

Indigenous and Trans-Systemic Knowledge Systems ($\Delta^{\circ}d\Delta g\nabla_{\circ}^{\circ}$ $\setminus_{\circ}^{\circ}T\nabla dg\nabla \triangleleft^{\circ}d \text{ '}\geq\triangleleft^{\circ}n^n+nU\Gamma-\setminus_{\circ}^{\circ}T\nabla dg\nabla \text{ }^n+nU^{\circ}n$)

Marie Battiste et Sa'ke'j Henderson

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Résumé de l'article

This special issue addressing the theme of “Indigenous and Trans-Systemic Knowledge Systems” seeks to expand the existing methods, approaches, and conceptual understandings of Indigenous Knowledges to create new awareness, new explorations, and new inspirations across other knowledge systems. Typically, these have arisen and have been published through the western disciplinary traditions in interaction and engagement with diverse Indigenous Knowledge systems. Written by Indigenous and non-Indigenous scholars, and in collaborations, the contributions to this issue feature the research, study, or active exploration of applied methods or approaches from and with Indigenous Knowledge systems as scholarly inquiry, as well as practical communally-activated knowledge. These engagements between Eurocentric and Indigenous Knowledges have generated unique advancements dealing with dynamic systems that are constantly being animated and reformulated in various fields of life and experiences. While these varied applications abound, the essays in this issue explore the theme largely through scholarly research or applied pedagogies within conventional schools and universities. The engagement of these distinct knowledge systems has also generated reflective, immersive, and transactional explorations of how to foster well-being and recovery from colonialism in Indigenous community contexts.

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From the Guest Editors

Indigenous & Trans-Systemic Knowledge Systems

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Marie Battiste and Sa'ke'j Henderson

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In the 1982 Constitution Act, Canada reaffirmed a new order guaranteeing the effective enjoyment of the ancient constitutional rights of Aboriginal Peoples, both collectively and individually. The affirmation of Aboriginal and Treaty rights in the Canadian Constitution and the first generation of First Nations, Métis, and Inuit educated in the Eurocentric systems in Canada create a nexus for a trans-generational alliance between knowledge systems. While Indigenous Peoples are still recovering from the assimilative, destructive, and appropriative effects of colonialism and Eurocentrism, including removal from and the theft of their lands, the constitutional affirmation of their Aboriginal and Treaty rights has generated a foundation for the courts and Canadian systems to reconcile with Indigenous Peoples.

In the last half century, a growing number of Indigenous scholars have successfully passed through the conventional educational systems in almost every profession and in every disciplinary tradition, and while most have not had Indigenous Knowledge systems embedded in that education, there are growing efforts to include Indigenous Knowledges, perspectives, and communities in various forms and under various theories, such as culturally responsive curricula, infusion and integrations in conventional disciplinary knowledges and methodologies, Indigenization, etc. As well, the contributions of many Indigenous scholars in their doctoral research have contributed to the larger discussion and critique of appropriate Indigenous methodologies and concepts/theories and to a growing number of scholarly publications, both nationally and internationally (Styres, 2017; Davidson & Davidson, 2016; Wilson, 2008; Nakata, 2002; Kawagley, 1999; Smith, 1999, 2013; Smith, 1997; Cajete, 1986;). These advances in research with Indigenous Knowledges and their accompanying applications from Indigenous scholars have begun to address the important ways in which Indigenous Knowledges can be respectfully approached from various disciplinary foundations. Yet, Indigenous Knowledges are a distinct knowledge



*Marie Battiste and
Sa'ke'j Henderson*

system different from Eurocentric or western knowledge systems, though they are still not being fully appreciated by Eurocentric knowledge scholars as knowledge systems with their own languages, protocols, ethics, ontology, and epistemologies. Each Indigenous Knowledge system is distinguished by its own language, and in Canada at least 11 language families exist with over 60 Indigenous languages currently being spoken. Hence, when discussing Indigenous Knowledge, it is important to note when one is referring to a singular language knowledge system or the many Indigenous Knowledge systems. Most scholars are still learning how to approach Indigenous Knowledges in ways that recognize their distinctiveness, accessibility, ethics, protocols, and respectful and practical applications.

This special issue addressing the theme of “Indigenous and Trans-Systemic Knowledge Systems” seeks to expand the existing methods, approaches, and conceptual understandings of Indigenous Knowledges to create new awareness, new explorations, and new inspirations across other knowledge systems. Typically, these have arisen and have been published through the western disciplinary traditions in interaction and engagement with diverse Indigenous Knowledge systems. Written by Indigenous and non-Indigenous scholars, and in collaborations, the contributions to this issue feature the research, study, or active exploration of applied methods or approaches from and with Indigenous Knowledge systems as scholarly inquiry, as well as practical communally-activated knowledge. These engagements between Eurocentric and Indigenous Knowledges have generated unique advancements dealing with dynamic systems that are constantly being animated and reformulated in various fields of life and experiences. While these varied applications abound, the essays in this issue explore the theme largely through scholarly research or applied pedagogies within conventional schools and universities. The engagement of these distinct knowledge systems has also generated reflective, immersive, and transactional explorations of how to foster well-being and recovery from colonialism in Indigenous community contexts.

The theme for this journal has been activated by the affirmation of Aboriginal and Treaty rights as part of the supreme law of Canada and the affirmation and mobilization of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in Canada and beyond. It is also inspired by contemporary work on Indigenization and reconciliation. Each of these events seeks the recovery of Canadian and Indigenous communities from the legacy of colonialism and the traumatic long-lasting effects of Indian Residential Schools on Indigenous children and youth, families, and communities. We are witnessing early shifts in many universities moving from a defensive, assimilative, rigor-keeping story to a receptive, transformative, openness narrative that accepts the benefits of Indigenous Knowledge systems are not just benefits to Indigenous students but benefits to the entire academic community and the multiple publics who look to elite institutions to lead and to listen. As such, innovation from diverse sources can lead to beneficial change for all.

Indigenous Renaissance ($\Delta^2 d \Delta g \nabla \dot{\omega}^n \cong \nabla \alpha \Delta^n \gamma^2 \eta$)

The self-determination movement inherent in the Indigenous Renaissance has displayed the depth and power of a small portion of our humanity, its noble commitment to empower

the powerless and dispossessed to lead better lives and overthrow the obstacles of racism, assimilation, and Eurocentrism. This renaissance among Indigenous Peoples is carrying the dreamers, workers, and professionals, as they build creative, effective institutions and programs for their people. They generate visions of the future and foundations for hard-line front workers in schools and institutions, ensuring our Indigenous Knowledge systems and Indigenous rights are respected and addressed. They embody the horizon of potentiality, possibility, and empowering hope to which countless other Indigenous Peoples and non-Indigenous allies hold tenaciously as we do our work.

For more than twenty years at the United Nations, the Indigenous Renaissance built upon the concept of inherent dignity that is at the heart of international human rights to forge the United Nations Declaration on the Rights of Indigenous Peoples (2007). The Declaration consists of a preamble and forty-six articles setting forth Indigenous Peoples' rights as well as state obligations. It acknowledges that Indigenous Peoples' societies are individual and collective, comprise both rights and responsibilities, and are shaped by intergenerational knowledges and relationships with the biosphere and among humans. It operates as a global standard-setting document representing a global consensus of the human rights of Indigenous Peoples. In the Outcome Document of the World Conference on Indigenous Peoples (2014), all 193 member states of the United Nations expressed support for the Declaration and committed to its implementation.

The Declaration on the Rights of Indigenous Peoples affirms the inherent dignity of Indigenous Peoples and the minimum standard for nation-states to meet. It affirms article 1 of the Universal Declaration of Human Rights: "All human beings are born free and equal in dignity and rights." It asserts the belief that all people hold a special value that is intimately tied to their humanity. It contextualizes how the universal human rights standards apply to Indigenous Peoples. Holding that Indigenous Peoples are equal to all other peoples, it follows that Indigenous Peoples have a right to self-determination.

While recognizing the right of all peoples to be different, to consider themselves different, and to be respected as such, the Declaration recognizes the urgent need to respect and promote the inherent rights of Indigenous Peoples which derive from their political, economic, and social structures and from their cultures, spiritual traditions, histories, and philosophies. Article 15 reads, "Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information." Article 31 speaks to Indigenous Peoples having the right to maintain, control, protect, and develop their cultural heritage, traditional knowledge, and traditional cultural expressions, as well as the right to the manifestations of their sciences, technologies, cultures, and visual and performing arts. It also affirms Indigenous Peoples have the right to maintain, control, protect, and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions. It attests to the right for Indigenous Peoples to be recognized as distinct peoples who have free, prior, and informed consent. The affirmation of these inherent rights generates the need for methodologies and ethical guidelines for trans-systemic approaches to Indigenous and European Knowledge systems.

The Truth and Reconciliation Commission's (TRC) Final Report on the Indian Residential Schools (2015) has been another important impetus for change. Institutional responses to Indigenization and reconciliation have grown significantly with opportunities in government-funded research (Call to Action # 65)¹ and with publicly-funded schools including Indigenous contents, perspectives, and materials (Call to Action # 63).² Moreover, the Truth and Reconciliation Commission recommended the implementation of the UN Declaration on the Rights of Indigenous Peoples to begin to reconcile and redress educational injuries inflicted by coercive assimilation over the centuries. In Canada, the province of British Columbia, which has the most Indigenous Peoples' unresolved Aboriginal rights, has enacted the *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44, which seeks to make provincial law consistent with the UN Declaration into provincial law. In December 2020, Canada proposed national legislation, An Act respecting the United Nations Declaration on the Rights of Indigenous Peoples, Bill C-15, to ensure that the laws of Canada are consistent with the United Nations Declaration. At this time, the House of Commons passed the bill and it now goes to the senate.

Universities Canada established Indigenous education principles (2015) for post-secondary institutions in consultation with Indigenous communities, meant to improve educational outcomes for Indigenous students. Together with Ministries of Education calling for prioritization of Aboriginal education, Indigenization and reconciliation have featured significantly in the last decade in most universities, as well as in the Tri-Council's three federal funding research agencies: the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC), as well as the Canada Research Chairs (CRC) programme.

Though the number of Indigenous scholars, as well as research on Indigenous Knowledges, are growing, little is still known about the methods needed to blend two distinctive knowledge systems. Assumptions that Eurocentric knowledge systems hold the only protocols and methods of research have led to inappropriate or appropriative research in Indigenous communities. Maori scholar Linda Tuhiwai Smith (1999/2013) has written and spoken widely and passionately about how Eurocentric research, contaminated with false colonial and racist assumptions, has left Indigenous communities deploring and distrusting research and researchers in their communities. The experience of colonialism and Eurocentric methods of research in Indigenous communities have also contributed to many Indigenous students'

1 TRC Call to Action (2015) #65: "We call upon the federal government, through the Social Sciences and Humanities Research Council, and in collaboration with Aboriginal Peoples, post-secondary institutions and educators, and the National Centre for Truth and Reconciliation and its partner institutions, to establish a national research program with multi-year funding to advance understanding of reconciliation."

2 TRC Call to Action (2015) #63: "We call upon the Council of Ministers of Education, Canada to maintain an annual commitment to Aboriginal education issues, including: i. Developing and implementing Kindergarten to Grade Twelve curriculum and learning resources on Aboriginal Peoples in Canadian history, and the history and legacy of residential schools. ii. Sharing information and best practices on teaching curriculum related to residential schools and Aboriginal history. iii. Building student capacity for intercultural understanding, empathy, and mutual respect. iv. Identifying teacher-training needs relating to the above."

distrust of research and have led them to discount their inherent capacities and gifts, their elders' wisdom and knowledge, and their Indigenous values and teachings. No educational system is without flaws, yet few have been as destructive to human potential as Canada's, with its obsession with paternalism and assimilation and racialized discourses.

The cooperation of Indigenous scholars in Canada with the federal research funding agencies—Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council, and the Social Science and Humanities Research Council—has generated a minimal approach to trans-systemic research. The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (2018) is based on respect for human dignity. Ethical conduct requires that research involving humans is sensitive to the inherent worth of all human beings and the respect and consideration that they are due. The Tri-Council Policy Statement expresses the three core principles of inherent human dignity—respect for persons, concern for welfare, and promoting justice. These core principles transcend disciplinary boundaries and therefore are relevant to the full range of research. These principles mark a step toward establishing a framework for developing an ethical space in a trans-systemic dialogue and acknowledge a move away from Eurocentric disciplinary research on Indigenous Peoples. The Tri-Council Policy Statement acknowledges and respects the constitutional rights of First Nations, Inuit, and Métis Peoples. Embedded in these constitutional rights are Indigenous laws and ethical guidelines in preserving and managing their collective knowledge system and languages. Ethical conduct in research should affirm respect for the autonomy of Indigenous Peoples' customs and codes of research practice to better ensure balance in the relationship between researchers and participants and to enhance mutual benefit in researcher-community relations. An important mechanism for respecting Indigenous Peoples' autonomy in research is requiring their free, informed, and on-going consent and choice throughout the research process and shared research benefits.

Canada has acknowledged the need to protect Indigenous languages. In 2019, Canada enacted the Indigenous Language Act that is to be construed as upholding the rights of Indigenous people recognized and affirmed by section 35 of the Constitution Act, 1982, and the affirmation of Indigenous Peoples' languages in the UN Declaration on the Rights of Indigenous Peoples. The purpose of constitutional affirmation of the Indigenous languages through this Act was to remedy past discrimination and to support and promote the efforts of Indigenous Peoples to reclaim, revitalize, use, maintain, and strengthen Indigenous languages. These languages contain the active cognitive force of the Indigenous Peoples' Knowledge systems and worldviews. While the Act is passed and funded, it has yet to be implemented fully but is full of promise to regenerate languages through the learning traditions of Indigenous Peoples.

The need is ever more pressing to build appropriate, ethical, and distinctive methods and approaches that draw from the available distinctive knowledges systems and to prioritize respectful collaborations that build on the dynamic value of interacting through, producing, and enriching trans-systemic scholarship. While much of the research collaborations have been directed at various institutions, such as institutions of education, health, justice, etc., Indigenous Knowledge systems must be enhanced in their own context for their own empowerment, self-

determination, and endogenous development. Furthermore, the aspiration for the integrity and viability of self-determining Indigenous Knowledge systems to thrive and flourish is a seven-generation quest that needs to be buttressed with existing systems adapting to and working side-by-side with Indigenous communities. Without appropriate acknowledgement of diverse knowledge systems, scholars may miss the diverse ways that knowledge in Indigenous communities is learned or acquired. They may also misunderstand how best one can learn about and through Indigenous philosophies, worldviews, and cultural knowledge, as well as what applications can or cannot be learned in schools, and what is appropriately learned within families, genders, societies, or from Elders or Knowledge Holders.

We begin this introduction with how the term and concept of “trans-systemic” fits the scholarly approach of working across distinct knowledges systems and how it offers a foundation to examine how two knowledge systems contribute equally and productively to various contexts and systems. We then offer a review of the essays and describe how they have worked trans-systemically to expand Indigenous resurgence and thriving, while contributing to contemporary reconciliation and decolonization. Finally, we offer an explanation of the various orthographic systems that are depicted with the essays.

Trans-systemia (ᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦ)

Trans-systemic is a term created by the faculty of Law at McGill University in 1997 to reconcile the common law with civil law (Emerich, 2017). The term began as a described integrated teaching method to understand the underlying structure of legal thought. The civil and common law traditions are central to the construction of Eurocentrism based on the intersection of two legal traditions derived from the Roman and British empires. The term trans-systemia was anchored in the bilingualism and bijuralism of Canada as an innovative legal approach centred on jurilinguistic dialogue, translation, and comparison between legal traditions, anchored in a pluralist and non-hierarchical method that celebrates the irreducible differences and similarities between various legal traditions. Trans-systemic approaches in law searched for ideas neither conceptually nor geographically embedded in a legal tradition and sought to transcend the traditional dichotomies between civil law and common law to reveal a more extensive vocation of legal epistemology for comprehending knowledge systems that supported these legal traditions. Law Dean Nicholas Kasirer (2003) builds on anthropologist François Laplantine’s and literary theorist Alexis Nouss’ work to propose the image of métissage as a third paradigm of a renewed legal education. Richard Janda (2005) called transsystemic law cosmopolitan law. Law Dean Roderick Macdonald and Professor MacLean (2005) conceptualized the transsystemic approach to law as pluralistic and polycentric. The transsystemic epistemological approach seeks to develop theoretical and practical knowledge to identify concepts and remedies that different legal traditions share and the tensions between legal traditions and their modes of expression, all toward generating a pluralistic legal system.

Indigenous lawyers, scholars, and allies have expanded this concept to reconcile British common law and Indigenous law (Borrows, 2005). The trans-systemic approach between Indigenous law and Eurocentric law revealed a broader orientation of legal thought and justice

derived from both Eurocentric and Indigenous Knowledge systems and languages. It became an enhanced dialogue between distinct and diverse language systems beyond English and French languages. Most Indigenous scholars have adopted this approach in their response to the formal education system and their universities' and colleges' positions. They find themselves in this liminal space between Eurocentric and Indigenous Knowledge systems, developing their academic achievement from the Eurocentric disciplinary knowledge foundations and belonging to the Indigenous Knowledge traditions.

Academic scholars have sought to generate an understanding of the intersections of distinct knowledge systems. They are interweaving and intraweaving an entanglement of knowledge systems, languages, concepts, and feelings that create a liminal space. This liminal space between Indigenous Knowledges and languages and Eurocentric knowledges and languages has been described in the past. It is embedded in the meaning and interpretation of two-row Wampum belt, the concept of two worlds (Eastman, 2011), double-consciousness (Du Bois, 1903), cognitive *métissage* (Donald, 2012), split headedness (Cajete, 1986), jagged worldview (Little Bear, 2000), two-eyed seeing (Bartlett, et al., 2012), *ambiculture* (Nicholson et al., 2019), and related concepts. Yet how their liminal insights, sensations, and interactions occur, reflect, stimulate, and produce trans-systemic knowledge remains a haunting mystery. The various processes are subliminal, subtle, and experiential.

Academic scholars and educators have generated innovative experimentation from Indigenous Knowledges and languages combined to inspire animation and advancement of Indigenous Knowledge foundations, protocols, teachings, theory, methods, reconciliation, and therapeutic purposes, including transforming education from elite and assimilative to inclusive and transformative learning.

Indigenous Peoples' search for a trans-systemic synthesis acknowledges that no knowledge system is complete in itself; it exists with other knowledge systems. These knowledge systems are intergenerational strategies to create meaning in life. No one has a pure knowledge system; rather, they have an integrated or ambidextrous consciousness. Within each knowledge system, many orientations, worldviews, languages, and ways of interpretation exist, as revealed by dialogues and disputes. These orientations reflect something about human consciousness that occurs in all knowledge systems in different eras and places.

Knowledge is filled with absences and gaps, such that learners are both what they know and what they don't know. Moreover, if what we know is deformed by absences, denial, or incompleteness, our knowledge is partial and limited. This view of knowledge suggests that ignorance is an essential part of learning. This situation calls for an urgent and sensible search for a reconciliation of the knowledge systems. Honorable reconciliation and trans-systemic synthesis need to be based on the belief that knowledge systems need to learn from each other to create a new vocabulary that transcends the existing categories.

Trans-systemic synthesis generates a daunting balance on a tightrope between distinct knowledge systems and languages. From their Eurocentric education, many Indigenous scholars characterize their tightrope experiences as multi-dimensional voices and methods accessing both complex knowledge systems, which remain independent yet connected by

mystery and knowing. Indigenous scholars share many connections with Eurocentric scholars. The commonalities gain significance because of the differences. Yet, the diversity of differences is as important as their shared themes.

Interweaving the distinct knowledge systems used by both Indigenous and Eurocentric scholars generates a dialogic opposition, a trans-systemic synthesis or synergy that offers convergence points that respect the divergence points. Their various trans-systemic convergences attempt to weave differences and similarities into an overarching method of comprehending the distinct knowledge systems and languages.

Trans-systemic synthesis between Indigenous and Eurocentric Knowledge systems is searching for an enfolded knowledge system that reveals wholeness, rather than fragmentation of logic and causality. Yet, in this synthesis, it is not a quest for a grand theory of everything. Indigenous scholars view this search as an ambitious, daunting, and demanding task. It moves from the known to the unknown. Yet, this emerging synthesis deals with the foundational problem in life. It seeks a living, regenerating field of inquiry that balances complementary and contradictory descriptions, assumptions, and knowledges, performative enactment of processes of knowing, issues of knowledge production and dissemination and their ongoing ceremonies, rituals, and renewals. This emerging synthesis can often appear undefinable and immeasurable but interconnected and relational. It is an unbroken field of mutually-informing thought. It is a tradition of thought that affirms the becoming over being, spirit over structure that invites complexity and diversity of thought. It is related to the idea of the stream of consciousness, the impermanence of structure, and the idea that the new can emerge from possibility to actuality.

Reviews of Essays (ᓄᖅᓇᓂᓐ ᓄᓂᓄᖅᓄᖅ)

nêhiyawak researchers and language learners Lana Whiskeyjack and Kyle Napier, in their “wahkotowin: (Re)connecting to the Spirit of *nêhiyawêwin* (Cree language),” explore richly in protocol, ceremony, and circle conversations with *nêhiyawak* speakers within Treaty 6 how the Elders and participants in the research have come to know and learn from the spirit of the *nêhiyawêwin*, the sources of (dis)connection between *nêhiyawak* (Cree People) and their language, and the processes of reconnection with that spirit. They reveal the main disruptions to that spirit have come from colonization, capitalism, and Christianity, all of which have affected their kinship systems, their relatives, and their connections to their language and land. The authors summarize that only in centering *nêhiyawêwin* worldview and its connections to the land and the land spirit, through land-based Indigenous learning with ceremony and reciprocal-relational methods, can *nêhiyawêwin* sovereignty be restored.

Researchers Mairi McDermott, Jennifer MacDonald, Jennifer Markides, and Mike Holden, in their essay “Uncovering the Experiences of Engaging Indigenous Knowledges in Colonial Structures of Schooling and Research”, share the after-effects and the ongoing learning from a research project in an Alberta school district that wove Indigenous Knowledge into the school curricula. Their reflections come two years after the research with teachers, though the narratives illustrate the strength of some key teachings: the personal and relational connections made with each other; the quandaries and tensions unleashed in working with

different ontologies and epistemologies; the necessary disentanglements with Eurocentric colonialism and processes in schools; and the possibilities and personal learnings animated by an ethical relationality approach with Elders.

Marie-Eve Drouin-Gagné, a Franco-Québécois settler scholar, raises concern about the knowledge hierarchies in universities and the limitations of Eurocentric knowledge frameworks as Indigenization is expanded in Canadian universities. Her essay “Beyond the ‘Indigenizing the Academy’ Trend: Learning from Indigenous Higher Education Land-Based and Intercultural Pedagogies to Build Trans-Systemic Education”, explores several Indigenous Knowledge models and applications in higher education that unsettle existing hierarchies of knowledges and that centre on reciprocal relations within Indigenous communities, ensuring the application of knowledges benefit communities, and on Indigenous Peoples’ navigating innovations to protect their land, the main source of their knowledge.

Kathy Absolon-King is an Indigenous/*Anishinaabe* scholar who explores “Four Generations for Generations: A Pow Wow Story to Transform Academic Evaluation Criteria”. Her experience illustrates how university discourses and practices recruiting and advancing Indigenous scholars with Indigenous Knowledge often disconnect them from the very Indigenous Knowledges the universities are suggesting they value. Accepting Indigenous Knowledge as a subject area but not as part of one’s professional identity together with the necessary relationships lived in communities creates barriers to Indigenous scholars’ scholarly work and to the evaluations toward tenure and promotion. She writes of her family’s preparation for inducting her daughter into a role at a Pow Wow, illustrating how Indigenous Knowledges can and should be understood and counted in the universities’ applications of tenure and promotion standards, such as framing Indigenous Knowledges as lived reciprocal relationships, as artistic and intellectual production of cultural knowledge, as knowledge transmission and dissemination, and as respect, relevance, responsibilities, and reciprocity restored.

Discourses circulate in various forms, in western academia: as cited text, as personal narratives or stories, as research data, as cultural insights, as witnesses or as testimonies taken from cultural events and activities involving Indigenous Knowledges. As they travel in academic venues, they often lose the original identities of the speakers, narrators, and their tribal or cultural connections to the knowledges, as academics identify what is important to them. In this essay “‘To See Together Without Claiming to be Another’: Stories as Relations, Against One-Directional Move of Indigenous Stories Travelling,” Sandra-Lynne Leclair and Eun-Ji Amy Kim draw attention to the academic assumptions and consequences of knowledge transfer from Indigenous Knowledges to disciplinary knowledges. These consequences include allowing text to be appropriated from Indigenous Knowledge holders and distorting their purpose and functions from their original knowledge systems. The authors review and critique how Indigenous stories circulate in disciplinary knowledge traditions and lose the original authors/creators of these stores. They offer cautions and necessary protocols for use of Indigenous Knowledges among researchers and academics.

University professor mentorship of graduate students has typically been a hierarchical relationship involving hegemony and power, with the assumption that the university faculty

member holds more knowledge than students. Authors Kathy Bishop and Christine Webster explore their relationship as an Indigenous graduate student and a non-Indigenous supervisor who navigate the university professor-student relationship conscious that they are dealing with two knowledge systems with different expertise in each. Respecting knowledge holders and their positionalities is fundamental to this essay on a research project and a thesis that evolves from these diverse knowledges. “Reciprocal Mentorship as Trans-Systemic Knowledge: A Story of an Indigenous Student and a non-Indigenous Academic Supervisor Navigating Graduate Research in a Canadian University” brings the stories of two researchers together as they learn to lead, follow, and walk side-by-side with one another while exploring and expanding both *Nu-Chal-nuth* and academic knowledge systems.

Tewa Pueblo scholar Gregory Cajete, in “Native Americans and Science: Enhancing Participation of Native Americans in the Science and Technology Workforce through Culturally Responsive Science Education”, advocates for a trans-systemic extension of the cumulative influences of Indigenous forms of science in stories and traditional activities. This extension involves culturally-responsive education and creative strategizing for the teaching and learning of science with the effect of engaging rather than alienating Native American students from science. His creative approaches have been evolving over the last 40 years with adaptations that continue to expand the trans-systemic symbiosis of knowledges and methodologies using art, story, and culture. Three metaphoric models are explained in terms of their connections, relationships, and outcomes with diverse Indigenous and western knowledges.

Economics, like education, have roots in colonial development frameworks, discourses, and logics that trap Indigenous communities in a circular logic that does not include their own conceptions of well-being. Dara Kelly and Christine Woods, in their essay “Ethical Indigenous Economics”, argue that trans-systemic analysis of ancient and dynamic Maori and other Indigenous economic philosophies can generate alternate and more congruent economic foundations and outcomes in and for Indigenous communities. What would make these foundations more effective is when they are aligned with Indigenous concepts of relationship, reciprocity, and interconnectedness, rather than based on developed wealth accumulation, poverty alleviation, and patronizing logics of progress.

Melitta Hogarth is a Kamilaroi woman from Australia and Kori Czuy is Cree/Métis English/Polish, both recent doctoral graduates from universities, one in Australia and the other in Canada. In their doctoral work, both chose to centre and expand trans-systemic methodologies, each exploring their own Indigenous Knowledges’ traditions. In this essay, through metalogue, which is a way of bringing together voices through dialogue, they explore their choices and challenges in the intricate weaving of Indigenous Knowledges and methodologies, demonstrating the agency of two emerging Indigenous researchers through their adaptations, resistances, and refusals. Their metalogue, using artificial intelligence (AI), captures a yarning storytelling circle of curious animals engaged with the authors in learning more about their dissertations, drawing attention to the Indigenous Knowledge traditions from their territories. Their title aptly describes their journeys: “Walking Many Paths, Our Research Journey to (Re)Present Multiple Knowings: Creating Our Own Spaces”.

Anishinaabe Métis author Vicki Kelly uses métissage, a narrative of mixed literary artistry and counternarrative, to model a form of Indigenous scholarship rooted in praxis, territorial respect, artful metaphor, and strong community engagement. Her explorations of Indigenous applications in higher education led to her essay, “Radical Acts of Re-imagining Ethical Relationality and Trans-Systemic Transformation”, which claims that through “multi-eyed seeing” and the creation of ethical space, Indigenous and Eurocentric Knowledge systems can co-exist and advance each other in a positive way in a public university setting.

Exchanges ($\nabla_x^- \triangleleft^p g \nabla^n$)

The Exchanges section of the journal gave us the opportunity to do an interview with a well-known Indigenous scholar and friend, Blood nation scholar of the Blackfoot Confederacy, Dr. Leroy Little Bear. Leroy is well known for his multiple diverse trans-systemic contributions to the university systems of Alberta and beyond, as well as for his unique style of lecturing, both of which have been drawn from his Blackfoot knowledge and language foundations. He is best known for his scholarly work as a leader in Native American Studies, his contributions to Indigenous governance and law, and years leading dialogues at the Banff Centre for Management. We met with him, virtually during the winter of 2020, and the interview animates Leroy’s personal life journey and lessons, which take him from his home in Alberta to academia and then back home again to build one of the first and finest Native American Studies programs in Canada, from which trans-systemic lessons and teachings continue to emerge.

Reports from the Field ($\cong \nabla > \cong'^n f \cong \triangleright^c \text{ 4 } f \Delta \nabla^T d$)

Katalin Doiron Koller and Kay Rasmussen are mixed-heritage and Indigenous co-researchers and co-authors in this essay that explores an Indigenizing and decolonizing project that begins with a partnership between the Child and Nature Alliance of Canada (CNAC) and The Three Nations Education Group Inc. (TNEGI) to pilot an Indigenous-led Forest and Nature School Practitioners Course (FNSPC). Their main question: What might a trans-systemic pedagogy of land-based education look like in the context of First Nations education in *Wabanaki* communities? Their co-generative learning emerges in a five-day, on-the-land learning experience with teachers, creating teaching guides and performance reviews that offer a co-creating generative learning research exploration with Indigenous schools, communities, and organizations. The reclaimed land-based pedagogy, grounded in *Wabanaki* oral herstories and *Mi'kmaw* language of *Esgenoopetitij*, also generate other transformative educational outcomes that are continuing to unfold from this relevant, authentic, and transformative Indigenized outdoor education for *Wabanaki* students, families, and educators.

A linguist of *Mi'kmaw/Lnu* language, Stephanie Inglis, in her essay “*Mi'kmaq* / Non-*Mi'kmaq* Conversational Turn-Taking,” draws on the specific discursive situation of *Mi'kmaw* and non-*Mi'kmaw* students at Cape Breton University to illustrate a common occurrence leading to miscommunication, anxieties, and inequities that can occur when something simple like the conversational wait times among culturally different groups are not understood or accommodated. Conversational turn-taking, or the length of wait times that students normally

helped me create my first chapter in my thesis on Algonkian literacies. But the character of the hieroglyphics was unique to *Mi'kmaq* and had not been fully deciphered.

In the mid-70s, Mi'kmaw friend Murdena Marshall, who was a reader of these hieroglyphics, and linguist David Schmidt (1995) did a review of the multiple uses of them in an attempt to sort out an initial theory of the grammar of the hieroglyphics, although the value of that work was more in the collecting of the known hieroglyphics and in putting them in both *Mi'kmaq* Roman script form and then in English. What Murdena and David found was there are approximately 2,700 graphemes, and while many of them are in prayer form, not all were simply memorized. They concluded, "By combining glyphs and their constituent graphemes in various ways, we believe that hieroglyphic-literate *Mi'kmaq* were able to write and read information they had not previously memorized" (Marshall & Schmidt, 1995, p. 4). At least two different missionaries gave themselves credit for teaching these to *Mi'kmaq*, although notably the first missionary, Christian Le Clercq (1697), wrote of his inspiration:

I noticed children making marks with charcoal on ground ... This made me see that in form would create a memory of learning more quickly the prayers I teach. I was not mistaken the characters produced the effect I needed. For on birchbark they saw these familiar figures signifying a word, sometimes two together. The understanding came quickly on leaflets they called kekin a'matin kewe'l tools for learning. (as cited in Schmidt & Marshall, 1995, p. 16)

Later, Michelle Sylliboy, *Mi'kmaw* speaker, artist, and educator, would begin to use the hieroglyphics in other ways, moving them out of their characteristic form of prayers, ceremony, and history to innovative arts and poetry (Sylliboy, 2019). The picture on the cover of this journal issue represents her stylistic eye capturing the picture of water in its vibrant animate formation superimposed with the hieroglyphic and the M'kmaw word "*jiksituinen*," in English, "listen to us." Michelle Sylliboy's transformation of the Mi'kmaw hieroglyphic tradition to new forms and functions demonstrates the dynamic nature of Indigenous Knowledge and worldviews and the distinctiveness of their systems of knowing as embracing deep relationality and non-canonical bodies of knowledge.

The distinctions among knowledge and worldviews and the coercive privileging of the English language generate emergent methodological and ethical challenges to trans-systemic approaches. Scholars have been spotty at best in developing methodologies for discerning translations between Indigenous and European knowledge systems. The more speakers of Indigenous languages who enter the academe, the more scholarship will move closer to new methods and ethics of trans-systemic approaches and will unpack meanings in knowledge systems based on verbs and beingness as distinct from knowledge systems based on nouns or objects. This distinction generates philosophical distinctions in time, space, and language structures. The distinct approaches transform the knowledge systems' schemas, processes, relationships, causation, categories, metaphors, and translations.

Throughout this issue, we have incorporated the Plains *nêhiyawak* syllabics, which is an initial trans-systemic attempt to capture the rhythmic sounds of the languages into a writing system. We use the Plains Cree syllabics to honour place of the journal on Treaty Six Territories and Homelands of the Métis. The Plains Cree syllabic titles were created by using the Algonquian Linguistic Atlas Plains Cree Syllabic converter.³ In addition, with respect for the various authors' Indigenous identities, we have connected the syllabic system, hieroglyphic tradition or languages drawn from obtainable Algonquian and other syllabics and orthographies.

About the Editors

Marie Battiste is *Mi'kmaq* of the Potlotek First Nations and Professor Emerita at the University of Saskatchewan. She is an Honorary Officer of Order of Canada, a 2019 Fellow of the Pierre Elliott Trudeau Foundation and Fellow of the Royal Society of Canada. Her books include *Decolonizing Education: Nourishing the Learning Spirit* (UBC Press, 2013), co-author of *Protecting Indigenous Knowledge and Heritage: A Global Challenge* (UBC Press, 2000), with J. Youngblood Henderson; and is editor of several collections: *Visioning Mi'kmaw Humanities: Indigenizing the Academy* (CBU Press/Nimbus, 2016); *Living Treaties: Narrating Mi'kmaw Treaty Relations* (CBU Press/Nimbus, 2016); *Reclaiming Indigenous Voice and Vision* (UBC Press, 2000) and *First Nations Education in Canada: The Circle Unfolds* (UBC Press, 1995). Email: marie.battiste@usask.ca

Sa'ke'j James Youngblood Henderson was born in Oklahoma to the Bear Clan of the Chickasaw Nation and Cheyenne Tribe in 1944. In 1974, he received a Juris doctorate in Law from Harvard Law School. He became a law professor who created litigation strategies to restore Aboriginal sovereignty, knowledge, and rights. During the constitutional process in Canada (1978-1993), he served as a constitutional advisor for the Mi'kmaw nation and the NIB-Assembly of First Nations. He has continued to work in aboriginal and treaty rights, treaty federalism in constitutional law, and international human rights. For his achievements, he has been awarded the Indigenous Peoples' Counsel (2005), the National Aboriginal Achievement Award for Law and Justice (2006), and Honorary Doctorate from Carleton University (2007) and fellow of the Native American Academy (2000) and Royal Society of Canada (2013). Email: sakej.henderson@usask.ca

³ Access the Plains Cree syllabic this converter at <https://syllabics.atlas-ling.ca>.

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