

COMMENTARY

What Can't a Body Do?

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This is the text of a keynote Plenary lecture delivered on August 31, 2016, at the 4S/EASTS meeting, Barcelona, on the theme of “To what extent is embodied knowledge a form of science and technology by other means?”

Take a deep breath. With every inhalation, industrially produced molecules are drawn into your being. Once inhaled, synthetic molecules may pass through membranes, connect with receptors, nestle in fatty tissue, mimic a hormone, or modulate gene expression, thereby stimulating a cascade of further metabolic actions. Breathe in. We cannot help it. You must breathe to live, like you must drink and eat. There is no choice in the matter. It is a condition of our being. With each breath we are recommitting to an ongoing relationship to building materials, consumer products, oil spills, agricultural pesticides, factories near and far that all contribute to the emission of these synthetic molecules.

Every one of you here, like all people living today, have persistent organic pollutants woven into your being. PCBs and DDE (a metabolite of

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DDT) are in every one of us, joining up with other more regional or idiosyncratic mixtures of chemicals exuded by capitalist exuberance: phthalate plasticizers, Bisphenol A, PBDE, lead, and organochlorine pesticides. The list could go on and on. We are enmeshed in these chemical infrastructures.

I can say all this with the help of a motley array of disciplines – metabolomics, toxicology, biomonitoring, epigenomics, and so on – each of which offers an instrument-mediated micrological glimpse into the vastness of our chemical relations, relations that extend far out from our skin, out into electrical systems that used PCBs as thermal insulation, out into postcolonial pesticide regimes that sprayed DDT around the world in the name of crop yield and public health, out into the plastosphere of packaging and cheap consumer products, out into the infrastructures of environmental racism that concentrate chemical violence in some bodies, and security in others.

The chemical relations of our embodiment expand out into messy and violent histories of colonialism, racial segregation, and labor, into homemaking, heteropatriarchy, and war. And our chemical relations overflow these structured exposures to become mobile on winds and currents, disobeying territorial and social stratigraphy, stretching forward into time, after the factory is gone, after the war is over, after the product is no longer on the shelf, after you no longer have a job, and even after any individual life, or any one body.

Sometimes chemical exposures are sensible, but mostly they are not, so we are often guessing that we sense them, retroactively, in the symptom, the brain fog, the miscarriage, the worry, the lump, the grief that comes later. Chemical relations connect us backwards in time, but also forward into what our bodies will become, into the future environment that we are cumulatively assembling in our complicities and inability to extract ourselves from the webs of capitalist and industrial exuberance. We are all here already altered by industrial chemicals, though in profoundly uneven ways. We are all here already more-than-bodies. This material, not metaphorical, entanglement in environmental

violence is a condition of being alive today.

So, here we are together in Barcelona, breathing in, participating in temporal loops and the expansive interdependencies of chemical relations.

Our topic here tonight is “embodied knowledge by other means.” But what is embodiment anyway? The body does not exist as a detached and sovereign unit, despite what liberal political structures tell us. Why do we think we know what a body is, or what it can do? Where does it end and begin? What relations compose it? In 1985, Donna Haraway (Haraway, 1985) posed the question, “why should our bodies end at the skin?” I want to stay with this unsettling query.

As researchers, we might look to acknowledging differently situated bodies in order to correct the exercise of power in knowledge making. This is especially pressing in institutional conditions where embodiment is denied, but also because mobilizing embodiment can be a DIY practice that you can do without a lot of institutional support. Yet, the demarcation of the singular, discrete body is non-innocent, even when described in a fine resolution of particulars. It is caught up in infrastructures of individual property, wage labor, citizenship, and even whiteness, infrastructures that, for researchers working in relatively elite settings, tend to operate by obscuring the support systems—the transportation networks and service labor for example —that allow particular kinds of normative bodies to appear as if they are operating as solo units.

Yet, non-innocent bodies are caught up in each others conditions of life support and diminishment. From the epidermal schema of anti-black racism to the heteropatriarchy of gender, bodies are already caught in painful and contradictory matrixes of support and negation. My livelihood requires me to take in an injury. Drinking water, I am exposed. Your gas is linked to the destruction of this territory, and hence the fish and our bodies. Embodiment is a collective binding of profoundly uneven relations of porosity to exposure: my vulnerability to injury is entangled with your comfort. The side effect accompanies the treatment. I am kept

alive even as I am being killed.

At the material metabolic and chemical level, embodiment is already altered, already non-innocently embroiled in uneven violent relations of being and doing.

If we accept as a starting point that embodiment does not provide a respite or escape from history, from infrastructures, from relations of power, if we accept that bodies cannot get you out of entanglements, then we might want to find alternative genealogies for grappling with “embodiment by other means” for STS. Taking Frantz Fanon as a starting point for a decolonial STS, for example, we might begin by noticing how he navigated, and refused to disavow, the contradictions making up embodiment, how Fanon theorized within a set of tensions or toggles: for example, the toggle between the hopeful care for embodied difference, and the pessimistic ways bodies are already materialized in colonial and racist worlds, the toggle between medicine’s racist apprehension of pathological bodies, and the ways that bodies also exceeded those materializations (Fanon, 1963, 1965, 1967). Fanon held these tensions together beautifully in his theorizations of blackness, but also in his work theorizing how medicine and science might break with their colonial complicities. Learning from and making kin with the decolonial projects of Frantz Fanon, as well as other fields like black studies, Indigenous studies, and queer studies, a decolonial sense of embodiment might embrace Fanon’s anti-colonial call to become a new humanity, or a new life form, one which requires destroying the version of the human that histories of deep violence have created. It is in this bundle of tension that we might fashion a politics of decolonial STS both with and against “the body.”

Rerouting STS through Fanon also requires that we consider the question of what has to be seized, rebuilt, and dismantled to make room for decolonial potentials. White supremacy? Petrochemical extraction? I am sure you have other things to nominate for destruction! The individualized body, as given to us by Western liberal political structures, as a container for rights, labor, risks, capital, and biological processes,

will not do. The singularized body alone cannot dismantle the disturbing entanglements of knowledge-making within violent infrastructures. Moreover, “the body” itself is in need of dismantling, if we are to stay in the toggle of recognizing violence and becoming something else.

What materializations of life and embodiment might we think with and against to confront the 21st century condition of industrial chemical enfleshment? How to conjure decolonial futures, and not just accounts of bodily damage, along with the industrial chemicals that are part of us and at the same time remaking the planet? At stake in conjuring alter-embodiments is the very sense of what constitutes life and its relations. Within the biological sciences, there is no unified theory of life, even as the units of gene, body, species, and ecosystem have become so commonplace that they may appear to exist in the world itself, and not as historically particular materializations of it. Making decolonial possibilities requires retheorizing life *with and against* technoscientific framings.¹ A politics of embodiment by other means might learn from and propagate politics and concepts in the toggles between violences that have already happened and the need to undo them nonetheless, between the condition of being already altered and the struggle to become otherwise in the aftermath.

We might, I suggest, call this alter-embodiment *alterlife* — a state of already having been altered by environmental violence that is nonetheless a capacity to become something else. The concept of alterlife is forged in recognition of the realities of large-scale and everyday environmental violence. Alterlife is not waiting for the apocalypse — apocalypses of many kinds have already happened, livable worlds keep being snatched away. Alterlife resides in what Frantz Fanon called “an atmosphere of certain uncertainty” (Frantz Fanon, 1967, p. 109). It is a condition that is shared, but unevenly so; it divides us as much as binds us.

I have come to alterlife while studying chemical violence on the Great Lakes, as industrial chemicals deliver concentrated injury and premature death to Indigenous, black and poor communities already

living in hostile conditions. The Great Lakes were the portal to the colonial conquest of Canada, and in the twentieth century the lower Great Lakes became rimmed by the industrial exuberance of car manufacture and petrochemical refining, more recently giving way to histories of deindustrialization and abandonment. The Great Lakes, are a jurisdictional patchwork, cut up by two settler nations, over one-hundred-forty-five Indigenous territories, two provinces, and eight states. Overwhelmingly the Great Lakes are governed by a permission to pollute regulatory regime and our data about emissions are self-reported by industry. A legacy of persistent industrial chemicals has spread ubiquitously across the region. In the aftermath, environmental researchers gather the evidence of the damage in bodies.

Alterlife has become a political concern for me as I live in Toronto, on Lake Ontario, on Anishinaabe and Haudenosaunee territories, and in Canada, a settler colonial and petro-extraction state. The question of alterlife is shaped by a sense of political and personal responsibilities, to the Great Lakes region, to its water and land, to histories, and to my own position as a white skinned Métis person originally from Winnipeg with responsibilities to my complicities in settler colonialism and whiteness as well as to histories and current activations of Indigeneity. So I recognize that alterlife for me is partially biographical and emplaced in North American particularities. Alterlife is a concern as my neighbors are bodies of water that hold 21% of the worlds fresh surface water, and 84% of North America's.² While what you might mostly see in the media about Canada these days are photos of handsome Justin Trudeau, on the ground a Canadian neoliberal managerial governance combined with capitalist settler colonial extraction have formed a potent environmentally violent and even genocidal mix which expresses itself in the pollution of the Great Lakes. Around my home is a surge of environmental, reproductive justice and anti-colonial activism focused on the water that my sense of alter-embodiment learns from and aspires to collaborate with.

I want to pause here and point out a shift in the way I have posed

the research question of alter-embodiment. In the past, I have typically approached histories of environmental and reproductive practices by asking: how do activist practices mobilize bodies in order to create alternative materializations of bodies. Or put more simply: how do particular practices materialize particular modes of being? How does doing materialize being?

Tonight, I want to play with the question of embodied knowledge from the opposite direction, going from *being* to *doing*. I want to start with creating alter-embodiments, alter-objects of care— even if only conjecturally — that call in our complicities, that require less-violent practices, that require different worlds. I want to think with you about tactically moving from being to doing— calling forth alter-embodiments, alter-being, or what I am calling here alter-life.

Calling forth new life forms is a work in progress, and from the start has been made with students and friends, activists and artists.³ Alterlife is just one attempt at conjuring alter-embodiment with a particular STS inflection and in solidarity with the vast labors of reproductive and environmental justice, especially on the Great Lakes.

With alterlife, and thinking back to Fanon as a guide, I want to draw out for you three of the political dimensions toggling within alterlife.

First, Alterlife is about a politics of entanglement, kinship, and responsibility.⁴ The entanglements making up alterlife are not just the symbiosis of multispecies being, but the material enmeshments with chemical exposures: these exposures include pollution as we might habitually think of it, but also the molecular manifestations of stress from living in assaulting racist conditions, and the inhalation of war dusts that extend the violence of bombing into the very act of breathing. No single person on this planet escapes enfleshments with exposures, even as their violent effects are profoundly concentrated in hotspots of hostility, and even as many of us here live in conditions of dense privilege that encourage a willful ignoring of these tentacles of violence. Alterlife, as a becoming with exposures, exists in the profoundly uneven and interdependent distribution of life chances.

Those of us who benefit from whiteness have much work to do in calling forth alterlife, not least of which is the responsibility to dismantle the work of whiteness in the sciences and in the institutions that we inhabit that are often densely enriched by capitalist, colonial, and racist systems. No matter who you are – even if you’re just trying to get by – quotidian and humble complicities are entangled with the very acts of sheltering, eating, cleaning, and surviving that are in turn knotted to a cacophony of consumption and harms within supply chain capitalism, and tied to discard systems built into objects, tethering ordinary survival to the continual spewing of injury. Our relations are not just supportive. They can also be injurious and toxic to each other. Vanessa Agard-Jones calls this “chemical kinship” (Agard-Jones, 2013; Vanessa Agard-Jones, 2014).

Thus, a crucial aspect of calling forth alterlife is that it is about an understanding of oneself, the researcher, in kinships with beings “of politics and care” (Puig de la Bellacasa, 2011). Attention to alterlife asks, not for a politics of fixing the other, but in the words of Fred Moten, “your recognition that it’s fucked up for you, in the same way that we’ve already recognized that it’s fucked up for us. I don’t need your help. I just need you to recognize that this shit is killing you too, however much more softly” (Harney & Moten, 2013, p. 140-1). Within the condition of alterlife the potential for political kinship and alter-relations comes out of the recognition of your imbrications in the tangle supports and harms.

Second, with alterlife I am trying to think *with and against* technoscientific materializations of embodiment and chemical exposures. I want to push back against the framings of injured, disturbed, or “abnormal” life in scientific fields such as ecology, toxicology, and epigenetics – what we might call damaged-based research. With alterlife, I want to push back on the eugenic residual that calculates lives worth living, deviant lives, risky lives, unproductive lives, and killable lives. The work of Carla Hustak has brought home to me just how deeply entwined eugenics has been in the history of progressive and even feminist scientific projects (Hustak, 2010). Thus, in materializing alterlife, I am

collaborating with and pushing back against scientific understandings of damaged lives in environmental violence.

Let me give you one example. Epigenetic ways of investigating chemical exposures render legible (and erase) environmental violence by tracking damage in bodies, with a tight focus on biochemical micrological processes. In environmental epigenetic, which focuses in excruciating detail how, in mice and rats, Endocrine Disruptive Chemicals like PCBs can substitute in for molecules like estrogen or thyroid that act as transcription factors modulating the expression of target genes during critical developmental periods (such as the prenatally) when DNA methylation patterns are being established, thereby altering the neurological, metabolic, and sexual development of bodies. Such findings in rats and mice are compared with epidemiological studies in humans that show associations between the presence of metabolites of toxic chemicals, epigenetic biomarkers, and findings on cognitive tests, or diagnoses of autism, asthma, diabetes or obesity. Focused on collecting the data of damage, such studies often focus on communities who have experienced intensive environmental violence often shaped by environmental racism and who live in conditions of persistent multi-generational exposure. Thus, studies of environmental epigenetic can end up describing the bodily effects of racism as a community pathology, labeling communities as perpetually diminished by racism.

Such technoscientific materializations of the already-altered body help to give substance to alterlife, but need to be challenged with critical knowledges from fields like black studies, Indigenous studies, and queer studies, that have many lessons for how to craft existences that rise from the ashes of structural violence. To this end, I find inspiration in the work of Indigenous feminist scholar Eve Tuck (Tuck, 2009) who has called for “suspending damage” as a refusal to participate in “damage based research” that concentrates the scope of attention on the dissection of bodies and biologies that are then reductively constituted as pathological and devalued. Invasive organisms are to be removed, bird damaged in oil spills culled, disturbed land becomes a *terra nullius* – land and life coded

by a colonial gaze as empty, unproductive, and in need of capitalist possession. Designations of damage feed circuits that amplify damage, where to be altered and unfixable is held as a diminished state, perhaps better not to exist at all. A refusal to re-enact damage based research is a challenge to environmental justice habits, and at the same time an invitation to create new kinds of research questions that are about building decolonial supportive worlds now, without waiting for a better moment to arrive.

This brings me to my final political toggle within alterlife: the capacity to become otherwise. Embodiment has not just been altered, it is more generally open to alteration. Alterlife is already recomposed, pained, and damaged, but potentiality nonetheless. Alterlife, as potential, challenges us to learn with a thick archive and dense present of projects of resistance and resurgence. It is also an invitation to consider what infrastructures and concepts have to be *dismantled* to make room for another way of being and knowing to emerge.

It is an invitation to begin inhabiting alter-embodiments now.

A core teaching of Indigenous reproductive and environmental activism is that bodies are not separable from the land, waters, airs, and other beings (Native Youth Sexual Health Network & Women's Earth Alliance, 2016). For Indigenous women, two-spirit, and young people on the front lines of pipeline blockades, water walks, fasting, and land defense actions, whose lives are ongoingly violated by extractive industries, this teaching is unavoidable. What happens to the water, is a part of what happens to its relations. Violence on the Land is violence on bodies. This includes you too.

I share this image with you (Figure 1) with the permission of their creator, the Métis activist and artist Erin Konsmo, who is a coordinator at the Native Youth Sexual Health Network, and member of the Onaman Collective, an amazing group of Anishinaabe and Métis artists who combine land-based art creation with reactivations of Indigenous knowledge.

Terra nullius is a legal term, or better yet a legal fiction, meaning

empty territory, which is used to support a state's claim of sovereignty over land they "find." In Canada, *terra nullius* has been crucial to the state's claim to ownership of Indigenous territories that it then leases to multi-national petrochemical and mining companies, from Suncor to Debeers, thereby resulting in not only the theft of territory, but the concentration of environmental violence in Indigenous communities. We see this history in this image in the way both colonial vessels and extractive industries are inscribed onto the body. "Our Bodies are not Terra Nullius" is thus a declaration of land defense and prior Indigenous presence in territory.

Yet, this image, captures a second sense of "Our Bodies are not Terra Nullius." Colonial and environmental violence has already happened, and here we can see the body in trauma, as already surrounded by and formed through toxic violence. Yet the very creation of this image, in a social justice collectivity, with people on the frontlines of blockades, in spaces that welcome queer and gender-nonbinary Indigenous being, toggle the making of the image into an activation of decolonial embodiment, a laying claim to sovereignty and care of body/land entanglements in the aftermath.

Bodies are not Terra Nullius. Our Bodies are the land. They are of toxic chemicals, and they are something more. They are a manifestation of something bigger, that stretches outward to water, air, ancestors, and other beings, that stretches backwards to messy histories, and forwards to a something else.

In this image we find an alter-embodiment of survival-as-resistance –what indigenous scholar Gerald Vizenor calls "survivance" (Vizenor, 2000; Dillon, 2012). Survivance is not just about making newness, it is also about what has to end, what has to come apart, to make less violent worlds. The responsibility is not just to build alter-relations, but to dismantle violent infrastructures. To shut it down. #ShutItDown

Alterlife is life damaged, life persistent, and life otherwise; life materialized in other ways and life exceeding our materializations I can almost imagine a politics of alter-embodiments, or better yet, alter-

collectivities, that need new kinds of solidarities, interdisciplines, practices, and pedagogies, and does not reproduce the same. Almost. #AlterlifeintheAftermath

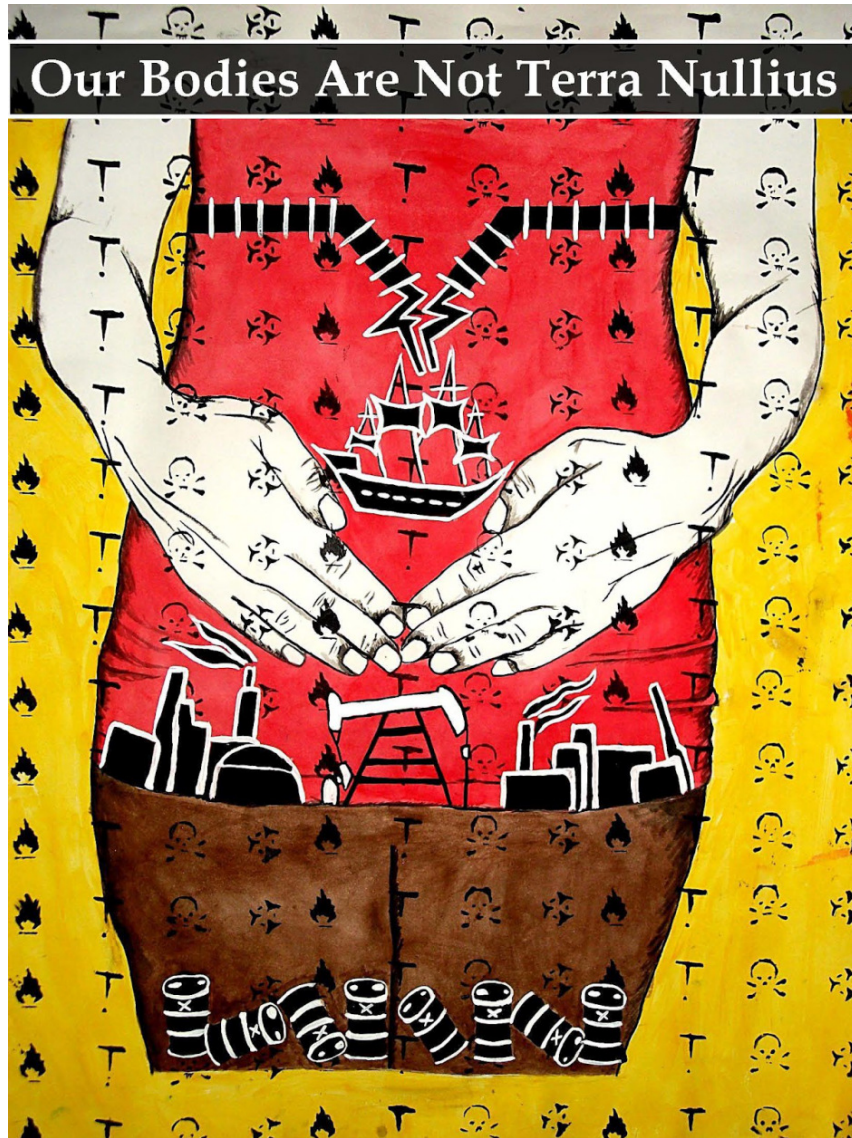


Figure 1

Notes

¹ On thinking a politics within and against, I am drawing on (Harney & Moten, 2013)

² <https://www.epa.gov/greatlakes/great-lakes-facts-and-figures>

³ Alterlife was developed with the help of the graduate students of the four campus Alterlife, Conditions, Aftermaths seminar, and in conversation with the other seminar instructorso. Joseph Dumit, Tim Choy, and Jake Kosek. Conversation and scholarship by Indigenous feminist and Indigenous resurgent scholars, artists, and activists Karyn Recollet, Eve Tuck, Christi Belcourt, Onaman Collective, Elizabeth LaPensee, Kim Tallbear, and Zoe Todd have also been crucial. In coming to alterlife, I have also listened to black studies and black activist thinking about possibility in the wake of anti-blackness, especially the work of BLMTO, Fred Moten, Vanessa Gard Jones, Kathrine Mckittrick, Rinaldo Walcott, Christina Sharpe, Alondra Nelson, Ruha Benjamin.

⁴ (Tallbear, 2011; TallBear, 2013; Todd, 2017)

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Bio

Michelle Murphy is Professor of History and Women and Gender Studies. She is a historian of the recent past and feminist technoscience studies scholar who researches and theorizes about the politics of

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