Mantle: ***The Annual Review of Interdisciplinary Research***
Vol. 1, No. 1 (July 2023) Pp. 7-28

DOI: 10.14288/mantle.v1i1.198383

True Stories—Shapeshifting between mode and metaphor

Nigel Haggan[1]*, T'uy't'tanat—Cease Wyss*[2]*, Emily Haggan*[3]

ABSTRACT: For the Squamish Nation, the two peaks of Vancouver's North Shore are twin sisters who brought lasting peace. As the "North Shore Lions" they symbolize colonial effacement of Aboriginal presence. We draw on 'true stories' from Indigenous, Irish, and scientific traditions to explore the tension between the ultimately unknowable 'truth' of mountains, salmon, and people and the 'stories'—myths, models, maps, equations, parables, poetry, plays, paintings, and prose—that help us to grasp aspects of their mystery. Indigenous, religious and a growing number of scientific authorities argue that wisdom and well-being have physical, emotional, spiritual, and intellectual dimensions. We suggest that over-valuing the intellectual leads to the chronic stress, broken relationships, and suicide that are all too common in school and university. In other words, that the demands of academic excellence are inimical to wholistic well-being. We conclude that denigration and exclusion of emotional and spiritual intelligence is an insidious form of epistemic or cognitive injustice. Indigenous concepts of 'good' or 'compassionate mind' point to deficits in the university mission of research, teaching, and service, but also suggest ways to enrich knowledge and increase well-being.

KEYWORDS*: prophetic imagination; salmon; metaphors; compassionate mind; good heart/mind; heart knowledge; spiritual literacy; pollinators; cognitive/epistemic (in)justice; holistic well-being;*

[1] Nigel Haggan is an aging student of the sea, from past abundance to present depletion to what it might become under different trajectories of human desire. He lives in Vancouver as a grateful, if uninvited guest on the traditional, ancestral and unceded homelands of the Coastal Salish peoples – the *xʷməθkʷəy̓əm* (Musqueam), *Sḵwx̱wú7mesh Úxwumixw* (Squamish), and *səl̓ilwətaʔɬ* (Tsleil-Waututh) First Nations. Email: nhaggan@gmail.com.

[2] *T'uy't'tanat*—Dr Cease Wyss is an Indigenous ethnobotanist, artist and spiritual activist of *Sḵwx̱wú7mesh* (Squamish), *Stó:lō*, Hawaiian and Swiss ancestry. Email: ceasefire66@gmail.com.

[3] Emily Haggan, MSc, is an Irish environmental scientist, artist and teacher who lives in the south of England. Email: emily.haggan@protonmail.com

Introduction

Pacific Northwest Indigenous[4] cultures are the result of thousands of years of conversation between people, animals, plants, lands, waters, and spirit. Mission Christianity condemned Indigenous spirituality as idolatrous or demonic (Marsden, 2016; Turner, 2005, p. 233). Enlightenment science saw it as primitive superstition. The combined effect being to deny personhood to non-humans, leaving everything open to commodification. This ancient conversation[5] continues amongst Indigenous people, between ordinary people and their gardens and the guerilla gardens of the inner city (Harris, 2022). The language of personhood and moral consideration for non-humans is however excluded from the management of forests, fisheries, farming, mining and other 'natural resources'. While Aboriginal[6] spiritual leaders are welcome in the corridors of power, industry, and science, Aboriginal people are by and large excluded from the *work* of science and management where, of course, spirituality does not belong.

Meanwhile, those charged with resource policy and practice are strongly discouraged from expressing any deep spiritual and emotional commitments they may have to their field of study. This double cognitive injustice excludes entire dimensions of value and commitment from environmental review of major Pacific Northwest projects such as the Kinder Morgan oil/tarsands[7] pipeline and the Site C hydroelectric Dam. The same could likely be said for global initiatives such as the 2005 Millennium Ecosystem Assessment and the Intergovernmental Panel on Climate Change (IPCC).

Might it be that the perceived 'difference' lies first, in that Aboriginal people do not separate spirituality and ecology? Also, that spiritual matters are part of the everyday conversation? Contrast mainstream society where mention of religion provokes discomfort and notions of division. Scientists who venture into the territory of religion face mockery or being written off as being of unsound mind (Jastrow, 2000; Spash, 2000), leaving terrible silences in the academy (Lee, 1998; Rose, 2007).

Yet, many researchers trace their passion for their subject to an encounter—often in childhood—with a non-human entity. In religious terms, this is a 'call', in some Indigenous societies a 'Vision Quest' and in lay terms a 'career-forming experience'. Sticking with the Pacific Northwest, let's say a beautiful silver fish fascinates a young girl. Their encounter is inseparable from the water, sun, wind, parents, or companions of the day. At school, the fish that spoke to her in its beauty and particularity acquires a long name *Onchorhynchus nerka*, functionally identical to all other sockeye salmon. In grad school, she may learn to put the salmon in an ecological and later a bio-economic model where market price makes it interchangeable for other 'goods and services' from aspirin to Teslas. Of course, she does this to be able to spend her life in service to the creatures, people, and places she loves. Her love drives and inspires her scientific work, but the sadness is that the scientific language of her research has no words to express that love.

At the Nexus 22 conference where this material was first presented (ISGP, 2022), we asked participants to tell of an encounter that fired their research passion and explore:

1. The tension between their private words and feelings and their academic framework
2. How they dealt with any spiritual aspects of the formative experience or later fieldwork that don't fit the scientific reporting framework

[4] "Indigenous" is capitalized as in "European".

[5] Celia Haig-Brown (1992) describes how conversations move into chats and eventually stories.

[6] We capitalize "Aboriginal" using the same logic as in "European".

[7] Names matter. For the developers, they are 'Oilsands'. To Indigenous and allied land protectors and climate change activists they are "Tarsands".

3 To suggest modes of expression whether it's poetry or dance or anything non-traditional that would be most helpful to add.

This paper takes the form of a conversation between *T'uy't'tanat—Cease Wyss* an Indigenous ethnobotanist and spiritual activist and Nigel Haggan, a Pacific Northwest settler since 1981. Our conversation is informed and enriched by the art of Cease and Emily Haggan, a science teacher and artist living in the UK and a few lines of poetry. We touch on the wealth of 'True Stories' or metaphors that help to grasp aspects of entities that are unknowable in their entirety, be they mountains, salmon, people, or sheep.

Recognizing that most if not all latecomers have a spiritual and emotional attachment to the Pacific Northwest, but acknowledging the deep, ancient spiritual literacy of Indigenous people, we ask Cease to open the conversation…

Skwxwu7mesh Introduction	**English Translation**
Ha7lh skwáyel i7xw ta new-yap	Good day everyone
T'uy't'tanat kwi n-Kwshamín	*T'uy'tanat* is my ancestral name
Cease kwi n-sna	Cease is my name
Kultsia iy Bruce-t ten elhtech	My parents are Kultsia, Barb Wyss
Senaqwila lha en men	and the late Bruce Wyss
Iy kamaya lha en ímats	My daughter is *Senaqwila*
Lily lha en stáyalh	and granddaughter *Kamaya.*
tína chen tl'a sla7hn uximixw	I come from the village *Esla7hn*
Sḵwx̱wú7mesh chen, iymen, tina tl'a Stó:lō,	and I am Squamish,
Hawaiian , iy Swiss.	I am also *Stó:lō*, Hawaiian, and Swiss.
An wanawxs en skwalwen	I respect who I am
An ha7lh en skwalwen ti sti7s	It is a beautiful day today!
Tsátsaxw mexweya skwayel	

I always start with the language, our ancient way of communicating. Looking north from Vancouver, is a beautiful view of *Ch'ich'iyúy Elxwíkn*, the Twin Sisters who speak to how our creation stories affirm our belonging in the land. British settlers promptly renamed them "The Lion Peaks" in a futile attempt to efface our presence (Figure 1).

Figure 2 is an example of my artwork from my mother's retelling of the story for our children (Wyss & T'uy't'tanat, 2006), but the language is written by my daughter Senaqwila, who has actually now become my teacher because of the erasure of our language, our culture, our stories. So, now our next generation are the ones that are bringing us back.

This image is not just a story of creation. It's a story of change, and it's a story of how our laws affected us in our lives. In the past we had wars between different tribes. As our Elders tell, a great Chief was preparing a coming-of-age feast for his two daughters, helped by a mighty run of salmon in the Capilano River. While they were preparing, the young women approached their father and asked if he would invite the northern tribes who were their traditional enemies. He was very surprised—and likely somewhat doubtful—but respected their wishes and sent the invitation.

The northern tribes left their weapons at home and filled their canoes with gifts. The feast lasted many days, till at the very end, their father, a transformer *Xaays* uplifted them into two new peaks on the closest and highest mountains, where they remain from that day forward. Their presence on those mountaintops helps us remember how to do things better. This story tells how

two visionary young women who could see farther than we could, brought about the great peace and changed the way that we relate to one another. These women were always the ones that should have been recognized and acknowledged. Our creation and change stories give us our laws that connect us directly to the food systems, to the land and to everything in our biosphere.



Figure 1 North Shore Mountains showing Ch'ich'iyúy Elxwíkn, the Twin Sisters, aka the "Lion Peaks". By Jonathanfv - Own work, CC BY 3.0, https://commons.wikimedia.org/w/index.php?curid=57237377

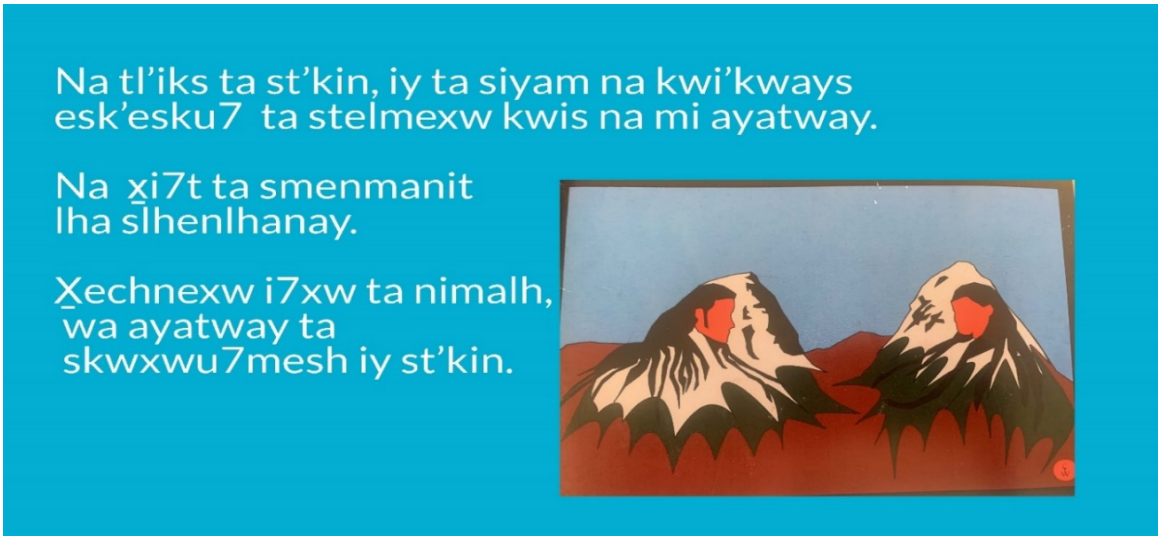


Figure 2: Ch'ich'iyúy Elxwíkn, the Twin Sisters who brought peace to warring Nations. Original Art by Cease Wyss. Skwxwú7mesh Language by Senaquila Wyss.

And now Nigel has some salmon stories…

Yes, simple salmon stories and, as you would properly expect with Irish logic, the salmon stories start with sheep. Figure 3 shows Cuilcagh Mountain that divides the Irish counties of

Fermanagh and Cavan and where a household of Roman Catholic mountain farmers informally adopted this boy from the polite streets of Protestant Belfast. They taught me a great deal, but I am still functionally illiterate compared to my adoptive brother John Thomas McGovern (inset) who left a two-room schoolhouse in the mountain at the age of 16. His lack of formal education is offset by deep intergenerational knowledge of the land driven by an inquiring mind and a wicked sense of humour. He it was who told me the parable of the sheep.



Figure 3 Cuilcagh Mountain viewed from the County Fermanagh side. Inset photo of John Thomas McGovern with Nigel Haggan somewhere on the slopes

The parable of the sheep

The scene is an arithmetic class in a two-room schoolhouse. The teacher gives a simple example (or so they think):

> Teacher: *Well now children, there are five sheep on a road and two of them turn through a gate into a field. How many sheep are left on the road?*
>
> Farmer's child: *None sir!*
>
> Teacher: *You! You're just an ignoramus, you know nothing about arithmetic!*
>
> Child (smiling): *And you sir, you know nothing about sheep!*
>
> So, who knows best, the scholar or the farmer, the student, or the teacher?

This parable, charmingly illustrated by Emily in Figure 4, talks about the disconnect between local and traditional knowledge and formal education. The teacher's condescension emphasizes the way science often seeks to 'capture,' 'harness,' 'incorporate' or 'integrate' local and traditional

knowledge. On the bright side, it speaks powerfully to the conversation they could have if they ever sat down smiled into each other's eyes and said what do *we* know?

Now, if you were to walk over the right shoulder of Cuilcagh Mountain, you would come to a deep pool where the water rises out of the mountain limestone. It's the source of the Shannon River[8], and the home of one story of *An Bradán Feasa,* the salmon of knowledge.



Figure 4: The Parable of the Sheep. Pencil drawing by Emily Haggan, 2022.

[8] Named for Sinann, daughter of *Lodán whose thirst for knowledge brought her to an untimely death, as told in the Metrical Dindshenchas—recorded by Edward Gwynn* (1935), translated by Isolde ÓBrolcháin Carmody (2012).

An Bradán Feasa or the salmon of knowledge

The story goes that in the otherworld there's a pool surrounded by nine Hazel trees—the first thing that came into Creation (Figure 5). These trees bear purple nuts which drop into the pool. Salmon dwelling in the pool eat the nuts and acquire the wisdom of the universe. If you were skillful or fortunate enough to catch and eat one of these fish, that wisdom would come to you. As the old people tell, a sage finally caught the fish after many years. No sooner had he put it over a fire to cook, than he was overcome by an urgent call of nature.

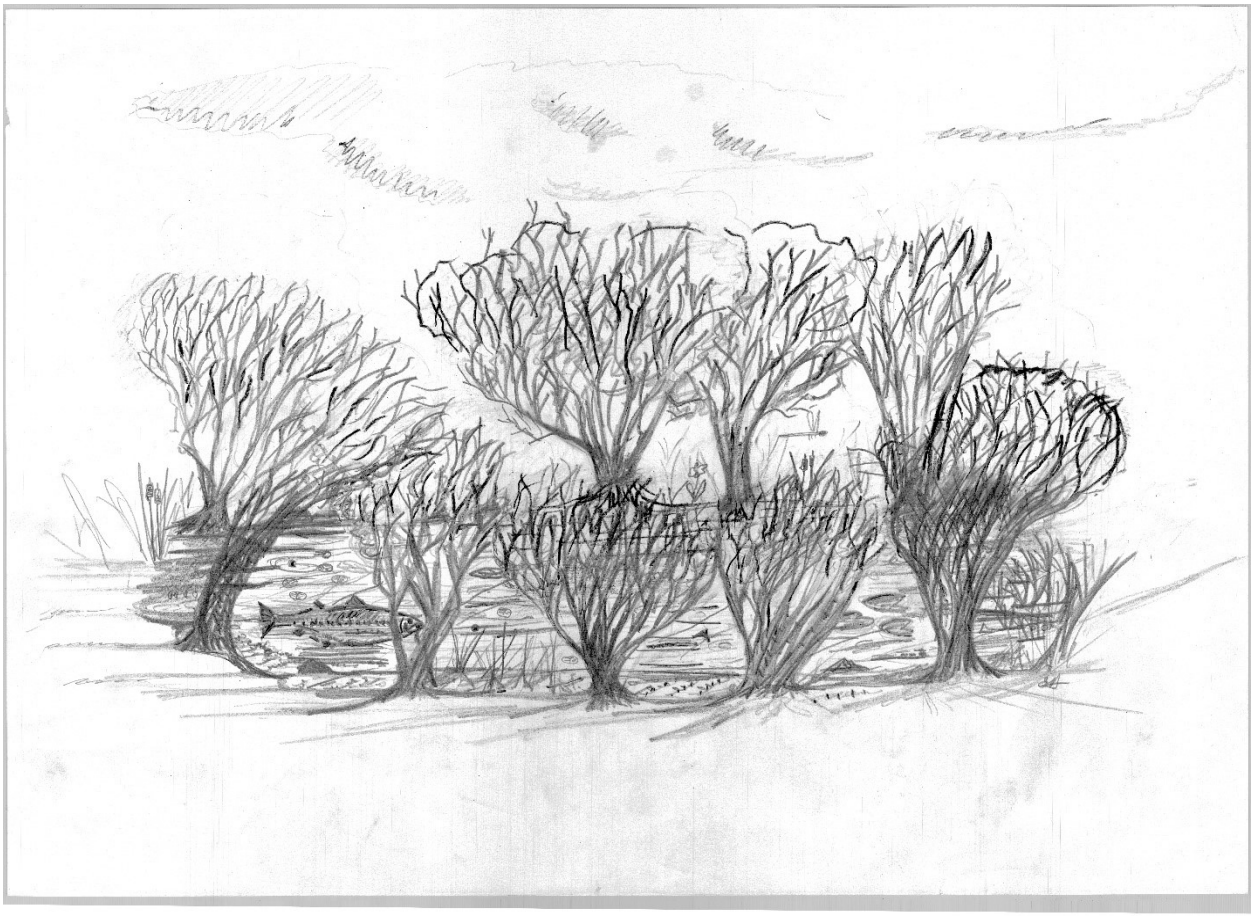


Figure 5: Nuts fall into an otherworld pool from the nine Hazel trees that surround it. The salmon who eat the nuts acquire the wisdom of the universe. Pencil sketch, Emily Haggan

At that very hour, minute and second, the young hero Finn McCool[9] happened to come along the riverbank, so the sage hailed him:

> *Hey, young fella! Would you watch that fish so it doesn't burn but don't dare taste it till I get back from these trees.*

[9] Sometime in the late 3rd century (Christiani, 1965; Mong, 1994).

Finn was ever an obliging child, so he watched the salmon like a hawk. Thinking it was done on one side, he reached to turn it over, but burned his thumb as he did. As he sticks his thumb in his mouth to cool it, he happens to swallow a bit of the salmon skin. Thus, the wisdom comes to him, to the irritation of the sage according to this 2012 Irish stamp (Figure 6).

This story has many versions, one of which tells that the sage took it well, sagely, and offered to teach young Finn the three arts of poetry: *imbas forosnai*, signifying prophetic facility, *teinm laeda* the ability to interpret wisdom, or get to the bottom of things and *dichetal do chennaib,* the ability to create metric poetry 'on the spot' (Carey, 1997). I'd be tempted to equate this with Rap or Slam Poetry, except that "metric poetry" signifies adherence to strict form which harks back to a twelve-stage apprenticeship.

The poets of ancient Ireland were at least as powerful as kings. I first thought that was because if a king happened to vex a poet, he would become the subject of satiric verse that would make him a laughingstock throughout the four Provinces of Ireland[10].

The truth, as ever, is more complicated. Poets who attained the highest of twelve grades were known as *filidh,* or poet-historians (Drew, 2007) whose duties included memorizing genealogies[11] (MacNeill, 1921). Any queen or king unwise enough to vex a poet might then find themself written out of succession.



Figure 6, Finn McCool tastes the salmon of knowledge. Irish postage stamp. 2012

Forever after, when Finn was losing at chess, in battle or caught in the toils of sorcery, he had only to put his thumb in his mouth to know what to do. Figure 7 shows an 8th century cross-slab in Co Donegal, Ireland, close to where Emily grew up and Nigel failed as a salmon farmer, setting him on the path to this paper. The two top figures likely represent Finn chewing his thumb, in all probability wondering what to do about the Christian bishops coming in under his feet… (Ó hÓgáin, 1999, pp. 197–198). The elaborate Celtic decoration on the Christian cross might be interpreted as the entanglement of pre-Christian and Christian traditions in Ireland and the Pacific

[10] See Patrick O'Kelly's 1735 satire The Curse of Doneraile (In: Hoagland, 1981, pp. 355–359).

[11] This role would appear to be similar to the responsibility of Indigenous knowledge-keepers called to witness the titles of hereditary chiefs in the Pacific Northwest (Drucker & Heizer, 1967).

Northwest and the entanglement of people and salmon on both sides of the Atlantic. Speaking of which, Cease will now tell you about the First Salmon Ceremony of the Pacific Northwest:



Figure 7. Carved stone tablet in Drumhallagh, Co Donegal, Ireland. Top figures likely represent Finn McCool. Bottom Cristian bishops. – Pencil drawing by Emily Haggan

The first salmon ceremony

So, when we and many of our Nations gather that first salmon as you can see here this one's being laid out on fir boughs… …so we use sacred medicine that are often our local conifers so on the West Coast. My people use cedar, but these inland Salish Nation folks are using fir boughs to lay the salmon down and gut it and cook it (Figure 8). That first salmon goes to the oldest people of the village who we have to honour—our knowledge keepers—our ancestral story keepers that help us with our protocols, our *chixach,* our laws.

And you know it's always important to take that time for your first salmon, to take care of it to feed those elders because they carry the precious knowledge. They carry the precious teachings, for example that we have to return the bones to the water (Figure 9).

Our Elders have lived the longest and seen the changes in everything from the earliest point of colonization. In our family, we talk to our Elders to find out what things were like 100 years ago—they're the ones that can tell us.

So, I have a quick Squamish story about a young woman who was dipping water from the Capilano River when she saw translucent people[12] moving towards the river. They looked so slow and weak that she could see through them. She asked one of them, "Who are you?" and they said, "We are the salmon people." (Figure 10).



Figure 8: First Salmon Ceremony. Salmon are respectfully laid on fir branches and prepared for the feast. Photo credit: Arnie Narcisse

She asked them, "Why are you so weak?" And they said, "Because you haven't been returning our bones to the river and when you don't, we cannot be replenished." So, she went with them—they took her into the river for what she thought was an hour but was for four years—and when she returned, she told the people what they were not doing for the salmon and for the environment. And so, these are the stories that we use as part of our *chixach,* part of our law. So, every year we bring those bones back to the river where we captured those salmon to let them know that we still love them, and we thank them for everything they provide. And today, we see more and more in the height of global population increase, that the ceremonies become less and less. And as

[12] In many cultures, all living beings were human until the time Transformers such as *Xaays* gave them their present form. As people and nations, they merit moral consideration.

we all can see the salmon are disappearing. So, we have to go back to our old ways, we have to respect the land, the water and the teachings that come from those places, and they have more value today than they ever had. And now Nigel will say a few words about the salmon of science:



Figure 9: Returning salmon remains to the river after the First Salmon Ceremony.
Photo credit: Arnie Narcisse

The salmon of science

Wild salmon are the needle, their migration the thread, that sew this big broken region into a whole.
- David James Duncan (2001)

Some thousands of years after the First Salmon Ceremony and ~1,800 years after Finn McCool, a fisheries scientist called Tom Reimchen observed that the growth rings of riverside trees were much thicker in the years when there had been big salmon runs (Reimchen, 2001). And if you cast your eyes up, or your mind back, to the mountains—the *Ch'ich'iyúy Elxwíkn*, the Twin Sisters—you'll understand that the rain runs off this coast like water off an iron roof, carrying nutrients into the sea. And every year, tens of thousands of tonnes of salmon return, spawn, die and fertilize the land (Stockner, 2003). Nitrogen from the land and sea are different isotopes,[13] so scientists can detect this marine nitrogen a kilometer back from each bank (Bilby et al., 1996). At least 200 creatures from insects to bears to humans benefit from this incredible pulse of nutrient as any gardener or farmer can understand (J. I. Helfield & Naiman, 2002; J. M. Helfield & Naiman, 2001; Naiman et al., 2009). The first salmon ceremony is a much earlier and more eloquent telling of this cycle of marine nitrogen and how everything is the poorer when it gets broken or interrupted.

[13] Nitrogen from land (δ15N) and sea (δ15N).



Figure 10: Salmon people weakened by failure to return their bones to the river breaking the cycle of nutrients between land to Sea. Original art by Cease Wyss, 2022.

The finger and the moon

I am an open book to my boss
I am a complete mystery to my closest friends
- Lawrence Fernlinghetti (1958)

These three stories call to mind Alfred Korzybski's caution, "A map is not the territory" (Korzybski, 1933). Anymore, we would add, than the icon on your computer screen or in a place of worship is the thing that it points to. Myths, maps, parables, poetry, ecological and climate models, equations, and plays are all fingers pointing to the Moon (Figure 11). So, the more metaphors we have the merrier.

Now, in the spirit of harmless mischief, we suggest changing the title *Be Well - Excel* of the 2022 Nexus conference where this material was first presented to *Be Well* ***versus*** *Excel*, because we know that our schools and universities cause stress, mental and relationship breakdown, even suicide. So, there is a brutal tension or disconnect between holistic wellness and academic excellence.

Cree scholar Walter lightning (1992) said that the compassionate mind, also known as good heart or good mind (Archibald, 2008; Christian & Wong, 2013; Newhouse, 2008) combines physical, emotional, spiritual, and intellectual learning with humility, truth, and love. These four dimensions of knowledge, wisdom and well-being are mirrored in the Great Commandment of Christianity to love God with heart, soul, mind and strength and our neighbour as ourselves. For those who cringe at any mention of religion, I invoke eco-theologians who argue that the past, present and future meaning of 'neighbour' includes the entire animate and inanimate world (Fishbane, 2008; McFague, 1997), a concept of personhood familiar to Indigenous people and to the private relationships of citizens with their gardens, companion animals, special places, etc. The four dimensions are also recognized in the scientific notion of *Biophilia*—the love of life and living things (Kellert & Wilson, 1995; Wilson, 1984). Figure 12 A, redrawn from a University of Toronto website on Indigenous health

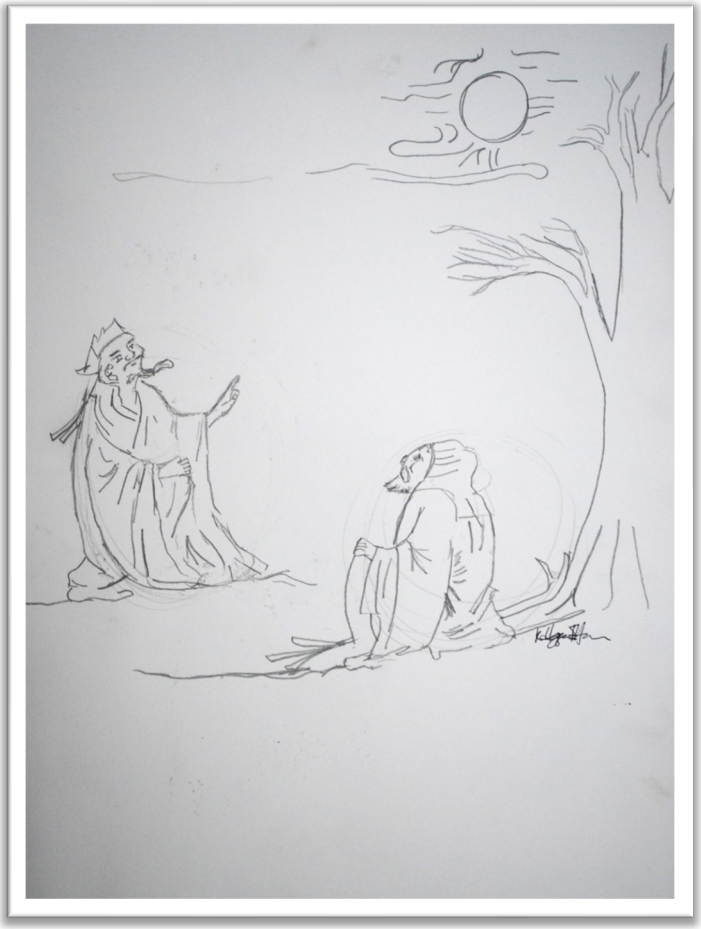


Figure 11: Sage pointing at the Moon. Pencil drawing by Emily Haggan from an original clay tablet by Kate Haggan, ca 1987.

shows a typical placement of these four aspects on the medicine wheel (Anon, n.d.). We prefer to see them as the four petals of a flower with Walter Lightning's compassionate mind where the petals meet at the centre (Figure 12 B). This is the Bunchberry *Cornus canadensis*, the humblest member of the dogwood genus native to the Pacific Northwest. As luck would have it the dogwood is also emblematic of present-day BC.

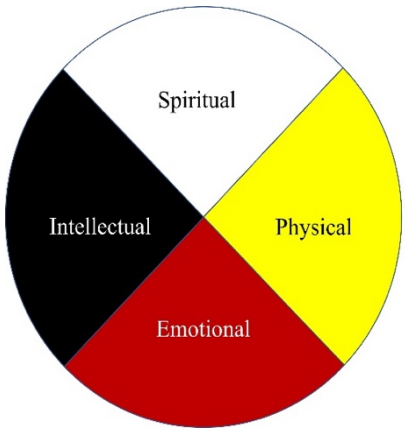


Figure 12 A, 4-dimensional wellness as Medicine Wheel—redrawn from U. Toronto webpage (Anon n.d.).



Figure 12 B, 4-dimensional wellness as dogwood flower with compassionate mind at the centre. Watercolour by Emily Haggan, September 2022

Now, if we were to transplant the Bunchberry into the academy, we might see that the 'intellectual' petal has grown to enormous proportions at the expense of the physical, emotional, and spiritual. Figure 13 shows Nigel sitting under a dogwood tree much like the one he planted on his boulevard some 17 years ago. The more he tries to pin the salmon down with scholarly references, the more the sweat of his brow dissolves the ink while the salmon swims crossly away. Outside the hallowed halls, the salmon gifts him with a few staves of verse:

The salmon of knowledge

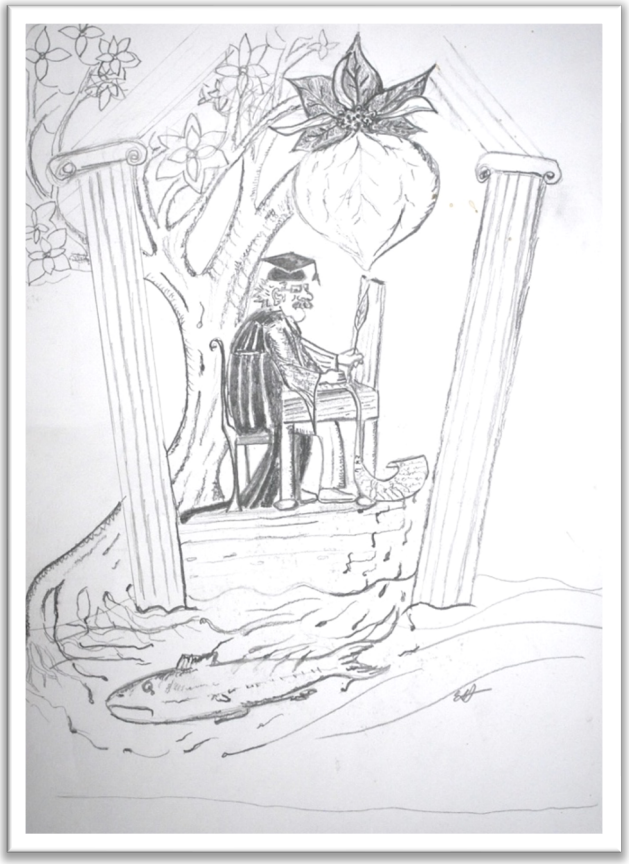


Figure 13. All Nigel's Intellectual efforts fail to 'capture' the salmon of knowledge. Drawn by Emily Haggan.

I am the salmon of knowledge
I am the salmon of science
I am the salmon of abundance
I am the salmon of industry
I am the salmon of scarce resources
I am the first salmon
The shape that shifts from tree,
To bear, to plants and people

I am a term in an equation
Connection in a model
I am a noun in a government report
And a verb in the river
I am a scintilla of stardust
A sparkle of sunlight
I am the depth of the sea
I am the life of the river

I am the death and resurrection:
A chorus of carbon
A net of nitrogen
A parable of potassium
A psalm of phosphorus
I am the dress of the cedar
The brawn of the bear
The dance of many peoples

Heart knowledge, compassionate mind, and the prophetic imagination

A person with heart knowledge has a deep understanding of their history, tradition, and culture (Archibald, 2008, p. 47; Holmes, 2000, p. 46). Such individuals are recognized as 'Elders,' though the title doesn't demand that they be an old person[14]. The title *Elder* does signify respect for using their knowledge for the flourishing of the human and non-human community and their dedication to pass it on to the next generations. The Indigenous Nations of the Pacific Northwest, like many others, have adapted to dramatic change from the spread of cedar trees and salmon as the ice retreated over 12,000 years (Haggan et al., 2006). Since colonization, they have endured nigh

[14] Nigel's friend and mentor the late *Kla-Kist-Ke-Is*, Chief Dr Simon Lucas was named an Elder at the age of 40.

annihilation from Old World diseases (Boyd, 1999), the wholesale annexation of their lands, the depletion of fish and forests once thought to be inexhaustible and attempted cultural genocide through church and state-run residential schools (MacDonald & Hudson, 2012). Yet they endure. The Twin Sisters that brought peace to the warring tribes are an example of the *prophetic imagination,* where prophets are not fortune-tellers, but rather the women and men who can look catastrophe in the face and ask, how can we, being true to our best selves, open the future to a level of justice we don't believe to be possible (Brueggemann, 2001).

As noted, compassionate or good mind brings the four dimensions of knowledge to bear with humility, truth, and love. This is often described as being "of good mind" (Miller, 2007). Onondaga scholar David Newhouse eloquently describes the painful struggle to have the University of Trent recognize the 'research credentials' of Indigenous Elders recruited as advisors in a new Indigenous PhD program (Newhouse, 2008). While Walter Lightning's criteria might have some traction in the caring professions, too often the qualities of humility and love get short shrift in the natural sciences (Oreskes, 2021).

"Good" or "Compassionate mind" which puts head and heart knowledge to work for the flourishing of the entire human and non-human community is projected onto the iconic Pacific Northwest Trillium flower (Figure 14 A). It seems as if good mind resembles the university mission of research, teaching, and service but without the gold silver and bronze standard.

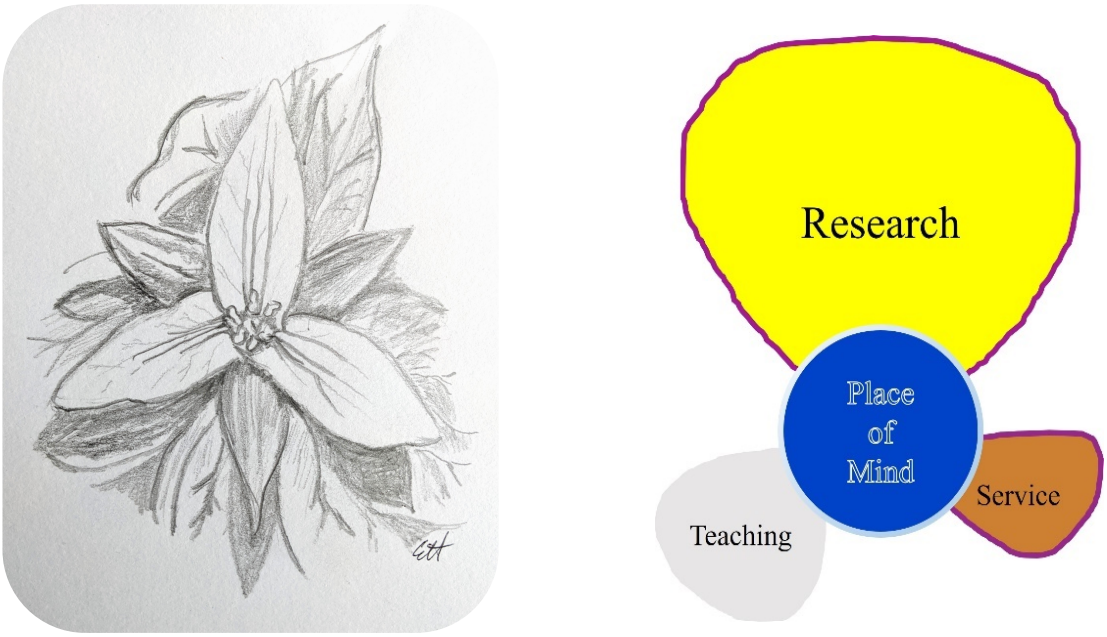


Figure 14 A: "Good" or "Compassionate mind," as Trillium flower where the petals represent 'Head' knowledge, 'heart knowledge' and dedication to community well-being. 14B: This maps onto the university mandate of research, teaching, and service, but without the implicit gold, silver, and bronze standard. Trillium drawing by Emily Haggan.

It seems that the academy might be able to call on the help of Indigenous scholars of good mind in rebalancing the four dimensions of knowledge or even hark back to St Augustine's Rule of Charity (1876 Chapter xxv) which states that any interpretation of scripture that lacks compassion is "illegitimate" (Nielsen, 2008). While St Augustine referred to the Christian bible, the rule might apply to all texts regarded as authoritative from the Qur'ān, Bible or Bhagavad Gita to The Origin of Species.

Cross-pollination

The dogwood and the Trillium are both pollinated by insects, including bumblebees, and Cease has a good story about that…

So, we've said that many researchers trace their passion to an encounter with a non-human; so, let's talk about this and what it means. One day I needed the help and guidance of the spiritual leaders in our community – the ceremonial leaders that do sweat lodges. Feeling overwhelmed, I went to the nearest sweat lodge, down by the train tracks in North Bend and not one of them was there. Feeling sad and a bit lost, I started to walk through a little cedar grove along the train tracks and I heard a buzzing. I looked to my right—facing south, thinking it was the trains or something like that, and this cloud was coming toward me bumbling and I realized it was a cloud of bumblebees, probably at least 500 of them!

And I stood still, I just didn't move, what do you do when you see a swarm of bees coming toward you? And they actually swarmed around me a few times and it felt like a couple of them were looking me in the eyes and almost hypnotizing me. They carried on after this for a couple of minutes. I looked to my left and it felt like two blinks and they were gone. I watched them fly up, turn into a funnel and swarm down into the ground and disappear. Later on, my mentors told me that the people rarely see a swarm of bumblebees moving their hive, so I was witness to a rare occurrence. And you know, the loss, the feeling that I needed guidance, was lifted from me—all from that one interaction with these creatures.

And I realized, that focussing on the pollinators would give me a deeper connection to the Earth and help me understand that my part as a human is to help the environment through helping these creatures that are often unseen. We see the evidence in the blossoms turning to berries and trees bearing fruit, but we don't always see the bees. We're not often witness to the actual pollination and definitely not to their moving of hives, so we don't always think about them living underground, but everything we need to care about in the environment starts underground at the root systems. So, my encounter with these bumblebees, led me to understand what a lot of my life work was meant to be. And I followed that, and I've had so much strength and vision as a result.

So, I ask all of you to think about how your formative encounters have shaped your relationships with non-humans. What lessons did you take home? How did that change your life vision and the goals you set to achieve it? What obstacles stand in the way of expressing the full range of your values and commitments in your life and or research?

Cognitive or epistemic injustice

Miranda Fricker coined the term Epistemic Injustice to signify a wrong done to a person or group in their capacity as a knower. She identifies two types, the first she calls Testimonial Injustice, where for example I wouldn't pay attention to my co-author Cease because she's Indigenous or

because she's a woman, or perhaps my daughter Emily because she doesn't have a PhD (Fricker, 2006, 2007).

The other is much more sinister, and the example she gives is of a woman suffering from sexual harassment in a culture where the concept does not exist. And we suggest to you that the exclusion of spiritual and emotional and other immeasurable ways of knowing from the academy is a deep-seated form of epistemic Injustice.

Now, I'm going to tell you a story about my friend Chief Robert Joseph affectionately known as Bobby Joe. For those who don't know, Chief Robert Joseph is one of the most respected elders in British Columbia. He was a major figure in the Truth and Reconciliation Commission that set out to expose and address the wrongs done through the residential school system.

Anyway, Bobby Joe and I were sitting having breakfast one day about three years ago when he said, "You'll never guess where I'm going next Nigel". And I said, "Tell me." "Well, he said, I'm going down to the Vancouver Club to talk to the owners and directors of all of the mining companies in British Columbia".

"Oh", I said. "Well, you might think of asking them how it is that they welcome into their company as a spiritual person, but not into the work of mining where, of course spirituality has no place. Whereas they, who no doubt have deep individual spiritual connections to places and may indeed suffer some unease about mining impact on lands, waters, and people, may not express that spiritual attachment in their work." So, we have a double-edged epistemic injustice whereby the people who may speak of the spiritual may not practice and those who are called to manage our fisheries, our forests and conduct environmental reviews may not use their spiritual knowledge or insight.

I'm going to let my Shuswap Nation friend Tim Michel speak here because he says things that would get me into trouble. The quote is from the film *Unsettling Environmental Review*[15] that explores the impact of exclusion of entire categories of immeasurable value from review of major pipeline and tanker projects to transport diluted Alberta bitumen to overseas markets:

> *"Now Aboriginal people are allowed to talk about spiritual matters. Unfortunately, that's all they're allowed to talk about. So, the form of censorship is, "You, we can trot you out, do your little song and dance, say your little prayer. And now, get along, the big boys are going to play."* (Tim Michel cited in Pierce, 2017)

Conclusion

I am a noun in a government report
And a verb in the river

We have argued that the physical, spiritual and emotional dimensions are as essential to science as to all other aspects of existence. The issue is not the disappearance of an ancient way of life, but of an imbalance of power where things that can be measured, counted, and modeled dominate social decision-making, where people somehow exist outside of the 'environment'. The challenge is to overcome the epistemic injustice inherent in discounting Aboriginal sacred values and excluding the insights (as opposed to the dogmas) of religion from resource management. Why do we care? Why do we fight for the animals, plants, lands, and waters to flourish? We do it because we love them and would miss them desperately if they were no more. We believe extinction, depletion and

[15] https://www.youtube.com/watch?v=nVIYfI7qWK0&t=1044s (Last accessed March 5, 2023).

impoverishment are 'wrong'. We believe flourishing is 'right', but as scholars, we are denied the language of love, compassion, gratitude, and contrition. These feelings overflow in the 'dedications', 'acknowledgements' and the occasional 'personal statement', but they may not appear in our scientific and economic analysis.

And yet, to say that the voices of science and economics are too loud is unfair to scientific and economic friends and colleagues who work endless hours to the flourishing of people, places, and beings they love. Their voices are not too loud, just too lonely. The voices of Indigenous spirituality, of religion as compassion for the poor and for impoverished nature, the musicians, poets, and painters are as lonely outside the wall as the scientists and economists are inside.

The good news is that our common language of love and need can liberate science and economics to explore all the ways the Earth contributes to our physical, emotional, spiritual and intellectual well-being.

Acknowledgements

- The hosts of the *Nexus 22* conference at the University of British Columbia.
- The people and beings of the sea, particularly the Pacific Northwest and the Irish Sea.
- Barb Cease and Senaquila—three three generation of the Wyss family, for the stories, art and translation.
- The McGovern Family and all the people of Cuilcagh Mountain.
- The First Nations of BC for their kindness, patience, and humour.
- Pauline Nashashibi and Pam Brown for critical comments.

References

Anon. (n.d.). *Understanding Holistic Wellness Through the Medicine Wheel*. University of Toronto. https://q.utoronto.ca/courses/189286/pages/understanding-holistic-wellness-through-the-medicine-wheel

Archibald, J. (2008). *Indigenous Storywork: Educating the Heart, Mind, Body, and Spirit*. UBC Press.

Bilby, R. E., Fransen, B. R., & Bisson, P. A. (1996). Incorporation of nitrogen and carbon from spawning coho salmon into the trophic system of small streams: Evidence from stable isotopes. *Canadian Journal of Fisheries and Aquatic Sciences*, *53*(1), 164–173.

Boyd, R. T. (1999). *The coming of the spirit of pestilence: Introduced infectious diseases and population decline among Northwest Coast Indians, 1774-1874*. UBC Press; University of Washington Press.

Brueggemann, W. (2001). *The Prophetic Imagination* (2nd Edition). Augsburg Fortress Press.

Carey, J. (1997). The Three Things Required of a Poet. *Ériu*, *48*(Journal Article), 41–58.

Carmody, I. Ób. (2012). *The Poems of Sinann – Story Archaeology*. https://storyarchaeology.com/the-poems-of-sinann-2/

Christian, D., & Wong, R. (2013). Untapping watershed mind. In C. Chen, J. MacLeod, & A. Neimanis (Eds.), *Thinking with Water* (Vol. 1–Book, Section, pp. 232–253). McGill-Queens University Press.

Christiani, D. (1965). H. C. Earwicker the Ostman. *James Joyce Quarterly*, *2*(3), 150–157.

Drew, D. J. (2007, June 16). Draiocht—Dei-A-Chara... The Tradition and History of the Irish Poet... *DRAIOCHT... DEI-A-CHARA...* http://davidjohndrew.blogspot.com/2007/06/tradition-and-history-of-irish-poet.html

Drucker, P., & Heizer, R. F. (1967). To Make my Name Good: A Reexamination of the Southern Kwakiutl Potlatch. In *To Make my Name Good*. University of California Press. https://doi.org/10.1525/9780520338371

Duncan, D. J. (2001). *My Story as Told by Water*. Sierra Club Books.

Ferlinghetti, L. (1958). Autobiography. In *A Coney Island of the mind: Poems* (Vol. 1–Book, Section). New Directions Publishing Corporation.

Fishbane, M. A. (2008). *Sacred Attunement: A Jewish theology*. University of Chicago Press.

Fricker, M. (2006). Powerlessness and social interpretation. *Episteme: A Journal of Social Epistemology*, *3*(1–2), 96–108.

Fricker, M. (2007). *Epistemic Injustice: Power and the Ethics of Knowing*. Oxford University Press.

Gwynn, Edward (Ed.). (1935). Sinann I. In I. Ób. Carmody (Trans.), *The Metrical Dindshenchas* (pp. 286–297; poems 53 and 54). Hodges Figgis and Co. https://storyarchaeology.com/the-poems-of-sinann-2/

Haggan, N., Turner, N. J., Carpenter, J., Jones, J. T., Menzies, C., & Mackie, Q. (2006). *12,000+ years of change: Linking traditional and modern ecosystem science in the Pacific Northwest.* (Vols 2006–02, pp. 30–30). UBC Fisheries Centre Working Papers. http://www.seannachie.ca/Website/Website-docs/12000yrs%20-%20Haggan%20et%20al.pdf

Haig-Brown, C. (1992). Choosing Border Work. *Canadian Journal of Native Education*, *19*(1), 96–116.

Harris, N. C. (2022). Cities build better biologists. *Scientific American Magazine*, *327*(4), 10.

Helfield, J. I., & Naiman, R. I. (2002). Salmon and alder as nitrogen sources to riparian forests in a boreal Alaskan watershed. *Oecologia*, *133*(4), 573–582. https://doi.org/10.1007/s00442-002-1070-x

Helfield, J. M., & Naiman, R. J. (2001). Effects of salmon-derived nitrogen on riparian forest growth and implications for stream productivity. *Ecology*, *82*(9), 2403–2409.

Hoagland, K. (1981). *1000 years of Irish poetry: The Gaelic and Anglo-Irish poets from pagan times to the present*. The Devin-Adair Company.

Holmes, L. (2000). Heart Knowledge, Blood Memory, and the Voice of the Land: Implications of Research Among Hawaiian Elders. In G. J. S. Dei, B. L. Hall, & D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts: Multiple readings of our world* (Vol. 1–Book, Section, pp. 37–53). University of Toronto Press.

ISGP. (2022). *NEXUS 2022 | Interdisciplinary Studies Graduate Program*. https://isgp.ubc.ca/nexus/nexus-2022/

Jastrow, R. (2000). *God and the Astronomers*. WW Norton & Company.

Kellert, S. R., & Wilson, E. O. (1995). *The Biophilia Hypothesis*. Island Press.

Korzybski, A. (1933). *A Non-Aristotelian System and Its Necessity for Rigour in Mathematics and Physics* (Vol. 1–Book, Section, pp. 747–761). The International Non-Aristotelian Library Publishing Company.

Lee, D. (1998). *Body Music*. House of Anansi.

Lightning, W. C. (1992). Compassionate mind: Implications of a text written by Elder Louis Sunchild. *Canadian Journal of Native Education*, *19*(2), 215–253.

MacDonald, D. B., & Hudson, G. (2012). The Genocide Question and Indian Residential Schools in Canada. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, *45*(2), 427–449. https://doi.org/10.1017/S000842391200039X

MacNeill, E. (1921). *Celtic Ireland*. Reissued 1981 by Academy Press.

Marsden, P. (2016). *Rising Ground: A Search for the Spirit of Place*. University of Chicago Press.
wa
McFague, S. (1997). The Loving Eye vs the Arrogant Eye: Christian Critique of the Western Gaze on Nature and the Third World. *The Ecumenical Review*, *49*(2).

Miller, B. G. (2007). *Be of good mind: Essays on the Coast Salish*. UBC Press.

Mong, A. I.-R. (1994). Yeats and the Bardic Tradition. *The Canadian Journal of Irish Studies*, *20*(1), 89–101. https://doi.org/10.2307/25512989

Naiman, R. J., Helfield, J. M., Bartz, K. K., Drake, D. C., & Honea, J. M. (2009). *Pacific Salmon, Marine-Derived Nutrients, and the Characteristics of Aquatic and Riparian Ecosystems*. *69*, 395–425.

Newhouse, D. (2008). Ganigonhi:oh The Good Mind Meets the Academy. *Canadian Journal of Native Education*, *31*(1), 184–197.

Nielsen, C. R. (2008). *St. Augustine: The Principle of Charity, The Gift of Multiple Meanings, and Scriptura ex Scriptura explicanda est*. http://percaritatem.com/2008/02/02/st-augustine-the-principle-of-charity-the-gift-of-multiple-meanings-and-scriptura-ex-scriptura-explicanda-est/

Ó hÓgáin, D. (1999). *The Sacred Isle: Belief and Religion in Pre-Christian Ireland*. Boydell & Brewer Ltd.

Oreskes, N. (2021). Is Science Too Mean? *Scientific American Magazine*, *324*(2), 2.

Pierce, J. R. (Director), Haggan, N (Producer). (2017). *Unsettling Environmental Review: Thoughts from the Pipelines and the Poetics of Place Project*. Seannachie Productions. https://www.youtube.com/watch?v=nVIYfI7qWK0&t=1044s

Reimchen, T. E. (2001). Salmon nutrients, nitrogen isotopes and coastal forests. *Ecoforestry*, *16* (Journal Article), 13–17.

Rose, D. B. (2007). Recursive epistemologies and an ethics of attention. In J. G. Goulet & B. G. Miller (Eds.), *Extraordinary Anthropology: Transformations in the Field* (Vol. 1–Book, Section, pp. 88–102). University of Nebraska Press.

Saint Augustine. (1876). *The Confessions* (Pilkington, Trans.). T. & T. Clark.

Spash, C. L. (2000). Ecosystems, contingent valuation and ethics: The case of wetland re-creation. *Ecological Economics*, *34*(2), 195–215.

Stockner, J. G. (2003). *Nutrients in Salmon Ecosystems: Sustaining Production and Biodiversity: Vol. Symposium 34*. American Fisheries Society.

Turner, N. J. (2005). *The Earth's Blanket: Traditional Teachings for Sustainable Living*. Douglas and McIntyre.

Wilson, E. O. (1984). *Biophilia: The Human Bond to Other Species*. Harvard University Press.

Wyss, B., & T'uy't'tanat, (Illustrator). (2006). *Squamish People of the Sunset Coast* (S. Wyss, Trans.). Trafford Publishing.