

# 6

## Speculative shit: Bison world-making and dung pat pluralities

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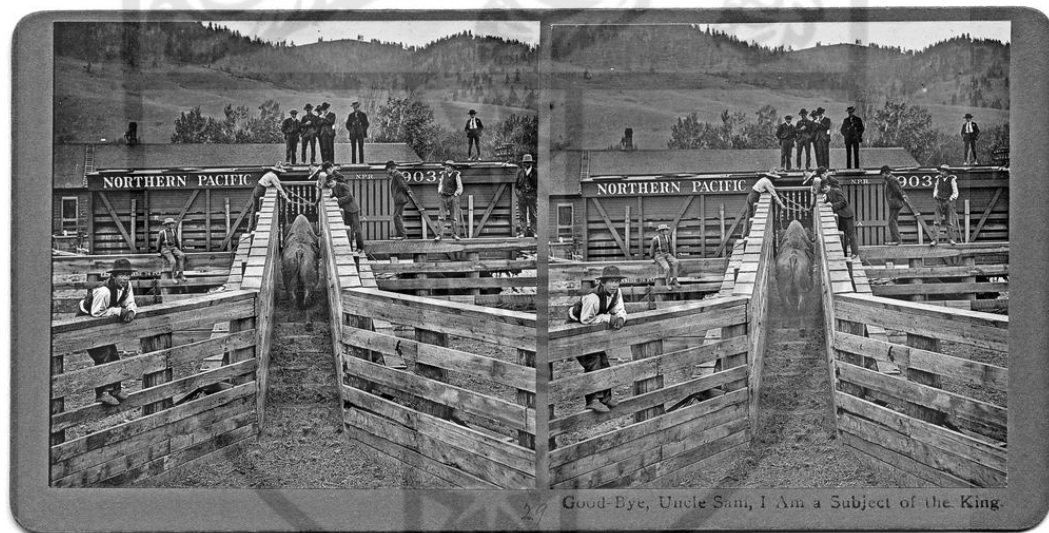


Figure 6.1 *Good-Bye, Uncle Sam, I Am a Subject of the King.* N.A. Forsyth

A single bison is driven up a narrow wooden chute into a waiting freight car, emblazoned with white letters: Northern Pacific N.P.R. Men in suits and felt hats stand atop the car overseeing those in work shirts leading the animal. A boy leans over the corral fence and stares directly into the camera. Identifying the stereograph, the photographer's caption is typewritten below: "Good-Bye Uncle Sam, I Am a Subject

of the King.” Taken by settler journalist Norman A. Forsyth in 1907 at the round-up of the last free-ranging bison herd in North America, the photograph is a scene of settler colonial alienation in action. As Anna Loewenhaupt Tsing describes, alienation is the process of tearing things from lifeworlds and making them into objects of exchange.<sup>1</sup> Alienation is a process of transformation, a central component of what Tsing explains as the translation machine of capital, which works “across living arrangements, turning worlds into assets”.<sup>2</sup> The bison led up the wooden chute and onto the waiting boxcar was marched out of her lifeworld, and out of a landscape shared with her herd, other species and Indigenous peoples in the verdant Flathead Valley of what is currently called Montana. The alienating removal of bison from the valley and translation of the herd into objects of consumption are characterised by what Goenpul scholar Aileen Moreton-Robinson diagnoses as the possessive function of whiteness. White possessiveness, Moreton-Robinson argues, is a system in which white supremacist racial hierarchies are anchored in the dispossession of Indigenous lands and the disavowal of Indigenous sovereignties and relationships that “exist outside of the logic of capital”.<sup>3</sup> The alienation of bison is at once an imposition of colonial logics of capital and possession, as well as the active repudiation of lifeworlds beyond capital. Removing bison was one act within processes of asserting white possession in the Flathead Valley and across the continent.

The critical methods of settler colonial studies, visual studies or critical history offer one avenue for analysing this image and the historical moment it depicts. Such an analysis would pay careful attention to the men, the rail and fence infrastructures they had built, and their alienating work conducted in the name of colonial states. Indeed, the men atop the boxcar and their captured bison are the intended subjects of the image. Forsyth, a photographer based in Butte,

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1 Tsing 2015, 121.

2 Tsing 2015, 133. It is crucial to note that human bodies were also subject to alienation under settler colonisation, including the violent processes of enslavement, indentured labour, and confinement to reserves and reservations. For analyses of these processes, see Bandhar 2018; Daschuk 2013; Day 2016.

3 Moreton-Robinson 2015, 191.

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Montana, travelled 250 kilometres north-west to Ravalli to document the round-up of the last free-ranging bison herd on the continent. Forsyth's stereographs are a visual record that celebrated the success of a state-run conservation effort – an effort made necessary by state-sanctioned bison extermination across the continent and state-ordered dispossession of the Flathead Valley through federal allotment policy. Forsyth sold the “Good-Bye, Uncle Sam” image to Underwood and Underwood, a stereograph producer and distributor, who bundled it with Forsyth's other images of the round-up and circulated them to customers along with a brief history of bison in Montana. The set of images would have been sold to middle-class owners of stereoscope devices or to schools and offered as an educational spectacle depicting the end of the so-called frontier. The stereograph is an image of capture. The animal is made to symbolise the final form of wildness in territory claimed as America while being transferred between two human worlds, from the domain of “Uncle Sam” to that of the British King of the Dominion of Canada. While hundreds of thousands of bison had already been transformed into material objects of colonial capital – via trade in hides, tongues and bones – this photographed bison and the rest of the herd being rounded up for sale to Canada (and the British King!) were rendered as symbolic capital, circulated as signs of both settler nation-states.<sup>4</sup>

But the image can be analysed in other ways, beyond questions of settler colonial state practices or even critical lenses of alienation and infrastructure. These concepts provide only a partial account of what Forsyth's photograph depicts. Alienation and infrastructure do not create the imaginative space needed for engaging with the questions of multispecies relationality or world-making. These concepts emphasise the tearing Tsing identifies, *but not the lives that are torn*. To consider the relational lifeworlds from which bison were torn by settler alienation and to apprehend the stakes of extermination and conservation via containment, this chapter engages bison world-making and entangled multispecies relationships rather than the translation of lives into assets. I take Forsyth's depiction of colonial processes of extraction and instead address the bison – a being who

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4 Shukin 2009.

transforms the place she lives with her presence. Refusing the figure-ground relation around which the image is composed, and the tendency in Western art history to foreground the human subject as the only vertical element in the landscape, I direct a multifocal gaze downwards into the dirt – a space where plural multispecies relations proliferate.

By engaging bison and other non-human beings as subjects with histories and agencies, entangled in plural relationships – not only as consumed objects contained by the asset-logics of capital – I offer a disobedient reading of Forsyth's image which activates elements of the stereograph for purposes oppositional to its colonial context of creation, inspired by the work of photo theorist Gabrielle Moser.<sup>5</sup> The stereograph is one moment within the visual and archival record of the rounding-up of bison from the Flathead Valley that could be analysed for what it explicitly contains – men labouring, men observing, their trains and fences, a single bison. But in this chapter, I attend to elements in the scene that are out of focus and not readily available to sight. The result is an experiment in alternative ways of seeing – namely, trying to think with the lifeworld of the bison and the other creatures that coexist in its proximity. My analysis of Forsyth's image and my experiment with other ways of seeing the depicted bison and her world centres multispecies relations as co-constitutive, active and indeterminate. By engaging in the speculative narration of the depicted bison's world and her relations with the landscape and with non-human beings, my reading activates the photograph in ways that emphasise bison as co-creators of worlds. Looking beyond the demonstration of settler power over bison life – the intended subject of the stereograph – my method instead opens up questions about thinking with and imagining lives that may not be fully visible or knowable.

Indigenous scholarship on multispecies relations and non-human world-making grounds this approach. Non-human protagonists are abundant in Indigenous histories, political and legal orders and philosophies, where land, water and non-human beings are sources of knowledge, origins and relations.<sup>6</sup> For example, in his history of the Oceti Sakowin nations of the Mni Sose (Missouri River) bottomlands,

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5 Moser 2019, 2.

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Lower Brule Sioux scholar Nick Estes centres the waters of Mni Sose and the fellow human and non-human relatives whose lifeworlds were and are entwined with the river. Citing the account of Oglala prophet Nicholas Black Elk, Estes describes the interconnected beings in the region as kin relations who have mutually suffered waves of colonial invasion that forced Indigenous peoples and their animal kin – including bison, deer, elk and wolves – to flee their homelands.<sup>7</sup> Estes also narrates the history of Pte Ska Win – White Calf Buffalo Woman – who formed the first treaty with bison and other non-humans, a covenant which continues to play a central role in Lakota lifeworlds.<sup>8</sup> These are just two instances from one nation, but they offer a glimpse into the multispecies relationality that has always been at the centre of Indigenous life, scholarship and history. Indeed, as Dakota science scholar Kim TallBear indicates, multispecies relations include “the lands, waters, and other-than-human beings with whom Indigenous peoples are co-constituted”.<sup>9</sup> Such relations, TallBear asserts, are central to the very possibility of Indigenous life: “Indigenous peoples come into being *as* Peoples in longstanding and intricate relation with these continents and the other life forms here.”<sup>10</sup>

Thinking with non-human beings is also an emergent mode of research in settler-dominated academic disciplines, such as anthropology, critical theory, literary studies and science studies – one that does not always credit the foundational, place-specific and relational contributions of Indigenous scholarship. In emphasising the contingencies, indeterminacies, multiplicities and histories of multispecies world-building, research in this vein articulates how the activities and relations of making a life produce beings and their worlds – often in ways that refuse narratives of human dominance or clean distinctions between nature and culture.<sup>11</sup> For example, in her narrative of mutualist entanglements of matsutake mushrooms with pine forests,

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6 For just a few examples, see Kimmerer 2013; King 2003; Little Bear 2000; Simpson 2014; 2011; Todd 2014; Whealdon 2001.

7 Estes 2019, 10.

8 Estes 2019, 109.

9 TallBear 2019, 24.

10 TallBear 2019, 24 [emphasis in original].

Tsing aims to decentre human protagonists. Indicating that her audience is likely not used to stories without human heroes, she asks: “Can I show landscape as the protagonist of an adventure in which humans are only one kind of participant?”<sup>12</sup> Indigenous histories and articulations of relationalities have long demonstrated ways of knowing and telling, in which humans are one among many beings involved in co-creating worlds. Rather than making Indigenous knowledge additive to the more recent environmental humanities literature, this chapter centres Indigenous histories, political theories and science.

I come to the questions of bison world-making and multispecies relations as a white settler scholar who has primarily lived in urban settings. From this position, I do not claim to fully understand how bison are experienced and known as relations to Indigenous peoples on the prairie. My understanding of land and life has been shaped in powerful ways by Euro-Western conceptual frameworks and critiques – limitations which are an effect of white settler privilege and humanities research training. Writing in the Australian context, settler scholar Anja Kanngieser suggests that non-Indigenous peoples working in service of Indigenous peoples’ goals ought to begin “by starting with what we don’t know”.<sup>13</sup> With a similar humility, I engage the knowledge of Indigenous and non-Indigenous conservation biologists in order to think through the roles and relations of bison in prairie ecologies so that I can approach Forsyth’s photograph from perspectives beyond the lenses of alienation and infrastructure. Expertise from Indigenous philosophy (particularly Métis scholar Zoe Todd’s studies of fish pluralities), Indigenous and settler science and multispecies ethnography provides insight into bison world-making in ways that are located in the specificities of place, relations and histories. With a method of speculative narration and multiple ways of knowing, I present Forsyth’s stereograph not only as a depiction of the end of one

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11 Just a few examples of this work include de la Cadena and Blaser 2018; Haraway 2016; 2008; Hovorka 2017; Kirksey and Helmreich 2010; Sundberg 2014; van Dooren 2019; 2014; van Dooren, Kirksey and Münster 2016.

12 Tsing 2015, 155.

13 Kanngieser quoted in Kanngieser and Todd 2020, 392.

bison's world, but as an entry point into the plurality of relations bison world-making brings into being.

### Situated and submerged perspectives

With an attunement to plural relations, the complexities of non-human interrelatedness and the multiplicities perceptible from a submerged perspective, I return to Forsyth's image. The six men atop the boxcar likely deemed themselves actors of considerable importance to the scene over which they presided. Beyond the loading of this particular bison, the wider operation of rounding up the wild bison living in the Flathead Valley was a five-year undertaking for which the Dominion of Canada contracted Michel Pablo – the long-time protector and caretaker of the herd, of Pikani Blackfoot and Mexican descent – and fellow residents of the Flathead reservation to chase down more than 700 bison, containing them in a purpose-built system of corrals and chutes and then shipping them across the 49th parallel by rail.<sup>14</sup> One after the next, over a three-year period, each bison was pushed through wooden chutes and into a waiting car, much like the bison in Forsyth's image. To these men in suits and hats, this loading of train cars with wild lives represented the success of a project that early settler conservationists heralded as the “most important act in the interest of conservation of the noblest of our quadrupeds.”<sup>15</sup>

Forsyth's composition reiterates the sense of gravitas that the suited men project. Adhering to Renaissance conventions, the stereograph has a defined fore-, middle- and background, with the bison as the men's focal point as well as the point where the image's horizontal, vertical and diagonal lines converge. Forsyth made the image from a high vantage point. He likely perched on a corral fence to protect himself from the bison, while equalising his sightline with the gazes of the men on the boxcar. Activating historical and political ways of

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14 For a more detailed history of the origin and round-up of Pablo's herd, see Taschereau Mamers 2020, 129–32.

15 American Bison Society 1911, 36.

looking, the stereograph is the product of European and settler colonial perspectives, knowledges and prerogatives.

There is more going on in the scene than Forsyth's camera intended to frame. Rather than meeting the men's gazes and looking down to the bison, a "submerged perspective" looks up from the muddy foreground and out from the montane background pastures. Submerged perspectives, Macarena Gómez-Barris describes, "perceive local terrains as sources of knowledge, vitality, and livability".<sup>16</sup> Shifting and multiplying vantage points attends to situated relations made invisible by settler colonial ways of seeing: those processes of representation and documentation that simultaneously make Indigenous lives and lands visible to settler state agents while targeting those same lives and lands for assimilation, dispossession and erasure.<sup>17</sup> Looking at the Flathead Valley from a submerged perspective of multiplicity decentres the settler colonial ways of seeing at work in Forsyth's composition and in the calculations of colonial economies to instead create possibilities for a decolonial analysis attentive to worlds made invisible by species hierarchies, alienation and extraction.

The suited men atop the boxcar and those in workwear on the ground – completing a final task of coaxing the bison along – and their infrastructure each impacted life in the Flathead Valley. Yet, bison are also actors of profound importance to the broader scene Forsyth's photograph depicts: one of rolling grasslands and aspen parkland in a glacier-sculpted valley, bordered by mountains covered in montane spruce and subalpine fir forests. As a keystone species, bison have a dramatic influence on the region and have long played an ecological role that no other species can fill. Bison presence and the practical activities herds pursue in making their lives affect the whole ecosystem. Forsyth's photograph depicts not only the removal of a single bison from her lifeworld, but the disruption of an entire ecosystem. The removal of the herd from the Flathead Valley and the extermination of more than 30 million bison in the preceding four decades meant the end of grazing, wallowing and migrating practices that made the land hospitable for other species. The female bison in Forsyth's photo

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16 Gómez-Barris 2017, 1.

17 Taschereau Mamers, forthcoming.



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may have weighed more than 500 kilograms, but her life activities made possible the worlds of beetles, toads and birds, as well as supporting those of wolves and humans. Analysing the specificity of these relationships – their contingency, multiplicity and historicity – brings some of the complexity of bison world-making into view. From the perspective of bison world-making, settler colonisation and the state-run conservation that followed signalled the end of many worlds.

To provide an analysis guided by the world-making capabilities of bison and their multiple relations and entanglements, I offer a brief illustration of the plural worlds that come into being through bison dung. The largest land mammals in what is currently called North America, bison eat a lot. As generalist browsers who primarily eat grasses and forbs, bison spend more than nine hours per day grazing. Every day, an adult male will eat 10 to 14 kilograms of vegetation to sustain a 900-kilogram body, while adult females need 7 to 10 kilograms of greens to nourish their 500-kilogram frames.<sup>18</sup> Moving up to 25 kilometres a day through open fields, wooded areas, along lakes and rivers and sometimes into the mountains, bison collect plant spores and pollen in their hair and noses along with the vegetation they take into their four-chamber ruminant stomachs. Providing a means of movement for spores and pollen, bison contribute to plant flourishing and biodiversity in the areas they range.<sup>19</sup> The selective browsing of bison – preferring the grasses that can often outcompete other plants – also opens up prairie fields for increased photosynthesis, allowing a wider array of plants to flourish.<sup>20</sup> But a primary contribution to biodiversity and flourishing is the result of all of their grazing: the 11 to 13 litres of dung bison excrete every day.<sup>21</sup> Each excretion – often referred to as a dung pat – becomes a temporary world of microscopic relations, supporting the lives of at least 300 species of insects and worms and more than 1000 individuals.<sup>22</sup>

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18 Fortin, Fryxell and Pilote 2002.

19 Mueller, Spengler et al. 2020, 8.

20 National Parks Service 2016a.

21 National Parks Service 2016b.

22 National Parks Service 2016b.

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One relation whose livelihood is made possible by bison is *Onthophagus knausi*, a very small dung beetle, growing to just 5 millimetres, which flourishes among bison.<sup>23</sup> The small black beetles are the first beings to arrive on a fresh dung pat, attracted to it by their keen sense of smell. A bison's dung pat is a dense source of nutrition for insects, worms, birds, amphibians and other small animals, as well as for the soil itself. An entire microbial community is at work in bison stomachs, helping them digest grasses and forbs, converting plant cellulose to accessible carbohydrate energy.<sup>24</sup> Some of these microbes and bacteria, as well as enzymes and minerals, are excreted along with indigestible plant matter, including seeds. However, these nutrients, enzymes and seeds only become available to other beings through the work of *O. knausi* and other dung beetles. Unlike cattle dung, bison dung remains soft and is an anaerobic environment, but the tunnelling work of dung beetles creates pathways that help open the pat to light and oxygen to create a hospitable environment for other beetles and insects.<sup>25</sup> Along with tunnelling through pats, some beetles form pieces of dung into balls that they bury or roll away from the pat, further dispersing its seeds, microbes and nutrients. The work of the dung beetles brings the nitrogen-rich dung into contact with soil-dwelling microbes, who in turn transform the nitrogen into ammonia that can be absorbed by plants.<sup>26</sup> By activating the process of breaking down the dung, the beetles' work prevents it from becoming a host for parasites. In making nutrients accessible to other insects and the prairie soil, the beetles also keep bison and other animals safe from contracting parasites.

Other insects, including other beetles and flies, as well as an abundance of earthworms, come to dwell in the dung pat in the few days before it is fully broken down or desiccated. The flourishing of invertebrate life attracts insectivores, including frogs, turtles, bats and birds, each of whom further disperse the nutrients and seeds in the dung while supporting other animal communities. For example, bison

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23 Barber, Hosler et al. 2019, 425.

24 Lott 2002, 48.

25 Olson 2016.

26 National Parks Service 2016b.

consultant Wes Olson reported that every anthill at Alberta's Elk Island National Park – the place where descendants of the bison in Forsyth's stereograph live today – is established on a bison pat. Northern flickers flock to the region to feed on the anthills and, while there, create nesting cavities in trees that are later inhabited by flying squirrels when the flickers migrate south.<sup>27</sup> The flourishing of microbial and invertebrate life in bison dung pats is often a lifeline for migrating birds or for black-tailed prairie dogs, who find their first meals in bison dung before other food becomes available on snowy spring landscapes.<sup>28</sup> Finally, after being a source of sustenance for so many, dried dung pats are collected and used to fuel fires by members of the Flathead, Blackfoot and other plains Indigenous nations.

All of this life, reproduction, feeding and nutrient dispersal occurs on a single dung pat. As bison herds moved throughout the prairies, such convergences of interconnected lives repeated on a daily basis, across massive swathes of land. Some of these relations persist in the absence of bison, but their grazing and migration patterns and dung characteristics are unique and not readily replaced. While some dung beetles have adapted to cattle or deer dung, for example, the little *Onthophagus knausi* disappears in the absence of bison.<sup>29</sup>

### Pluralities and non-human societies

This brief account of worlds brought into being by bison dung is animated by the work of conservation biologists, but my attention to questions of relations and plurality is guided by the work of Indigenous scholars. In particular, my approach to bison worlds is informed by Zoe Todd's discussion of fish as plural. Describing her research in the Inuvik region of the Northwest Territories, Todd writes:

In Paulatuuq, I also learned that fish exist and operate in pluralities – fish are simultaneously food; specimens of study for

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27 Olson 2016.

28 Olson 2016.

29 Barber, Hosler et al. 2019, 425.

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scientific research; sites of memory and stories; non-human persons with agency.<sup>30</sup>

The worlds of lake trout in arctic lakes and of plains bison are vastly different, as are their experiences of landscapes and waterscapes and between fishy and earthy relations. Adapting learning from one situated, local site of observation – what Todd calls a kin study – and applying it to another site risks replicating the case study paradigm popular in much of Western science, where places are made to stand in for one another and situated knowledge is universalised and made to move.<sup>31</sup> Yet it is my sense that Todd’s attention to fish pluralities and her call to pay careful attention to both the multiplicities and the specificities of relations offer lessons for understanding bison relations as pluralities. Bison, too, are simultaneously food, objects of human and non-human knowledge, and agential beings who work together as a herd. Their dung also operates in pluralities. It feeds, it shelters, it is a site of convergence for other non-human communities, and it nourishes the soil in ways that create possibilities for future life. The dung pat plurality enacts a reciprocal enlivening of the prairie earth that supports a multiplicity of lifeways – from the microbial to the mammalian.

The notion of dung pat pluralities is also informed by Vanessa Watts’ argument that non-human beings are agential and form societies – that society is not restricted to human relationships. Non-human worlds, Watts argues, are more than complex ecosystems. Rather, “non-human beings choose how they reside, interact, and develop relationships with other non-human beings”.<sup>32</sup> From her Haudenosaunee and Anishinaabe perspective, Watts explains that “habitats and ecosystems are better understood as societies”, where ethical structures and interspecies agreements emerge.<sup>33</sup> The dung pat, then, is not merely an instance of “nutrient cycling” or “ecosystem services”, as it might be described by conservation biologists whose

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30 Todd 2018, 61.

31 Kanngieser and Todd 2020, 386–7.

32 Watts 2013, 23.

33 Watts 2013, 23.

research I cited in my description of *Onthophagus knausi* and the many other creatures whose lives converge in bison dung. Rather than project metaphors of human labour practices (and often capitalist metaphors) onto other species, Watts' articulation of non-human societies enacting interspecies agreements acknowledges relationality, experiences and knowledge that exceed the dimensions of life perceptible to humans. While it is true that the activities of *O. knausi* and other dung beetles provide an important service to the prairie landscape and its inhabitants, describing their activities through human labour metaphors reduces beetle life. Imposing metaphors of human labour – as well as other concepts such as “competition” or “scarcity” – not only delimits non-human lives and lifeways, but also traps human lives within these concepts by treating them as universal or natural rather than constructed. The tunnelling and burrowing of *O. knausi* and others might be the result of mechanistic instinct. But perhaps my human perspective is unable to grasp aspects of the experiences of moving small legs edged with claws and spurs to swim through the warm muck of fresh dung or in the coordination of activities between *O. knausi* and other members of dung pat pluralities. To acknowledge the existences and agencies of the non-human beings with whom humans share the world does not require mutual intelligibility between the worlds of different beings or shared experiences.

Pluralism and the complex array of relations that entangle human and non-human beings are not necessarily questions of harmony or of natural or necessary balance. As I interpret Todd, Watts and other Indigenous theorists, their methods attend to the many ways non-human beings make arrangements as they pursue projects and livelihoods. A vast array of activities makes up the livelihoods and worlds of various species, and these do not necessarily coincide in perfect harmony. Pluralities and webs of relation contain agonism and sometimes antagonism, but also coordination and varying degrees of arrangement and perhaps agreement. Rather than project a fantasy of a harmonious coexistence on bison and the dung pat pluralities they live alongside, the attentiveness to situated relations Todd and Watts advocate engages treaty as a framework for relationality. Gina Starblanket, a Cree/Saultaux political theorist, describes treaty-based frameworks for relating as “diplomatic processes for negotiating

relations of non-violent and generative coexistence between living beings in shared geographies”.<sup>34</sup> Beyond the transactional – and frequently dishonest – approaches settler states have taken to treaties, Starblanket emphasises that Indigenous elders understand treaties as agreements for using land that includes responsibilities and a “nonhierarchical co-existence between nations”.<sup>35</sup> Crucially, treaty does not transform land into fungible property, nor is it an affirmation of innate, essential harmony or the assumption of underlying consensus. As agreements, treaties are ongoing processes of relation and non-subordination that create conditions for societies living together on shared lands. Both Todd, in the context of human–fish relations in Paulatuq, and Estes, in the context of relations between bison and other non-human beings and the Oceti Sakowin nations of the Mni Sose bottomlands, identify the reciprocal responsibilities and multispecies coexistence within landscapes and waterscapes as treaty relationships. Affirming these relations as treaties recognises the agency of the many parties involved, even if the kinds of treaties or agreements that may be in place between bison and the other creatures with which herds coexist (including the many species that make up dung pat pluralities) may not bear resemblance to treaties negotiated between human nations.

An expansive view of non-human agency and organisation interweaves with the plurality Todd describes. As Watts explains, non-human societies are active and directly influence how human societies organise themselves. Cree political theorist Kiera Ladner’s research demonstrates the influential roles of bison and human–bison relations of Siikisika (Blackfoot) political structures. Buffalo, Ladner reports, were described to her by her Siikisikaawa teachers as their nation’s older brother and as an important source for understanding governance structures, they were “acknowledged for teaching Siikisikaawa, directly or indirectly about community”.<sup>36</sup> For example, clan systems of social and political organisation were modelled in part on buffalo social structures, which were constantly in flux and

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34 Starblanket 2019, 444.

35 Starblanket 2019, 453.

36 Ladner 2003, 145.

responded to seasonal changes. While buffalo gathered in large collectivities of tens of thousands in the summer months, their primary social units were smaller herds with independent, internal social structures.<sup>37</sup> Bison social structures are characterised by non-coercive leadership, shared flexibly across male and female members of the herd in response to changing circumstances and conditions. Blackfoot nations, Ladner writes, followed a similar structure of seasonal gatherings and dispersals, collaborative leadership and collective decision-making.<sup>38</sup> Across different examples of bison influence and human–bison relations, Ladner’s research demonstrates how bison operate in pluralities: they were crucial sources of food and sustenance, but they were also teachers, objects of observational research across generations of Indigenous scholars, and a society that influenced the social and political organisation of Siikisikaawa peoples and other plains Indigenous nations. Ladner’s observations are just one example of bison pluralities and the complex interrelation of plains Indigenous nations and buffalo herds. Métis scholar Adam Gaudry identifies core principles of Métis as originating in political practices of self-ownership, interrelation and consent that structured annual buffalo hunts, arguing that “the buffalo hunt is the Métis constitution”.<sup>39</sup> Cree filmmaker and scholar Tasha Hubbard has documented how such relations and the mourning of the loss of buffalo relations animate a wide range of Indigenous cultural productions, including literary works by Mourning Dove, D’Arcy McNickle, and Thomas King, as well as visual art by Dana Claxton and Adrian Stimson.<sup>40</sup>

To engage Forsyth’s photograph from a submerged perspective interested in a kin study of non-human societies means attending to plural dimensions of existence and experience. Analysing the stereograph through the theoretical lenses of alienation and white possessiveness might yield compelling critical insights. I have taken this approach to other photographs from the 1907 round-up.<sup>41</sup> But

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37 Ladner 2003, 137.

38 Ladner 2003, 145–6.

39 Gaudry 2014, 95.

40 Hubbard 2016.

41 Taschereau Mamers 2020.

this method often has little to say about the worlds torn and claimed by possessive settler alienation, particularly those extended circles of bison relations such as dung pat pluralities. Indigenous scholars offer critical insights and guidance for attending to relationality in ways that decentre the acquisitive perspectives of settler colonial capital, which I engage with from the perspective of a settler who does not truly know what it means to live in political or spiritual relation with bison. However, learning from Indigenous scholarship is crucial to settler-conducted research like my own, undertaken in service of struggles for decolonisation via disrupting imperial structures of thought and action, disrupting hegemonic modes of interpretation and reimagining worldly possibilities.<sup>42</sup> Todd's engagement with lake trout in Paulatuq as existing and operating in pluralities and Watts' argument that land, non-human communities and habitats are societies that enact interspecies agreements both demonstrate modes of approaching non-human lives as engaged in agential world-making. The situated approaches modelled by Todd, Watts and other Indigenous scholars ask researchers to take seriously the knowledge that comes from daily lived experiences, emphasising both multiplicity within those experiences and the active yet indeterminate processes of relation that shape them. These experiences are not limited to humans but extend to the complex lives of bison, beetles and other creatures. Such situated approaches are sensitive to pluralities of human-animal relations that extend far beyond consuming animals to attend to non-human beings as relations, as sites of memory and as sources of knowledge and guidance, as Ladner, Gaudry and Hubbard demonstrate. Attending to worlds and world-making in these ways destabilises the singular claims to knowledge and worldliness by wealthy white men, like those overseeing the bison's removal in Forsyth's image.

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42 Smith 2012, 201.



Conclusion: what does it mean to end a world?

What does it mean to end a world? The extermination of free-ranging bison and the containment of surviving animals within national parks – where the individual in Forsyth’s stereograph would have been transported – removed a keystone species from the grasslands ecosystem. Bison extermination was not the accretion of unintended harms inflicted on passive animals.<sup>43</sup> The extermination and removal of bison was an intentional strategy of nineteenth-century westward colonial expansion, through which bison herds were decimated by settler hunters and militias to make way for transcontinental rail and cattle ranching operations. Beyond the expansion of capitalist infrastructure, settler political and military leaders acknowledged the centrality of human–bison relations to plains Indigenous nations and saw the decimation of herds as a primary tactic for undermining Indigenous sovereignty across the western prairies.<sup>44</sup> Not only was the extermination of bison a tactic in the genocide of Indigenous peoples; Hubbard draws on Indigenous epistemologies that apply peoplehood to buffalo and argues that the intensive killing was a genocide against the buffalo nation.<sup>45</sup> The extermination of free-ranging herds radically shifted the world-making of both bison and Indigenous nations on the prairie.

Attending to the ending of worlds – and the making of new worlds in the wake of genocides and environmental catastrophes – requires attunement to relationalities. In his study of corvid lives and deaths, Thom van Dooren examines the modes of entanglement or co-constitution necessary to understand what is at stake in extinction. Extinction, he argues, is not just the tidy excising of a particular species, but “an unraveling of co-formed and -forming ways of life, an unraveling that begins long before the death of the last individual and continues to ripple out long afterward.”<sup>46</sup> The unravelling of bison life

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43 For a critique of passive framings of extinction, see Hernández, Rubis et al. 2020.

44 Daschuk 2013, chapter 7; Estes 2019, chapter 3; Smalley 2017, chapter 6.

45 Hubbard 2014, 299–302.

46 van Dooren 2019, 78.

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began long before the 1907 round-up that Forsyth documented. For bison, loss of relations and access to land intensified with the radical increase in slaughter after 1860, but life in the west for animals, lands, and peoples had been put under steadily intensifying pressure by expanding colonial settlement from the 1700s. The herd whose round-up Forsyth documented experienced this unravelling of lifeways in different stages, beginning with the herds' formation through a then unprecedented act of conservation by Latatitsa, a Salish man who brought bison calves west over a mountain range, away from intensified slaughter on the plains, and into territory plains bison had not previously inhabited.<sup>47</sup> While the herd thrived for several decades under the stewardship of Michel Pablo and Charles Allard, successive US federal allotment legislation in 1887 and 1904 forced the splintering of reservations into small fee-simple parcels, leaving Pablo with access to only 160 acres of the 1.3 million upon which the herd had flourished. Dispossessed of land, Pablo sold his herd to the Dominion of Canada. At the end of the journey north for the bison in Forsyth's image – and the 600 other animals rounded up and shipped by rail – were corrals in Canada's first national parks: one at the eastern edge of the town of Banff in what was then called the Rocky Mountains Park of Canada and a larger one in east central Alberta, where Buffalo National Park was created on a tract of sandy, arid land deemed by government surveyors as unsuitable for settlement.<sup>48</sup> While spared from direct killing, the last free-ranging herd of plains bison was contained as conservation animals within parks created by settler state agents who understood land as a plentiful natural resource appropriate for exploitation by both government and private enterprise.<sup>49</sup>

Extermination and the removal from the Flathead Valley did not just end the worlds of free-ranging bison. Blackfeet, Flathead, Cree and other Indigenous nations mourned the loss of bison and relationships with herds. In different ways, due to different histories and entanglements, the absence of bison from the Flathead Valley (and the continent) impacted the lives and livelihoods of a vast number of

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47 Hubbard 2016, 89; Locke 2016, 11–12.

48 Brower 2008, 11–14.

49 Brown 1969.

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prairie species. *Onthophagus knausi* and the many other invertebrate societies that compose dung pat pluralities had to adapt to other environments, such as cattle or deer droppings, but some disappeared from the area. Birds no longer had access to bison fur to insulate and mask the scent of their nests.<sup>50</sup> In the absence of bison wallows – depressions made when bison roll in dirt – western chorus frogs, northern cricket frogs and plains spadefoot toads were without the ephemeral ponds that formed when the wallows filled with spring rains, and around which these small amphibians chorused and bred.<sup>51</sup> Plant life on the grassland prairies also shifted with the removal of free-ranging bison herds – without the selective grazing that encouraged diversity among grasses and forbs, and without migrations that distributed seeds and pollens across great distances, plant biodiversity decreased and was subject to further pressures with the introduction of settler cattle operations.<sup>52</sup>

These ruptures in the worlds and world-making capacities of human and non-human beings were not the intended subject of Forsyth's stereograph. To seek out such relations requires looking differently at the bison with whom the angles of the image converge, from multiple perspectives and scales. Attending to bison pluralities and the pluralities with which herds are entangled – including and exceeding dung pat pluralities – can be speculative thinking, extending beyond the immediately visible. Guided by the insights of Indigenous scholars such as Todd, Watts, Ladner and Hubbard, such speculative thinking disobeys settler framing of life as commodities readily torn from lifeworlds. Disobedient readings of settler archives to emphasise non-human beings as co-creators of worlds are methods for decolonial animal studies and media studies research that engage lives and lifeworlds, as well as the stakes of their destruction, in ways that destabilise settler colonial ways of knowing and seeing.

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50 Coppedge 2019; 2009.

51 Gerlanc and Kaufman 2003.

52 Rosas, Engle et al. 2008.

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