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Decolonizing geographies of power: indigenous digital counter-mapping practices on turtle Island

Dallas Hunt[a] ⓘ and Shaun A. Stevenson[b] ⓘ

[a]Department of English, University of British Columbia, Vancouver, BC, Canada; [b]English Language and Literature, Carleton University, Ottawa, ON, Canada

ABSTRACT

This paper addresses the decolonizing potential of Indigenous counter-mapping in the context of (what is now called) Canada. After historicizing cartography as a technique of colonial power, and situating Indigenous counter-mapping as an assertion of political and intellectual sovereignty, we examine the digital map of *Amiskwaciwâskahikan* (Plains Cree for Edmonton, Alberta) produced by the Pipelines Collective, which overlays Treaty 6 Indigenous maps onto 'conventional' maps to denaturalize and challenge colonial renderings of city space. We then discuss the expanding trend of guerrilla mapping techniques engaged in by Indigenous groups, emphasizing the *Ogimaa Mikana* project in Toronto, wherein Anishinaabemowin names were stickered over settler street names. Expanding the spatial theories of Michel de Certeau and Gilles Deleuze, and drawing on the research and insights of Indigenous scholars Jodi Byrd and Mishuana Goeman, our paper considers how emerging digital counter-mapping efforts offer ambivalent possibilities for Indigenous peoples to assert their presence in material ways.

KEYWORDS
Cartography; digital humanities; indigenous resurgence; new media studies

These maps are not our inventions. Maps are only masks over the face of God. There are other ways around the world – Linda Hogan, *Solar Storms*.[1]

In *Solar Storms,* Chickasaw writer Linda Hogan's second novel, protagonist Angel Wing reflects on her Aunt Bush's fascination with maps:

> I was intrigued by the fact that history could be told by looking at paper. I'd wondered before what it was about maps that occupied Bush's time, and now I, too, became interested. I could see it myself … A deep map. They were incredible topographies, the territories and tricks and lies of history. But of course they were not true, they were not the people or animal lives or the clay of land, the water, the carnage. They didn't tell those parts of the story.[2]

Angel articulates the competing historical and epistemological drives of mapping concisely through these personal musings. She continues,

> What I liked was that land refused to be shaped by the makers of maps. Land had its own will. The cartographers thought if they mapped it, everything would remain the same, but it didn't,

and I respected it for that … It was a defiant land. It had been loved, and even admired, by the government's surveyors, for its mischief and trickiness and for the way it made it difficult for them to claim title. Its wildness, its stubborn passion to remain outside their sense of order made them want it even more.[3]

Here, Angel encapsulates cartography's prevailing contradictions, and in just a few short sentences, provides more nuance than maps often allow. We take Angel's insights to heart when thinking about our own conceptualizations and imaginings of Indigenous mapping techniques, and we explore them in more detail in the article to follow, extending Angel's words to the orderly, yet paradoxically unruly, world of the digital.

In this article we consider the potential for and limitations of Indigenous counter-mapping (and counter-mapping more broadly) to both contest the colonizing work of dominant mapping practices, and to assert alternative, potentially decolonizing geographies. In particular, we address the immanent contradictions of counter-mapping, paradoxes which are echoed in many modes of contestatory politics. First, within counter-mapping practices, at least some element of the dominant mapping practice is likely to be employed, even if only to be subverted; if counter-mapping practices are not legible according to dominant vocabularies and reading practices, they may not be effective in the way the counter-cartographers desire. At the same time, out of necessity, counter-mapping efforts frequently employ, and therefore are subject to, the limitations of existing cartographic (and digital) tools. The result is that the very strategies used to resist dominant mapping techniques may also circumscribe the kinds of interventions that are possible, and in some cases even reinscribe elements of settler colonial cartography.[4] In addition to sketching the conditions of this double bind of Indigenous counter-mapping practices, we also address how they are strategically negotiated within the dynamics of localized counter-mapping efforts by looking at several recent examples in the Canadian context. This paper seeks to illuminate how dominant cartographic discourses are powerful, yet not entirely free-floating; they are rooted in material force, historical sedimentation, and contested social relations, and therefore it is both necessary and yet insufficient to merely 'disrupt' them with alternative mapping discourses.

We begin this article by looking at mapping projects and colonial techniques of geographical power more broadly, tracing how these processes are laden with historical and spatial violence, while grounding Indigenous counter-mapping practices within a long history that predates but influences its incorporation into the digital. Drawing on the work of Indigenous communities and activists, critical geographers, cultural theorists, anthropologists and Indigenous Studies scholars, we explore here the relationship between Indigenous representations and articulations of land title – what might be referred to as Indigenous techniques of mapping, counter-mapping or resistive mapping techniques – and the dominant Eurocentric discourses of cartography. We ask: to what extent can Indigenous articulations of land and territory interrupt the colonial narratives that Western mapping processes perpetuate? In what ways can Indigenous mapping techniques rearticulate Indigenous presence on these lands we now call Canada? What role does the digital play in contemporary Indigenous counter-mapping practices? Following this, we briefly chart some examples of alternative mapping techniques employed by Indigenous communities, in both historical and contemporary digital contexts. Laying out the many complementary and complicated contexts in which Indigenous counter-mapping practices take place, our article culminates in a

discussion of the digital and the virtual, as we examine the role the internet has played, and continues to play, in Indigenous cartographical experiments. Through the lens and insights of spatial theory, we look to the *Amiskwaciwâskahikan* map, an example through which techniques of mapping shed light on the histories and geographies of land disputes, however marginally. We argue that the *Amiskwaciwâskahikan* map does have potential to challenge how territory is conceptualized in relation to land entitlement, although its potential remains limited by the transposition of geographies of power and control into the digital realm. We further explore these implications through the guerrilla mapping techniques enacted in the *Ogimaa Mikana* project in Toronto. We conclude by considering the implications of Indigenous counter-mapping and digital archiving, ulti-mately highlighting the ways in which we should be constantly diligent and questioning in our use of these nascent, and not so nascent, technologies. To paraphrase Angel above, we are interested in 'the territories and tricks and lies of history' in relation to mapping, but we also remain just as interested in mapping's future.

Geographies of power

In his influential text, *Culture and Imperialism,* Edward Said writes,

> Just as none of us is outside or beyond geography, none of us is completely free from the struggle of geography. That struggle is complex and interesting because it is not only about soldiers and cannons but also about ideas, and forms, about images and imaginings.[5]

As Banivanua-Mar and Edmonds remind us in the introduction to their edited collection, *Making Settler Colonial Space*, this struggle takes a particular form in the settler colonial context; the authors write, 'Colonialism, between the sixteenth and twenty-first centuries, has produced a profound and extensive rearrangement of physical spaces and peoples'; they continue, 'This has left an enduring and unresolved legacy in the so called postcolo-nial present … As a result new meaning and social demography had to be carved and asserted over existing and enduring Indigenous spaces'.[6] Indeed, the struggle of and over geography remains one of the most significant issues facing Indigenous and non-Indigenous relations in Canada. Competing claims to territory, borders and boundaries, along with fundamentally different epistemological and ontological conceptions of land-use and management delimits the possibilities for land-centered reconciliatory engagement between Indigenous and non-Indigenous peoples within the Canadian nation-state. Whether through traditional topographic mapping, or increasingly advanced digital data-based mapping processes such as Geographic Information System (GIS) mapping, geographical knowledge continues to be produced, acquired and imposed as a fundamental technique of shoring up dominant conceptualizations of the Canadian landscape.

The surveying of lands and the production of maps remain an integral mode of solidify-ing nationalist, and indeed, settler colonialist constructions of Canada's geography. Unearthing, understanding and interrupting these Canadian geographies of power is especially crucial in Canada's resource-driven, so-called 'modern treaty era'.[7] What has or has not been mapped, what will be, or perhaps, cannot be mapped, is of fundamental importance to securing or upholding land rights for both Indigenous nations and the Canadian state. Maps demarcate contested territories, represent institutionalized power,

and in many ways, fix the terms of future negotiations. Conversely, maps' absences, their exclusions and omissions, along with the difficulty of actually realizing the lived experience of the spatial knowledge that maps aim to convey, open up possibilities for resisting geographies of power and for a re-mapping of the landscape on other terms.[8]

A great deal of critical work has been done on deconstructing the colonial discourse expressed through maps and map-making.[9] Mishuana Goeman (Seneca), for example, suggests that, '[m]aps, in their most traditional sense as a representation of authority, have incredible power and have been essential to colonial and imperial projects'.[10] Centered on the understanding that map-making has never been an objective practice, these discussions situate maps as instruments of colonial power which displace Indigenous knowledge systems and seek to manage Indigenous presence on newly settled lands.[11] As Jeff Oliver writes, 'A number of scholars have directly connected the hegemonic effects of cartography with the way that systems of circulation helped to both entrench and justify European colonialist and nationalist narratives'.[12] 'Such narratives,' Oliver continues, 'provided an official plotline of colonial nation-building from primordial wilderness to progressive capitalist state'.[13] Indigenous scholar Linda Tuhiwai Smith (Ngati A wa and Ngati Porou) reminds us about the connections between colonial policy, the mapping of space and the realities of Indigenous peoples under such colonial incursions; she writes, 'Imperialism and colonialism brought complete disorder to colonized peoples, disconnecting them from their histories, their landscapes, their languages, their social relations and their own ways of thinking, feeling, and interacting with the world'.[14] These arguments allow us to understand maps as a mechanism of power that produces particular, hegemonic forms of knowledge within the colonial landscape.

In a very real sense, the map is a form of knowledge that has the power to dispossess. Maps are the product of choices regarding content, arrangement, intent and management.[15] Their topographic representations – inclusions and exclusions – are not arbitrary, and certainly within the colonial context, nor are they apolitical. Maps render space as a plan, and can be understood as the 'extension of European power through space'.[16] At the same time, as Cole Harris notes, maps serve the ambivalent, detached and pragmatic function of orienting newcomers, 'conceptualiz[ing] unfamiliar space in Eurocentric terms'.[17] These effects of mapping are surely ideological, and as Matthew Sparke has noted, drawing from geographer Nicolas Blomley and literary scholar Richard Helgerson, 'maps contribute to the construction of spaces that later they seem only to represent'.[18] Such ideological configurations suggest that the land itself speaks as an articulation of imperial power and as a single unified state.[19] As David Harvey states in *The Space of Capital,* 'The process of state formation was, and still is, dependant upon the creation of certain kinds of geographical understandings (everything from mapping of boundaries to the cultivation of some sense of national identity within those boundaries)'.[20] The circulation of maps as a type of nationalist text, then, works to construct and shore up what Benedict Anderson referred to as imagined communities.[21] In the Canadian context, maps, and their seemingly stable, objective representation of the colonial landscape serve as one component of the imagined community of the Canadian nation. Maps become an instrument of certainty through which the nation-state and ensuing settlers achieve a sense of political, legal and even sentimental entitlement to the land.[22] These processes persist and have significant material consequences in relation to Indigenous peoples' articulation of land rights. The manner by which power, knowledge and the

production of space intersect in the settler colonial nation-state overdetermine how land rights negotiations are able to unfold for Indigenous peoples. Far from objective illustrations of space, maps and mapping processes *produce* space – space that is seemingly abstracted from the lived experiences of those who actually occupy it, inculcated with imperial power-knowledge, and ultimately commodified. Contestations over land occur *within* this produced spaced – what is essentially a space of capital production – and they are thus enframed by the disciplinary mechanisms that support this production.[23]

However, while the picture that we have thus far painted of the hegemonic power of Euro-Canadian cartography indeed appears totalizing, we remain interested, along with many Indigenous and postcolonial geographers, in 'the paradoxical capacity of such cartography to function variously for and against the exercise of modern state power'.[24] Like Goeman, for example, we are interested in geographies 'that do not limit, contain, or fix the various scales of space from the body to nation in ways that limit definitions of self and community staked out as property'.[25] Ultimately, this paper aims to understand how Indigenous peoples have continued to resist the mechanisms of Euro-Canadian cartography, holding strong to Indigenous conceptions of place and territory and their lived experiences within them. As Kwagiulth scholar Sarah Hunt notes, 'Acknowledging the role of the geographic imagination in this colonial history and creating new representational strategies has been of concern to critical geographers, in order that colonial and imperial projects overall (not just in geography) do not remain unchecked'.[26] Indeed, Indigenous peoples have been at the forefront of creating alternative representational strategies, utilizing various forms of mapping techniques and re-purposing technologies to their own ends, re-articulating and re-representing their own experiences of land and territory in textual, virtual and lived contexts. In what follows, we investigate the potential of geographical imagination in relation to Indigenous counter-mapping practices while remaining vigilant to their limitations in relation to ongoing colonial and imperial projects.

Indigenous counter-mapping

So what is Indigenous counter-mapping? It is not our intention to suggest that all processes of Indigenous mapping necessarily be read as reactive or as counter to the dominant form, especially where Indigenous forms of mapping predate colonial cartography. For the purposes of this paper, and within our current settler colonial moment, we consider Indigenous mapping, in a general sense, as those processes through which Indigenous peoples articulate their presence on and right to defend their ancestral lands, territories and resources against state encroachment, an encroachment which always already occurs within the colonial framework and language of mapping, and which always positions Indigenous presence as that which it must counter. Renee Pualani Louis, Jay T. Johnson and Albertus Hadi Pramono elaborate on this cartographic positioning, writing 'most contemporary cartographic work by Indigenous communities worldwide is undertaken in an effort to counter earlier colonial and neo-colonial attempts to cartographically dispossess these communities from their lands and resources, and has therefore been designated "counter-mapping"'.[27] Similarly, Goeman refers to these mapping initiatives as '(re)mapping,' suggesting that, '(re)mapping is about acknowledging the power of Native epistemologies in defining our moves toward spatial decolonization'.[28] Thus, even as we critique or explore the limitations of various forms of Indigenous

counter-mapping, rather than viewing them as simply reacting to dominant forms, we ultimately remain hopeful about their decolonizing possibilities.

Certainly, there can be no pan-Indigenous definition of what constitutes Indigenous mapping, and of course it is up to individual Indigenous nations to determine how mapping is to be conceptualized on their own terms. Indeed, the very language of mapping may itself perpetuate a kind of colonial incursion into particular Indigenous conceptions of place or space. As such, Indigenous cartographic articulations may shift the very grounds through which mapping is understood, and this is of course the point. The methodology for and final product of Indigenous counter-mapping practices vary widely, with some nations asserting that their traditional stories and corresponding performances work to 'map' out their habitation on their traditional territories. For example, for some, counter-mapping is the labour Indigenous peoples and communities undertake 'in the simultaneously metaphoric and material capacities of map-making, to generate new possibilities'.[29] In other instances, Indigenous nations utilize available technologies and work in collaboration to produce hybridized forms of maps, drawing on while subverting some of the techniques associated with European cartography. While some recent studies on the mapping of Indigenous lands emphasize the latter technique of Indigenous mapping, suggesting that such practices have only emerged in the last 30 or 40 years in Canada and the United States, and only within the last decade elsewhere in the world,[30] we contend that Indigenous counter-mapping must be contextualized within a much longer history. While certainly some forms of Indigenous mapping have emerged alongside and with the help of corresponding digital technologies, such as GPS and GIS,[31] and while indeed, there has been a greater interest in Indigenous mapping from non-Indigenous geographers, epidemiologists, environmentalists and allies in the past several decades,[32] Indigenous maps have existed in various forms, and conveyed presence on colonized lands for an indeterminable amount of time.

Indeed, Indigenous mapping processes stretch much further back in time, and broaden how we might conceptualize the very idea of what a map is and does. In Abenaki scholar Lisa Brooks' *The Common Pot: The Recovery of Native Space in the Northeast*, Brooks outlines how pictographic 'message maps' were written on trees so Indigenous peoples could

> inform each other of the location of game and the routes they would travel … rivers and streams appeared prominently on indigenous maps, and it was along these waterways that messages were carried from village to village … [mapping] conveyed knowledge from one person or place to another across the systems of waterways that connected them.[33]

Other techniques of mapping may be less in line with Western conceptions of textual representation, yet are meaningful and indeed tangible articulations of consistent Indigenous presence within various regions. Geographer Emilie Cameron highlights how for the Inuit peoples in Canada's central Arctic, the vast Northern geography is 'ordered by stories – stories that make legible the connections between particular people, places, and ideas'.[34] Far from ambiguous narrations of Inuit peoples' experience within the North, Cameron, following the work of John Law, asserts that stories must be thought of as 'material ordering practices' – that is, not as 'something separate from, nor merely representative of, the world around us'; rather stories are themselves material and intimately bound up with 'the materials in which they are carried'.[35] Cameron's perspective shows how 'material ordering practices' of the Inuit illustrate, represent and communicate Inuit

presence throughout the North. Such illustrations may be viewed as Indigenous counter-mapping in their own right, representing a multi-layered topography of Inuit presence in the central Arctic. The stories serve 'as part of a relational, ongoing effort to structure our material and imaginative landscapes on different terms'.[36] Mobilizing stories in this way, Cameron suggests, 'is an effort to story the central Arctic in less racialized terms and in ways that do not limit the agency and expressions of Indigenous peoples to either pre-contact traditionalism or heroic subaltern resistance'.[37]

There are, of course, significant examples of Indigenous mapping techniques emerging in more recent years that de-emphasize the hegemonic effects of colonial cartographies, while utilizing the very same cartographic tools. With the help of the *Aboriginal Mapping Network*, the Fort Albany First Nation in Northern Ontario, for example, uses GIS technologies to foster intergenerational knowledge transfer, using mapping techniques and tools to reconnect youth with the surrounding land.[38] Additionally, 'The Living Atlas' project is an interactive thematic atlas focused on the changing geographies of a number of First Nation territories, from the Nuu-chah-nulth First Nations and Okanagan Nation Alliance in British Columbia, to the Northeast Superior Forest Community in Ontario. These maps allow First Nation communities to map integral characteristics of their territories, previously unaccounted for on traditional Euro-Canadian maps, from climate change and health, to Indigenous food sheds and culturally significant locations. Similarly, Jane Jacobs shows how urban Indigenous peoples re-mapping of city space destabilizes colonial cartography in relation to tourist maps. Jacobs, however, is careful to note that the decolonizing political potential of this re-mapping of the tourist landscape is limited; she writes: '[it] probably will not result in [Indigenous peoples] gaining significant or meaningful land rights'.[39]

We follow Cameron in resisting discursive binaries as they relate to Indigenous forms of mapping, as well as any inclination to view traditional Indigenous mapping as somehow 'less developed' than contemporary Indigenous techniques of mapping that utilize electronic programs like GIS. All maps are based on technologies suited for their use, none of which are more or less 'advanced' than others, and there remains potential for cartographic destabilization using both traditional and contemporary Indigenous techniques of mapping. While Indigenous mapping serves diverse cultural and political ends, this paper is interested in how Indigenous digital counter-mapping, specifically, is often both responding to and re-purposing novel technologies that are used to deny Indigenous presence and consume place for the purposes of capital accumulation. Thus we are concerned with how this difficult entanglement can both enter into, and come to bear on, what we might recognize as the most significant Western material ordering practices – that is law, private property and the commodification of land. How and to what extent can Indigenous digital counter-mapping practices be asserted within contestations over land? Can they change the terms of how these disputes are negotiated, or effectively unframe the manner in which land rights issues are currently enframed? In what follows, we explore these questions through specific examples of Indigenous resistive digital mapping practices as we conceptualize maps through the spatial theories of Michel De Certeau and Gilles Deleuze. While De Certeau and Deleuze are by no means authorities in Indigenous mapping techniques (in fact both theorists largely avoid substantive engagement with colonialism and race), we nonetheless find them useful in discussing virtual and digital ideas of space and geography.[40]

Theorizing indigenous counter-mapping

In this section we engage with digital resistive mapping practices in two distinct but related ways. The first will examine the ways in which online, predominantly urban Indigenous collectives can use free virtual mapping software to contest the colonial organization of material space. The second will investigate how an ambivalent notion of resistance is marketed to users of this technology; that is to say, the possibility for tangible transformation is offered in name but is not always possible in deed, or at the very least is significantly circumscribed by its conditions of possibility. Using the theories of Michel de Certeau and Gilles Deleuze to frame these sections, we further interrogate digital counter-mapping practices and power's manifestation in geographical space. Specifically, we transpose de Certeau's conceptualizations of everyday spatial practices to a virtual setting, and put them in dialogue with Deleuze's notion of 'societies of control'. We enter into this discussion by way of the *Amiskwaciwâskahikan* map,[41] a cartographical experiment conducted by the online Edmonton collective known as 'Pipelines'. Following an examination of the *Amiskwaciwâskahikan* map, we discuss the expanding trend of guerrilla mapping techniques engaged in by Indigenous groups, in particular the *Ogimaa Mikana* project in Toronto. In examining the tensions and contradictions of contestatory virtual spatial practices and contemporary notions of digital counter-mapping, we still recognize the importance these cartographical practices may have for Indigenous communities, and are hopeful that they pave the way for further tactical interventions in both virtual and material land entitlement issues.

Practices: theoretical concerns and applications

In attending to the phenomena of digital counter-mapping, we believe it is pertinent to explicate and expand on the theories of Michel de Certeau. De Certeau, in *The Practice of Everyday Life*, examines the ways in which an active engagement with urban space constitutes 'new ways of operating', ones in which 'subjects' deploy tactics to offset or undercut the forces of discursive power.[42] Central to de Certeau's text are the notions of 'strategies' and 'tactics', as tactics are the short term actions which have no place in and of themselves (i.e. outside of systems), and strategies are the 'place[s] or institution[s]' which are predicated on and which conceal 'power'.[43] The tactics employed to counter strategies advance the idea that 'subjects' are not passive but are actively 'manipulating and enjoying' structures or environments.[44] A potent example that de Certeau outlines is the 'language of city grids', whereby agents can subvert the prescriptive logic of these grids (say by jaywalking or erecting a roadblock), yet still remain within them – they deflect power from within through what de Certeau describes as subversive 'speech acts'. While de Certeau is interested in how users of urban spaces operate and re-purpose the spaces of the city, here, we are interested in how users navigate the codes that structure online mapping platforms – or, to be more specific, how they operate in virtual grids.

The ability to manipulate cartography in digital space, whether through Google Earth or online platforms such as Hypercities, is an example of tactics in practice – of a tactical 'speech act' within the circumscribed 'language' of GIS. Google Earth's static image of a city represents technocratic calculation and power, as it provides a top-down view of

the 'the strategic grid' of a landscape. This (cartographic) view of a GIS map is indicative of what de Certeau refers to as the 'Concept-city', which is 'the flattening out of data in a plane projection' by 'univocal scientific strategies', primarily through statistics, html/kml code, among many other things.[45] The 'Concept-city', to de Certeau, exists as a 'totalizing and … mythical landmark' created by civic planners that neglects the multiple 'pedestrian movements' that *actually* form and 'make up the city' – that is, people's lived experience on the ground; without these movements, the city exists as a mere concept on paper, as a structure that has no real relation to lived experience.[46] Pedestrian movements manifest themselves in Google Earth and various GIS platforms through the insertion of pictures, annotations, 3D rendered models of buildings by users, as well as other things. The city space these users create, then, can be read as 'an allusive and fragmentary story', one which gestures toward the radical changes between two different moments in history, serving in a sense as a critique of historical 'progress'.[47] We see this critique most clearly in the *Amiskwaciwâskahikan* map.

New weapons: the *Amiskwaciwâskahikan* map

The *Amiskwaciwâskahikan* map challenges existing narratives about land entitlement and 'lays bare the city of Edmonton's colonial logic by superimposing Treaty 6 Aboriginal maps over [so-called] conventional maps of the space'.[48] Created by the online digital collective Pipelines, the *Amiskwaciwâskahikan* map positions a history and a space into a discourse that routinely seeks to omit and subsequently forget an alternate memory of place (see Figure 1).[49] The intent of the narrative map's 'historical breadth', which 'connect[s] Fur Trade contact to the present day', is to illuminate the shifting contours of colonialism both temporally and spatially.[50] Elaborating on this point, Pipelines assert,
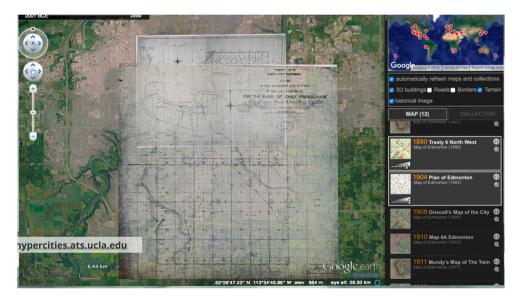

Figure 1. *Amiskwaciwâskahikan* map - Pipelines collective.

> [The *Amiskwaciwâskahikan* map] demonstrate[s] the city's ongoing colonial commitments, but it … also demonstrate[s] how colonialism literally changes shape over time, moving from a logic of exclusion (the 'Indian' reserves being initially outside of the city limits) to a logic of containment (inner-city poverty now being disproportionately Aboriginal).[51]

Here, we have a potent example of virtual, spatial tactics, as Pipelines have layered an 'abandoned' vision of Edmonton on top of the map template provided by Google Earth. This subjugated history proposes an alternative view of the city that contests the seemingly natural and linear narrative of Edmonton's evolution to a 'post-war, car-centred, mid-sized', modern metropolis.[52] Indeed, the *Amiskwaciwâskahikan* map conjures up memories of a violent colonial history and de-naturalizes the image of a 'technocratically constructed, written, and functionalised space' in two important ways.[53] First, Pipelines' emphasis that the map be named in Cree indicates the importance of language in the formation of space, and the insistence that the map be referred to as *Amiskwaciwâskahikan* (as opposed to 'A Cree Map of Edmonton' or other derivatives) demonstrates its intended subversive potential. Secondly, as the Pipelines team writes elsewhere, the foundational materials used to create the GIS installation 'come from (contested) Treaty 6, Papaschase and Hudson's Bay maps'.[54] This inclusion of Papaschase maps illustrates how untenable the projection of one dominant cartographer's view of Edmonton is, and demonstrates de Certeau's assertion that the 'concept-city' is ultimately an impossibility: 'it is a "theoretical" (i.e. visual) simulacrum, in short, a picture whose condition of possibility is an oblivion'.[55] Further, though untenable, the continued use of a 'seemingly' uncontested, unproblematic map of Edmonton exposes the strategic ends of such projections, as the discourse of Edmonton's 'official', normative history persists unabated. Thus, while Pipelines' mapping project exists as a cogent example of the practice of counter-mapping, we should be wary of imbuing it with too much 'liberatory' or subversive potential.

(No?) new hopes: data-mining and digital archiving

Gilles Deleuze, in opposition to de Certeau, would view these tactical responses to strategic power as already occurring within 'societies of control'. In 'Postscript on the Societies of Control', Deleuze describes the way in which Foucauldian notions of power are being increasingly supplanted by control societies. Control, as Deleuze sees it, transcends both 'time' and 'space', as societies of control 'replace the old disciplines operating in the time frame of a closed system'.[56] These closed systems are significant, as they provide the metaphorical 'trenches' from which a subject can employ tactical speech acts to resist discursive power. Control, then, as configured by Deleuze, effectively levels spaces and eliminates the pockets or trenches of resistance described by de Certeau. Deleuze notes further that the new 'technologies' of societies of control are computers, wherein monitoring and speed are the dominant characteristics: 'what counts is not the barrier but the computer that tracks each person's position'.[57] Instead of being regulated by 'watchwords', Deleuze argues we are operating now in a society comprised primarily of 'passwords'.[58] More specifically, we accept our own control in order to gain access to the virtual via passwords, thereby tacitly agreeing to have our information data 'mined' and dispersed to a variety of corporate and institutional interests.

Writing about the digital 'as social space' within today's capitalist, colonial context, Jodi Byrd argues that

concurrent processes of managing wealth, access, voice, and legibility, depend upon the bio-political modes of (self) consolidation in the gaps between speaking and silence, the maximization of profit through proliferation of markets and goods, and the production of labor attached to the commodification of clicks, button presses, and the movement of a joystick.[59]

In the digital platforms of control societies, subjugated histories and modes of representation can be more easily distorted, archived and commodified and thus run the risk of being effectively and affectively de-politicized and, potentially, recuperated and weaponized. In short, although the proliferation of new technologies creates space for new forms of solidarity and collaboration, they are at the same time susceptible to new and evolving notions of 'control'.

To use an example, if we view Pipelines' *Amiskwaciwâskahikan* map in another light, we see that although they manipulate the structuring language of cartography to assert an alternative history, the *Amiskwaciwâskahikan* map is itself subject to another technocratic 'language' – that of html/kml code. Indeed, writing on Domain Name System (DNS) technologies, Ted Byfield describes the difficulties in labelling virtual, spatial tactics as major interventions: 'The basic problem at hand … [is] how we map the 'humanized' names of DNS to the 'machinic' numbers of the underlying IP address system'.[60] That is to say, if a map like the one created by the Pipelines collective is preoccupied with making an intervention in Eurocentric mapping practices through the interjection of Cree language, what happens when even this language is transformed into yet another language – into a series of numbers? Expanding on this problem further, Alexander Galloway explains,

> In order to visit 'www.rhizome.org' on the Internet, one's computer must first translate the name 'www.rhizome.org,' itself geographically vague, into a specific address on the physical network. These specific addresses are called IP addresses and are written as a series of four numbers like so: 206.252.131.211.[61]

The elements of the *Amiskwaciwâskahikan* map that are used to indicate 'place' are thus rendered as nameless 'spaces', as itinerant placeholders for numbers. Although the *Amiskwaciwâskahikan* map aims to project 'an area of the world as a rich and complicated interplay of people and environment', it is instead (*de*)coded as a site of 'facts and figures'.[62] Indeed, the deracialization of the virtual space through a systematic appeal to numbers in a sense symbolically (re-)erases this space of a visible Indigenous presence. DNS technologies de-weaponize re-inscription tactics, as 'DNS is not simply a translation language, *it is language*'.[63] As Byrd notes, in the context of digital platforms,

> [s]elf-determination at the level of decision-making is already built into the generic system as a way to ensure participation; choice is the illusion that difference no longer matters, that inclusion is the same as equality, and that access denotes parity.[64]

In virtual space, then, tactical interventions always risk immediately becoming at one with strategies of control, as '[DNS] governs meaning by mandating that anything meaningful must register and appear somewhere in its system' as a number.[65]

The above analyses attest that the digital is a site of control, even as it may simultaneously contain and provide opportunities for resistive tactics. Thus, a company like Google wields a potentially tremendous power in its ability to reach into pockets of Indigenous resistance, archiving aspects of everyday life before the opportunity to resist may even be glimpsed. This is not to say that the employees of Google (or similar

companies) are actively seeking out remote areas with the expressed interest to exploit different populations and users (though we assume they are), but rather that the technologies deployed by Google in-and-of themselves carry the potential to reproduce colonial relations. As Byrd similarly warns, 'late colonialism is … the procedural system that *captures* and governs our current moment, particularly within the planetary, militarized, and hyper capitalistic realms of the digital'.[66] Indeed, while the technologies offered by Google and other GIS platforms alter the ways in which we view and use modern 'cartography', they also allow the potential for these cartographies to be re-purposed for different interests. As Galloway states, the proliferation of 'transitory networks and temporary autonomous zones … bring out vulnerabilities where before none were thought to exist'.[67] In a sense, then, the 'technicians' of control are proactive, seeking out areas and aggregating information for the purpose of its eventual monetization (as fodder for advertisements, among other things).[68] In other words, '[b]roken into discrete processes, the unit operations of late colonialism … might be said to generate a system that relies on repeatable removals, foreclosures, debts, and allotments to consolidate wealth, territory, and power in the hands of a few'.[69] The digital archive and virtual, spatial tactics should be studied co-extensively then, as alterations in one area are sure to be charted in another.

Ultimately, while we recognize the potential for resistance through Indigenous digital counter-mapping, it is worth addressing that the fundamental building blocks of code are cast in the same colonial rhetorics these maps aim to address – or, as Elizabeth LaPenseé writes, modes of digital decolonization 'still rely on flattened space that is mapped and claimed by [users] in ways that reinforce colonial values'.[70] Lorenzo Veracini similarly remarks on how the current rhetoric of the internet uses and upholds some of the central tenets of settler colonialism: from start-up companies labelling themselves as creating and expanding digital frontiers, to the registration of domain names as forms of property ownership.[71] And, as Abiteboul and Kanellakis note, (language) 'primitives' are the building blocks upon which all other programming language is based, as they are the 'simplest' and tiniest units of expression in code.[72] The discourse of computer programming, then, mimics the logics of colonialism, and the language of code echoes the values and rhetorics of colonial agents (i.e. 'primitives' as simple).

And we should not view this language as simply being 'objective' or 'neutral'. As Kara Melton posits, although 'technology (and the products of technological processes such as geomapping, fingerprint technology, and virtual assistants) are understood as unbiased forums for knowledge production and transmission', these

> arguments for technology as neutral tend to ignore the tangled relationships between historical processes of dispossession and knowledge that is considered 'scientific' and 'objective.' In effect, the notion of neutral technology erases the long history of violence that rests at the foundations of fields such as biology, chemistry, and computer science.[73]

Melton continues:

> From rationalizing the indigenous peoples of the Americas as non-human in order to facilitate land and labor exploitation, to reading hypersexuality on to the bodies of black women, the logics of these cultural cornerstones are often violently illogical. Neutral tech erases the role technology plays in reproducing and re-inscribing the stereotypes and assumptions that position some peoples closer to death.[74]

If code is the racist, commodifying language from which resistive online practices emerge, it is worth interrogating in what ways these practices are indeed resistive and, just as importantly, in what ways they reify the colonial principles Indigenous counter-mapping aims to undercut.

In sum, despite these and other accounts that document how the digital sphere both operates as a technology of social reproduction and control, and generates new sites for the production and extraction of value from social life, techno-utopian accounts about the liberatory potential of the digital remain prevalent. Promises that the digital offers an arena free from traditional structures of power belie the ways in which profits are made from data-mining, national governments use surveillance technologies to monitor the activities of citizens and non-citizens alike, and the very fact that supposedly horizontal virtual spaces remain dependent on material infrastructures that require the ongoing dispossession of Indigenous lands, as well as environmental degradation and exploitation of labourers that produce technological devices. Thus, without dismissing entirely the possibilities for resistance and resurgence that might be engaged through the use of digital tools and technologies, it remains necessary to give sustained attention to the ways in which coding remains largely rooted in colonial logics.

Ways forward: emerging cartographies

In this concluding section, we would like to expand on some other trends of guerrilla mapping techniques engaged in by Indigenous communities, as well as other online mapping collectives. Addressing the problems of control detailed above, geographer Dong-Hoo Lee states,

> Although the geographical imagery constructed by individuals … usually follows visually attractive scenes or spectacles, and thus is likely to be susceptible to commercial or administrative efforts to colonize the cityscape for those ends, it is not *totally subsumed* by manipulative discourse.[75]

Following Lee, then, the possibility for messages to escape or exceed the grasp of control still exists, and users may exercise alternative consumption or reading practices to oppose the products or discourses presented to them. Further, building upon Oliver, since maps are not separate from their social and physical qualities of place and are, in part, 'forms of material culture created through particular forms of dwelling', we contend that there remains potential for digital and material counter-mapping interventions.[76]

An apt example of this potential is the *Ogimaa Mikana* project, which is an effort 'to restore Anishinaabemowin place names to the streets, avenues, roads, paths, and trails of Toronto, to transform a landscape that often obscures or makes invisible the presence of Indigenous peoples'.[77] The *Ogimaa Mikana* project is of special note as it traverses both the material and the virtual, both the concrete and the symbolic. Anishinaabemowin names are actually stickered over settler street names on the signposts of Toronto, such as the renaming of the intersection of Queen Street at McCaul to *Ogimaa Mikana* (Leader's Trail), or the changing of the intersection of Indian Road and Bloor Street to *Anishinaabe Mikana* (Path of the Original People) (see Figure 2).[78] These practices of the *Ogimaa Mikana* collective are, as de Certeau suggests, tactics that 'carve out pockets of

Figure 2. *Ogimaa Mikana* - Ogimaa Mikana collective.

hidden and familiar meanings. They "make sense"; in other words, they are the impetus of movements, like vocations and calls that turn or divert an itinerary by giving it a meaning (or a direction)'.[79] The labelling of settler street-posts with Indigenous names and phrases contests the organizing logic (or, perhaps more specifically, the organizing language) of city grids by introducing another language, one which has more historical purchase to the landscape. Indeed, the *Ogimaa Mikana* collective advocates speaking a different language separate from the structuring language of strategies described by de Certeau. As the organizers of the collective assert, such a project is premised on the proclamation: 'Don't be shy to speak Anishinaabemowin when it's time'.[80]

The names 'Bloor Street' and 'Queen Street' are simply markers in a meaningless itinerary, while the Anishinaabemowin names imbue the space with historic and cultural meaning – in short, they tell stories. 'Maps' such as these, Lee Maracle reminds us, 'direct intentions, call attention and expose previous being'.[81] Cartographical endeavours like those undertaken by the *Ogimaa Mikana* collective also 'challenge the seemingly objective and transparent forms of Western mapping by including narrative experiences and cultural systems that tell and map a story of survivance and future'.[82] This process is, to echo Goeman again, an instance of '(re)mapping,' which is 'a powerful discursive discourse with material groundings' that results in 'the unsettling of imperial and colonial geographies'.[83] With the *Ogimaa Mikana* collective's project, we see alterations at both the material *and* virtual level, as the altered street-posts are photographed and put on a blog dedicated to the project. These images contest the imposition of settler names on traditional Indigenous territories, and though the blog itself can be archived, the concrete

acts of re-purposing city space cannot. Further, by challenging the symbolic order of signs in material space, the *Ogimaa Mikana* collective resists becoming simply a virtual phenomenon.

Outlining the possible dangers in engaging solely in acts of virtual activism, Mohawk scholar Taiaiake Alfred states:

> We are in danger of becoming institutionalized and predictable as a movement, or worse, becoming kind of a giant Facebook rant that like all Facebook rants is a closed circle easily ignored which has no real relation to things actually happening in people's lives.[84]

These real relations are paramount because they demand more than a virtual engagement – they assert a physical presence in material space. Moreover, they call for a direct engagement with the land, a pressing issue as some online movements forego this issue and in so doing enact their own kinds of violence (sometimes unwittingly). The most recent *Ogimaa Mikana* project is a billboard in the Parkdale neighbourhood area of Toronto that highlights 'the Dish with One Spoon wampum belt'. The Dish with One Spoon is what the *Ogimaa Mikana* collective describes as 'a diplomatic metaphor for Great Lakes Indigenous nations'; it is 'considered among the early treaties between the Anishinaabeg and Haudenosaunee and also among the first that French and English settlers were welcomed into'.[85] The stated aim of the project is to encourage '[a]ll Canadians today' to imagine 'themselves as living in the Dish'.[86] As such, the physical presence of the billboard demands attention to the fact that Indigenous and settler peoples and communities 'have obligations of mutual care, to each other and to the land [they] share', and that if they 'are serious about moving forward together in a good way, [they] must collectively re-learn these obligations'.[87]

Conclusion

As of this writing, there are numerous digital decolonizing efforts that are just beginning or are ongoing. From Indigenous language apps and video games, to other instances of online cartography, these efforts represent exciting possibilities for resurgence in ways that are rooted in tribal specificity and make creative use of established and emerging technologies. At the same time, we have also argued for the need to reflexively examine the potential contradictions and limitations of these and other digital decolonizing interventions. In doing so, we do not advocate for separating emergent digital cartographies into one of two distinct categories: subversive or conscribed, free or regulated, *et cetera*. Rather, we emphasize the tensions between categories, and the complex negotiations users must make in order to employ and re-purpose these tools to collaborate with one another. The alternative cartographies created by the Pipelines collective demonstrate the ways in which collaborative map-making (and digital map-making platforms) can both subvert *and* reproduce power and history, language and control, often at the same time. Although map-makers and map-users employ the same means, the ends to their projects differ radically and may dictate new and emerging forms of digital cartography.

As new areas are geo-tagged and coordinated to open up emerging spaces for representation, so too are new contestations over subjugated histories and Indigenous presence. Of course maps are far from the only means of contesting land disputes

for Indigenous peoples. Indigenous struggles over land and sovereignty rights, from the commonly referred to crises at Oka and Ipperwash, to Caledonia, the Idle No More movement, and Elsipogtog First Nation's recent protest against shale gas development on their unceded territories, might suggest that the contestation and mobilization of maps is of little relevance to the immediate and urgent realties of Indigenous land dispossession. Recognizing the prevailing colonial discourse through which land entitlement issues are to be negotiated, a discourse in which maps are only one of many techniques of power, we remain unready to concede that they have no subversive potential, and indeed no real significance in the Indigenous struggle over land rights. Maps remain a commanding presence in shoring up imagined narrations of the nation. The former Conservative government's announcement of Canada's plans to make a claim for 1.7 million square kilometres of the Arctic seafloor signals both the precarious, even ridiculous, performance of nationalist geographic practices, as well as the consistent and increasingly urgent rate through which they are enacted to subsume lands and resources through their topographic representation.[88] To expose the complex entanglements of these processes through counter-mapping can be a powerful mode of articulating Indigenous geographies and asserting Indigenous presence. Addressing rapidly digitizing new environments and expansions of control, Gilles Deleuze remarked, 'There is no need to fear or hope, but only to look for new weapons'.[89] Nascent and evolving digital mapping practices indicate Indigenous peoples' ongoing ingenuity in efforts to create new weapons in the fight against colonization.

Notes

1. Linda Hogan, *Solar Storms: A Novel* (New York: Scribner, 1995), 38.
2. Ibid., 123.
3. Ibid., 123.
4. All references to colonialism refer to the settler colonial context of Canada in this article. We use the terms 'colonialism' and 'settler colonialism' interchangeably throughout the paper for variation and issues pertaining to readability, while simultaneously recognizing the longstanding debates around these terms. For more on the parameters of these debates, see Joanne Barker's 'Why "Settler Colonialism" Isn't Exactly Right', *Tequila Sovereign Blog*. https://tequilasovereign.wordpress.com/2011/02/14/why-settler-colonialism-isnt-exactly-right/ (accessed April 25, 2016); 'Lorenzo Veracini's response to the scepticism of Tequila Sovereign', *Settler Colonial Studies Blog*. https://settlercolonialstudies.org/2011/04/20/lorenzo-veracinis-response-to-the-scepticism-of-tequila-sovereign/ (accessed April 25, 2016); and Corey Snelgrove et al., 'Unsettling Settler Colonialism: The Discourse and Politics of Settlers, and Solidarity with Indigenous Nations', *Decolonization: Indigeneity, Education & Society* 3, no. 2 (2014): 1–32.
5. Edward Said, *Culture and Imperialism* (New York: Vintage Books, 1993), 7.
6. Penelope Edmonds and Tracey Banivanua-Mar, *Making Settler Colonial Space: Perspectives on Race, Place and Identity* (New York: Palgrave Macmillan, 2010), 1.
7. In the Canadian context, the term 'modern treaties' typically refers to comprehensive land claims agreements, where Indigenous land and resource rights have not been addressed by previous treaties or any other legal means (Land Claims Agreement Coalition). Aboriginal Affairs and Northern Development Canada refer to comprehensive claims as the 'unfinished business of treaty-making in Canada'. There also exist 'specific land claims' in Canada, through which Canada's obligations to historic treaties with First Nations peoples have not been met. We would contend that all attempts to address treaties between the Canadian

state and Indigenous peoples, past and present, are a kind of modern treaty making. Further still, we view most instances of ongoing state sanctioned engagement with treaties and treaty-making with scepticism, recognizing the limiting scope, historically and contemporarily, through which the Canadian state has engaged Indigenous peoples in land tenure issues. For further information on the limitations of the modern treaty process see: Glen Coulthard, *Red Skin, White Masks*: *Rejecting the Colonial Politics of Recognition* (Minneapolis: University of Minnesota Press, 2014); Carole Blackburn, 'Producing Legitimacy: Reconciliation and the Negotiation of Aboriginal Rights in Canada', *Journal of the Royal Anthropological Institute* 13.3 (2007): 621–38; Russell Diabo, 'Harper launches major First Nations termination plan: As negotiating tables legitimize Canada's Colonialism', *First Nations Strategic Bulletin* 10.10 (2012): 1–9.

8. Matthew Sparke, 'A Map that Roared and an Original Atlas: Canada, Cartography and the Narration of Nation', *Annals of the Association of American Geographers* 88, no. 3 (1998): 463–95. See also: Susan Schulten, 'Thematic Cartography and the Study of American History', in *Envisioning Landscapes, Making Worlds: Geography and the Humanities*, ed. Stephen Daniels, Dydia DeLyser, J. Nicholas Entrikin, and Douglas Richardson (New York: Routledge, 2011), 55–63.

9. Lisa Brooks, *The Common Pot: The Recovery of Native Space in the Northeast* (Minneapolis: University of Michigan Press, 2008); Mishuana Goeman, *Mark My Words: Native Women Mapping Our Nations* (Minneapolis: University of Minnesota Press, 2013); Harley, J. B. 'Deconstructing the Map', in *Writing Worlds: Discourse, Text and Metaphor in the Representation of Landscape*, ed. T. J. Barnes and J. S. Duncan (New York: Routledge, 1992): 231–247; Cole Harris, *The Resettlement of British Columbia: Essays on Colonialism and Geographical Change* (Vancouver: University of British Columbia Press, 1997); Cole Harris, 'How Did Colonialism Dispossess? Comments from an Edge of Empire', *Annals of the Association of American Geographers* 94.1 (2004): 165–182; Said, *Culture and Imperialism*; Matthew Sparke, 'A Map that Roared and an Original Atlas: Canada, Cartography and the Narration of Nation', *Annals of the Association of American Geographers* 88, no. 3 (1998). This is to name only a few of the theorists/critics working in this area.

10. Goeman, *Mark My Words*, 16.

11. Harris, 'How Did Colonialism Dispossess?'; Jeff Oliver, 'On Mapping and its Afterlife: unfolding landscapes in northwestern North America', *World Archaeology* 43, no. 1 (2011): 67.

12. Oliver, 'On Mapping and its Afterlife', 67.

13. Ibid., 67.

14. Qtd. in Goeman, *Mark My Words*, 3.

15. Schulten, 'Thematic cartography and the study of American history', 55–63.

16. Andrew Sluyter, 'Colonialism and Landscape in the Americas: Material/Conceptual Transformations and Counting Consequences', *Annals of the Association of American Geographers* 91.2 (2001): 410.

17. Harris, 'How Did Colonialism Dispossess?',175.

18. Sparke, 'A Map that Roared and an Original Atlas,' 466.

19. Ibid., 467.

20. David Harvey, *The Space of Capital* (New York: Verso, 2001), 213.

21. Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (New York: Verso, 1983).

22. Mark Rifkin, 'Settler States of Feeling: National Belonging and the Erasure of Native American Presence', *A Companion to American Literary Studies* (2011): 342–55; Eva Mackey, 'Unsettling Expectations: (Un)certainty, Settler States of Feeling, Law, and Decolonization', *Canadian Journal of Law and Society* 29.2 (2014): 235–52.

23. Sparke, 'A Map that Roared and an Original Atlas', 465; Timothy Mitchell, *Colonising Egypt* (Berkley: University of California Press, 1988), 44. The late Choctaw-Cherokee scholar Louis Owens makes similar claims about bounded 'territories' in his text *Mixed Blood Messages: Literature, Film, Family, Place*.

24. Ibid., 464.

25. Goeman, *Mark My Words*, 11.
26. Sarah Hunt, 'Ontologies of Indigeneity: the Politics of Embodying a Concept', *Cultural Geographies* 21, no. 1 (2014): 29.
27. Renee Pualani Louis et al., 'Introduction: Indigenous Cartographies and Counter-Mapping', *Cartographica: The International Journal for Geographic Information and Geovisualization* 47, no. 2 (2012): 77.
28. Goeman, *Mark My Words*, 4.
29. Ibid., 3.
30. Mac Chapin, Zachary Lamb and Bill Threlkeld, 'Mapping Indigenous Lands', *Annual Review of Anthropology*, 34 (2005): 619–38.
31. *Aboriginal Mapping Network*, *Ecotrust Canada*, www.nativemaps.org (accessed April 10, 2014)
32. Stephanie Pyne and D.R. Fraser Taylor, 'Mapping Indigenous Perspectives in the Making of the Cybercartographic Atlas of the Lake Huron Treaty Relationship Process: A Performative Approach in a Reconciliation Context', *Cartographica* 47, no. 2 (2012): 92–104; Bjørn Sletto, 'Indigenous Rights, Insurgent Cartographies, and the Promise of Participatory Mapping', *LLILAS Portal* (2012): 12–15.
33. Brooks, *The Common Pot*, 9.
34. Emilie Cameron, 'Copper Stories: Imaginative Geographies and Material Orderings of the Central Canadian Arctic', in *Rethinking the Great White North*, ed. Andrew Baldwin, Laura Cameron, and Audrey Kobayashi (Vancouver: UBC Press, 2011): 170.
35. Ibid., 170.
36. Ibid., 175.
37. Ibid., 175.
38. Andrea Isogai et al., 'Examining the Potential Use of the Collaborative-Geomatics Informatics Tool to Foster Intergenerational Transfer of Knowledge in a Remote First Nation Community', *The Australian Journal of Indigenous Education* 42, no. 1 (2013): 44–57.
39. Jane Jacobs quoted in Sparke's 'A Map that Roared and an Original Atlas', 467.
40. We use Deleuze with caution here, as we are well aware of the ways in which Deleuze's (and Guattari's) work has, in many instances, reproduced notions of the frontier or 'rhizomatic West' that erases Indigenous presence and reifies mythic tropes of the so-called 'Great American West'. As Alex Young writes:

> Deleuze and Guattari's conception of the rhizomatic West risks reproducing a discourse whereby an account of liberation is imagined at the expense of the indigenous peoples for whom settler colonial deterritorializations constitute a coercive expression of sovereign power rather than an escape from it. (123)

To be clear, we are not saying that Deleuzian lines of flight are the only means toward liberatory possibility; in fact, we refrain from employing this area of his thought entirely, given how fraught and problematic it can be. Rather, here we are interested solely in how Deleuze's notions of societies of control are analogous to code and the realm of the virtual. Whereas Deleuze might see a rhizomatic orientation, a line of flight, to be the 'solution' to these societies of control, we take a much more cynical approach – that is to say, we believe we should question these supposed lines of flight entirely. Further, we are also hesitant to phrase these resistive practices in the language of Deleuze and Guattari, seeing as how this language is deeply problematic and steeped in rhetorics of Indigenous erasure (not to mention the way Deleuze and Guattari are used by occupying/settler colonial societies today). While we find Deleuze's articulation useful in its diagnosis of the way the digital may operate today, we are less influenced by his articulations of radical alternatives. Indeed, we view them to be problematic in the ways Jodi Byrd and Alex Trimble Young so thoroughly articulate. For more on these issues, see: Alex Trimble Young, 'Settler Sovereignty and the Rhizomatic West, or, the Significance of the Frontier in Postwestern Studies', *Western*

American Literature 48, no. 1 (2013): 115–40; Jodi A. Byrd, *The Transit of Empire* (Minnesota: University of Minnesota Press, 2011), 1–38.

41. Pipelines' map can be viewed at http://hypercities.ats.ucla.edu/.
42. Michel de Certeau, *The Practices of Everyday Life*. Trans. Steven Rendall (Berkeley: University of California Press, 1980), 11.
43. Ibid., 97.
44. Ibid., 'Introduction', xxii.
45. Ibid., 94.
46. Ibid., 97.
47. Ibid., 102
48. Russel Cobb, Maureen Engel, Daniel Laforest and Heather Zwicker, 'Edmonton Pipelines: Living Together in the Digital City', *Reviews in Cultural Theory* 2.3 (2012): 68.
49. The permission of the use of this photo has been obtained from the Pipelines collective. The photo, as well as the Pipelines collective's larger project, can be viewed at the following site: http://hypercities.ats.ucla.edu/.
50. Ibid., 68.
51. Ibid., 68.
52. Ibid., 66.
53. Certeau, *The Practices of Everyday Life*, xviii.
54. Pipelines, 'Amiskwaciwâskahikan', *Edmonton Pipelines Blog*. http://edmontonpipelines.org/projects/amiskwaciwaskahikan/ (accessed April 25, 2016)
55. Ibid., 93.
56. Gilles Deleuze, 'Postscript on the Societies of Control', *October* 59 (1992): 4.
57. Ibid., 7.
58. Ibid., 5.
59. Jodi A. Byrd, '"Do they not have Rational Souls?": Consolidation and Sovereignty in Digital New Worlds', *Settler Colonial Studies*. doi:10.1080/2201473X.2015.1090635: 5.
60. Ted Byfield, 'DNS: A Short History and A Short Future', *Nettime*, October 13 (1998): 1.
61. Alexander Galloway, *Protocol: How Control Exists After Decentralization* (Cambridge: MIT Press, 2004), 9.
62. Tim Cresswell, *Place: A Short Introduction* (Oxford: Blackwell Publishing, 2004), 11.
63. Galloway, *How Control Exists After Decentralization*, 50.
64. Byrd, '"Do they not have rational souls?"
65. Galloway, *How Control Exists After Decentralization*, 50.
66. Byrd, '"Do they not have rational souls?", Our italics. We defer to Jodi Byrd's use of 'late colonialism' here. Byrd uses late colonialism to 'emphasize the relationship between the nation-state and indigenous nations currently seized within its borders. No longer just about settlement – nor even codified into anyone who could be identified as a 'settler' – late colonialism is […] the procedural system that captures and governs our current moment, particularly within the planetary, militarized, and hypercapitalistic realms of the digital' (5).
67. Galloway, *How Control Exists After Decentralization*, 245.
68. Fraser and Todd provide a salient example of this when they outline how the collections of the Library and Archives of Canada are increasingly available/susceptible to corporate interests: 'In 2008, LAC [Library and Archives Canada] announced a partnership with the corporate entity Ancestry.ca to digitise LAC's holdings. This move raises serious concerns about the vulnerability of people's information to exploitation by private interests, as well as questions about corporations charging citizens for access to public documents. In a time when (a) Indigenous peoples in Canada are defending land rights against the operations of national and multi-national corporations that seek to extract and profit from non-renewable resources in unceded Indigenous territories and (b) when Indigenous nations in Canada rely on access to archival materials to articulate court cases affirming existing legal rights to their territories against large-scale resource extraction projects, the question of third-party

corporate incursions into management of sensitive personal and community information is both pertinent and troubling,' in Crystal Fraser and Zoe Todd's 'Decolonial Sensibilities: Indigenous Research and Engaging with Archives in Contemporary Colonial Canada', *International Online* (2016). <http://www.internationaleonline.org/research/decolonising_practices/54_decolonial_sensibilities_indigenous_research_and_engaging_with_archives_in_contemporary_colonial_canada> (accessed April 24, 2016).

69. Byrd, '"Do they not have rational souls?"

70. As quoted in Byrd, '"Do they not have rational souls?" The citation for LaPenseé's text is the following: Elizabeth LaPenseé, 'Indigenously-Determined Games of the Future', *kimiwan 'zine: Indigenous Futurisms* 8 (2014): 20.

71. Lorenzo Veracini, *The Settler Colonial Present* (Melbourne: Palgrave Macmillan, 2015).

72. Serge Abiteboul and Paris C. Kanellakis, 'Object Identity as a Query Language Primitive', *ACM* 18, no. 2, (1989): 159–173.

73. Kara Melton, 'Why It Matters that Steph Curry's On-Court Awesome Is Missing in NBA 2K16', *Model View Culture* 35 (2016), https://modelviewculture.com/pieces/why-it-matters-that-steph-currys-on-court-awesome-is-missing-in-nba-2k16 (accessed April 18, 2016).

74. Ibid.

75. Dong-Hoo Lee, 'Re-imagining Urban Space: Mobility, Connectivity, and a Sense of Place', in *Mobile Technologies: From Telecommunications to Media*, ed. G. Goggin and L. Hjorth (New York: Routledge, 2008), 249, italics ours.

76. Oliver, 'On Mapping and its Afterlife', 68.

77. The Ogimaa Mikana Collective, 'The Ogimaa Mikana Project', in *The Winter We Danced*, ed. Kino-nda-niimi Collective (Winnipeg: ARP Books, 2014), 329.

78. The permission of the use of this photo has been obtained from the *Ogimaa Mikana* collective. The photo, as well as the *Ogimaa Mikana* collective's larger project, can be viewed at the following site: http://ogimaamikana.tumblr.com/.

79. Certeau, *The Practices of Everyday Life*, 104.

80. *Ogimaa Mikana Blog*. http://ogimaamikana.tumblr.com/ (accessed April 18, 2016).

81. Lee Maracle, *Talking to the Diaspora* (Winnipeg: ARP Books, 2015), 5.

82. Goeman, *Mark My Words*, 23.

83. Ibid., 3.

84. Taiaiake Alfred, 'Idle No More and Indigenous Nationhood', in *The Winter We Danced*, ed. Kino-nda-niimi Collective (Winnipeg: ARP Books, 2014), 348–9.

85. *Ogimaa Mikana Blog*. http://ogimaamikana.tumblr.com/ (accessed April 18, 2016).

86. Ibid.

87. Ibid. For more on the billboard, and to see other examples of the Ogimaa Mikana Collective's work, please see the following link: http://ogimaamikana.tumblr.com/.

88. The Canadian Press, 'Canada to file Arctic seafloor claim this week', Dec 1 (2013): http://www.cbc.ca/news/canada/canada-to-file-arctic-seafloor-claim-this-week-1.2447166

89. Gilles Deleuze, 'Postscript on the Societies of Control', *October* 59 (1992): 4.

Acknowledgments

Disclosure statement

Notes on Contributors

Dallas Hunt (Cree) is a Ph.D. student at the University of British Columbia interested in Indigenous Studies, urban studies and Indigenous Literature. He hails from *Wapsewsipi* (Swan River First Nation) in Alberta, Canada.

Shaun A. Stevenson is a Ph.D. student at Carleton University. He is interested in settler-Indigenous relations, Canadian national identity and the possibilities for more ethical approaches to land rights issues in Canada.

ORCID

Dallas Hunt http://orcid.org/0000-0001-6902-7584
Shaun A. Stevenson http://orcid.org/0000-0001-9279-8942