graft (n.1)
"shoot inserted into another plant," late 15c. alteration of Middle English graff (late 14c.), from Old French graife "grafting knife, carving tool; stylus, pen," from Latin graphium "stylus," from Greek grapheion "stylus," from graphein "to write". So called probably on resemblance of a stylus to the pencil-shaped shoots used in grafting.

graft (n.2)
"corruption," 1865, perhaps 1859, American English, perhaps from British slang graft "one's occupation" (1853), which is perhaps from the identical word meaning "a ditch, moat," literally "a digging" (1640s), from Middle Dutch graft, from graven "to dig".
The Society for the Diffusion of Useful Knowledge is a serial broadsheet publication produced by the Blackwood Gallery, University of Toronto Mississauga, as part of The Work of Wind: Air, Land, Sea, a site-specific exhibition, public program, and publication series designed to expand perspectives on climate change through artistic practices, cultural inquiry, and political mobilization.

The Work of Wind: Air, Land, Sea

Exhibition: 14–23 September 2018
Books: September 2018, June 2019, September 2019
Public Programs: June 2018–April 2019

Broadsheet Series: June 2018–April 2019

The Work of Wind: Air, Land, Sea aims to foster a deeper public awareness of the complex entanglements of ecologies of excess, environmental legacies of colonialism, the financialization of weather, contemporary catastrophism, politics of sustainability, climate justice, and hopeful resilience. It sets out to develop durable visual-cultural literacies and ideas for new encounters in the common struggle for a future. The project flows across the city of Mississauga and is distributed locally, nationally, and internationally through a three-volume book series co-published with K. Verlag and The Society for the Diffusion of Useful Knowledge, an innovative public program and publishing platform.

The Society for the Diffusion of Useful Knowledge (SDUK)

The SDUK broadsheet series brings together contributors from diverse fields in the sciences and humanities, students and faculty from across the University of Toronto Mississauga, community organizations and activists, policy makers and political artists, researcher and speculative thinkers, all to advance new forms of literacy around climate change discourse.

The Work of Wind: Air, Land, Sea

Curated by Christine Shaw
Presented by the Blackwood Gallery in partnership with the University of Toronto Mississauga, the City of Mississauga, and K. Verlag.

2018–2019

The SDUK broadsheet series is developed in collaboration with The Climate Change Project (City of Mississauga, Environment Division).

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The Work of Wind: Air, Land, Sea

One is part of the 200 exceptional projects funded in part by the Canada Council for the Arts’ New Chapter program. This $53M investment, the Council supports the creation and sharing of the arts in communities across Canada.

How to Read this Broadsheet

The SDUK broadsheet series takes aim at a broad range of concerns—and this issue, GRAFTING, explores how we come to know, define, and interact with nature, where we see its boundaries and identify its needs, and how we understand its entanglement with culture. Following on the origins of The Society for the Diffusion of Useful Knowledge, and in the spirit of publishing, questioning, and problematizing “useful knowledge,” we recognize our readers as curious people who may pick up this publication with certain questions already in mind.

Perhaps you are asking, “Where do nature and the city intersect? What does this mean for urbanism?” We suggest you begin with Shannon Mattern’s “How to Graft a City” (p. 5); Morris Lum’s photographic project on Cooksville, a Mississauga neighbourhood built on intercultural relationships and subject to both urban development and climatic events (p. 6); or The Climate Change Project’s study of natural resource management (p. 25).

We often wonder, “How can art and culture contribute to an understanding of nature-cultural entanglements?” If you wonder this too, Amanda Boetizes’s essay on grafting and contemporary art (p. 18), and Kika Thorne’s artist project Tree Permit TP-2016-00332 Applicant John Ross… (p. 16) are both excellent points of departure for this exploration.

If you are interested in who is taking action on environmental issues in Mississauga, profiles of the Association for Canadian Educational Resources, Credit River Anglers Association, HOUSE Ltd. Enabling Garden, Making Social Knowledge, and UTM’s Beehives provide short introductions to some important local initiatives (p. 26), and Andrea Olive’s essay on the Credit Valley Conservation Authority (p. 24) offers additional in-depth analysis.

Landowners, residents, and entrepreneurs may be interested in asking, “What are the implications of environmental degradation on land ownership and the economy?” D.T. Cochrane and Fraser McCallum address this question through the lenses of economics and biodiversity, respectively (pp. 22–23).

How is climate change related to Indigenous knowledge, sovereignty, and kinship?” is a central, vital question for reckoning with our relationship to land and the legacies of colonialism. It is taken up by many contributors in this issue, but you might begin with Edacation & CLEAR’s “Pollution is Colonialism” (p. 20) and then move on to Heather Davis and Zoe Todd’s “Decolonizing the Anthropocene” (p. 12).

In the face of environmental catastrophe, many of us are asking, “How do we reck on time? How do we repair? What can we do?” If you are too, a poem by Judy Daughton (p. 4) exploring the many histories bound up in climate’s present may deeply resonate with you, and Kyle Powys Whyte’s “Climate Change as an Unprecedented Old Catastrophe” (p. 8) may offer some ideas for grappling with the timeline(s) of climate change and prevention. The Leap Manifesto (p. 10) calls for a Canada based on caring for each other and the planet, moving swiftly to a post-carbon future, upholdi ng the dignities of indigenous peoples, and pursuing economic justice for all.

Finally, this publication closes with a glossary—a tool designed to help define the unfamiliar, but also describe, develop, connect, and trouble existing terminologies. Words, too, are shifting ground, and each broadsheet’s glossary will respond to its contents, accumulating new language, and attesting to the need for a complex, entangled lexicon that equips us to learn, understand, and confront a rapidly changing world.
How to Graft a City

Shannon Mattern

The machine-learning algorithm processes a training set composed of images of grafted fruit trees. It watches as gardeners and farmers cut underperforming but still-sturdy trees down to a stubby rootstock, trim healthy shoots from more desirable trees, insert those shoots—or scions—around the bark of the rootstock, bandage it all up, then fashion for our Siamesed tree-twins a rehabilitative greenhouse from a plastic bag. Over time, the rootstock’s and scion’s vascular tissues grow together: they “inosculate.” And after a couple of growing seasons, the machine observes, our gardeners yield sturdier, harder, disease-resistant trees that produce more fruit, at much younger ages, than their unadulterated kin. The machine has learned to graft, and it’s observed which methods generate the greatest yield.

We then port that grafting algorithm over to the urban planning lab, where our data scientists aim to graft a healthier, sturdier, more fruitful city—an urban scion—onto some underperforming rootstock. Our planning algorithm searches aerial imagery and Street View images to identify barren waterfronts, brownfields, and blighted neighbourhoods with potential for regeneration. It then grafts onto that urban rootstock a lattice of urban systems—pipes and cables and roads and buildings—in patterns it has learned from other successful cities (with “success,” of course, determined by the optimization of various urban indices). Over time, the root’s and scion’s infrastructural veins and arteries are sutured together. And after a few months, the urban machine is able to sustain a vibrant ecosystem of people and Dutch groceryikes and King Charles spaniels and vegan eateries. And its yield—of data and profit—is abundant.

This is how cities are cultivated in an age in which the “science” in urban science draws more from data and computer science than from horticulture and ecology. Here, the old art of grafting is algorithmized and engineered.

Yet cities have always been grafted terrains. Those that have sustained more than a couple generations of inhabitants bear layers of their material history. In their urban strata we find evidence of the Anthropocene: trash, construction materials, and ruins that chronicle humans’ altered landscape and its reclamation. Urban facades sport shrouds of territorial markings, official inscriptions, and commercial insignia. And enduring cities that, over the course of their long lives, have been usurped by empires or claimed by colonizers often host grafted architectures and infrastructures manifesting their mixed lineages—their entangled roots and scrambled genetic codes.

The term graft derives from the Greek γράφειν, or stylus—probably because those scion shoots looked a lot like writing implements. The city is grafted in this graphic sense, too: it’s a polygot palimpsest of codes and scripts and signs. If we trace its lineage all the way back to Unak and Çatalhöyük, among the earliest large-scale human settlements, we can see that the city has long mediated between multiple modes and means of inscription, transmission, and storage: legal codes and copper cables, algorithms and antennas, public proclamations and system protocols, clay tablets and ceramic types. Over generations and millennia, urban inhabitants have grafted code to clay, data to dirt, ether to ore.

But today’s data-grafters tend to cut the rootstock off at the stump, excising all inconvenient precedent, erasing legacy scripts. A too-low tree graft makes the organism susceptible to soil pathogens. Or it can enucleate a scion to plant its own roots, which can’t defend themselves against infection. The scion depends on the rootstock’s built-up immunities. Similarly, when our contemporary “urban test bed” prospectors, in their pursuit of tabula rasa, uproot the foundations of the city, they forsake the immunities of experience, the accreted defenses of history, the embodied and embedded knowledges of local communities.

Yet “a city is not a tree,” as architect Christopher Alexander reminds us.1 He contrasts two urban structures: that of the “semilattice” and that of the “tree.” The “organic” semilattice city is a “complex fabric,” a structure that has “arisen more or less spontaneously over many, many years.” It is thick, tough, and subtle. The tree city, by contrast, is characterized by its structural simplicity and minimal overlap among its urban units—whether zones or arteries or superblocks. The tree is the signature form of the “artificial” city, the city “deliberately created by designers and planners” to reflect their “compulsive desire for neatness and order.”

Designers and planners have supposedly evolved beyond the hubris and folly of the master-planned city. Instead, maybe they’ve merely sublimated the master plan in the machine, grafted algorithms onto blueprints. They’ve swapped neural nets for compulsive desires, automation for liberation, sublimely exhaustive datasets for neatness and order. In the end, though, they’re still grafting city-trees. “When we think in terms of trees,” Alexander warns, “we are trading the humanity and richness of the living city for a conceptual simplicity which benefits only designers, planners, administrators and developers. Every time a piece of a city is torn out, and a tree made to replace the semilattice that was there before, the city takes a further step toward dissociation.”

Those planners’ and developers’ interests remind us that there’s yet another traditional grafting technique involved in urban development: the graft of corruption. With the rise of urban-tech companies, data brokers, and black-boxed administrative platforms, and with the spread of public-private partnerships, our newly grafted cities are even more at risk of infection. Urban inhabitants are ever more susceptible to surveillance and hacking and data-mining, while the city itself is exposed to corporate rot, and the social contract is subject to decay.

Grafting is an integral component of urban evolution. But in this newest variation on a well-rehearsed practice, we have to be wary of our new scions, those offshoots of the tech giants. And we must protect the rootstock, which is what keeps us grounded and resilient—and, at the same time, mindful of the many foregoing graftings that have produced the thick, tough, and subtle semilatticed structure of our organic cities.

Sites of global money transfer services are indicated by the flags seen on the left. While flags are at home amid the bright colours of commercial signage, they also indicate the international scope of familial connections in Cooksville. Money links homelands here and abroad; it moves transnationally, changing shape along the way through currency exchange.

The street-facing low-rise buildings along Cooksville’s roads are complemented by high-rise apartment towers nearby, as seen above. Over 2,000 of these towers were built in the Greater Golden Horseshoe from the post-war period through the mid-1980s, and they are increasingly being seen as important in the fight against climate change. Public and private sector specialists, as well as NGOs, are working to modernize the energy efficiency of these buildings, aiming at greenhouse-gas reductions of up to forty percent. Emissions reductions are one facet of the Tower Renewal Project, which also aims to revitalize the green spaces around apartments, foster urban agriculture, and leverage financial instruments to incentivize landlord participation.

Empty storefronts are emblematic of a neighbourhood in transition, where people and businesses are in frequent movement. In Cooksville, newcomers tend to stay for just one to five years, and home-ownership is lower than the Mississauga average. Nearby, on both sides of Cooksville Creek, vacancies of a different kind are occurring: the City of Mississauga is attempting to purchase homes to create thirty acres of parkland on the creek’s floodplain. Recent floods attest to the volatility of urban rivers: the 2009 flood of Cooksville Creek registered the highest streamflow rate ever recorded in Canada.

Cooksville’s restaurant culture shows how intercultural exchange is expressed through food: regional cuisines change and evolve to reflect the movement of people, ingredients, and influences. These intercultural relationships are often touted as prime examples of Canadian multiculturalism, a discourse that sisternates diversity but sometimes flattens or obscures the more difficult realities of migration and upheaval (war, political instability, economic necessity, encounters with overt and institutionalized racism in Canada, and linguistic and cultural isolation). Cooksville’s restaurant culture paints a complex picture of change, hybridity, and resilience—rejecting the notion that cultures are static, and attesting to a wide range of histories that inform the community’s present shape.
Indigenous peoples of Turtle Island have already passed through human-caused climate change at least once in their history. Speaking of the U.S. here, an integral part of its settler colonial domination is the infliction of harmful environmental changes on Indigenous peoples. Considered one of the most devastating, the U.S. forced some Potawatomi peoples to relocate from the Great Lakes region to Oklahoma. Over time, U.S. settlers worked to turn what was then called the Indian Territory (later Oklahoma) into a Dust Bowl period of the 1930s. Today, many Indigenous Oklahomans are seriously concerned about climate change impacts, such as drought effects on their water, agriculture, health, and energy supply. They are doubly concerned that the state and the U.S. still have not improved their respect for Indigenous self-determination sufficiently for Oklahoma Tribes to prepare for climate change.1

For Indigenous peoples, it’s by no means a new notion that human societies can inflict ecological catastrophe on one another. Way beyond the experience of U.S. colonialism, Indigenous intellectual traditions are rooted in philosophies that work to understand how the actions of human societies are entwined with environmental change. One aspect of these traditions concerns political philosophies of diplomacy for peoples who share eco-systems. The ancient Dish with One Spoon treaty between Arishnabae and Haudoneesaan peoples is one such example in Great Lakes region. The treaty establishes reciprocal responsibilities for caretaking of the environment.2

Today, it is not entirely incorrect to fear that we are hurting toward ecological catastrophe due to human-caused climate change. I have witnessed many hundreds of Indigenous peoples testify about the climate change threats their peoples are facing across the globe. My experiences include participating in or planning events such as the First Stewards Symposium and the Shifting Seasons Summit, authorship and advising for scientific synthesis reports on climate change vulnerability such as the U.S. Global Change Research Program, and creating educational programs for dozens of Tribes who are preparing for climate change. Indigenous peoples are reporting climate-related threats to their economies and cultures related to rapidly shifting seasonal patterns, sea-level rises, ocean acidification, thinning sea-ice, and the increased severity of extreme weather events.

Yet, in all my experiences, what is noticeable is that Indigenous peoples are bracing for climate change impacts that—in a certain sense—would not have been as risky for their ancestors. Many Indigenous peoples facing relocation due to sea-level rises in the Arctic or Gulf of Mexico are only in such a position because they were forced give up their more mobile governance practices and instead live permanently on small islands to make way for U.S. settlements.3 Climate threats to fish populations on the West Coast of North America are further stressors, adding to a longer list environmental stressors occurring because the U.S. has not respected Indigenous treaty rights to protect fish habitats.4 I already mentioned how some Indigenous people in Oklahoma are concerned about whether the state will respect their self determination. On the climate-migration side, some Indigenous peoples in the Southwest and Mountain regions have been slow to transition to renewable energy because the U.S. re-engineered their governments in the twentieth century to promote a dependence on fossil fuels.5 These realities are why Indigenous leaders globally that climate change and colonialism are intertwined. Shells Watt-Cloutier claims that “Climate change is yet another rapid assault on our way of life. It cannot be separated from the first waves of changes and always at the very core of the human spirit that have come our way.”6 I would encourage readers to read her recent book, The Right to Be Cold.

While warranted, fears of ecological catastrophe must be put in context. Dale Jamieson, who recently published a book, Reason in a Dark Time, emphasizes how human-caused climate change is an “unprecedented problem” that is driven by “greed, mendacity, ignorance, short-sightedness... manifest in the extreme power of corporations, the weakness of government, and the indifference of citizens.”7 For Indigenous peoples, current climate change ordeal is bad, but not unprecedented. Jamieson’s list of drivers, starting with greed, sounds a lot like U.S. settler colonialism. It sounds a lot like Canadian settler colonialism too, which explains why many of my interlocutors in this article are Indigenous persons working north of the 60th parallel. Candis Callison, speaking of Indigenous peoples in the Arctic in her book, How Climate Changes Come To Matter, writes that we need to recognize what “climate change poses for those who have endured a century of immense cultural, political and environmental changes.”8

Heather Davis and Zoe Todd argue convincingly that non-Indigenous peoples are sometimes rather unreflective when they fear future ecological catastrophe or deem climate change as unprecedented. Their concern is really that their children may be harmed by loss-back effects of the same capitalist-colonialist-industrial systems that have hitherto benefited them and secured their aspirations for future well-being. So, when settler Americans or Canadians express concerns about a coming catastrophe, it’s imagined to be a catastrophe disruptive of today’s ecological status quo for Indigenous peoples. The status quo, of course, is already an Indigenous ecological dystopia.

Ironically, I have not yet seen any settler American or Canadian writer who has projected a future of climate that is more ecologically dire than what Indigenous peoples have already endured due to colonialism. Like our peoples who relocated to Oklahoma in the nineteenth century, many Indigenous peoples have already experienced the irreversible collapse of their ecosystems. They have forever lost relationships with hundreds of species. They were forced to ration the commodity foods available to them, separate from their loving and family relationships, and lose much of their linguistic and knowl edge systems. They had to leave their labour exploited by settlers. Of course, all the while, it was the settlers who believed that the settlers were morally superior while oppressing Indigenous peoples. This is a scenario worthy of the most horrific science fiction.

Settler narratives of preventing tomorrow’s ecological catastrophe can be dangerous, for they involve future imaginations clouded by crisis-induced thinking. They ignore why Indigenous peoples—and other peoples too—are impacted by climate change in the first place. The U.S. and Canada have not yet reconciled their laws, educational systems, spiritual institutions, and cultural norms sufficiently. They have failed to support Indigenous cultural and political self-determination in climate adaptation, honour treaty rights, or promote Indigenous global and climate-change mitigation. Today’s failures stem directly from the lack of re-orientation of the U.S. and Canadian colonial and colonial legal, educational, scientific, and cultural strategies and dispossessing Indigenous peoples of their lands to make way for the drivers of human-caused climate change.

Indigenous peoples, of course, are not waiting for the U.S. or Canada to change, even though it would be beneficial if they did change. Many are making their work on climate change public, which is inspiring in all kinds of ways across diverse Indigenous peoples. The St. Regis Mohawk Tribe has created its climate change plan, organized entirely around relationships of reciprocal responsibility with plants, animals, spiritual beings, and ecosystems, with the plan’s sections divided into chapters with titles like “Mother Earth” and “Trees.”9 As well, the Lummi Nation has taken action on the establishment and train railway near its treaty-protected sacred area of Xwe’chi’eXen, citing the U.S. failure to honor treaty rights as enabling the continuation of damaging fossil fuels industries that commit harms locally (e.g. pollution) and globally (e.g. climate change).10

In these and many other efforts, Indigenous peoples are drawing on their own intellectual traditions in preparing for global climate change. They are calling on settler nations like the U.S. to finally live up to their moral and just expectations for diplomacy and reciprocal responsibility by taking care of shared environments, including the climate system. But non-Indigenous leaders in the U.S. and Canada will not be in a position to do right by Indigenous peoples until they acknowledge climate change as the unprecedented old ecological crisis that it is.

Kyle Powys Whyte

We start from the premise that Canada is facing the deepest crisis in recent memory. The Truth and Reconciliation Commission has acknowledged shocking details about the violence of Canada’s near past. Deepening poverty and inequality are a scar on the country’s present. And Canada’s record on climate change is a crime against humanity’s future.

These facts are all the more jarring because they depart so dramatically from our stated values: respect for Indigenous rights, internationalism, human rights, diversity, and environmental stewardship. Canada is not this place today—but it could be.

We could live in a country powered entirely by renewable energy, woven together by accessible public transit, in which the jobs and opportunities of this transition are designed to systematically eliminate racial and gender inequality. Caring for one another and caring for the planet could be the economy’s fastest-growing sectors. Many more people could have higher wage jobs with shorter work hours, leaving us ample time to enjoy our loved ones and flourish in our communities.

We know that the time for this great transformation is short. Climate scientists have told us that the time for this great transition should involve the democratic participation of workers themselves. High-speed rail powered by renewables and affordable public transit can unite every community in this country—in place of more cars, pipelines, and exploding trains that endanger and divide us.

And so we need to leap.

This leap must begin by respecting the inherent rights and title of the original caretakers of this land. Indigenous communities have been at the forefront of protecting rivers, coasts, forests, and lands from out-of-control industrial activity. We can bolster this role, and reset our relationship, by fully implementing the United Nations Declaration on the Rights of Indigenous Peoples.

Moving by the treaties that form the legal basis of this country and bind us to share the land “for as long as the sun shines, the grass grows, and the rivers flow,” we want energy sources that will last for time immemorial and never run out or poison the land. Technological breakthroughs have brought this dream within reach. The latest research shows it is feasible for Canada to get 100% of its electricity from renewable resources within two decades; by 2050 we could have a 100% clean economy.

We demand that this shift begin now. There is no longer an excuse for building new infrastructure projects that lock us into increased extraction decades into the future. The new iron law of energy development must be: if you wouldn’t want it in your backyard, then it doesn’t belong in anyone’s back yard. That applies equally to oil and gas pipelines; fracking in New Brunswick, Quebec, and British Columbia; increased tanker traffic off our coasts; and to Canadian-owned mining projects the world over.

The time for energy democracy has come: we believe not just in changes to our energy sources, but that wherever possible communities should collectively control these new energy systems.

As an alternative to the profit-gouging of private companies and the remote bureaucracy of some temporal state ones, we can create innovative ownership structures: democratically run, paying living wages and keeping much-needed revenue in communities. Indigenous Peoples should be first to receive public support for their own clean energy projects. So should communities currently dealing with heavy health impacts of polluting industrial activity.

Power generated this way will not merely light our homes but redistribute wealth, deepen our democracy, strengthen our economy and start to heal the wounds that date back to this country’s founding. A leap to a non-polluting economy creates countless openings for similar multiple “wins.” We want a universal program to build energy-efficient homes and retrofit existing housing, ensuring that the lowest-income communities and neighbourhoods will benefit first and receive job training and opportunities that reduce poverty over the long term. We want training and resources for workers in carbon-intensive jobs, ensuring they are fully able to take part in the clean-energy economy. This transition should involve the democratic participation of workers themselves. High-speed rail powered by renewables and affordable public transit can unite every community in this country—in place of more cars, pipelines, and exploding trains that endanger and divide us.

And since so much of the labour of caretaking—whether of people or the planet—is currently unpaid, we call for a vigorous debate about the introduction of a universal basic annual income. Pioneered in Manitoba in the 1970s, this studied safety net could help ensure that no one is forced to take work that threatens their children’s tomorrow, just to feed those children today.

We declare that “austerity”—which has systematically attacked low-carbon sectors like education and healthcare, while starving public transit and forcing reckless energy privatizations—which is a fossilized form of thinking that has become a threat to life on earth. We call for an end to all trade deals that interfere with our attempts to rebuild local economies, regulate corporations, and stop damaging extractive projects. Rebalancing the scales of justice, we should ensure immigration status and full protection for all workers. Recognizing Canada’s contributions to military conflicts and climate change—primary drivers of the global refugee crisis—we must welcome refugees and migrants seeking safety and a better life.

Shifting to an economy in balance with the earth’s limits also means expanding the sectors of our economy that are already low carbon: caregiving, teaching, social work, the arts, and public-interest media. Following on Quebec’s lead, a national childcare program is long past due. All this work, much of it performed by women, is the glue that builds humane, resilient communities—and we will need our communities to be as strong as possible in the face of the rocky future we have already locked in.

Now is the time to leap.

Those dreams go well beyond this document. “We call on all those seeking political office to seize this opportunity and embrace the urgent need for transformation.” We call for town hall meetings across the country where residents can gather to democratically define what a genuine leap to the next economy means in their communities.

Inevitably, this bottom-up revival will lead to a renewal of democracy at every level of government, working swiftly towards a system in which every vote counts and corporate money is removed from political campaigns.

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Decolonizing the Anthropocene

Heather Davis and Zoe Todd

The Anthropocene has never been a prop- erly geological concept—it has always been political. And, we argue, it has always been entwined with the concept of time. As if there were only one hour on Turtle Island. Other places on the globe. It worked to compact and speed change in different ways in different places, as noted above. It did not matter that the Anthropocene should be dated to 1610 to coincide with the founding of the colony of New Amsterdam, the instant of the first European contact. Or that the Anthropocene can be understood as a white supremacist project, an exercise in the extraction of coal, the transmuting of matter, and the remaking of space and time, and is now hitting those nations, legal systems, and structures that brought about the rending and disruption of lifeways and life-worlds in the first place.1

Indigenous and Black resistance in the face of apocalyptic—including the renew- al and resurgence of Indigenous and Black communities in spite of world-ending violence—is something that Euro-Western thinkers should heed as we contend with the legacies of the Anthropocene. As demonstrated by Pierre Teilhard de Chardin and Michelle Niemann (London: Bloomsbury, 2016), 31.

1 We want to make clear that this violence was structural, and as such cannot be undone by those who experience it. The violent history of the Anthropocene means that the “national” and the “global” are interwoven in ways that are not reducible to one another. The Anthropocene is a complex and multi-layered phenomenon, and any attempt to reduce it to a single event or a single cause is misguided. The Anthropocene is a process that has been ongoing for centuries, and its effects are felt in different ways in different places around the world. The Anthropocene is not just about the environmental changes that have occurred over the past few decades, but also about the social and political changes that have accompanied them. The Anthropocene is a reminder of the interdependence of all human and non-human actors in the world, and of the need for collective action to address the challenges that it poses.

2 Indigenous peoples and Black communities have always been at the forefront of the fight against environmental destruction, and have been instrumental in shaping the narrative of the Anthropocene. Their traditional knowledge and practices have provided a foundation for understanding the complex relationships between humans and the natural world. The Anthropocene offers an opportunity to weave together these knowledge systems and to develop new ways of understanding and addressing environmental challenges. The Anthropocene is a chance to build a more sustainable and just world, one that respects the rights of all peoples and the planet.

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8 The Anthro...
This, Seeded in a Glance

Julie Joosten

You build a room
for me to enter
four walls of fog
and your thimbleful pulse,
an amorous sequence. Your blood
streams so gently
it’s a moth pollinating night
flowers.

Sinking back, disappearing
like texture’s line, like confusion
darting through breakthrough,
my blood trickles, turns tourniquet
in your gaze

headful of the filament
of life.

—

Imagination’s energy
careses your earlobe (soft skin
touching face teeth),
widening hurt -
together, we cultivate
doubt as an echo
in an empty field.

—

Proof your mouth exists: a moth
makes me think of you
while this rabbit fur night
needles solitude, raises
here verifiable thought, different
from geometry, archeology,
time -

—

Power runs in grooves –
We must interfere in the silly
habit
of our dying.

Thus
in the avalanche of shameful livery
assembled from colonial centuries
I undress –
take off my mother’s ermine-trimmed
costume, my brother’s sugarloaf hat, my
grandmother’s pomegranate gown with
the gold-embroidered sleeves, my
father’s suspenders and blue jeans, my
ruched veil, high-tops, and striped wool
socks –
in baroque fog
unlace my bodice –

We stand naked before a warship
sprawling on dry ground.
You start to dress (white silk slip, white
cotton shift), telling me about a
distance (of centuries, continents, blood)
that ruffles thought (as if tickling
it). Then pricks and burns it.
I try to think of a way to organize
distance not as time or desire or will,
but as a style of living we might call
collaboration and damage -
You wear white
honour what distance

dissolves.

The avalanche
exposes the mechanics
of dehumanization –
an ugly word for an
ugly concept.
Ugly has its own
necessity. Like
existence.

—

Like the cold
when morning disappears
splintering certainty
into acts of being –

As the world arrests the world.
A sentence that means almost nothing.
Almost interests me.
Like how, despite history, we keep
tumbling in love with the world.

It is the evening.
It is the morning, the noon, a new
evening.
It is the night. It is the night.
It is the night.

—

I’m listening to Mozart’s Requiem
for the repose of the souls
of the dead.
I want at the same time to be listening
to a requiem for the souls of
the living,

a requiem being a kind of prayer
and persuasion being a kind of path.
—

Being persuaded is about consenting
to believe.

—

I gather my consent, hold it fast, stare
at a scribbled moon.
We’re standing amidst known oceans,
seasons, and miseries –
this fault line is half-memory, half winter
beginning unnoticed.

Memory evokes ruin at different speeds
in different lights, nothingness unspooling
contaminated words - body and soul, clear
canyon, turbulent sovereignty, impregnated
empire, a flight of divinities – then dis-
appearing
just like that, it’s path an inklynostalgia
my neurons flex their bodies in –

History, shipwrecked against the matter
of our bodies, our cultures, ship
wrecking them, stays afloat.

—

We see the silence.

See hooves and puddles and
unavoidable laws dissolving into
mathematical equations, caverns,
a brain,
this night, the continents, atmospheric
pressure, breathing, three-dimensional
images of the dead –

—

A nest sways in its weather
envelope. The atmosphere, cropped
close, alters -
invisibility is the answer too long
ordering what happens.

—

Hooves gallop to the rhythm
not of what follows
but of the anterior
of what was foreseen
as following.

A way to give time
to this time
that doesn’t exist
but presses up
against my skin

is to write to you
what I would say to you tonight
our proximity imagines –
one of your ribs, my left hand, breasts, feet –

—

I have not in the end felt ready.

This, Seeded in a Glance is a long
poem included in Julie Joosten’s
forthcoming manuscript For Nor
(BookThug, 2019)
Prosthetic Carapace

Amanda Boetzkes

Grafting has emerged as an insistent figural operation at a time when sensory environments are charged with colliding political and ecological forces. We can think of such conflicts as incisions into the defense structure of the subject from which new material trajectories grow. New carapaces are being constituted at the site of ecological wounds. The graft is therefore ambivalent—neither a suture nor a bandage, but a layer that integrates itself to form a resilient but receptive shell for a new condition. Artistic grafting implants offshoots that propagate outward growth in unforeseen directions. But it also involves ingrowth, the corporeal acceptance of foreign material. Grafting is thus an aesthetic activity that spans epistemological and ontological concerns.

Consider Pierre Huyghe’s Untitled installation at Documents 13 in 2012. Like much of Huyghe’s work, Untitled staged domestic animal and vegetal Umwelten—worlds—that overlapped but nevertheless maintained gaps of indifference toward one another. The outdoor installation was composed of a sculptured nude set amidst groupings of poisonous nightshade plants, fungi that produce LSD, and toxic flower ing foxgloves. A greyhound named Human posed of a sculptured nude set amidst another. The outdoor installation was composed of a sculptured nude set amidst groupings of poisonous nightshade plants, fungi that produce LSD, and toxic flower ing foxgloves. A greyhound named Human was remapped as the sculpture’s incommunicability. The face or intrinsic component of the complete representation: it belongs to the work in an extrinsic fashion. It adorns and veils the nudity of the body. But precisely as a supplement on the edge of the work, it naturalizes the representation itself.

Grafting similarly undertakes this activity of supplementation. As in the case of a skin graft, a material supplement is applied in order to (re)constitute the whole organ. The graft must be absorbed into a seamless totality in order for the skin to function as the body’s primary organic boundary. In grafting, we see the fundamental excess of all concepts and terms: the graft points to ruptures and affordances. Like Derrida’s frame, it forms and deforms, and we might also consider how grafting informs. The excess of the graft feeds back into the work and even has the potential to recast intention and meaning. Grafting applies a surface that is both sensual and informational, a bi-directional interface that grows excessively in the fissures of meaning and orientation. Through its interweaving of that excess, it produces new skeins of sense.

Consider Nadia Myre’s work Code-Switching (2017), comprised of photographic images of clay-pipe fragments woven with Indigenous beadwork. Set against a black background, the objects call to mind traditional ceremonial dress. Yet the work switches the visual code of the object, implanting it with inflections of its colonial history. A Montreal-based artist and member of the Kitigan Zibi Anishinabeg First Nation, Myre began the work as a study of the tobacco trade. The fragments bind together the total object but nonetheless inform it with a new code: a colonial history and decolonizing intervention. She reflects the visual code of all beadwork, insisting on its historical and material specificity in lieu of timeless mythologies of Indigenous craft. In so doing, her graft-work resists the historical masking of colonial violence and deterritorialization.

But grafting does not merely inflect; it transforms through the movement of informational relay, making incisions into visual contexts and recoding them. The effects of such manoeuvres are more than instructive, however, as recoding changes both perspective and experience. It brings materiality to the horizon’s edge and resonates with what lies beyond the world. The graft therefore resounds between the virtual and the material, generating sensible possibilities at the limits of discursive knowledge. When Australian artist Stelarc grew a full-sized ear from his own tissue and surgically inserted it into his arm, he did so to resituate the body’s sensual orientations and to intervene in the way that others direct their input. Ear on Arm is one of several prosthesis projects designed by Stelarc to “augment the body’s architecture, engineering extended operational systems of bodies and bits of body, spatially separated but electronically connected.” His work does not intend to reconstitute a body that is missing an existing organ or limb, but rather to explore the possibilities of extending, repurposing, and reconnecting the body to the external world. Importantly, the ear is rigged with a wireless internet connection and a microphone, so that it will serve as a communicative organ that both receives and outputs information. Stelarc envisions that it could also be a remote sensor, so that someone across the globe could tune into it and listen to what it hears. Furthermore, it would be part of a distributed remote communication system, in which a speaker would be implanted in Stelarc’s mouth so that he might talk to someone by speaking into the ear on his arm, and hear the answer from the implant in his head. Stelarc has thus grafted a new sense system into his body in such a way as to problematize corporeal boundaries altogether. His prostheses collapse the naturalized parameters of the body, closing the spatio-temporal gaps that separate individuals by building an exoskeleton by which others are assimilated into its fabric.
Pollution Is Colonialism

EDAction & Civic Laboratory for Environmental Action Research (CLEAR)

Colonialism in Canada is an ongoing structure wherein settler society and government assert sovereignty over lands already occupied by Indigenous peoples. This includes disrupting and exterminating Indigenous life, values, and self-determination, as well as disruption of established relationships between bodies, lands, waters, air, plants, animals, and other beings. Pollution is Colonialism because:

Land is at the centre of colonialism. Industry and the state disrupt and damage the many relationships that make up the Land when they extract from it as a resource. They use the Land to extract value, such as in mining, but use the Land as a place to put pollution—from radioactive waste to urban sewage—as another way to make economic profit. The Land for the best interests of industry, profit, settler, or colonial governments is a central part of Colonialism.

Pollutants are material forms of harm. Canada’s extraction economy—from fur to fossil fuels—is based on disruption of Indigenous Land and self-determination. The pollution from extraction, as well as from refining, manufacturing, and transportation of products, is often concentrated in Indigenous communities, becoming a form of intergenerational violence.

More than this, persistent pollutants such as PCBs, mercury, and radioactive isotopes have no respect for jurisdiction, distributing harm and death to people, fish, animals, plants, water, and other parts of the Land, disrupting relationships between them. Pollution is a direct and ongoing form of colonial violence in Canada, a violence that overflows legal jurisdiction and postcolonial projects of Indigenous resurgence.

The state gives permission to pollute. It allows some of our species to occupy the territory of the Land, and Canadian and U.S. environmental law. Under the permission-to-pollute system in Canada, some effluents can be released to a certain amount, and spills and leaks are considered acceptable risks even though they happen regularly. Canada’s current legal framework relies on industries to self-report their emissions and do the planning necessary to minimize their own chemical harms. It is thus difficult to get accurate information from the industries about the past and present status of environmental harms.

There is little accountability about the role of pollution in Colonial Canadian colonialism: for example, the state has been thorough in the Truth and Reconciliation process. Until 2016, Canada refused to be a signatory to the United Nations Declaration of the Rights of Indigenous People, nor recognize the right to free, prior, and informed consent. This includes consent to be polluted or not. How might a different environmental governing context shape the significance and ongoing role of pollution in Canadian Colonialism?

A Call to Action

It took a lot of work to make the state acknowledge the injustices of residential schools, but this is essential to decolonization and Indigenous resurgence and self-determination. Similarly, it will take a lot of work to bring the state, industry, and others into responsibility for the violence of pollution. There are already many groups and nations calling for action and change:


There are already many groups and nations calling for action and change:

• Nunatsiavut Government, “#Make Muskrat Right” and “Lake Melville: Avavatu, Kanattuillinnuit (Our Environment, Our Health),” makemuskratright.com.

The feedback of the graft, whether utopian extension or dystopian infection (or both at the same time), intercedes in the processes of anthropogenesis by generating communication with the assemblage of forces that make up the earth’s ecology. In this regard, let us consider Mary Mattingly’s Wearable Homes series, which imagines a place placed superadded layers to the body, designed to respond to global climate change. Through the graft, wearable homes superadd layers to the body, designed to respond to global climate change. Through the graft, wearable homes

The Wearable Homes design takes clothing patterns from a variety of cultural traditions, information technologies, and portable energy systems. Through these components, the architecture of each Wearable Home is designed for a subject that will be exposed to volatile climates without an anchored geographic location. In fact, it anticipates the very undoing of colonialism as a performative act constituted by the very possibility of failure, by virtue of the existing discourse into which it is performed. It runs up against the existing contexture in all its extended material implications. It is not surprising to note that Stellar’s implants have suffered from necrosis and have had to be removed and re-implanted. Grafts can indeed be rejected and feed their failure back into the host system. Grafting is therefore a risky practice and not merely an exercise of the imagination.

Inuit garments, safari camouflage, and industrial garments derive from Inuit garments, safari camouflage, and industrial garments derived from cultural identities grounded in environmental engagements. Grafting is therefore ambivalent. It anticipates, speculates, and feeds back, but also is designed for a subject to an understand-
What is the Economy?

The Economy does not take place.

In 1991, Jean Baudrillard provoked outrage when he proclaimed, “The Gulf War did not take place for a whole new reason: not on a voluntary misunderstanding of what Baudrillard meant. He was not claiming that the violence of the war had not happened. Rather, he argued that the object of ‘The Gulf War’ referred to by military spokespersons, government officials, reporters, and pundits— and known by the public of Europe and North America—was not synonymous with the actual event in the region. Western powers mediated and systemically distorted information such that what was offered to viewers was not an accurate representation of a war effort. Instead “The Gulf War” constituted a novel entity manufactured out of images of military violence.

The non-representation applies to The Economy. Political rhetoric, government policy, economic theory, and statistical calculations all transform economic events, rendering The Economy as a new object. To say “The Economy does not take place” is not to deny the existence of buying and selling, jobs, wages, and services. Rather, it is to assert that The Economy does not unify or determine all processes and activities of both human and nature.

In 1992, while campaigning for U.S. President, Bill Clinton adopted the slogan “It’s The Economy, stupid!” The phrase was intended to promote the idea that the policies justified by national accounts, that is, the statistical calculations that aggregate economic transactions, is the key ingredient in that policy-making process. Simply put, GDP is increasing The Economy is growing.

It is possible to add together the sales of trees with the sales of armoured vehicles, or the sales of mass-produced goods is given a monetary value, which exists in addition to each of these things has a price. However, within the calculative-rhetorical framework of The Economy, nominal GDP are not a surefire index of growth. Nominal GDP will increase if prices increase, but the possibility that people are actually better off. To reduce inflation, statisticians have derived a measure of real GDP.

The quarterly proclamations by Statistics Canada about the country’s real GDP are reported by the media as a snapshot of the economy: “Aテン at a glance, up or down gets leveraged as an indication of whether or not we are winning in the political arena. How does that work? Even if the economy is doing poorly, exonerated from producing climate change—which is not to say it is not implicated. Indeed, the material circulations that The Economy is intended to describe is one of the most important factors in climate change. More importantly, the calculative practices that constrain our attention to economic matters have systematically failed to account for those waste products. This is why we continue to have defectors of economic growth when the pursuit of growth has arguably resulted in the climate crisis.

The misunderstanding of Baudrillard’s provocation is related to the misinterpretation of “construction” to mean “not real.” Although The Economy does not take place in the way presented in popular discourse, it is very much real. When we hear that The Economy is doing poorly, examination of its policies, as well as on the plans and habits of businesses and the public. In this context the notion of “the means for calculating national accounts,” which the publics of Europe and North America have been used to aesthetic effect in woodwork projects made from reclaimed wood products, and similar efforts are under way across the GTA. Such upcycling projects symbolically retain the traces of the beets’ movements.

Whereas reclamation projects take advantage of fine woodworking and carpentry, is believed that a humbler wood product originally transported the beetle to this continent. A wooden crate carrying Japanese carpentry parts allegedly caused the infestation in the Windsor–Detroit area in the early 1990s. A passenger on the circuit for shipment of the beetle’s native range, the Emerald Ash Borer, leaves the Netherlands and Germany, its fatal effects. It is only in a new ecosystem—one intensively mediated by human activity—that the beetle’s devastation is possible. In Mississauga, these factors converge: ash trees make up an estimated ten percent of the tree canopy, and all are at risk if left unattended. As early growers in the forest’s future, ash trees thrive in disturbed ecosystems, and their widespread use in built environments during the city’s urbanization process.

Rattray Marsh Conservation Area, on the shore of Lake Ontario, forcefully testifies to the devastation wrought by the Emerald Ash Borer. The marsh was used as farm land from the nineteenth century through to the 1960s, and afterward cordoned off, widely on the disused fields—thus the end of plantation agriculture laid the groundwork for another fragile ecosystem. The 95-acre conservation area contained over 2,000 ash trees before hundreds of infected ones were recently removed. Mitigation and conservation practices at Rattray have turned dynamic, laborious, and tech-no-scientific processes. Tree pruning, removing ash trees and ash-woodchipping, alongside ongoing treatments with biological insecticides for lives, attests to the fact that The Economy is not only a problem to be combated, but an intervention in human-caused situations.

In the challenges it poses to conservation practices and large-scale agriculture, the beetle engages systems as cyclical and harmonious entities. As social scientist Nigel Clark argues, invasive species reveal the “irresistible logic of economic exchange, as shells of the ‘natural environment.’ Its presence requires us to reckon with our beliefs about the natural environment. Its serpentine galleries map out pathways of commerce, globalization, industrialization, and urban development. Tracing these lines, we are forced to ask: What constitutes a stable economy? How do we assess the conservation and preservation account for invasion, migration, and destruction? And which forms of life are being preserved at the expense of others?"
The Credit River flows from its headwaters in the Bruce Peninsula to Escarpment into Lake Ontario, and the river’s entire catchment area is 1,375,000 square kilometres. The area—the with the river as a man-artery—contains a unique landscape: to protect the river, and the land adjacent to it, from natural hazards like flooding; and to provide opportunities for the public to enjoy nature. They meet these objectives through a variety of land-management tools like erosion control, reforestation, and groundwater monitoring, as well as by creating green infrastructure like wildlife habitats, and wetlands. Programs are undertaken in collaboration with different partners, and by self-initiated grants, in addition to municipal levies. CAOs vary in size and funding depending on their population base and their ability to secure partnership funding. In Ontario’s 36 Conservation Authorities, and to work on climate change adaptation. These legislative changes also include updates to funding mechanisms by allowing CAOs to adapt and their own fee system.

Today the Credit River watershed is home to 1,420 plant species, 264 bird species, five fish species, and 17 amphibian species, seventeen amphibian species, five turtle species. With about one million small and medium-sized farms living in the River watershed, one of the most densely populated areas in North America. As a consequence, Credit Valley is one of the largest CAs in the province in terms of staff and resources. It enables them to run numerous initiatives and conduct research on the local flora and fauna. They also monitor air and water quality in the area and other programs for the watershed and its land base.

Beyond land management, the CVC also prioritizes the links between nature and community. On the CVC, it is possible to see the Credit as a living, breathing natural asset that is economically and historically significant. It has a large number of natural assets and six archaeological sites, which can be visited by the public. They also engage in research on the local flora and fauna.

The City of Mississauga is currently under- taking a project, developing the first ever comprehensive Climate Change Action Plan. The CVC has been involved in this process to address the realities of climate change in Mississauga. Over recent years there has been an increase in the impact of climate change could have on the city. We can see the effects of climate change, such as extreme weather conditions from the same kind of climate as the city. They are working to reduce greenhouse gas emissions and position the city competitively in the transition to a low-carbon economy while working to increase the city’s resilience and capacity to deal with and respond to the physical, social, and ecological effects of a changing climate.

Recognizing that many citizens, organizations, and businesses have major stakes in local climate action, a crucial first step in this process has been to establish a stakeholder panel to serve as a platform to consult with stakeholders in the community. Key partners in this process are the Mississauga’s Conservation Authorities. Conservation Authorities are local water- management agencies that deliver services and programs to protect and manage impacts on water and other natural resources. While independent organizations, CAOs work in partnership with all levels of government, landowners, and many other organizations to protect and conserve fish and wildlife in the area. They also conduct research on the local flora and fauna. They also monitor air and water quality in the area and other programs for the watershed.

In the 1940s, Ontario was experiencing a significant trade routes, visit sacred sites and cultural heritage sites and six archaeological sites. Similarly, visitors to CVC can now point to first-hand experiences of urban runoff and mimic the way nature deals with stormwater. The CVC is working to build on this process by establishing a stakeholder panel to serve as a platform to consult with stakeholders in the community. Key partners in this process are the Mississauga’s Conservation Authorities. Conservation Authorities are local water- management agencies that deliver services and programs to protect and manage impacts on water and other natural resources. While independent organizations, CAOs work in partnership with all levels of government, landowners, and many other organizations to protect and conserve fish and wildlife in the area. They also conduct research on the local flora and fauna.

For more on conservation authorities and the history of Credit Valley Conservation, see Andrea Olive’s profile on the CVC website. Key partners in this process are the Mississauga’s Conservation Authorities. Conservation Authorities are local water-management agencies that deliver services and programs to protect and manage impacts on water and other natural resources. While independent organizations, CAOs work in partnership with all levels of government, landowners, and many other organizations to protect and conserve fish and wildlife in the area. They also conduct research on the local flora and fauna. They also monitor air and water quality in the area and other programs for the watershed.

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Biographies

Amanda Boetzkes is Associate Professor of Canadian Art History at the University of Guelph. Her first book, The Ethics of Earth Art (University of Minnesota Press, 2007), was short-listed for the Governor General’s Award. Her next book, Far Nor, is forthcoming from Book Thug in 2019. Her research encompasses political and conceptual affinities, form, and politics.

Elizabeth LaPensée is an award-winning writer, artist, and researcher. She currently studies Indigenous media such as games and comics. She is Associate Professor in Indigenous Studies at Bay Mills Indian Community, Métis named for Elizabeth Morris, and settler Irish. She is Assistant Professor in Media studies, Writing, Research, & American Cultures at Michigan State University. Her ongoing contributions are recognized with the Serious Games Community Leadership Award (2017). She was a keynote speaker at the conferences in Cyberspace and continues to collaborate as a Research Affiliate for Indigenous Futures. She is a 2018 Guggenheim Fellow.

The writing of The LEAP Manifesto was initiated in the spring of 2015 at a two-day meeting in Toronto attended by representatives from Canada’s Indigenous rights, social and food justice, environmental, faith-based, and labour movements. The Thug Manifesto went through several drafts and was shaped by the contributions of dozens of people.

Yihan Li is a multimedia artist originally from Guangdong Province, China. She is interested in creating artworks that combine different forms of expression, such as sculpture, drawing, and design. Her recent work is inspired by the global problem of “invasive species.” In June 2018, she will obtain her MFA in Art and Art History from the University of Toronto and Sheridan College. Her drawings and sculptures have been represented in group exhibitions at Sheridan College Gallery and in published artist catalogues, including (POST 2015 and 2017) and BUFT (2017 and 2018).

Morris Lum is a Trinidadian-born photographer/artist whose work explores the hybrid nature of the Chinese-Canadian cultural context. Lum’s work has been exhibited and represented in the media and archival material. Morris’s work has been exhibited in several national and international exhibitions in the United States. He is currently working on a North American-wide project focusing on archives, libraries, and other media spaces; media infrastructures; spatial epistemologies; and mediated sensation. She is the author of The New Downtown Library: Designing with Digital Vision Mapping the Media City; and Code and Clay. Data and Dirt, and she contributes a regular long-form column for Places Journal.

Andrea Olive is an Associate Professor of Political Science and Geography at the University of Toronto Mississauga. She is the author of two books, Land, Stewardship and Legitimacy and The Canadian Environmental Monumental Context. Her main areas of research are conservation policy, Canada-US environmental policy, and oil politics in the grasslands ecosystem. While not writing or teaching, Olive can be found wandering the trails of the Niagara Escarpment in the Credit Valley and Halton Conservation Authority areas.

A settler living in Tkaronto, Kika Thorne oscillates between action and abstraction.

Zoe Todd (Métis/opiemsive) is from Amiskwacihciwahk (Edmonton), Alberta. She writes about fish, art, Métis legal traditions, the Anthropocene, extinction, and the intersection of these contexts. She also studies human-animal relationships and collaborative environmental change in northwestern Canada.

Kyle Pows Whyte holds the Timnick Chair in the Humanities at Michigan State University. He is Associate Professor of Philosophy and Social Theory, and also there, as well as a faculty member of the Indigenous Studies and Ethnic Graduation, the Geocognition Research and Lab, a faculty affiliate of the American Indian & Indigenous Studies and Environmental Science & Policy programs. Whyte is a Potawatomi educator, and a member of the Potawatomi Nation. He research, teaching, training, and activism is focused on the roles and responsibilities of Indigenous scholars in navigating climate policy and Indigenous peoples, as well as the ethics of cooperative relationships between Indigenous peoples and climate science organizations.


The LEAP Manifesto

The LEAP Manifesto was initiated in the spring of 2015 at a two-day meeting in Toronto attended by representatives from Canada’s Indigenous rights, social and food justice, environmental, faith-based, and labour movements. The Thug Manifesto went through several drafts and was shaped by the contributions of dozens of people.

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Glossary

An entangled lexicon for a rapidly changing world

1. Accounting: The process of measuring an economic entity. Often used in a financial sense (see Cochrane, p. 22), accounting can also refer to systems of value, including valuation (see Climate Change Project, p. 25), or other methods of calculating and assessing the quantity, worth, or substance of something (see LEAP, p. 10; Local Useful Knowledge, p. 26). Accounting assumes stable and agreed-upon understandings of something’s value, but can also refer to a testimony, an account of the facts, a narration. Who is counting? Who determines an asset’s value and usefulness? Whose account of the facts counts?

2. Adaptation: In environmental policy, is a strategic process of adjusting to climate change and managing risks associated with climate change and managing risks associated with climate change and managing risks associated with climate change and managing risks associated with climate change and managing risks associated with climate change. Adaptation is often discussed in tandem with Mitigation, which aims to tackle the root causes of climate change (see Climate Change Project, p. 25; Local Useful Knowledge, p. 26). In biology, adaptation refers to features that evolve in a population because they offer an advantage. In each sense, adaptation refers to the capacity for change—in a cultural context, it may also align with notions of resilience, or track necessary, long-endured, and under-recognized shifts (see Whyte, p. 8). Adaptation and mitigation are important corrective measures, but they cannot function in isolation, the work of reimagining and recalibrating with the systemic and historical foundations of environmental violence.

3. Anthropocene: From the Greek anthropos for “human” and cene for “new,” this proposed term describes the current epoch of human impact on the Earth. The concept is hotly contested—both by those who contend that we remain in the Holocene (as our official current geological epoch is termed), and by those who suggest that the term “Anthropocene” does not do enough to describe how human impacts have been fundamentally influenced by the distribution of power, capital, and time across the globe. Alternative suggestions include Capitalocene (in order to reflect capitalism’s responsibility for environmental devastation), Chthulucene (a future epoch where human and animal limbs are reconnected to Earth. This new form of the Anthropocene describes a future epoch that is dominated by the Plantationocene (see Plantation in this glossary), See Davis & Todd (p. 13), and Hall (p. 3), who put the Anthropocene in temporal and decolonial contexts.

4. Brownfield: In urban planning, a site that has been previously developed but is not currently in use. This notion is used in reference to sites that have been contaminated, brownfield land contrasts with greenfield land, which has intentionally been left undeveloped (see Mattern, p.5).

5. Carapace: An outer shell (see Boetzkes, p. 18)—either metaphorically (e.g. a psychological defense mechanism), or literally (e.g. the shell of a turtle, or the dorsal section of a crustacean’s exoskeleton).

6. Catastrophe: A disastrous and often sudden event. How sudden? Many disaster researchers argue that ecological catastrophes are significantly different from natural disasters, because human-caused environmental degradation has been occurring slowly and quietly for collapse. See Whyte’s Climate Change: An Unprecedentedly Old Catastrophe (p. 8) and the LEAP Manifesto (p. 10), or consider the invasion of the Emerald Ash Borer (McCallum, p. 23), and the 2013 Mississauga ice storm (Climate Change Project, pg. 25).

7. Chaodie: A philosophical concept coined by Gilles Deleuze and Félix Guattari to describe a linguistic or artistic form (including poetry, science, or performance) that is capable of moving us from chaos to comprehensibility (see Boetzkes, p. 18). The concept of chaodie may be effective in describing how attempts to grasp and discern the scale of environmental crisis may emerge from a sense of overwhelmed—move towards an understanding of ecological complexity, human entanglement, and opportunities for action.

8. Effluent: Water pollution; often waste-water, sewage, or gas released into a natural body of water. The term comes from the Latin effluere, “to flow out,” and refers to any flowing offshoot of a river or lake—now much more sinister (see EDAction & CLEAR, p. 20).

9. Era: In geology, a subdivision of geologic time (for example, the Phanerozoic eon contains the Paleozoic, Mesozoic, and Cenozoic eras). Historians use the concept of an “era” to organize time around a specific event or ruling regime (e.g. “The Roman era”), often privileging, naming, and structuring knowledge around power and control. See Davis & Todd (p. 12), Hall (p. 3), Joosten (p. 14), and Whyte (p. 8) on seeing the scale of environmental crisis may emerge from a sense of overwhelmed—and move towards an understanding of ecological complexity, human entanglement, and opportunities for action.

10. Extraction: Fish: In physical forms, the extraction of natural resources is a persistent and ongoing process. This includes the extraction of fossil fuels, minerals, metals, and other materials from the earth for human purposes such as agriculture, urban development, and logging, or by natural means including natural disasters. The term “extraction” is often used to refer to the processes of removing materials from the earth. This term is used in the context of both human and natural processes, and includes the extraction of materials for human use, whether for consumption or for industrial purposes. Extraction is a complex process that involves the extraction of materials from the earth, often with significant environmental and social impacts. The term “extraction” is used to describe the process of removing materials from the earth, whether for human use or for industrial purposes. Extraction is a complex process that involves the extraction of materials from the earth, often with significant environmental and social impacts.

11. Fault line: In geology, a visible fracture in the ground caused by the shifting of the earth’s tectonic plates. In general usage, a place of friction and potential failure, often tension—this can be physical, but may also refer to fissures in systems of knowledge and understanding. In each sense, a fault line refers to the place of friction and potential failure, often tension—this can be physical, but may also refer to fissures in systems of knowledge and understanding. In each sense, a fault line refers to the system of fault lines, often privileging, naming, and structuring knowledge around power and control. See Davis & Todd (p. 12), Hall (p. 3), Joosten (p. 14), and Whyte (p. 8) on seeing the scale of environmental crisis may emerge from a sense of overwhelmed—and move towards an understanding of ecological complexity, human entanglement, and opportunities for action.

12. GPS: A global navigation system, technology that connects data and information, including maps and real-time location data, to users around the world. GPS networks are used in a variety of applications, from vehicle tracking and navigation to military and scientific purposes. The term “GPS” is also used to refer to the Global Positioning System, a network for navigation technology that comprises a constellation of satellites and a ground-based support network for collecting and processing data. GPS is a global technology that connects data and information, including maps and real-time location data, to users around the world. GPS networks are used in a variety of applications, from vehicle tracking and navigation to military and scientific purposes. The term “GPS” is also used to refer to the Global Positioning System, a network for navigation technology that comprises a constellation of satellites and a ground-based support network for collecting and processing data.

13. Infrastructure: The term “infrastructure” is used in various ways, including in the context of urban development, environmental policy, and social justice. In urban planning, infrastructure refers to the systems and networks that support the delivery of essential services, such as water, transportation, and energy. Infrastructure can also refer to the physical structures and systems that make up a city or town, including buildings, bridges, roads, and other infrastructure. In environmental policy, infrastructure is often used to refer to the systems and networks that support the delivery of essential services, such as water, transportation, and energy. Infrastructure can also refer to the physical structures and systems that make up a city or town, including buildings, bridges, roads, and other infrastructure. In social justice, the term “infrastructure” is often used to refer to the systems and networks that support the delivery of essential services, such as water, transportation, and energy. Infrastructure can also refer to the physical structures and systems that make up a city or town, including buildings, bridges, roads, and other infrastructure.

14. Methymercury: A toxic form of mercury often found in aquatic systems through the action of bacteria in sediment, and historically produced through various industrial processes. Predatory fish in methylmercury-polluted waters accumulate higher rates of the toxicant through their diets, making fish-eating species (including humans) vulnerable to methymercury poisoning (see EDAction & CLEAR, p. 20).

15. Noosphere: The concept of a “sphere” in earth sciences describes the systems that compose the earth: the lithosphere (or geosphere, containing all the earth’s surface’s rocks), the hydrosphere (its waters), the atmosphere (its gases), and the biosphere (its living organisms). In its expanded and moving beyond the threshold, the philosophical concept of noosphere describes the earth’s surface and knowledge—and its capacity to alter and transform the other four spheres (see Davis & Todd, p. 12).

16. Plantations: Large-scale farms, particularly for monocultural crops, but sometimes including tree farms and reforestation efforts (see McCallum, p. 23). In proposing the “Plantationocene” as an alternative term to the “Anthropocene,” scholars implicate corporate capitalism and slave labour in environmental depletion and devastation.

17. Reforestation: The process of replanting an area with trees—in contrast with Deforestation, the mass removal of trees (for human purposes such as agriculture, urban development, and logging, or by natural means including natural disasters). Reforestation can have drastic effects, including disease outbreak, habitat loss, changes to climate conditions, and the replacement of plant and animal species (see Olive, p. 24; Thorne, p. 16; and McCallum, p. 23).

18. Self-determination describes a nation or people’s right to self-governance (see Davis & Todd, p. 12) and autonomy. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination. For Indigenous peoples in Canada, this refers to the recognition of a people’s power to make decisions about land, resources, and social programs, as well as the right to self-governance and political self-determination.