



Pollution Is Colonialism

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BOOK REVIEW FORUM

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It is our pleasure to introduce this Book Review Forum¹, which we use to celebrate the work of Red River Métis/Michif scholar, Max Liboiron, Professor in Geography at Memorial University in St. John's, Newfoundland and Labrador, Canada, and their monograph *Pollution is Colonialism*. Published in 2021, Liboiron's central ambition with the volume is to rethink environmental and plastic(s) pollution by recognising their intertwining histories with, and effects on, Indigenous Land and Land reclamation. The consequent analyses are thus a completely different daily enactment of science. To properly position and introduce their work, we have chosen to open this forum by borrowing the following quote from the volume's opening chapter, in which Liboiron writes:

This is a methodological text, where methodology is understood as a way of being in the world. An ethic, if you like that word better...Throughout this book, I redefine pollution as central to, rather than a by-product of, colonialism, and I think about the role of science in achieving both colonialism and anticolonialism... Often, I'll turn to CLEAR² as the lens and framework to denaturalize colonial scientific practices and concept of land, Nature, and Resource, while also giving examples of anticolonial science and methodologies that produce diverse futures. As such, this text is less about claims and more about models. I hope the text is useful to you. But not in a creepy, Resource-y way (p. 36).

It should be obvious from this brief extract that *Pollution is Colonialism* is one of those rare finds. First, it is immensely, immensely readable; the sort of book one reads in a single sitting, captivated by a sense of being in conversation with the author, from cover to cover. Second, it carefully assembles and articulates—so very clearly—the histories and realities of science, scientific practices, and methods. Third, it underscores the absolute imperative of recognising the importance of Land, ethics, and relations if we are to live and work in ways that go against, rather than with and for, the unfinished and world-ending catastrophes of colonialism (after Simpson, 2017).

Structurally, *Pollution is Colonialism* is composed of four chapters (and a fulsome set of acknowledgements). It opens with an engaging and welcoming Introduction that lays bare Liboiron's approach to establishing 'good relations' and their attendant ethical considerations. There is much to be learnt here—often from the footnotes—about establishing and maintaining good relations with communities, other writers and readers, and, as Liboiron puts it in a subsequent chapter, all 'the material aspects some people might think of as landscapes—water, soil, air, plants, stars—and histories, spirits, events, kinships, accountabilities, and other people that aren't human' (p. 43). Liboiron then turns to consider the topics of 'Land, Nature, Resource, Property' (Chapter 1) and 'Scale, Harm, Violence, Land' (Chapter 2), before outlining their model for 'An Anticolonial Pollution Science' (Chapter 3). Collectively, the chapters revolve around a need to rethink the ways in which science has been (and continues to be) conceptualised and implemented, primarily in the United States and Canada, but not exclusively, as Liboiron's discussion applies to the supposed 'universal' scientific practices developed and adopted across much of the minority world.

It is fair to say that a range of contemporary thinkers in the Philosophy of Science, Sustainability Sciences, and Science and Technology Studies (STS) have contributed to putting under scrutiny sciences and their methodologies via, for instance, feminist theory and sustainable and community-engaged practices (Crasnow & Intemann, 2020). This literature is known and widely

cited by Liboiron. Yet, with *Pollution is Colonialism*, they have still managed to produce something profoundly new. Through its pages, Liboiron carefully explains how they conceptualise and apply anticolonial and feminist thinking through the work done at the Civic Laboratory for Environmental Action Research (CLEAR), where researchers, led by Liboiron, primarily study plastic(s) pollution, endocrine perturbators, wild food and food sovereignty, with a focus on doing ‘research that matters to the people of Newfoundland and Labrador’.³ Such work daily demonstrates how Indigenous Land, science, and pollution cannot be understood as separated, one from the other.

As the title suggests, the main thesis of the monograph is that pollution and colonialism are inextricably enmeshed, yet few theorists and scientists have adequately explained the profound connections between the two. In this regard, *Pollution is Colonialism* builds on earlier propositions put forward by Liboiron in the article ‘How plastic is a function of colonialism’, published in *Teen Vogue* in 2018, in which they describe colonialism as:

... a system of domination that grants a colonizer access to land for the colonizer’s goals. This does not always mean property for settlement or water for extraction. It can also mean access to land-based cultural designs and culturally appropriated symbols for fashion. It can mean access to Indigenous land for scientific research. It can also mean using land as a resource, which may generate pollution through pipelines, landfills, and recycling plants.⁴

Pollution is Colonialism extends this line of thought, arguing that pollution can no longer be seen simply as a side effect of colonialism; rather, it must be understood as ‘an enactment of ongoing colonial relations to Land’ (p. 6). More specifically, Liboiron makes clear that there can be no disposability for plastic waste *without access to* Indigenous land, often achieved via a process labelled ‘waste colonialism’. This is a term, as Liboiron (2018) points out, that was first ‘coined in 1989 at the United Nations Environmental Programme Basel Convention when several African nations articulated concerns about the disposal of hazardous wastes by wealthy countries into their territories.’⁵ As Liboiron goes on to argue, environmentalism seldomly addresses the ongoing legacies of colonialism; on the contrary, access to Indigenous Land—and, moreover importantly, a sense of entitlement to that access—is more often held up as a solution to ecological problems, with questions of access and ethics rarely debated or discussed (p. 11).⁶

For this reason, Liboiron uses *Pollution is Colonialism* to push forward a different way of doing science, one that is place-based and foregrounds respect, humility, and obligations to Land and Land’s inhabitants. In so doing, they propose a new awareness, new epistemologies, and new scientific practices. One example is that CLEAR researchers no longer use chemicals that require hazardous waste disposal as a form of respect for Land and people. As Liboiron explains:

We’ve stopped using toxic chemicals to process samples, which means there is a whole realm of analysis we can’t do. We also use judgmental sampling rather than random samplings in our study design to foreground food sovereignty when we look at plastics in food webs (p. 6; see also p. 146).

Furthermore, Liboiron proposes a non-threshold theory of toxicology by questioning the concepts of carrying capacity and assimilative capacity used in science to define the amount of waste, plastics or endocrine perturbators that Land(s), nature, or human beings can hold or withstand (pp. 39–40; p. 46). CLEAR researchers also approach the analysis of animal samples (e.g. fish guts) via a shared and respectful practice, asking permission to collect samples from the inhabitants of the Land and returning non-toxic seal guts to feed animals and people after their analysis.

There are, of course, many other elements and insights in *Pollution is Colonialism* that we wish we had the space to highlight in this opening commentary. Fortunately for us, many of these are beautifully explored in the reviews that follow, written by eminent scholars Rosie ‘Anolani Alegado (kanaka ‘ōiwi), *tebrakunna* country and Emma Lee, Niiyokamigaabaw Deondre Smile and Tim Waterman. Each reviewer conveys a prismatic way of reading and taking inspiration from Liboiron’s work, demonstrating immense rigour, thoughtfulness, and care in their engagements with *Pollution is Colonialism* as they outline its influence in terms of how they think about

landscape and geographical studies, as well as the implications they see for working and managing a scientific laboratory and teaching students of science and humanities.

Many readers will already have sensed the influence Liboiron's work has had on *Landscape Research*. Their work was instrumental, for example, to our re-launching of this Book Review Forum format, inspired as we were by their call for reading reciprocity as a form of exchange, a call we hope will precipitate a move away from extractive practices towards more responsible and accountable forms of reading and writing (see Liboiron, 2020; see also Liboiron & Smiles, 2021). Liboiron's work was also a much-appreciated touchstone as the Editorial Team and members of the Board of Trustees for the *Landscape Research Group* developed the journal's recently launched 'ethos of care', outlined in two of the journal's more recent editorials (Vicenzotti & Waterton, 2021; Waterton et al., 2022). In all instances, Liboiron's work is deeply and gratefully acknowledged. We hope our choice of book will thus inspire readers of the journal as they continue to engage with the incredible and multifaceted topic of 'landscape'.

Notes

1. Please reach out to Dr Laura Menatti (Book Review Editor) if you are interested in proposing a book (monograph or edited collection) that could be the focus of a Book Review Forum. Although *Landscape Research* is published in English, we take calls for inclusion and diversity seriously. We are therefore keen to include and promote non-English language texts, as well as those produced by publishers beyond academia. The Book Review Editor is happy to receive suggestions about potential texts, particularly from those interested in leading the curation of a Book Review Forum.
2. Civic Laboratory for Environmental Action Research (CLEAR), <https://civiclaboratory.nl/>. CLEAR is the lab directed by Max Liboiron.
3. <https://civiclaboratory.nl/plastics-wild-food-projects/>
4. <https://www.teenvogue.com/story/how-plastic-is-a-function-of-colonialism>
5. <https://www.teenvogue.com/story/how-plastic-is-a-function-of-colonialism>
6. The issue of waste and its connections with colonialism is the focus of Liboiron's most recent book, co-written with Josh Lepwasky, titled *Discard Studies: Wasting, Systems, and Power* (2022).

References

- Crasnow, S. & Intemann, K. (Eds.). (2020). *The Routledge handbook of feminist philosophy of science*. New York, NY: Routledge.
- Liboiron, M. (2018). How plastic is a function of colonialism, *Teen Vogue*. Retrieved from <https://www.teenvogue.com/story/how-plastic-is-a-function-of-colonialism>
- Liboiron, M. (2020). Exchanging. In K. Jungnickel (Ed.), *Transmissions: Critical tactics for making and communicating research*. Cambridge, MA: MIT Press.
- Liboiron, M., & Lepwasky, J. (2022). *Discard studies: Wasting, systems, and power*. Cambridge: MIT Press.
- Liboiron, M., & Smiles, D. (2021). #Collabrary: A methodological experiment for reading with reciprocity. <https://civiclaboratory.nl/2021/01/03/collabrary-a-methodological-experiment-for-reading-with-reciprocity/>
- Simpson, L. B. (2017). *As we have always done: Indigenous freedom through radical resistance*. Minneapolis: University of Minnesota Press.
- Vicenzotti, V., & Waterton, E. (2021). Practicing care in global pandemic. *Landscape Research*, 46(1), 1–7. doi:10.1080/01426397.2021.1873485
- Waterton, E., Castán Broto, V., Fairclough, G., Jones, K., & Watt, L. A. (2022). Thinking and writing with care. *Landscape Research*, 47(1), 1–9. doi:10.1080/01426397.2021.2017550

Laura Menatti and Emma Waterton

At first, I thought to review *Pollution is Colonialism* in an order mirroring the sequence of chapters. However, author Max Liboiron gives us permission to form a relationship with their book in a messy way—affirming that the book, ‘is not written for or to everyone in the same way’ (p. 32).¹ And so a messy way is the path I will take and in turn encourage others to build their own unique relations to this work as well. In particular, two facets of my professional identity resonated very strongly with Max Liboiron’s book: practically as the instructor for an upper-level oceanography course on aquatic pollution and fundamentally as a native woman in academia who also grapples with mentorship of other Indigenous scholars within compromised spaces.

One of the most powerful concepts repeated throughout Liboiron’s book was the continuous assumption and entitlement over access to Land as a defining feature of colonialism. This notion can easily be felt from where I am situated. I work on the ‘āina (kanaka ‘ōiwi concept that best crosswalks to Liboiron’s capital L land, p.7 footnotes) of my ancestors at the University of Hawai‘i Mānoa, which prides itself on being one of the most diverse institutions of higher education in the United States. Less advertised is that this achievement was made possible on the backs of immigrant contract labourers who worked on plantations for the same missionary descendants-turned-sugar barons who overthrew my nation. Moreover, my university is built on ceded lands.² These hewa (wrong doings) exist as ever-present indelible marks of colonialism in the skin and bones of the institution. Colonial harm is further perpetuated through attempted construction of the Thirty Metre Telescope on the peak of our most sacred mountain, Maunakea. Liboiron does not shy away from critiquing academia as compromised and contested spaces for native scholars.

As a Native scientist who mentors Native students, Liboiron’s third and final chapter, ‘An Anticolonial Pollution Science’, which they self-describe as dessert, was instead my i‘o, the meaty main course that you just want to chew on, for it lays out clear positionality in a way that most academic researchers are never asked to do and their voice is one rarely heard—an Indigenous voice in science. As researchers, interrogating our viewpoints requires us to be aware that the underlying belief and assumptions upon which our scholarship is based, the research paradigm, guides our design, process, and analysis. Liboiron’s writing is striking in their recognition of how few and far between Indigenous voices in a space can be and have positioned the Civic Laboratory for Environmental Action Research (CLEAR) as anti-colonial and feminist, key alignments with indigeneity. What hit for me as an Indigenous scientist was also the multi-layered intentions with how Liboiron has built their lab. As a Western-trained academic, bringing my students into science has been a difficult exercise in unpacking internal clashes between life ways. Having the voices of their students also be present in this book has given my own haumāna³ permission to interrogate the unjust power dynamics that arise in research. Within this interrogation, what has been most powerful to my own practice of science is the unflinching perspective that ‘science is always already fucked up, which means that our work is always compromised’ (p. 21) and yet there is also a very hopeful view that every day we get to choose how we do science. That every day we make active choices to work ‘against scientific premises that separate humans from Nature, that envision natural relations as universal, and that assume access to Indigenous Land’ (p. 113).

This book is also a useful catalyst for transformation not only from a pedagogical perspective. As someone who teaches the subject of aquatic pollution, this book provided the much-needed complement to the standard fare I teach my students about calculating how much photosynthesis or primary production can be stimulated by adding in excess amounts of nutrients, how deprived a system is of oxygen by being very explicit in challenging the ethics of assimilative capacity and the threshold theory of pollution. It’s the unfortunate truth that most marine biology and environmental science majors lack a foundation in critical theory. This book opened up the space to have those conversations side by side with calculating the trophic transfer of pollutants in the food web. Liboiron’s tome provides a platform for discussing new areas where literature connecting environmental and scientific racism to foundational concepts in the field of pollution are absent in a way that is also accessible and readable for

young STEM folk. This year, in particular, my students needed the vocabulary and citations/receipts as Hawai'i has been directly grappling with pollution of our sole source aquifer by the United States Navy. For my students, Liboiron's words that 'pollution is best understood as the violence of colonial land relations rather than environmental damage' (p. 6) hit them in incredibly visceral and personal ways.

Liboiron very effectively critiques their field of research by clearly laying out the bad relations of a scientific theory that allows some amount of pollution to occur and its accompanying entitlement to Land to assimilate that pollution. In particular, their takedown of the Streeter-Phelps equation (p. 4), which normalises harm as a centrepiece in our modern understanding of environmental pollution, was revelatory to my learners. This is just one example of how Liboiron challenges dominant scientific narratives. For another example, the author did an excellent job of explaining the fuzzy maths around plastic calculations. In Hawai'i, our location in the North Pacific Subtropical Gyre means we are the recipient of this very elusive pollutant. Many of the traumatic images the public may be familiar with around plastic pollution come from my islands, which are the refuge and homeland for marine birds and turtles. This is an emerging field and scholars in Hawai'i are very much studying the same questions that the CLEAR lab also studies. It is critical that the very un-final nature of this field be made clear to learners. Their analysis on the disposability and mass production of plastic is relatively new and potentially offers the solution—that as a society we can re-frame our relationships to pollutants and toxicants in reframing our relationships to Land.

This is a book I was sure my students needed and, in sharing it, I discovered how much I needed it too. Max Liboiron's words feed us and in being that which feeds, their book is 'āina. Pa ka na'au.⁴

Notes

1. As Liboiron does so well in their book, I will also endeavour to employ the politics of citation so that readers of this review can more easily find these jewels.
2. Ceded lands are the 1.8 million acres of lands taken by the United States in 1898 without the consent or compensation to the Native Hawai'i people of Hawai'i or their sovereign government (1993 Apology Bill, United States Public Law 103–150) after the illegal overthrow of the Kingdom of Hawai'i in 1893.
3. Native Hawaiian, students.
4. Native Hawaiian saying after a satisfying meal. Literally, 'my belly sits well'.

Rosie 'Anolani Alegado (kanaka 'ōiwi)

I call from the *trouwunna* (colonial state of Tasmania, Australia) land and waters of my peoples, *trawlwulwuy* peoples from *tebrakunna* country, and give acknowledgement to the Elders, custodians, communities, ancestors and creators of Beothuk, Mi'kmaq, Inuit, NunatuKavut and Innu of whose lands and waters that Max and their book is scaffolded, nested and anchored in.

These territories of life—known as 'country' to us in Australia—are Lands within Max's book and are the centre of the inquiry as to how we understand life and our place in it. While ostensibly the book may be about colonialism, pollution, anticolonial or decolonial methodologies, science work and even fish, for me, as an Indigenous person, it is about the love we have for country and the efforts to cherish, nurture, and grow our relationships with it. Country is a totality of emotions, belonging and connections that is articulated through relationships, ceremony, reciprocity, care, and love. We are obligated and responsible to care for country through the Law that our ancestors and creator beings gave us; we are impelled by the consideration of future generations to leave country in a better condition than when we are born into it.

Therefore, to review or critique Max's book requires a different lens that looks to how country might respond to their work. Is this book good for country? Will country benefit from their scholarship? Is the agency of country, away from humans, recognised? Can country be central in healing the broken and festering relationships that colonialism has forced upon Indigenous Peoples, especially through science? How might country relate to Max, their communities, their experiences of being colonised and their work towards reciprocal and relational knowledge productions that are respectful of place?

While I cannot speak for Turtle Island from *tebrakunna* country, there is my obligation and responsibility towards kinship—here is kin across the seas who has created a culturally safe space to be Indigenous within the academy and who cherishes country. In telling the story of pollution as colonialism, they are walking country and delineating boundaries of good and harm. By this, the harms of science colonialism are recognised through Max's analysis and country is shielded by the rigorous accountability of science practice and protocol by the CLEAR lab members who look towards ceremony as a place of healing.

I found a comfort in the messy business of coming to terms with colonialism, with Max's recognition that there is 'no terra nullius for this work' or 'clean slate' (p. 20, 21). Country has been colonised through pollution and the means of measuring, weighing, mapping, and justifying it; there is no part of country that has been left solely for itself or for togetherness with Indigenous Peoples. Therefore, there can only be mess and messiness in the work that goes into recognising the harms and the restitution we want to create in anticolonial work.

The themes of incommensurability and compromise in Chapter 3 are important here. In any written work from Indigenous Peoples there is always the strain of uncertainty, the knowing that we will never get our terminology right or with fulness to explain the trauma of our colonisation or demonstrate the replicability that provides the 'dominant science' (p. 20–21 footnote) with their power. To talk back to colonisation is to continue to develop the language of healing, recuperating and resurging country, or as Max writes, 'we don't have an answer yet, but we have a way forward' (p. 135). The flip side, however, is the pride in refusing universalisms. In rebuffing the dominant science its replicability everywhere in every way, 'refusal is affirmation and repair more than denial' (p. 142)—it becomes a place-based response that highlights the local context. Therefore, refusing to stop eating contaminated fish means the 'stakes of not eating the food are cultural genocide' (p. 107). Country wants us to know our languages, our practices, and our traditions of fishing even when colonisation has disrupted the healthy connections—we will still eat the fish, although it may kill us, because we refuse colonialism.

Thus, to critique Max's book on whether that terminology is right or whether that observation is replicable or that some other Indigenous person said something different is to miss the point and fail country badly. Country is not universal but belongs to itself first and foremost; as Indigenous Peoples we strive to write of country while in place and not remote from it. Colonised people, people like me and like Max, live with a compromise every day of being faithful to country, but intimately aware of the damage we do in trying to limit colonialism and the pollution it has left and still creates. Compromise is about knowing that 'we are always caught up in the contradictions, injustices, and structures that already exist, that we have already identified as violent and in need of change' (p. 134). To critique a body of work anchored in Beothuk Lands from *tebrakunna* country is not the right way; specificities, histories and context are everything.

Compromise then leads to something positive and wonderful: hope. While Max only turns to 'hope' in the concluding paragraph, their book is infused with it. They are a hopeful person doing hopeful work that is inspiring because of it. I believe that country is the better, stronger, and healthier because of Max's work and thus too can we be. There is hope that our work might make for better relations and heal country because of the power of Indigenous Peoples like Max Liboiron.

tebrakunna country and Emma Lee

I'll start with a bit of a half-hearted disclaimer: It's not often that you get to write a review about one of your academic heroes and mentors, and so I apologise in advance if I take a few detours and make a few asides as I write this—I suspect Max wouldn't want this review to go any other way.

I've often said that the best way to quickly draw the ire of broader 'dominant'¹ academic structures is to poke at how we define 'science', and how it's done.² Too often in academia, we are trained—socialised even—to view ourselves as the ultimate arbiters of truth and knowledge. If someone tries to make a claim that we feel is not rigorous, one of the common arguments that will get trotted out is 'Where is the science? That's not rigorous science!' In fact, I am reminded of a job talk where I spoke about Indigenous data sovereignty, and how that led me to anonymize my data sources when collecting data from Indigenous communities as a way of ensuring participant safety. After I was finished and was meeting with faculty, a senior professor pulled me aside. They told me that they enjoyed my talk, that I had good ideas, but that in 'true science', I would never be allowed to obscure the sources of my data as I did in my talk (and the dissertation that accompanied it).³ That remark stuck with me for a long time in a not great way, and I was always curious why—until I opened up Max Liboiron's *Pollution Is Colonialism*—and then I understood why. In the volume, Liboiron makes clear that the ways that we do science is not apolitical and can in fact reinforce harmful power structures such as colonialism.

Liboiron approaches this dynamic partially through the lens of pollution, particularly plastic pollution. In the early part of the book, Liboiron not only defines what colonialism is, and what pollution is, but also begins laying the case of how we have over time viewed pollution as not only an established fact, but one that can be managed in 'sustainable ways' They speak of early researchers such as H.W. Streeter and Earle Phelps,⁴ who used the Ohio River valley as a test site to determine just how much pollution the local ecosystem could handle. In this, Liboiron expertly crafts the argument that just as colonialism views land as a possession to be obtained and bent to its will, those who pollute similarly views the land as a resource, or more accurately, a vessel to hold pollution up to its absolute limits (and even beyond).

Liboiron posits that the best framework in which to combat this form of colonialism is through a different framing of the land—viewing it as an actual relative and viewing our conduct as a framework of relations between us and the land. Part of this is through Liboiron's citation of a number of badass Indigenous scholars such as Zoe Todd and Murphy surrounding relationships to land—but the other way is through the weaving in of stories from Liboiron's lab, the CLEAR Lab, housed at the Memorial University of Newfoundland and Labrador,⁵ and the ways that lab members build good relations with one another, and build good relations with the land, waters, and local Indigenous communities through their innovative work surrounding combating plastics pollution. It becomes very clear that Liboiron is describing a different way of doing science—one that recognises that science is not apolitical, and that we must be committed to doing positive work if we are to actually do 'good' science.

One of the unique things that resonated with me in Liboiron's writing is the fact that the book, it could almost be argued, is really two books—the main text, as well as the 'book within a book' that is Liboiron's copious footnotes on the bottoms of the pages of the text—almost every single page of it, in fact. The footnotes provide several functions—one of them is the usual way of highlighting citations that Liboiron is using, but many of the footnotes are Liboiron's musings on the topics and ideas that they are writing about in the main text above or provide added context to what the reader is seeing on the pages. As someone who is prone to rambling and going on all sorts of tangents when I speak to provide information or clarify what I'm saying, I found it to be refreshing, and almost comforting in a way to see this being done in such an effective way in a piece of academic writing. Additionally, speaking as someone who has fought battles with editors over my words being too 'meandering' when I meant them to be conversational and approachable, I viewed the footnotes as Liboiron leaning over to me at a metaphysical table where they're reading their book, sharing little insights—it feels like a story being told rather than a dry academic text. As a result of Liboiron's unique use of footnotes, I've begun doing the same in my own writing.

In this way, to me, the book represents not just a book about how to do science, or how to handle pollution, or how to understand colonialism; it is a useful treatise on how to do all of these things in a way that centres one of the most important things in the human experience—our relationships.

Notes

1. In the book, Liboiron uses the term 'dominant' versus Western to describe what we've understood as 'Western science'
2. An extension of this is that saying that 'Indigenous science is science' on Twitter (I refuse to call it X) is the surest way to get racist trolls jumping into your 'mentions' to prove you wrong.
3. I didn't get the job, and in hindsight, I am very grateful for that fact for this reason in particular, among others.
4. I found myself cursing the names of Streeter and Phelps multiple times as I read the piece.
5. I was a member of CLEAR from 2021 to 2023.
6. Hence why I do it here!

Niiyokamigaabaw Deondre Smiles

One of the central questions of our time for academics (and, indeed, everyone) is how to break free from the epistemologies which have created, and which continue to fuel, the ongoing and interlinked crises of climate change, biodiversity loss, and pollution. The patterns of thinking and acting implicated here are, in Max Liboiron's (Red River Métis/Michif) words, 'bad relations' (p. 5). These bad relations are embedded within traditions of colonialism, capitalism, and white supremacy, which have been naturalised so that they appear inevitable. Liboiron's challenge to dominant epistemologies is to construct methods for scientific exploration which are founded instead in Indigenous lifeworlds and lifeways; methods which seek to balance obligations, find compromise, and practice gratitude and recognition. So refreshing are the observations which spring from these methods that even many of Liboiron's plentiful asides feel like revelations. 'Lessons about relations are done in place' (p. x), watchwords for this whole text, already fall like nourishing rain in the acknowledgements before the text even begins.

'Before the text even begins,' I find myself saying. Here already I exhibit settler colonial habits of mind, but I'm grateful to have Liboiron as a critical guide to help escape, or at least challenge, this. The acknowledgements are, importantly, not merely a discrete section in the front matter—or more reductively an exercise in name-checking—but rather they introduce a method which flows through the whole book. They serve as a foundation for the text that is to follow by situating the author in a particular world of ideas, people, and landscapes. There is no claim to unique knowledge but rather a statement of gratitude and a duty to obligations. 'As a writer,' Liboiron says, 'I have tried to write less extractively by citing at length, footnoting my relations to texts, leaving things out, and spending considerable time on certain concepts to balance obligations to different audiences and knowledge systems' (p. 35). I should be clear here that Liboiron is not proposing that Indigenous methods are somehow 'correct' methods for all, but they are certainly something non-Indigenous researchers can learn from, seek to understand, and work alongside in thoughtful, caring, complementary ways. It is not for me, for example, to seek to directly emulate Liboiron's methods, but rather to reach across—to understand where I am coming from, to acknowledge this and state this, and then to 'stand with' Liboiron as a fellow researcher with different lifeways. 'Standing with' is a concept that comes from Kim TallBear (Sisseton Wahpeton Oyate). It implies not 'taking from' and then 'giving back,' but rather 'co-constituting my own knowledge in concert with the acts and claims of those who I inquire among' (TallBear, 2014, p. 5, quoted in Liboiron, 2021, p. 129).

There is a strong ethical foundation for this framing, an ethics that is bound into place, making, and doing. Liboiron prefers to call this ‘method-and-ethics,’ and this is ‘hyphenated because they are the same thing’ (Liboiron, 2021, p. 113). This allows for compromise to be held within a system of ethics, as it is one which is relational and in motion. Compromise is not only allowable, but essential. ‘Compromise is not about being caught with your pants down, and it is not a mistake or a failure—it is the condition for activism in a fucked-up field’ (2021, p. 134). It is the inescapable condition of anyone bound into relations. If there is a clear theme to this book it is that Indigenous science is conducted within complex relations and obligations. A hallmark of *Pollution Is Colonialism* is its thoughtful use of footnotes to pay heed to these. Footnotes not only carry messages of obligation and gratitude, but are places where ideas spill in and out of the text. At the very beginning of the book Liboiron explains in a footnote (please indulge me as I quote this in full, as it conveys so much about the spirit of the scholarship and the tone of the book):

Hello, Reader! Thank you for being here. These footnotes are a place of nuance and politics, where the protocols of gratitude and recognition play out (sometimes also called citation), where warnings and care work are carried out (including calling certain readers aside for a chat or a joke), and where I contextualize, expand, and emplace work. The footnotes support the text above, representing the shoulders on which I stand and the relations I want to build. They are part of doing good relations within a text, through a text. Since a main goal of *Pollution Is Colonialism* is to show how methodology is a way of being in the world and that ways of being are tied up in obligation, these footnotes are one way to enact that argument. Thank you to Duke University Press for these footnotes (p. 1).

I have not yet encountered a work of scholarship, especially in the sciences, which so profoundly expresses gratitude for its debt to and embeddedness within its world of thought and action, which extends well out of academic circles into communities, land, water, and other species. Method and ethics come together here in a way that is spiritual, and every citation reads not just like thanks, but a prayer.

The expression of gratitude is an act of grace—it’s in the word itself. But grace, which implies extra-ness, the supererogatory, wiggle-room, is also served by the giving of gifts, and good citation is nothing if not a gift. It is a gift to the reader: ‘Here is where to find the wondrous ideas I’ve found!’, it’s a gift to those cited, it’s a gift to scholarship. And Liboiron’s wonderful book is itself a gift: a guide for how to think differently, for how to approach methods differently, and for how to proffer scholarly generosity and grace.

References

- Liboiron, M., & Smiles, D. (2021). #Collabratory: A methodological experiment for reading with reciprocity. *Civic Laboratory for Environmental Action Research (CLEAR)*. <https://civiclaboratory.nl/2021/01/03/collabratory-a-methodological-experiment-for-reading-with-reciprocity/comment-page-1/>
- TallBear, K. (2014). Standing with and speaking as faith: A feminist-indigenous approach to inquiry. *Journal of Research Practice*, 10(2), N17. <http://jrp.icaap.org/index.php/jrp/article/view/405/371>

Tim Waterman

Today’s task is the same as yesterday’s: how do we work in ways that are good for Land when the infrastructures we work within are not usually good for Land? How do we maneuver the compromised spaces where we interact with Land, landscape, country, and homelands (each of which are different, with different obligations and compromises)? Alongside Rosie ‘Anolani Alegado, how do we teach academic theories of water pollution when our community’s and student’s water is contaminated? Following Niiyokamigaabaw Deondre Smiles, how and when do we decide when open data is good, versus when it allows even more access to Indigenous

communities and lands that have already been extracted from enough? When we hail from disciplines that assume researchers not only *can* access land without requiring invitations from locals but *should* do so in the name of good research, how do we make space to gain the trust and invitation that will put us behind on our tenure track?

'Compromise is not about being caught with your pants down, and it is not a mistake or a failure—it is the condition for activism in a fucked-up field' (Liboiron, 2021, p. 134). And not only activism, but good land relations. Sometimes (but never always) good land relations are so difficult to enact in our institutions that our efforts end up being activism anyhow.

As Alegado notes, *Pollution is Colonialism* 'is not written for or to everyone in the same way' and the editors see the 'prismatic way of reading and taking inspiration' each reviewer takes. The premise of the book is that all research methods come from land relations, including colonial land relations. The reviewers in this forum have generously shared the gift of outlining their own maneuverings within their particular compromised spaces. It is beautifully apparent that each path is based on their specific land relations, their positionalities, and their dedication to doing well with land.

For instance, I am struck by *tebrakunna* country and Emma Lee's declaration that, 'In any written work from Indigenous Peoples there is always the strain of uncertainty, the knowing that we will never get our terminology right or with fulness to explain the trauma of our colonisation'. Yeah, for real. Rick Chavolla, my godfather and sometime Elder advisor to the CLEAR lab said his number one piece of advice for us to strengthen our Indigenous science was to learn our languages. That's a lot harder than making new partnerships with Indigenous collaborators or finding more robust statistical models.

I think of Lee and Chavolla's thoughts in comparison to Tim Waterman's, the sole invited settler respondent, who also mentions 'exhibit[ing] settler colonial habits of mind', as we all do. But this doesn't inhibit him from engaging with a nuanced sense of positionality and accountability in his approach: 'It is not for me, for example, to seek to directly emulate Liboiron's methods, but rather to reach across—to understand where I am coming from, to acknowledge this and state this, and then to 'stand with' Liboiron as a fellow researcher with different lifeways'.

These two responses (among the many I could have chosen) highlight how theories of change emerge from specific land relations. They will always be different for Indigenous Peoples (and different for each Indigenous group from different places!) and settlers (again, different for settler groups from different places). Theories of change—how to move from how things are to how they ought to be—arising from these differences also have some things in common. They lack individualistic heroism to frame change or responsibility. They each point to the existing, myriad land relations (which always include people!) that eschew the viability of such individualism. Moreover, theories of change offered in the responses do not smooth over the hyphen in the Indigenous-settler relationship with and over land. As collaborators Jones and Jenkins write,

"The current (colonizer) researcher ideal of the mutuality of the indigene-colonizer hyphen" softens the hyphen, reducing it "in the interests of mutuality," enabling "progress toward the social ideal of equality. Structural power differences, as well as other differences in perspective and history, are downplayed as collaborators attempt to come to some shared perspective... Rather than paralysis, it suggests hard work—not the work of face-to-face conversation in the name of liberatory practice but the work of coming to know our own location in the Self-Other binary and accepting the difference marked by the hyphen" (2008, pp. 474, 482).

What each respondent offers is a register to enact, extend, and emplace the central aim of *Pollution is Colonialism* to foreground land relations in research without smushing power relations and difference 'in the interests of mutuality':

Emma Lee and *tebrakunna* country offer an explicit series of evaluations of research based in land: 'Is this book good for country? Will country benefit from their scholarship? Is the agency of country, away from humans, recognised? Can country be central in healing the broken and festering relationships that colonialism has forced upon Indigenous Peoples, especially through science?' If these were the central questions adjudicating grants, tenure, and research permits, the

research world would look like a different place and books like *Pollution is Colonialism* would be dusty with well-earned misuse. I can promise you these questions will be central to how collaborators and I write up our next funding request.

Tim Waterman writes that, 'Method and ethics come together here in a way that is spiritual, and every citation reads not just like thanks, but a prayer'. Damn. What if this were the bar for research methodologies? Is this statistical model a prayer to land? Is the spirituality of place coming through my sampling protocol? I am not being cheeky. Imagine what would happen to methods if each was crafted as a prayer, broadly defined. Damn.

Rosie 'Anolani Alegado ends her piece with an evaluative phrase of sorts: 'Pa ka na'au' or 'my belly sits well'. Since so much of our work in compromised, colonial spaces upsets our bellies, particularly when 'unpacking internal clashes between life ways', methods that allow our belly to sit well, fed and nourished, free of jiggling and cramps, are good methods indeed. What if a happy belly is what allowed us to gauge when our methods were sorted, rather than (and sometimes as well as) things like saturation, statistical power, or triangulation. Check your belly now. How's it doing? What has to change if it's upset? Phrases like 'gut reaction' and 'a gut feeling' are about belly intelligence. Listen.

Niiyokamigaabaw Deondre Smiles highlights methods of well-placed refusals. As he explains, 'science is not apolitical and can in fact reinforce harmful power structures such as colonialism: in acts as seemingly benign as sharing data openly without regard for Indigenous Data Sovereignty (the right for Indigenous Peoples to govern and govern with our data). He demonstrates how refusal is *always* also an affirmation. Saying no to one set of relations is affirming other relations, priorities, accountabilities, and lives. What if our refusals and affirmations were always done in collaboration with Land? What would that look like? What work would you be doing, and what work would you *not* be doing (also see Simpson, 2017; Tuck & Yang, 2014; Zahara 2016)?

It should be obvious now why a reorientation to what counts as a good research question, what makes a sound method, and where ethics are rooted (i.e. good for whom) are also theories of change. They all move us in a direction away from how research is usually conducted, recognizing that many of the premises of our work are not in good land relations. They point to what has to change.

A heartfelt thank you to reviewers, individually and as a group, for showing what 'anticolonial science and methodologies that produce diverse futures' can look like beyond the pages of *Pollution is Colonialism*. I cannot think of a greater gift to receive as an author and colleague. Maars.

References

- Jones, A., & Jenkins, K. (2008). Rethinking collaboration: Working the indigene-colonizer hyphen. In K. Denzin, Y. S. Lincoln, & L. T. Smith (Eds.), *Handbook of critical Indigenous methodologies* (pp. 471–486). Thousand Oaks, CA: SAGE
- Simpson, A. (2017). The ruse of consent and the anatomy of 'refusal': Cases from indigenous North America and Australia. *Postcolonial Studies*, 20(1), 18–33. doi:10.1080/13688790.2017.1334283 [InsertedFromOnline]
- Tuck, E., & Yang, K. W. (2014). Unbecoming claims: Pedagogies of refusal in qualitative research. *Qualitative Inquiry*, 20(6), 811–818. doi:10.1177/1077800414530265
- Zahara, A. (2016). Refusal as research method in discard studies. *Discard Studies*. <https://discardstudies.com/2016/03/21/refusal-as-research-method-in-discard-studies/>

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