They threw it in the water, and the boy got his eye back.

The boy only ate once while he was there.

Pretty soon it was time to move up river.

"Well, let's go," they said. "Come on, you are going back to your father's country."

They went up the river.

It was like they were in a boat, and it seemed natural to him.

They went, and they went, and they went.

And pretty soon they got to the place where he fell into the water.

His mother used to cut fish.

Pretty soon the fish came swimming by.

She said, "See this fish that always stays close!"

But when they tried to club it, it always swam out.

Finally she told her husband, "Look, husband, you know I see something very queer.

This fish always comes, and then it swims away when we try to club him.

Do you think he's our son?"

"Well, let's try to catch it!"

His father got the gaff hook.

The t'úh kwani (King Salmon people) said to the boy, "Look away, you won't know when they catch you. That's the only way you can get back to your parents."

So they caught him, and took him back to camp.

His mother started cutting him just like a fish.

When she tried to cut the head off, she found the copper necklace.

That's how they found out he was their son.

Then they put him in a white skin with lots of feathers around him and put him way above the doorway where the smoke goes.

And they never ate for eight days.

And an "Íxt' (Tl., shaman) made medicine all the time.

He said, "Yeah, that's your son's spirit. If you never eat for eight days, we might bring him back to life.

If anyone cheats or sleeps with his wife or eats, he'll never come back."

It would have been lAkas (Tl., bad luck).

On the eighth day, the feathers all blew up. And they took him down.

And here was his full body.

And it was just like he woke up and told the story.

He came back to life and told the story of the xát kwani (Tl., salmon/people).

The Flood Story (Version One)

July 9, 1948 by Patsy Henderson

Way back, the world got flooded.
Some people made a raft and were saved that way.
We don't know why it flooded. It just got flooded.
Those people that made the raft were safe on that.
I don't know about the others.
I guess some died.
A hunter found one raft about two
hundred years ago, I guess.
He found it near the top of the highest mountain near Atlin.

The wood was rotten when he tested it.

It is all gone now. It rotted away.

It was just sticking out from under the ground when he saw it.

Later, another raft was found on another high mountain.

Lucky Woman or *Tl'anaxéedák*

January 10, 1951, Little Atlin by Patsy Henderson

This is a good luck story. It's true.

Well, if you are walking, and tomorrow a man or a woman is alone and hears that baby crying a little ways away, "Wa A'n A'nA'n" well, we listen and we wish for good luck.

We want to hear some more.

We start then and go a little way and we hear it again, "Wa A'n A'n A'n"

And make up your mind there's nobody else around, and it's just yourself.

And take off all your clothing and earrings.

You can't see a baby if you are wearing them, or a hairpin [any metal?].

And leave everything in one place. [All present smiled at this point.]

And go there where the baby cries.

Just go a little ways, and you will see that a woman packs the baby.

And the baby is looking back.

Well, sneak up behind.

That woman walks slowly and packs the baby.

The man who grabs the baby from her back throws urine—gEndE naK'u

.And he gets the baby and runs up a rock or tree.

And she turns back to you, "Ah!

  Ah! Ah! Ah!"—like that.

She's got gold fingernails, that woman.

When she touches you with the four fingers it's more luck.

Two fingers, it's not [as] much.

She grabs deep.

Well, the man takes away her baby on top of the windfall or rock.

And she says, "Give me my baby!"

"No! Give me luck! I want five banks."

You tell your wish to her about the money house.

"I wish five banks," you tell that woman.

"If you don't give me luck I don't give you your baby. I'll keep it."

"No! Give me my baby!"

"Well, there's nobody here except me."

Well, she gives you luck.

She sits down and urinates.

"No, I want luck. Well, you defecate for me."

"No, I'm stingy!"

Well, pretty soon she defecates for me.

It's not real. It's round gold.

Sometimes she defecates two.

"No", I say. "I want some more!"

Pretty soon she defecates five.

"That's enough."

And wish for luck all the time.

Wish all about five money houses, all different banks.

Keep on wishing.

When she defecates five, that's all you want, that's enough.

Sometimes four is enough, but two is not enough.

Well, when she defecates that, you give her baby back.

And when I turn around it isn't there any more.

It doesn't walk.

It's just luck to see her.

You pick up the feces, five small pieces of gold, and put them in your money bag.

And you go and bathe in fresh water.

And you throw urine before you go to your clothes.

You hold the gold in your hand, and you bathe all over and put your clothes on. And everything is okay.

Don't tell anybody. Stay by yourself.

Come home to camp and lie down. And don't drink water that day or eat.

When you are thirsty next day take just a little cup of water—only if you are thirsty.

It's better luck that way.

It's bad luck to eat and drink water. It's good luck not to.

If you don't eat for two days or tell anybody, then if you keep the feces—they are real gold! Everything is okay.

And you don't tell as long as you live, and the money comes.

Just luck and the money comes.

If she scratches you with three or four fingers, when it heals, you keep those scabs.

If your son and daughter are poor, then you give them a little bit of these scabs.

Tell them for two or three days not to eat, but to bathe with it.

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Don't tell anyone, and it will give you luck.

Just a little, not too much, the money is going to keep coming.

You call that woman *Tl'anaxéedák* (Lucky Woman).

Keep it to yourself, and the luck comes. If you tell your friends you won't have luck.

Ts'Akh'Ats (hatchet) is the same way.

You walk around alone, and you hear somebody chopping that way -

"o.ukh o.u!"

You go there, and pretty soon you hear it a different way [direction]—this way.

The same way you do as you do for Wealth Woman.

You take off your clothes.

You can't see anybody though, but you see where they are chopping wood.

Where the biggest trees stand, they are chopping way down.

They chop it from the top to the bottom.

And you see a small stone axe

(t'ayis)

And all the chips are at the bottom, but you don't see anybody.

You take chips enough, and you do the same way [as with Lucky Woman].

You wash in fresh water before you get into your clothes.

You bathe yourself with the chips, and you keep wishing all the time,

"I want to find my money bank!"

You just wish for good luck—not bad luck.

And you keep those chips as long as you live.

You don't tell anybody about them.

But the same way you [might] tell your son and daughter, and give them a little piece of the chips.

And when you do it, tell them not to drink water or to eat.

Appendix B:QR codes and dropbox links to the digital maps

Carcross/Tagish First Nation counter map (Tlingit, Tagish and English toponyms)

PDF version available online

https://www.dropbox.com/s/aty0262uryivafz/CTFNposter_03_02_600dpi.pdf?dl=0   and

http://documents.routledge-interactive.s3.amazonaws.com/9781138204294/13_Figure2_CTFNposter_03_02_600dpi.pdf

Counter-map of the Yukon River Watershed including enlarged map of the headwaters. (First Nations and Tribes' toponyms for the Yukon River)

PDF version available online at

https://www.dropbox.com/s/ja3jgclxizc2jbd/Yukon%20Watershed_17_11_600dpi.pdf?dl=0   and

http://documents.routledge-interactive.s3.amazonaws.com/9781138204294/13_Figure1_Yukon_Watershed_18_11.pdf

Two hand-drawn Tlingit and Tagish maps (1869, 1887) compared with a modern GIS generated map (2015).

PDF version available online at

https://www.dropbox.com/s/j171amq18dosd1o/Triple_Map_18_11.pdf?dl=0

Deep Chart on the Google Earth platform (please download the free Google Earth application first[176]).

https://www.dropbox.com/s/pbback8glovrj8t/CTFN%20Deep%20Chart_Photobucket%20Version.kmz?dl=0

Deep chart on the Google Earth platform.

These kmz files are compressed, and this URL link can also be used (double-click).

http://www.geographie.uni-muenchen.de/department/dokumente/hayman_eleanor/CTFN_Deep_Chart_Photobucket_Version.zip

Landsat 5 (1991) Time-lapse video of the break-up of ice at Tagish

Available online at

https://www.dropbox.com/s/p1e50mohbp09l3q/LandsatTimeLapse1991_3zoom.avi?dl=0

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[176] To download Google Earth, this link can be followed. http://ccm.net/download/download-1169-google-earth accessed 16 March 2017.

Landsat 5 (1997) Time-lapse video of the break-up of ice at Tagish

Available online at

https://www.dropbox.com/s/gxcllkjc71q7w4b/LandsatTimeLapse1997zoom.avi?dl=0

Yukon
Tourism and Culture
Box 2703, Whitehorse, Yukon Y1A 2C6

CULTURAL SERVICES BRANCH
HERITAGE RESOURCES UNIT

File No.: 6800-20-925

July 31, 2014

TO:
Eleanor Hayman (Ludwig Maximillian's University, Munich, Germany)
Environment, Habitat Management (V-5R)
Lands Use Section, Lands Branch (K-320)
ASTIS, Arctic Institute of North America
Regional Land Use Planning (K-235)
Water Resources Branch (V-310)
Carcross-Tagish First Nation

RE: **Eleanor Hayman (Ludwig Maximillian's University, Munich, Germany)**

Please be advised that the attached License with revised License number has been issued under the Yukon Scientists and Explorers Act (1958).

Sincerely,

Jeff Hunston, Manager
Heritage Resources Unit

Enclosure

YUKON-CANADA
SCIENTISTS AND EXPLORERS ACT
LICENSE

PURSUANT to the provisions of the Scientists and Explorers Act (1958) of the Yukon, permission is hereby granted to:

Eleanor Hayman (Ludwig Maximillian's University, Munich, Germany)

to enter the Yukon Territory to conduct scientific research with respect to:

"Deep Mapping" – Participatory Geographical Information Systems Water Research of the Headwaters of the Yukon River, Southern Yukon.

GENERAL CONDITIONS

1. A complete, final report of the research conducted under this license shall be submitted, in duplicate, within one year of completion or termination of the project.
   a) A field or progress report, including descriptions or catalogues of collections made (where applicable) shall be submitted in duplicate on, or before, the expiry date written below.
   b) The Licensee shall provide a copy of any report or article published on the research conducted under this license to Heritage Resources Unit.

2. All camps shall be established according to the provisions of the Territorial Land Use Regulations.

3. All steps shall be taken to avoid unnecessary disturbance of wildlife.
   a) No camp site shall be established within 2 km of an active raptor nest.
   b) When using aircraft, maintain a minimum of 1,000 feet over wildlife such as sheep, raptor nests and migrating caribou.
   c) Pay particular attention to bear habitat, and take all steps necessary to avoid contact with bears.

4. The Licensee shall meet with, inform and receive permission from First Nation(s) of the field activities conducted under this license on their settlement land(s), and shall not proceed
   if permission is not gained from the First Nation(s). The Licensee shall provide a copy of any report or article published on the research conducted under this license to the First Nation(s).

5. The Licensee shall strictly observe all applicable Territorial and Federal legislation and regulations.

OTHER CONDITIONS:

NIL

THIS License is valid for the period **August 24th , 2014**   to **September 30th**   , **2014**.

DATED at the City of Whitehorse, in the Yukon Territory, this **31st**   day of **July**, A.D., **2014**.

Manager, Heritage Resources Unit
Cultural Services Branch
Tourism and Culture

Headwaters of the Yukon River
Water Sampling Locations 10-17th September 2014
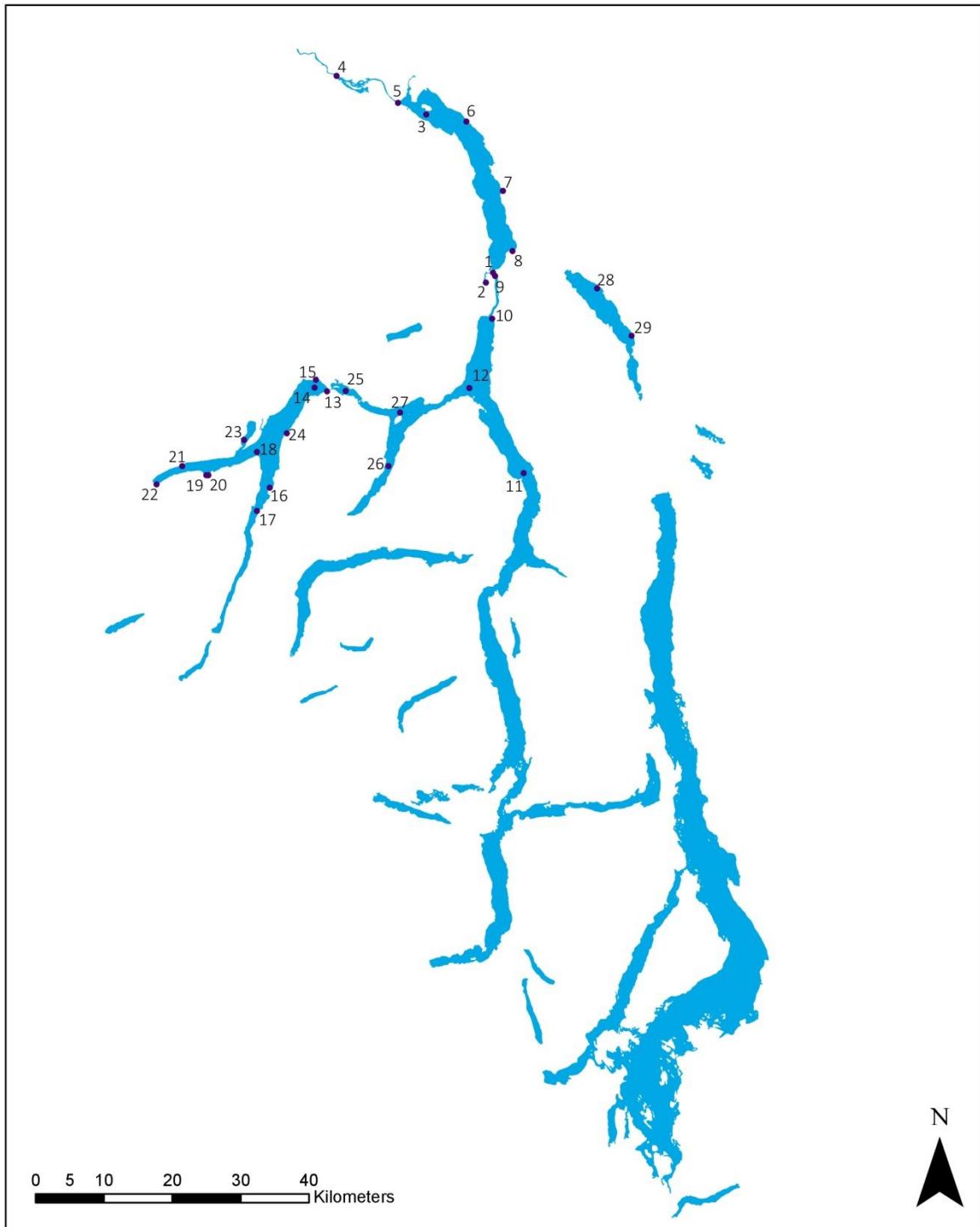
Author: Eleanor Hayman in collaboration with Colleen James, Mark Wedge & Leslie Johns - Projection: Transverse Mercator
Data Source: GeoYukon - Date:23rd June 2015

ID	Location	Tlingit translation	Tagish translation	Sidney placen	X	Y	Date	Time	water depth [m]	air temperature [°C]	water temperture [°C]	pH
1	North of Taagish Narrows, mid lake	Taagish Heeni	Taagish Too'e'	54	540345	6686961	10.09.2014	1314	10	10	11.4	7.61
2	Bald Eagle Nest point	Ch'aak' X'aayi	Tuhndaa' T'oh	14	539294	6685545	10.09.2014	1357	29.3	10	12	7.62
3	Between Bear Fort and West shore of Marsh Lake	Xutsnoowu	Shash Aahi	6	530540	6710108	10.09.2014	1458	3.9	10	12	7.72
4	Head of Yukon River (between Lewes bridge and weir)	Geiwu Tlein Eeti	Temil Sho	1 (also 2?)	517476	6715738	10.09.2014	1559	8.6	11.5	11.4	7.79
5	McClintock, Lewes, Marsh Lakes confluence			4,5,6	526442	6711807	10.09.2014	1642	4.3	11.5	11.9	7.85
6	Grayling Creek, Marsh Lake	Keshuwaa Heeni	T'ase Mbet	9	536446	6709088	10.09.2014	1734	11.7	11	11.9	7.89
7	Judas Creek mouth	Kuk'aheeni tlein		12	541785	6698952	10.09.2014	1831	1.4	9	7.3	8.12
8	Reed Good Bay (Chinook Creek)	Goon Heen	Took'ats Too'e	52	543179	6690138	10.09.2014	1911	1.4	8	11	8.1
9	Taagish Bridge /Narrows south side	Taagish Heeni	Taagish Too'e'	54	540628	6686493	11.09.2014	908	4.2	5	11.5	7.54
10	Head of Taagish Narrows (mouth of Pennycrook Creek)	Taagish Shaak		80	540217	6680267	11.09.2014	930	1.7	5	11.1	7.59
11	Mid lake, east of Squaww point	Gaanuulaa		72	544813	6657680	11.09.2014	1223	1.2	9	11.5	7.78
12	Windy Arm meets Taagish Lake				536899	6670124	11.09.2014	1423	21.8	9	11.8	7.77
13	Natasheeni (Carcross Bridge) Head of Bennett Lake	Naataase Heen	Todezaane	94	516094	6669651	12.09.2014	1025	3.1	5	9.7	7.42
14	East end Lake Bennett mid lake				514269	6670147	12.09.2014	1034	31.9	6	9.7	7.46
15	Watson River, mouth			close to 123	514404	6671352	12.09.2014		0.8	5	6.7	7.79
16	Mouse Lick Creek, east Bennett Lake				507696	6655547	12.09.2014	1213	12.1	6	9.4	7.66
17	North of Seagull Island, Bennett Arm	Keitladi X'aat'i		114	505826	6652126	12.09.2014	1301	4.6	6	9.2	7.41
18	Mouth of West Arm			close to 119	505816	6660798	12.09.2014	1342	88.3	6	9.6	7.48
19	Mouth of Groundhog Creek				498419	6657345	12.09.2014	1538	0.5	6	10.2	7.68
20	Mouth of Black rRiver				498711	6657362	12.09.2014	1840	1.2	6	11	7.64
21	Rosehip Creek	K'incheiyi Heeni	Ushcheel Daacheige	116	494910	6658723	12.09.2014	1900	8.6	7	10.2	7.56
22	End of West Arm				491104	6656058	12.09.2014	1910	54.1	6	9.8	7.6
23	Milhaven Bay - mid lake				503945	6662511	13.09.2014	1400	18.7	13	11.6	7.56
24	Under Breast Mountain	Kaa L'aa Seiyi	T'oo Dzele Nuulaa	122	510165	6663499	13.09.2014	1530	9.6	12	9.6	7.61
25	Nares Lake (middle)	Taasleiyi	Taasleyi Meine	96	518795	6669695	16.09.2014	1130		15	9.9	7.63
26	Windy Arm at Konrad mid lake		Tsei Zhele' Meine'	102	525024	6658716	16.09.2014	1230		15	11	7.66
27	Mouth of Windy Arm				526754	6666522	16.09.2014	1150		15	11.4	7.57
28	Little Atlin, boat launch	Xaat Tlein Aayi	Luu Cho Meine'	34	558668	6684048	17.09.2014	1230	0.2	15	12.3	8.48
29	Haunka Creek mouth	Duk Heeni	T'ees Too'e'	42	560593	6677731	17.09.2014		0.1	10	10.1	8.29

dissolved oxygen [%]	dissolved oxygen [mg/l]	weather condition	sample location	flow description	water conditions
99.3	10.88	Partly cloudy, calm	Narrows	6 knots	calm, clear
99.3	10.69	Partly cloudy, south east breeze	mid channel	1 knot	clear
97.7	10.56	Partly cloudy, breezy	mid channel	1 knot	clear
101.3	11.07	Partly cloudy, south wind	mid channel	3 knots	clear
101.3	10.88	Partly cloudy	mid channel	0.5 knots	clear with aquatic plants
101.7	10.96	Partly cloudy, calm	bay	0 knots	clear, aquatic parts, rocky bottom
103.6	12.49	partly cloudy, calm	mid bay	0 knots	clear, aquatic plants - reeds
101.9	11.22	partly cloudy, calm	mid bay	0 knots	clear, aquatic plants with leaves
102.8	11.22	overcast, intermittent rain, breezy	mid channel	5 knots	clear
102.2	11.25	overcast, intermittent rain, breezy	mid bay	1 knot	clear
104.7	11.41	Partly cloudy, calm	mid lake		clear
102.7	11.15	overcast, calm	confluence Taku and Windy Arm	0 knots	clear
106.7	12.13	overcast, intermittent rain, breezy	Narrows	2 knots	clear
107.4	12.21	overcast, intermittent rain, SE wind	east end of lake	0 knots	clear
107.3	13.19	overcast, intermittent rain, breezy	mouth of watson river	0.5 knots	murky, turbid
110.3	12.53	overcast, windy (wind push to 15 knots)	mouth of moose lick creek	0.5 knots	clear
108.6	12.5	overcast, windy (wind push to 15 knots)	east Seagull island	0.5 knots	clear
106.7	11.8	overcast, breezy	mouth of black river	4 knots	clear, green water, stones and sand
108.2	12.34	overcast, breezy	mouth of West Arm	0.5 knots	clear
108.3	12.24	overcast, breezy	mouth of groundhog creek	0 knots	clear
108.5	12.14	overcast, breezy	mouth of Rosehip Creek		clear, stoney bottom
107.7	12.18	overcast, breezy	end of West Arm	0 knots	clear
118	12.84	overcast, windy	Milhaven Bay - mid bay	0 knots	clear
121.4	13.84	partly cloudy, windy	underbreast mountain - bay	0.5 knots	clear
99.8	11.27	partly cloudy, calm	mid lake	1 knot	clear
101.1	11.13	partly cloudy, windy	mid arm at Konrad	0.5 knots	clear
102.6	11.21	partly cloudy, windy		1 knot	clear
82.8	8.84	clear, high cirrus clouds	boat launch bay (probe 20cm)	0 knots	clear, algae on rocks
109.1	12.2	high cirrus clouds, calm	creek mouth		clear, gravel bank

ecological description	local knowledge
Tagish settlement, confluence with slough and 6 mile river	traditional camp. Alcohol counselling area. Old Alaska Highway. Departure of winter road across Tagish narrows. 1943
two bald eagles perched on point and in tree (nest)	good fishing spot
two beaver houses juvenile eagle, teal duck	Indian cemetery. Also resting place for boats
Fish jumping, ducks, red head woodpecker, beaver dam	3 spirit house on east shore (Tagish cemetery), erosion of east bank due to wind and water
canada geese (flypath to southwest), ducks	traditional bear, moose and caribout hunting area. Gold mining activity close to creek
mountain fed creek	
ducks, fish, geese waterfowl	conservation officers came to check up on this research
ducks close to Bennett shore	
willows at creek mouth, sand and dunes on north side, heavily silted, much driftwood	difficult navigationally, wind creat long wave length
Balsam trees on island, lichen, two mountain goats on north side of Bennett Arm	camp on island. Y G lots for sale on north side of Bennett Arm
new landslide on north of West Arm. Sheep on east side of Bennett Lake - unusual as normally goats black stones	
high mineral content of water (cobalt?). Must boil water before drinking. Porcupine signs - eaten trees Vegetation: Poplar, Aldar, Pine, Spruce. Driftwood and gravel. Ice make major changes with snow slides (flush down debris)	Fish hole
Feeder bay for trout. Leaves turning (fall)	old sawmill for Tushi paddle boat
	Agent Orange used on railroad to defoliate (only 5m from lake shoreline)
very windy, choppy waters (turned back to Carcross) vegetation: poplar, spruce	
eagles flying, rocks/gravel, vegetation: willow, spruce	
bald eagle, canada geese (12) flying low northwards. Vegetation: Alder, willow, poplar, spruce, cranberries.	

Appendix E: Interviewee list 2013, 2014

Wolf (W) inland Tlingit	Crow (C) inland Tlingit	Eagle (E) coastal Tlingit
Dak̲l'aweidí (People of the Inland Sandbar) Yanyeidí (People of Hemlock House)	Deishitaan (People of the end of the trail) Kookhitaan (People of the cellar) Ishkeetaan (People of Deep Pool in the River) G̲ aanax̲teidí (People of Sheltered Harbor Rock).	Shangukeidi (Thunderbird)

Name	Clan	Elder	Language	Home	Experience	Matriarch
Louise Johns	Daḵl'aweidí (W)	Yes		Carcross	Tutshi	
Winnie Atlin	Ishkeetaan (C)	Yes	Tlingit	Carcross	Bennett Carcross	Yes
Kitty Grant	Daḵl'aweidí (W)	Yes	Tlingit	Carcross	Ross River Carcross	Yes
Ted Hall	Deishitaan (C)	Yes		Squanga Lake	Squanga Lake	
Ida Calmagen	Deishitaan (C)	Yes	Tlingit?	Tagish	Tagish	Yes
Art Johns	Yanyeidí (W)	Yes		Tagish	Carcross Tagish	
Jim James	Daḵl'aweidí (W)	Yes		Carcross	All over TT	
Annie Austin	Deishitaan (C)	Yes		Tagish	Carcross	
Beverly Sembsmoen	Daḵl'aweidí (W)	No		Whitehorse	Carcross	
Norman James	Daḵl'aweidí (W)	Yes	Tlingit	Carcross	Al over	
Mark Wedge	Deishitaan (C)	Yes		Tagish	Carcross, Tagish, Bennett	
Colleen James	Daḵl'aweidí (W)	No		Carcross	Carcross , Southern Yukon Lakes	
David Katzeek	Shangukeidi (E)	Yes	Tlingit	Juneau	Klukwan, Juneau, Haines	

Appendix F: CTFN Traditional Knowledge Prior Informed Consent Form 2013

1. Interviewee:_____

2. Project Title: **Storytelling Water**

Challenging the H$_2$O Paradigm: Understanding Water Through Narrative

The authority of CTFN's oral traditions

3. Interviewer:_____

(Please set out name as well as any company, employer or institution)

4. Date of Interview:_____

5. Location of Interview:_____

6. Project Manager Name, Title, Affiliation:

Eleanor Hayman, PhD Student at the Ludwig Maximillian's Universität in Munich, Germany_

7. Project Purpose: **Collaborative PhD water research with CTFN: Exploring the intersection of CTFN oral histories, water and ethics to provide a framework for the potential development of a CTFN Water Act.**

8. What will information be used for? **The PhD project including published papers and presentations, possible CTFN Participatory GIS mapping as well as the evolution of a CTFN Water Act**

9. Who will have access to information?

The Interviewee, CTFN Government (stored by Heritage Department), Eleanor Hayman

I _____ have reviewed and understand the Protocol for

Conducting Traditional Knowledge Research or Accessing Traditional Knowledge which

is attached to this form.

10. Names of people present during interview:

_____

11. How will information be documented and/or recorded during the

interview? **Video, audio, notes**

Statement of Consent:

I, _____, have reviewed the information provided in this

form and agree to participate in the interview and I agree to the use of the traditional knowledge provided for the above named project, for the uses identified in the attached protocol. I understand that in participating in the interview I do not have to answer any questions I do not want to and that I may choose to end the interview if I so choose. I may also withdraw information provided during the interview.

_____ _____

Signature   Date

_____ _____ _____

Witness (name)   Signature   Date

(First Nation Protocol for Conducting Traditional Knowledge Research or Accessing Traditional Knowledge, August 2013)

1. Project Manger Name, Title:

Eleanor Hayman, MA (PhD Student)

2. Affiliation:

Ludwig Maximillian's Universität, Munich, Germany

3. Project Title:

Storytelling Water

Challenging the H_2O Paradigm: Understanding Water Through Narrative

The authority of Carcross/Tagish First Nation's Oral Traditions

4. Project Purpose:

Collaborative PhD water research with CTFN: Exploring the intersection of CTFN oral histories, water and ethics to provide a framework for the potential development of a CTFN Water Act.

Additionally to write First Nation (CTFN) voices into environmental water history whilst challenging the dominant understanding of water.

5. Project Goals:

Provide framework for a CTFN Water Act

Provide alternative vision/relationship to water that deepens water (policy) dialogues

Provide a Participatory GIS (Google Earth) platform solely for CTFN – a tool in water negotiations?

6. Project Description.

Storytelling Water is a collaborative water research project with CTFN. It looks at the intersection of CTFN oral histories and the physical and cultural waterscapes of the Tagish

region. Water is culture. Through the practice of storytelling, exploring Tlingit and Tagish place names and ways of knowing the Southern Lakes, this collaborative and cross-cultural project will create a space for thinking with water differently. The dominant vision of water is simply that as a resource – H_2O. With the rush for resources in the circumpolar North and grave concerns over global water security in the coming years, this research is important and timely for CTFN specifically and the global water dialogue more generally.

Please also see this water research 43 page proposal for CTFN, electronically available from CTFN.

Why is traditional knowledge necessary for project?

Traditional Knowledge – water knowledge through both storytelling, the Tlingit language and experiences on the land/water are at the heart of this water research.

What issues are expected to be addressed by the traditional knowledge?

The valuing of water and ethics implicit within Storytelling related to water specifically.

What other sources of information have you sought in association with this project?

Ethnographic work with CTFN and other First Nations in the Yukon and British Columbia.

The background and history of other power actors in the Yukon, including Yukon Government, Yukon Energy, the Yukon Water Strategy (draft)

Connections with the Yukon River Inter-Tribal Watershed Council, including participation in biennial summit in Mayo, 2-4 August 2013.

Participation in the World Water Forum in France in 2012.

Are there any rules, by-laws or other limitations that may affect how you handle the information? (i.e. Institutional research guidelines, funding agreements) If yes, please explain.

I must provide a report on this research to those bodies that are funding this research. They include Yukon College (Yukon), Ludwig Maximillian's University (Germany) and the Heinrich Böll Stiftung (Germany).

Additionally, one of the requirements being issued a Yukon Science and Explorer's License is to provide a report to the Yukon Government at the research completion.

A. Conducting Primary Research Using Traditional Knowledge

1. Research outline. Attach outline indicating how research conforms to First Nation

research guidelines. Project applicant has research guidelines: _____

Research outline is attached: Please see 43 page proprosal that outlines concept, method, community projects, goals and potential outcome of collaborative research with CTFN.

C. Interviewing First Nation Citizens

1. Interviewee (complete the following for each interviewee):

_____

_____

2. Interviewer(s):

_____

_____

3. Date(s) of interview(s):

_____

_____

4. Duration of interview(s):

_____

_____

5. Location of interview(s):

_____

_____

6. Method of recording information (tape, DVD, video, notes):

Video, audio, notes

7. Topics – attach outline of general topics or questions.

Intersection of water (lakes, creeks, Yukon River) and storytelling (songs, stories, place names) and values (relationships to water etc). Through Tlingit language, through experiences, through long ago stories.

8. Payment rate:

50 CAD plus tobacco in medicine pouch per interviewee

D. Use of Traditional Knowledge

1. Who will use/have access to the traditional knowledge?

Primary user:

Eleanor Hayman, CTFN community and governmental staff

Other users:

LMU, and at CTFNs disgression.

2. Final product(s) of this project (e.g., recorded, documented, book, video, research

thesis paper, environmental assessment, education curriculum). Include # copies,

storage, and distribution.

Potentially all the above. Please see funding and license issuer's agreements above.

3. Who is the audience for the final product(s)?

CTFN, the LMU…

If published into a book – all those interested in Indigenous voices, alternative visions/ontologies of water, the power of storytelling, environmental groups, ethicists, ecological philosophers, First Nations…

All World Water Forums…

4. How will confidentiality and sensitivity of information be maintained?

CTFN Heritage Department would hold electronic copies of all audio/video/photographic recordings. Individual interviewees would have a copy of their own recordings. When used in a paper/chapter/thesis, the part used would be sent to the interviewee for assessment.

The entirety of any paper etc written would be vetted by my community consultant Mark Wedge and Colleen James (as of 2013). All publications are in collaboration with Mark Wedge and Colleen James).

5. Is there any access to information legislation that the traditional knowledge may be subject to?

Don't know.

6. Project outcomes: How will the First Nation Government and citizens benefit from the project?

See point 7 below

7. What benefits will others gain from the project, including the project proponent?

The research is in a sense a repository for water related CTFN traditional knowledge, and therefore a critical reference point for CTFN community members and generations to come who may find these voices very important.

CTFN government and community to develop a CTFN Water Act

Possible use and training in PGIS – Google Earth mapping tool – to support a CTFN WATER ACT as well as providing resistance to classic uses of GIS. Counter-Mapping philosophy, applied.

This research will add to the body of water research that seeks to reimagine human-water relationships. It would be another example of the power of strong stories and how the ecological imagination is as critical as 'western' science's hydrological approach to understanding water.

E. Prior Informed Consent (Attach prior informed consent statements for this project)

I verify that the above information is true to the best of my ability.

_____

Signature

_____ _____ _____

Name Position Date