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Environment and society in Átl'ka7tsem/Howe Sound Biosphere: towards an integrated media ecology

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Abstract

In 1895, the Lumière brothers' *Workers Leaving the Factory* marked the birth of cinema and the mass dissemination of visual communication. The power of screen-based images allowed ordinary people to see their world and their place in it in a new way, with the light of a new unifying force, spoken in silence. Art, entertainment and propaganda, these images and the way they were created in many ways foretold the impacts they would have on their environment, such as in the first documentary, *Nanook of the North*, shot in the Canadian Arctic about an Inuit man named Allakariallak (1922). The Lumière workers' factory also marked the industrialisation of cultural storytelling, contributing to the symbolic annihilation of marginalised communities, including Indigenous people and nature, relegated to the

backdrop in film studies, rather than character. Moreover, the deregulation of communications industries would lead to a global climate crisis in our media ecology. More than a century since the silent spring of cinema, nature is being granted legal status and has become the central character in determining the outcome of our human story. The Bachelor Degrees of Environment and Society at Capilano University, Canada, endeavour to remediate these education 'hotspots' by integrating Indigenous land- and water-based knowledge with environmental studies, science and slow cinema praxis in a sensitive, multi-jurisdictional biosphere region, Átl'ka7tsem/Howe Sound Biosphere, Canada, under the unifying concepts of consilience, decolonisation and sustainability. These educational models attempt to offset the impacts of colonialism and corporatism, creating a balance between humans, industry and the environment, modelling reconciliation as a way forward.

Keywords environment; sustainability; consilience; reconciliation; media ecology; film studies; Indigenous; decolonisation; visual communication; slow cinema

Towards an integrated media ecology

In December 1968, at the end of a tumultuous year of political upheaval, people the world over paused for a moment to look at an image that would forever change the course of history. Known as *Earthrise*, the photograph shows a beautiful green-and-blue planet gracefully suspended in space, faithfully orbiting around the sun. For a transitory moment, humanity caught a glimpse of an undeniable truth: that we share one home.

No borders were visible from outer space, rather, an elegant system of land and water that showed that we all live downstream. As a result of a singular image taken from lunar orbit by astronaut William Anders, on 24 December 1968, the world had turned a corner (Life Editors, 2003: front cover). Many say it was at this moment, *Earthrise*, that the environmental movement was truly born (Lytle, 2007).

One response to rising global environmental awareness was the founding of Greenpeace in Vancouver in 1971 by seven academics and journalists who helped pioneer environmental media activism by applying their professional media skills to raise awareness about environmental harm, sometimes with controversial tactics and targets, from seal hunts to whaling (Wyler, 2004).

During the same period, the National Film Board of Canada (NFB), the world's first public studio, was engaged in a citizen journalism initiative, Challenge for Change. A bilingual, pluralistic programme born from the nation's 1967 centennial events, Challenge for Change ran from 1967 to 1980, and was one of the first programmes to adopt portable video. The latter was a new and relatively simple technology that made the documentary form accessible to ordinary citizens, who used the public cameras to confront issues such as poverty, sexism and marginalisation in their communities (Waugh et al., 2010).

As a film educator, the NFB provided the model for a media education curriculum across the nation, as post-secondary institutions developed film and communications departments in the 1960s and 1970s, and younger Canadian students watched 16 mm nature films about woodchucks and beavers in natural science classes. Nevertheless, developing the potential to integrate these important developments into a media ecology learning model and praxis would require several critical historical and theoretical evolutionary steps.

Cinema for social change

The founder of the NFB, John Grierson, had developed an original vision of bringing the citizen in from the wilderness to the 'drama of the doorstep' in the 1930s, and it had now been realised through technological evolution, and the development of an educational distribution model predicated on the London Film Society:

> 'The basic force behind [documentary] was social and not æsthetic. It was a desire to make a drama out of the ordinary, to set against the prevailing drama of the extraordinary: a desire

> to bring the citizen's eye in from the ends of the earth to the story, his own story, of what was happening under his nose,' wrote Grierson. (Barnouw, 1993: 85)

Coining the word *documentary* to describe Robert Flaherty's first non-fiction feature film *Nanook of the North* (1922) (Leach, 2006), Grierson nevertheless had decried the American director's representation of Allakariallak, the Inuit subject cast as 'Nanook'. (Barnouw, 1993). Allakariallak's way of being – the survival skills, language and culture of the Inuit amid the harshest of conditions – had captivated and earned the respect of film audiences across the world. Despite the limits of Flaherty's ethnographic approach, Allakariallak had defied and transcended them (Yue, 2021). 'Nanook's' extraordinary way of being in the seemingly desolate Hudson Bay region, engaging in daily acts of survival, from seal hunting to building an igloo, reveals deep land- and water-based knowledge, a hallmark of sovereignty (Grimshaw, 2014).

Naval historian Andrew Lambert asserts that Captain Franklin, in his search for the Northwest Passage, saw the Inuit eating raw seal meat, but did not recognise that this was a solution to his own men dying of a fatal lack of nutrients. Instead, the Inuit were described as 'savages' in his ship log. Due to his failure to integrate Inuit water-based knowledge into his navigational practice, Franklin's crew died of scurvy: seals are part of an intricate web of life on the underside of the sea ice, providing the Inuit with a rich source of vitamin C, and other essential vitamins and minerals. This intimate knowledge of the Arctic ecosystem had been developed over millennia, and it is how the Inuit had survived (Lambert, 2009).

It is this deep knowledge of, and relationship with, their land and water that establishes undeniable sovereignty for First Nations. Moreover, it is this ancient knowledge that is ultimately what still works in the film one hundred years later (Brave Noisecat, 2020).

More than a land of snow and ice, where nature plays backdrop to Hollywood north woods melodramas, Canada is today known as a land of natural beauty symbolised by a flag with a maple leaf. This land- and water-based identity of Canada had first been captured in images not by the Group of Seven painters, nor by Robert Flaherty, but by the camera used in the style of the Lumière brothers in *Les Chutes* (*The Falls*, 1897), a breathtaking moving image of the great Niagara River pulsing over the ledge of the falls captured by a hand-cranked camera and a still frame. These first 30 seconds of cinema in Canada revealed the potency of observational film praxis, a philosophy that is now embraced by some Indigenous film-makers as 'slow media', and which reframes the factory-based models born with the Lumière brothers' *Workers Leaving the Factory* in 1895. In other words, the origins of the cinema itself could today be framed as an early iteration of 'slow cinema'.

NFB founder John Grierson had wanted to harness the power of the real unleashed by the Lumière brothers' workers, trains and rivers, and to turn Flaherty's ethnographic lens into an overtly subjective frame. Describing art as a hammer, Grierson famously declared, 'I look upon the cinema as a pulpit' (Barnouw, 1993: 85).

It was this public/sponsored production model that he would bring to Canada in 1939, establishing the National Film Board of Canada, along with the nationalist-realist Canadian film tradition. The NFB would become a key weapon of war against Joseph Goebbels's Nazi propaganda machine and for liberal democracy, earning it the first documentary Oscar for *Churchill's Island*, directed by Stuart Legg, in 1942 (Melnyk, 2004). While 'The Board' essentially began as an anti-fascist film unit for creating wartime government propaganda, it is in the UK Film Unit's seminal 1930s social documentaries that Grierson produced – for example in *Song of Ceylon* (1934), *Night Mail* (1936) and *Housing Problems* (1935) – that the limits of government-sponsored cinema would be tested, and the documentary form's social potential foretold (Aitken, 1993).

Housing Problems employs early sound to bring viewers inside the world of slum living so they can feel the peeling, mildewing wallpaper of post-industrial row housing, and hear Mrs Graves talk first-hand about her encounter with a terrier-sized rat. Considered to be one of the first uses of the 'testimonial' on camera (or eyewitness view), *Housing Problems* pioneers a blunt social documentary approach that would form the basis of the NFB's Challenge for Change community programme 30 years later. In other words,

these early English-language documentaries and their social application (for example, anti-colonialism, workers' rights and better public housing) are the foundation stones of community media activism that flourished in the late 1960s, becoming point-of-view cinema, or POV.

Nationally, in order to foster a genuine community dialogue, a core principle of the community initiative Challenge for Change (called La Societé Nouvelle in Quebec), had been to give control over the film-making process to community members, so that ordinary people under-represented by commercial media could tell their own stories: from the realities of land right violations on First Nations reserves (*You Are on Indian Land*, 1969), to the experience of single mothers trapped at home without career prospects in the *Working Mothers* series (1974–5) – reminiscent of Mrs Graves, stuck in her crumbling row house with her baby and rats, and no way out of her 'housing problem' (Vanstone, 2007). Investigative reports on local concerns, such the environmental impacts of industrial farming practices on the Canadian prairies, or stories about alternative communities in the back to the land movement (*Mudflats Living*, 1972), all reflected realities of Canada back to Canadians and to the world.

Not surprisingly, the underpinnings of these now-cherished cultural artefacts about Canada's multi-localised past would come not only critically to define Canadian cinema and national identity, but also the work of its founding Toronto School communications theorist and media analyst, Marshall McLuhan, who wrote in his seminal 1967 work, *The Medium is the Message*, that the media itself needed to be considered as part of our environment: 'Environments are not just containers, but are processes that change the context totally' (McLuhan and Zingrone, 1997: 275). In his theory of media ecology, McLuhan explored how the four domains of media (identified as media, language, culture and technology) *interacted*, theorising that they 'behave like living organisms in that they are emergent phenomenon, and they evolve, propagate their organization and interact with each other in a media ecosystem' (Logan, 2007: 1).

This theoretical framework raises inevitable questions: In an era of media proliferation and conglomeration, how healthy is that environment today – and how sustainable? What does a healthy media ecology require, and how can communities engage their environment with media?

By the 1980s, the technological age had arrived, and the industrial world had fully embraced it. In Vancouver, it became the promise of a new age when the relatively unknown Canadian city hosted the World Exposition in 1986 with the tagline: 'A World in Motion, a World in Touch', tapping into 1980s optimism about our potential to use transportation and communication technologies to advance our world, something for which Canada had a proud history (Francis, 2021).

The business ventures facilitated by the Exposition helped lead to the development of 'Hollywood North', a commercial film production centre within short-haul flight range of Los Angeles, one designed to attract US and other international producers. What emerged was an industry that employs more than 50,000 workers, and film training programmes such as the Bachelor of Motion Picture Arts, the Indigenous Digital Film Diploma, and the Documentary Programs at Capilano University.

Indigenous gaze, Indigenous voice

In Canada, the emerging cable universe during the 1980s meant production funding for independent film-makers, and affordable, portable technologies to make films. The decolonisation of national television actively began in 1999 with the establishment of the Aboriginal Peoples Television Network (APTN), a national cable network that broadcasts in both English and a variety of Indigenous languages.

The early and enthusiastic adoption of radio by the Indigenous communities, transmitted in their various languages in the early 1960s, was the precursor. The emerging stories and structure of Indigenous media have offered a counternarrative to the dominant narratives of commercial and public English-language media (Raheja, 2010). This became a critical next step in media decolonisation, given the dynamics of changing market values and the political winds of public funding in the 1990s, such as the large cuts to the BBC and CBC, and the termination of the female-dedicated Studio D at the NFB as a result of significant new government policies and priorities (Vanstone, 2007).

Fast running: a media reclamation case study

Cannes Festival Palme d'Or winner Zacharias Kunuk recounts how the Elders of his Inuit community, Igloolik, had first disregarded the potential for the emerging satellite communications in their territory when the federal government had launched a programme in 1975 to test new satellite applications, resulting in the first distribution of English-language television into a number of Inuit communities, including Igloolik.

Looking to neighbouring communities who had adopted the new medium to see what impacts it was having, Igloolik researchers reported increasing social isolation, and a lack of meaningful time spent with Elders. They concluded that the technology decreased the opportunities for essential exchanges in their Inuktitut language, and thus a loss of cultural engagement. Based on these observations, the Igloolik community refused the delivery of the first satellite signals broadcast in the Arctic:

> The Inuit have successfully adapted to technological innovation several times throughout their history. Neither firearms nor snowmobiles are indigenous to the North, but both have become central elements of contemporary Inuit hunting culture. It was clear that television in the North was not going to go away; the challenge for Inuit was to find a way of adapting this technology to their own ends, using television as a vehicle for the protection of their language, rather than as an agent of its destruction. (Inuit Broadcasting Corporation, 2025: n.p.)

In 1981, then 24-year-old Zacharius Kunuk took a trip to Montreal personally to promote his whalebone carvings, purchasing a video camera during his visit. He brought that camera home to his village of Igloolik, and his initial projects were simple documentaries with Elders. He set up his camera and conversed with them in Inuktitut, listened to their stories, and asked questions about the old travelling and hunting techniques on the land and ice. Initially, he was wary of the reaction from those same Elders in his community who had rejected the satellite signals from the south. 'They didn't say anything. I just worked with some of them. And then one of the old ones died. That's when they realised the power of the camera. We had this person's words and stories, and they were in our language' (Zacharias Kunuk interview with Gregory Coyes, 26 July 2015).

Once the production of Inuit language video programming had begun, the practice spread quickly throughout the eastern Arctic. This was community-based programming, free of commercial interruptions. Rudimentary television production facilities were installed and teams of newly recruited Inuit trainees began to learn the fundamentals of television production. Video playback equipment was installed in communities that had barely begun to receive television. The first Inukshuk videotapes circulated among communities, and they were locally screened in community halls, council chambers and classrooms (Inuit Broadcasting Corporation, 2025).

The impact in the communities of Inuktitut programming was very positive, and in 1981, the Canadian Radio and Telecommunications Commission (CRTC) granted a network television licence to the Inuit Tapirisat of Canada, and the Inuit Broadcasting Corporation (IBC) was formed. Over the next 15 years the IBC focused on training and production in the Inuktitut language. This was Inuit programming, made by Inuit producers, for an Inuit audience. In essence, they used many of the same adaptive techniques that had been employed with radio decades earlier.

Those first video programmes exchanged between Igloolik and other communities in the IBC network were free from the commercial imperative that was the driving force of the large majority of broadcasting in the rest of North America. The IBC utilised the medium of television to exchange information and opinions valued by the Inuit of the eastern Arctic over the 3.3 million square kilometres that defined their Arctic territory.

Free from the dominant, high-impact imperatives of commercial television, the Inuit aesthetic of video began to incubate. Over a 20-year period, from 1980 until 2000, the Inuit of the eastern Arctic utilised the IBC to tell their own stories, centred on a cultural rather than a market economy. Withstanding the allure of commercial media, they began to use the platform to entertain their adults

and Elders, and to educate their youth, all in the Inuktitut language. With no commercial incentive at the IBC, and nothing to sell one another, there was no motivation for fast-paced, tightly edited and slick commercials, or dictated lengths of programming, so a different approach to screen-based storytelling and aesthetics emerged.

It was over that 20-year window prior to the release of *Atanarjuat: The fast runner* in 2001, in this peculiar commercial-free media environment, that Zacharius Kunuk developed his celebrated cinematic aesthetic of a slower cinema. This is a cinematic practice that does not fragment the action but allows the land and characters to reveal themselves through time and space. Recognised as having transmitted a new form a cinematic language, it was awarded the highest film honours at the Cannes Film Festival, alongside 20 other international awards.

Educational reframe: slow media

Inspiring a new generation of cutting-edge Indigenous film-makers, the Indigenous Digital Film programme (IDF) was established in 1999 and developed over 20 years by Indigenous film-maker and leader Doreen Manuel, MFA (Secwépemc/Ktunaxa), now the Director of the Bosa Centre for Film and Animation.

The IDF programme at Capilano University is currently taught by experienced Indigenous international faculty with a strong track record in the larger Canadian industry. They regularly work with their students in circle, and their story-building process, in both their documentary and dramatic courses, draws on the oldest oral traditions of storytelling. One of these traditions is to regard the home territory, the most familiar of landscapes, as a true and living character. With films such as *Atanarjuat: The fast runner*, this practice of land and territory as character migrated from the ancient oral tradition to current Indigenous cinema (Brave Noisecat, 2020).

This land-based preoccupation of the Indigenous lens became the subject of IDF programme coordinator, Gregory Coyes's (2018) master's thesis studies, which detailed the evolution of the Inuit cinematic aesthetic described theoretically as 'slow media'. Coyes's (2018) thesis on media evolution attempts to decolonise media practices by disrupting the traditional temporal and spatial relations of cinema, and in so doing, to generate counternarratives to mainstream digital consumption.

This land-based, cinematic learning is part of the IDF curriculum, wherein students utilise the camera as a means to slow down in their cinematic and observational practice – to watch and to listen, so that the environment around them can reveal itself on camera. The slow media practice has been described as 'yoga for film-makers', and it utilises a still frame that harkens back to the earliest Lumière brothers' observational *actualités* films.

Recognising that the increasingly frenetic pace of our media has been driven forward since the first American Bulova watch television commercial in New York in 1941, the slow media practice includes shots of at least 30 seconds in length, and often uses longer takes. The resulting programmes feature both spectacular and intimately detailed shots that recognise and promote the 'real time' of nature, a vital component of health that is largely absent in our media lives and media ecology (Gitlin, 2001).

These experiments in applied media raise the question: Can we look beyond the commercial imperative of high-impact, high-tempo media, and utilise our media space instead to nurture and revitalise our audience? As media practitioners, can we reclaim our media from conglomeration, and begin to truly decolonise our media practice and ecosystem in an Indigenous way?

In many of the Indigenous cultures in Canada, and worldwide, seasonal resources are collected and gathered, and shared with the community. This reciprocity is done freely and often because, in essence, 'what goes around, comes around'. The givers of the collected resource are supported by the Indigenous community in a myriad of ways. And the gatherers, the harvesters and the film-maker practitioners are also benefiting through their own practice, through their own enriched experiences as hunters, gatherers and collectors of experience.

While the gathering of slow media images is approached in this way, the exchange between the practitioners and their audience is still challenging: What is a sustainable model in an area of the arts (film and television) that has been driven by a purely commercial model for more than 80 years? The Bachelor of Environment and Society (BES) degrees, as well as the School of Motion Picture Arts at Capilano University continue to ask questions, and to look for answers.

Applying these questions through the consilience model to the development of the Visual Arts, Media and Design module within the BES, the Indigenous and Documentary programmes consulted and collaborated in integrating Indigenous practices and ethics into a basic media skills course that will be co-taught by both an Indigenous and non-Indigenous instructor along these lines: 'John Grierson long ago coined the term as a "creative treatment of actuality", but now documentary might best be defined as an agreement among actual people to be creative' (Greene, 2020: para. 1). The Indigenous slow media curriculum helped to build a pathway into the development of the media course for the BES degrees in order to explore utilising a media ecosystem on location within the Átl'ka7tsem/Howe Sound UNESCO Biosphere Region through emerging curricular integrations and applications thereof.

Through the lens of reconcilation

To educate the fellow future messengers in an era of decolonisation and reconciliation, it is vital to open the academy, and, in the face of artificial intelligence, to focus on core human values and ethics, which, at their heart, come back to community or communal values and authentic connection (Applebaum, 2024). This philosophical and ethical realignment offers an intersection point and social ballast to an automated world, wherein traditional knowledge developed in First Nations societies can potentially integrate with academic traditions to offer a more pluralistic, and thereby realistic, way forward in community and consilience (hooks, 2012). In Canada, this has required a rigorous process of institutional decolonisation, with the current process concentrating on implementing the recommendations of the Truth and Reconciliation Commission (TRC, 2015) that was established in 2008, modelled on the South African Commission.

It also requires the recognition and cultivation of individual agency in the process of decolonisation as a way forward, applying the learning of collective history to implement healing and lasting change. In other words, to facilitate, learn and engage the process of reconciliation at the multi-local level requires a community classroom space in which to listen, observe, share, learn, play and experiment in good faith, while employing a unifying model.

Reconciliation and the academy

Capilano University was named after Sa7plek (Chief Joe Capilano), an important leader of the Sḵwx̱wú7mesh (Squamish) Nation of the Coast Salish Peoples. The university's commitment to honouring its Indigenous relations and to reconciliation is shared in a living document named Chéɬchenstway, meaning 'to support and respect each other and to work together with a light heart that lifts everyone up to get the work done' (Nahanee: n.d.: n.p.; Sḵwx̱wú7mesh/Squamish Elder, Chéɬchenstway – Capilano University). This principle is intended to guide the university in supporting Indigenous ways of knowing and strengthening its relationships with First Nations, the Inuit and the Métis.

Learning in Átl'ḵa7tsem/Howe Sound Biosphere

Twenty minutes away from downtown Vancouver lies a unique and beautiful part of the province called Átl'ḵa7tsem, or Howe Sound, now home to a newly designated UN Biosphere set in a stunning glacial fjord that is providing an intersectional framework for modelling sustainability:

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> Biosphere Regions (or Biosphere Reserves) are models for sustainable development, implementing the United Nations Sustainable Development Goals through collaboration and engagement across communities and sectors. They inspire a positive future for people and nature. The United Nations Educational, Scientific and Cultural Organization's (UNESCO) mission is to build networks among global nations to achieve lasting peace. (Átl'ḵa7tsem/Howe Sound Biosphere Region, 2024: n.p.)

Átl'ḵa7tsem/Howe Sound Biosphere, is centred in the middle of Capilano University's regional campuses, extending from two locations on Vancouver's North Shore, situated on xʷməθkʷəy̓əm (Musqueam) and Sə́l̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) territories, up the Sḵwx̱wú7mesh (Squamish) corridor towards Lí l̓wat (Lillooet) territory, as well as along the Sunshine Coast peninsula, where the university's Documentary Program was first launched on shíshálh (Sechelt) territory. Given its place and significance as a regional educator, the university was asked to be the educational partner of the Átl'ḵa7tsem/Howe Sound UNESCO Biosphere Region Initiative Society. Accordingly, the Átl'ḵa7tsem/Howe Sound Biosphere community work with overlapping jurisdictions under the philosophy: 'People and Nature in Balance'. Together with educators working across disciplines, practices and cultures, they are implementing a curriculum that could offset some of the negative outgrowths of environmental disregard – be it physical, cultural or virtual.

A condition of the biosphere designation in Átl'ḵa7tsem/Howe Sound was to work in partnership with the region's First Nations to ensure Indigenous sovereignty and, by extension, to honour stewardship in a fragile ecology where lands were historically developed for resource extraction (Britannia copper mine), processing (Port Mellon lumber mill) and outdoor tourism and recreation (Whistler Blackcomb Ski Resort, host of the 2010 Olympics, and a provincial ferry system), although they were never ceded through treaties.

Building upon some successes and many failures, it was through the intersection of these four realms at the university – Indigenous, academic, cinematic and environmental – that several scholars from diverse disciplines started working together to generate an integrated learning model that could be applied to an outdoor classroom: Átl'ḵa7tsem, the Howe Sound Biosphere, not only as a model of sustainability but as a praxis of reconciliation. One significant result, the Bachelor of Environment and Society (BES) degrees, will be launched in autumn 2025.

Building the Bachelor Degrees of Environment and Society: catalysts for change

The Bachelor of Environment and Society degrees evolved over several years and were catalysed by a variety of factors. Environmental education and programming have had a long history and have been a cornerstone of the curriculum at Capilano University. Prior to the development of the new degrees, environmental courses were offered across many disciplines in different faculties across campus. Faculty teaching these courses were drawn together by students taking the courses and encouraged to create a campus-wide initiative that would reach beyond individual disciplines and individual classrooms. The result was the EarthWorks Collective in 2011.

Through lectures, films, speakers and environmental stewardship activities on campus and in the field, the overall goal of EarthWorks was to dissect the complexities of environmental issues and work towards solutions. It provided the scaffolding to help participants understand how the mechanisms and functions of the natural world intersect with larger human dilemmas such as poverty, homelessness, racism and colonialism, all in an applied community context.

Within our small regional community institution, the intersectionality of environmental issues planted a key seed. The EarthWorks Collective also provided evidence of the shared desire for environmental knowledge among a wide range of students, faculty and community members, and this informed the pedagogical rationale.

Offerings by EarthWorks further provided an avenue for engagement of students in the School of Motion Picture Arts, where students passionate about tackling environmental issues have access to coursework that explores the scientific, economic and cultural drivers behind environmental concerns, so they can accurately apply research models to portraying important stories on film.

Consilience: the degree anchor

The concept of consilience – the synthesis of knowledge across disciplines – served as the key anchor for the academic scaffolding of the degrees. The curriculum evolved to address sociobiologist E.O. Wilson's (1998: 13) point: 'Every college student should be able to answer the following question: What is the relation between science and the humanities, and how is it important for human welfare?'

Wilson concluded that:

> the issues that vex humanity daily – ethnic conflict, arms escalation, overpopulation, abortion, environment, endemic poverty, to cite several most persistently before us – cannot be solved without integrating knowledge from the natural sciences with that of the social sciences and humanities. Only fluency across the boundaries will provide a clear view of the world as it really is, not as seen through the lens of ideologies and religious dogmas or commanded by myopic response to immediate need. (Wilson, 1998: 13)

Consilience is critically needed in academia. The Bachelor of Environment and Society degrees aim to combat the tendency of academic institutions to silo disciplines. The developers saw real value in a unity of the arts and sciences, noting that the separation and supposed incompatibility between the arts and sciences weakens the opportunity for collaboration and the synthesis of knowledge.

Lisa Jardine (1999) in *Ingenious Pursuits*, argues that the cultures of art and science are not incompatible, and when fused as they were in the 17th and 18th centuries, they fuelled the human imagination forward to moments of brilliance, aligned with enlightenment principles of 'progress'. Given the complexity of today's environmental issues, it was thought that moments of brilliance are critically needed now, and that using consilience as a design approach would be of significant value for the new degrees.

Work with interpretive synthesist Mitchell Thomashow also informed the BES degrees. This work is already underway, as 'a new generation of highly trained interdisciplinary environmental scholars integrate earth systems science, evolutionary ecology, biogeochemistry, network theory, urban planning, and sustainability science with new approaches to social and emotional intelligence, decision-making systems, behavioural change, and concepts of human flourishing' (Thomashow, 2020: 12).

Degree developers also incorporated Indigenous knowledge and perspectives into curricula. This incorporation was seen as a natural extension of the concept of consilience; the curricula grew beyond traditional academic lines and gained another pillar, which supported an environmental focus and steps towards addressing Calls to Action. Today, many scientists working in the field are acknowledging the value of traditional ecological knowledge (TEK), and are incorporating that knowledge into their scientific analyses, as it provides an understanding of an ecosystem's history, its diversity, its health and its changes over time. One example: the northeast Pacific is globally renowned for its populations of orcas (killer whales). Distinct populations exist, and one group is at risk of extinction, the southern resident killer whales. Plans for their conservation are being informed by Indigenous TEK, beliefs and protocols (Biedenweg et al., 2023).

Degree architecture

An Environmental Studies degree and an Environmental Sciences degree are offered within the Bachelor of Environment and Society (BES) programme. Both are multidisciplinary, interdisciplinary and modular,

and they support a multidimensional educational approach to combine theory and applied skills. To support cross-disciplinary dialogue and learning, students from the two degrees are brought together when taking courses common to both degrees. Additionally, Environmental Sciences students have required social sciences and humanities courses, and Environmental Studies students have required science, technology, engineering and mathematic (STEM) courses.

Special topic modules (upper-level course packages) allow students to select areas of study based on their strengths and interests. Modules such as Biodiversity and Conservation, Applied Ecology, and Climate Change Adaptation and Mitigation (science) are options for science students, but modules such as Urban Sustainability, Climate Change Adaptation and Mitigation (studies), Environmental Management, Reconciliation in Environmental Studies, The Human Footprint, and Visual Arts, Media and Design, will be popular for students in either degree.

It is intended that the degrees' innovative design will not only support a diverse body of students, but also the diverse interests and talents of any student. To that end, degree developers have embedded options for required assignments such that a student might write a scientific report or submit a landscape document created after community work and interviews with Indigenous Elders, or provide a short documentary film on a place, a species or environmental issue. At the core of these approaches was the acknowledgement of the value and power of story.

One example: an upper-level module option entitled Visual Arts, Media and Design includes required courses in Documentary Field Studies I and Visual Communication, and the elective courses Art, Activism and Citizenship; Art and Science – Creative Collaborations; Canadian Content – Art, Land and National Identity; Literature and Media; Literature and the Environment; and Documentary Cinema Arts. The module facilitates not only the merging of a student's academic interests with their creative talents in media production and communication, but also intellectual cohesion across disciplines and an educational pathway distinctly different than those provided by more traditional academic programmes.

Overall, the combination of multidisciplinary studies, place-based and workplace-integrated learning should ensure that the capacity-building of the region, both socially and economically, works toward the goals of green economies, communities and environmental sustainability. The degrees are a pluralistic hub, braiding together knowledge, peoples and places.

Goals and intentions around reconciliation

The degree finds a place

The inclusion of traditional ecological knowledge (TEK) and Indigenous environmental perspectives in the degrees' curricula is seen as being supportive of the concepts of consilience and intellectual unity: 'Indigenous knowledges and technology contribute uniquely to finding innovative solutions for complex environmental issues' (Evering and Longboat, 2013: 249). The inclusion of these concepts also provides an authentic pathway to apply the Truth and Reconciliation: Calls to Action in Canada within the academy and the media (TRC, 2015)

Canada and its educators have a long way to go in terms of understanding what reconciliation, Indigenising and decolonising fully mean in terms of our disciplines, our programmes, campus space and many other aspects of the academy. Many have written on these issues, and their work has offered powerful insights and critiques that have informed the path forward for the degrees. This work focuses on critiques of the academy (Coulthard, 2014), environmental programmes and Indigenous cultural resurgence (Simpson, 2002), decolonising methodologies (Smith, 1999), classroom learning, and racism and trauma (Cote-Meek, 2014).

In designing the Bachelor of Environment and Society degrees, there was an opportunity to address issues related to the legacy of colonial systems and relationships between the land and people. Equally important was the commitment to decolonise our teaching and learning pedagogy, and to consider our

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own disciplines and the opportunities that exist for different ways of thinking, as well as to consider the value and include the knowledge gained by the original peoples of this land.

Further, it is Indigenous perspectives and traditional ecological knowledge that have informed a movement considered by many as the only signatory path for support of the diversity of life on the planet: giving nature legal rights. When nature is provided with such rights, direct legal action in cases of harm can be launched – a remarkable step in the world of conservation, and one that was initiated and is being maintained by the embrace of Indigenous knowledge systems. For instance, as a result of the success of providing rights to waterways in South America and Australia, Indigenous knowledge systems were also considered in the granting of legal personhood to the Magpie River in Canada in 2021 (Nerberg, 2022).

Giving nature rights gives nature the legal power to defend itself – a voice in court – and recognises the ways in which Indigenous populations have been living with the environment for thousands of years. If we then listen to nature's voice, such as what the melting polar ice caps of 'Nanook's' silent documentary are now broadcasting, the message of climate change becomes loud and clear.

Consultation and sovereignty

The most critical findings of this pedagogical collaboration revealed that this process requires a recognition of sovereignty, and a complex and dedicated consultation methodology.

During the degree development process, degree developers consulted with the Nations through the Indigenous Education Advisory Committee, with an Indigenous Advisor through our Centre for Teaching Excellence, and with the coordinator of the Sechelt Language Program. Developers also consulted with an ethnoecologist from the Squamish Nation, who helped develop three upper-level courses as part of our Reconciliation in Environmental Studies module, and they met with the Regional Director of Capilano University's kála-ay campus at Sechelt, where the Documentary Program was born. Degree developers met with faculty from the Native Education College in Vancouver and consulted with two businesses that were local, Indigenous-owned environmental consulting companies.

The design of the degrees was also informed by the 10 Calls to Action for Natural Scientists (Wong et al., 2020), which encourage reconciliation in their work. The shared connection to the land by Indigenous communities and natural scientists can be a comfortable first step to relationship and trust building. However, that relationship relies on a number of critical features, with some of those features being the need for any researcher to understand the history and sociopolitical landscape of research sites; seek permission for work and include Nation members in that work; acknowledge the legacy and ownership of traditional ecological knowledge; and understand that data collected belongs to the Nation and can only be shared with members' permission.

Degree developers integrated their consultations with Indigenous scholars and Indigenous environmental professionals to establish pillars between which the various disciplines can intersect through the curricular modules. The learnings from these consultations were focused on areas of capacity building with the Nations, honouring Indigenous expertise, collaboration on knowledge generation, fair compensation and workplace opportunities, decolonising opportunities, land and culture connections, and university processes and reconciliation (Shawna Duncan, Cree Nation, Educational Developer, Indigenous Pedagogies, Centre for Teaching Excellence, and Kim McLeod, Tŝzil Learning Centre, Mt Currie, School of Access and Academic Preparation – First Nations Transition, personal communication, 4 June 2021; Micki McCartney, Regional Director, kála-ay the Sunshine Coast Campus, personal communication, 22 October 2021).

Further, all Bachelor of Environment and Society degree students are required to take courses in First Nations history, cultures and reconciliation, and in their upper years they can elect to take the special topic module on Reconciliation in Environmental Studies, which focuses on the link between physical landscapes and human language, and on culture and practices of resource use. Through the interdisciplinary frameworks of the degrees, and in accordance with the United Nations Declaration on

the Rights of Indigenous Peoples (UNDRIP, 2008) and the Truth and Reconciliation Commission of Canada: Calls to Action (TRC, 2015), faculty and students will explore different perspectives, and ways of knowing, and will think deeply about what reconciliation means in terms of these new degrees. They will learn to apply their knowledge through scholarly and creative praxis in the biosphere.

Educating in the biosphere: learning from place

The BES degrees will provide the scaffolding and flexibility for their graduates to have a multidisciplinary toolkit to at the very least have an emotional and academic awareness of the extent to which dualistic perspectives fall short. They will also be equipped to begin to answer Wilson's (1998) original question and new ones, for example: 'What does the world look like with 10 billion people leading good lives in a way that is sustainable in the long term and leaves posterity with not only a liveable planet, but also one on which other living things flourish? This question captures the challenges of the coming generations' (Michael Fleming, Chair of Humanities, Philosophy Instructor, Bachelor of Environment and Society Working Group, personal communication, November 2024)

A key strength of the Bachelor of Environment and Society degrees is that they have grown up from this place. They are informed by the land. Students in several courses begin their studies with a week on the land. This novel approach was considered essential. What better way to sharpen one's viewing lens, to gain an understanding of the ecological drivers of place, and to become aware of the deep physical and spiritual connection that Indigenous communities have long had to the land? The degrees acknowledge that the land speaks, and we should listen.

The degrees overall are aligned with the cultural, economic and biological richness of our local region, as is now globally recognised via the establishment of the Átl'ka7tsem/Howe Sound Biosphere. With the combination of multidisciplinary studies, place-based learning and workplace-integrated learning, they will support the capacity-building of the region, both socially and economically, as society works toward the goals of green economies, communities and environmental sustainability. Graduates will be ecologically literate and socially and culturally competent. Importantly, as global issues have no boundaries, the 'toolkit' students will acquire in this regionally integrated setting can be applied regionally, nationally and globally.

Conclusion: a new media ecology

As the Bachelor of Environment and Society degrees evolve, in the absence of laws to regulate human behaviours – the catalysts for most environmental issues – an integrated education that includes media skills and ethics may be one of the most direct and immediate routes to protection of nature. These degrees are aligned with the Indigenous philosophy – that all life is equal, and that there is a natural democracy. In this way, as Indigenous rights evolve in Canada, environmental and media activists, along with scholars, are pushing for Canada to move forward with laws similar to those in Ecuador and many other countries where nature's voice is loud and clear. For now, the cinema is a space where we can begin to listen and see in new ways.

Moreover, as we apply an environmental framework to our media, it becomes self-evident that communications environments cannot be capitalised without social consequence, a point made by Marshall McLuhan. Building on McLuhan's original theories, Neil Postman (2005: xi-xx) wrote rather that the 'medium is the metaphor', postulating that our media environments would become so awash in a sea of information that we would 'amuse ourselves to death': 'People will come to love their oppression, to adore the technologies that undo their capacities to think.'

The last few years have revealed how fragile and fragmented our media environments are, as they face an ever-precarious future in the face of artificial intelligence (Applebaum, 2024). A healthy media ecosystem that offers pluralistic pathways, and that supports a more balanced social order (hooks, 2012),

requires a diverse and delicate balance of private and public platforms, perspectives and practices, if it is to publicly serve as a relevant conduit of community conversation, engagement and development.

Within the open laboratory of the Átl'ka7tsem/Howe Sound Biosphere, we will explore how to create a better balance with the intention of creating models for multi-local progress. These models are to engage the principles that drove Canada to develop an industrial telecommunications system and public studio in the first place: to combat global division.

Therefore, the most profound of society's intellectuals can no longer remain detached observers of social life, as was the case with the classical documentary approach that was initially applied to Inuit ways of being in the Hudson Bay area, and later developed into the Canadian (English-language) POV tradition through Griersonian socialist principles. Rather, the fate of Arctic explorer Franklin reveals how the failure to integrate Indigenous knowledge will result in a failure to progress in the common exploration of living together with dignity and respect on this one planet we share, one frame at a time.

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Declarations and conflicts of interest

Research ethics statement

Not applicable to this article.

Consent for publication statement

Not applicable to this article.

Conflicts of interest statement

The authors declare no conflicts of interest with this work. All efforts to sufficiently anonymise the authors during peer review of this article have been made. The authors declare no further conflicts with this article.

Filmography

Atanarjuat: The fast runner (CA 2001, Zacharius Kunuk)
Churchill's Island (CA 1942, Stuart Legg)
Les Chutes (*The Falls*) (FR 1897, Alexandre Promio)
Housing Problems (GB 1935, Arthur Elton, Edgar Anstey)
Mudflats Living (CA 1972, Robert Fresco, Kris Paterson)
Nanook of the North (US/FR 1922, Robert Flaherty)
Night Mail (GB 1936, Basil Wright, Harry Watt)
The Song of Ceylon (GB 1934, Basil Wright)
Workers Leaving the Factory (FR 1895, Louis Lumière)
Working Mothers (CA 1974–5, Kathleen Shannon)
You Are on Indian Land (CA 1969, Mike Kanentakeron Mitchell)

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