



Max Liboiron, *Pollution Is Colonialism*, Durham: Duke University Press, 2021. ISBN: 978-1-4780-1413-3 (paper); ISBN: 978-1-4780-1322-8 (cloth)

I (white and settler) write this in the midst of a global pandemic in which nearly every jurisdiction in Canada has slashed industrial air and water quality emissions standards (rubbish to begin with) – as though the appropriate response to a deadly virus is to adjust the amount of allowable pollution. In the province of Alberta, home to the tar sands, regulators temporarily suspended environmental reporting requirements, relaxed air quality guidelines, and allowed industrial emitters to “deviate from” air quality monitoring requirements at refineries and tailings ponds (Alberta Environment and Parks 2020; Dryden 2020; Ministerial Order 2020a, 2020b; Riley 2020). They also dialed back compliance with carbon emissions standards (similarly rubbish), unilaterally extended oil and gas tenures in the province, and made it illegal to protest “critical infrastructure” like oil pipelines (Harvie and Stelck 2020; Legislative Assembly of Alberta 2020; McInerney et al. 2020; Ministerial Order 2020c). I have been writing this: the day after Hurricane Ida smashed into the Louisiana coast as a Category 4 hurricane propelled by deep ocean temperatures of 30 degrees Celsius in the Gulf of Mexico (30 degrees measured at more than 100 feet of depth – the highest temperatures ever recorded in the Gulf; Kaufman and Rojanasakul 2021); two days after a Secwépemc land defender was surrounded and detained by Royal Canadian Mounted Police officers at the Toronto airport for having participated in a protest against the twinning of a tar sands pipeline (through unceded, unsurrendered Secwépemc land) at the constituency office of the finance minister whose government recently purchased it (Real People’s Media 2021); in the midst of a federal election campaign in which liberals and conservatives defend plans to increase oil and gas production and build new oil pipelines with their intention to regulate the intensity of GHG emissions that continue in absolute terms to rise; and following a summer of escalating violence, intimidation, and surveillance of Indigenous land

defenders withholding consent along the route of the Trans Mountain Pipeline expansion (The Sparrow Project 2021). And I write from a milieu, in which the wealth of the settler state and the income security of its workers is deeply, deeply invested in the ability to continue to pollute lakes, rivers, lands, people, and atmospheres – a milieu secured by GHG emissions intensity thresholds and trading schemes and sci-fi worthy plans to capture and store excess carbon deep underground.

Pollution Is Colonialism provides desperately needed analytic clarity on this settler colonial present: where parcelling out the right to waste has become a defining feature of contemporary environmental governance, where managerial (not eliminatory) strategies for addressing pollution abound, where governments respond to crises (perceived and otherwise) by doubling down on Indigenous people and land, and where pollution is everywhere urgent and life altering. “Why”, Liboiron asks, “was not only the ability, but the imperative, to pollute on the table at all? Under what conditions does managing, rather than eliminating, environmental pollution make sense?” (p.42). The answer, colonialism: the assumed entitlement to Indigenous lands for settler and colonial goals; the genocidal and other practices through which these lands are cleared of Indigenous people (and myriad other regulatory, fiscal, and criminal practices through which access is maintained); the scientific theories that operationalize settler and colonial entitlements to lakes, rivers, environments, atmospheres, and bodies as sinks for pollution and that eliminate other types of relations that threaten access; the epistemic frameworks that flatten and transform Land into Nature, Resource, and Property (see p.41-79); the “set of specific, structured, interlocking, and overlapping relations that allow ... [stealing land and dispossessing people] to occur, make sense, and even seem right (to some)” (p.16).

This is a book about pollution, colonialism, and methodology. All at once. (Hold on to your hats.) It starts with colonialism and colonial land relations; it offers profound insights about pollution and colonial futurity; it draws important lessons about the coloniality of research – and

very generously demonstrates elements of an anticolonial science. Liboiron engages: modern environmental pollution as constitutive of colonialism – “an enactment of ongoing colonial relations to land” (p.6); the conceptual groundwork (structuring logics, forms of knowledge creation, metaphysical flattenings) necessary for its “invention” as a colonial achievement (p.36); and scientific ways to know and mitigate pollution as central to settler and colonial futurity (the arranging of time and space to anticipate settler and colonial goals and to foreclose on Indigenous alternatives). The book engages methodological interventions (science, research) as always already part of land relations and demonstrates how knowledge forms maintain and reproduce settler colonialism even as colonial relations continuously reconstitute themselves, even as life persists. These imbrications may seem like a lot to keep track of, but the path Liboiron charts from investigation and critique through refusal to research practice and action is robust at every turn. Colonialism is tricky, but this book is smart.

This is mostly (and in some ways surprisingly) a book about methodology. Surprising because it begins with the type of rich, stand-alone analytical engagement with pollution, colonialism, and pollution science that tends not to be recognized as methodological insight. And yet, as Liboiron demonstrates, pollution *is* methodology, colonialism *is* methodology. The continuous work of painstakingly creating, maintaining, and changing the conditions of possibility that advance in perpetuity settler and colonial appropriation of and access to Indigenous land, and that eliminate alternative forms of access, has a conceptual-practical architecture that is reproduced in knowledge claims, that *is* knowledge claims. Pollution, Liboiron argues, is “best understood as the violence of colonial land relations rather than environmental damage” (p.6-7) – land relations that are themselves produced and reproduced through (even well-intentioned) environmental science and activism. Science and research are always already part of land relations (p.7), so are scientific theories, conventions, techniques, and tools. Methodology begins with land relations including the current dominant land relations of

settler colonialism. Questions about pollution in settler colonial societies, about settler colonialism, about plastic pollution, and how these converge *are* questions about methodology. It's turtles, the whole way down (thank you, Thomas King), and settler sovereignty at all costs in (most) research and science too.

This book invites readers first and foremost to look at knowledge practices and forms of knowledge creation, to think about their land relations, and to recognize colonial land relations in their familiar, seemingly benign practices and techniques (like sampling, statistical measure, the continuity of the number line, isolated variables, making a graph...) rather than to simply look at how knowledge travels or is used as is so often the endpoint of so much work in STS and other critical engagements with science. It invites close, analytical, and anti-colonial scrutiny of the techniques and practices that I certainly was schooled to consider out of bounds (statistical measures, most scientific methods, theories of pollution) and indeed that I was discouraged from questioning. This may seem a simple thing, but it is so important and profoundly empowering. How might a critical anti-colonial analysis that starts from land relations and a politics of specificity, that is accountable for its relations, open up the calculative practices behind, say, the Alberta government's still repeated claim (from studies conducted in 2009 and 2014 in Indigenous lands) that high rates (and higher than expected numbers) of diagnosed rare bile duct, blood and lymphatic system, and soft tissue cancers in Dene, Chipewyan, and Metis people living in Fort Chipewyan and proximate to the tar sands are not due to the abundance of polycyclic aromatic hydrocarbons, mercury, or heavy metals (from tar sands mining) but to *chance* (Alberta Cancer Board 2009; Alberta Health Services 2014)? Or the science behind the federal government's long standing (since 2005) attribution of rare cancers of the neck, bone, and blood systems found in Dene ore carriers and their families working in the Cold War uranium transport economy to the "probabilistic nature of cancer" (SCENES 2005; see also Stanley 2015). What would it do to "our" understanding of the tar sands, of nuclear power, of

energy policy; to climate justice movements; to Indigenous attempts to assert jurisdictional authority and corporeal sovereignty in the tar sands; to state led attempts to discredit Indigenous knowledge and lived experiences of toxic exposure and to dismiss rights based claims, if techniques of probabilistic risk assessment and stochastic simulations through which the Alberta and federal governments reached their conclusions were scrutinized for how they embed land relations, deploy scale, disembed place? What would happen if scientists and scholars were to interrogate the use of standardized incidence ratios, confidence interval calculations, normal distributions, and indeed all the other ways of establishing mathematical continuities between objects and phenomena at discrete scales and between discontinuous spaces for the purposes of comparison relative to exposure? What would happen to statistical tropes like the Texas Sharpshooter Fallacy?

One of the most important things this book does is show us how colonialism is nurtured, even cultivated (if often unintentionally), through scientific (and other) knowledge practices and techniques such that methodological interventions are shown to be central to settler and colonial futurity. Colonialism is ongoing and must be constantly, painstakingly maintained. *Pollution Is Colonialism* encourages us to approach methodological interventions as ways of deliberately addressing land relations and intervening against colonialism – of enacting and accentuating relations that do not “grant access, moralize maximum use, universalize, separate, produce property, produce difference, maintain whiteness” or eliminate other types of relations that interrupt settler and colonial access (p.79). To do research that is not prefigured to rescue and anticipate settler futures.

Liboiron’s consideration of anticolonial methods (illustrated through engaging examples from CLEAR, the Civic Laboratory for Environmental Action Research; <https://civiclaboratory.nl/>) signposts anti-colonial research as place-based practices grounded in specificity (“nuanced connection and humility”; p.22), oriented towards obligation and

accountability, and framed in a politics of incommensurability and compromise. I found this elaboration of methodological insights convincing, provocative, and tremendously challenging. The work ahead of all of us is hard. There is lots of un-doing and re-doing, not-doing to be done. Thank you, Max Liboiron, for signposting the way and for reminding me and the students and colleagues to whom I will assign and recommend this book that each will all have a different course to take. There is so much here to think about (scale, accountability, compromise, emplacement, generalization, relational validity).

What I like the most about this methodological intervention, and what for me was its most important lesson, is the way in which Liboiron orients anti-colonialism relative to alterlife and reproductive justice (after Michelle Murphy) as an “enactment of a particular otherwise” (p.20). Quoting Murphy (2017a: 497), Liboiron writes: “I seek ‘words, protocols, and methods that might honor the inseparability of bodies and land, and at the same time grapple with the expansive chemical relations of settler colonialism that entangle life forms in each other’s accumulations, conditions, possibilities, and miseries” (p.20). Alterlife is “the condition of being already co-constituted by material entanglements with water, chemicals, soil, atmospheres, microbes, and built environments, and also the condition of being open to ongoing becoming. Hence, alterlife is already recompiled, pained, and damaged, but has potentiality nonetheless ... ” (Murphy 2018: 118, quoted on p.89). Reproductive justice is ““ ... the struggle for the collective conditions for sustaining life and persisting over time amid life-negating structural forces ... ”” (Murphy 2017b: 142, quoted on p.108). The point is: research and science are always and already thoroughly saturated with colonialism: “There is no terra nullius for this work” (p.20), the conditions for activism and resistance are already constrained (see especially lessons from CLEAR about bivalve research, food sovereignty, and KOH [potassium hydroxide]). Nor, from the point of view of survivance, is purity an option (p.109). The question is: “What kinds of science and activism are suited to an alterlife characterized by ubiquitous and

permanent pollution”? (p.89). This framing and orientation I think speaks volumes, and I invite you to consider its possibilities. The persistence of life and Indigenous survivance are often theorized as resilience (depoliticizing, violent, and a conflation of scale; see Liboiron’s discussion of plastic ingestion in albatrosses) or reconciliation (a framework that ultimately resuscitates white, settler futurity). From where I stand, alterlife and reproductive justice, as the orientation for anticolonial science and action takes us well beyond these violent conceptual and methodological dead ends.

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October 2021