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Tara Nicholson

terrahnicholson@gmail.com

ORCID: 0000-0002-1649-1647

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Agents of Change: Documenting Arctic Rewilding within the Anthropocene

by Tara Nicholson



About the Artist

Tara Nicholson (taranicholson.com) has travelled throughout the Arctic to document climatology sometimes with a blurred line between science fiction and actual science. Her recent exhibitions have included the Art Gallery of Greater Victoria, Modern Fuel Artist-run Centre and the Oxygen Art Centre. Nicholson has attended international residencies including 'Earthed' at the Banff Centre, the Künstlerhaus Dortmund, and the Empire of Dirt. She teaches at the University of Victoria and holds degrees from Ryerson University (BFA), UBC (Dip) and Concordia University (MFA) and has received funding from the Canada Council, the BC Arts Council and the Social Sciences & Humanities Research Council. In 2020, she embarked on her Ph.D. at UBC Okanagan to produce exploratory landscape studies linking escalating changes within the Anthropocene.

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Tara Nicholson

An “eco-zombie” or future-Frankenstein monster, the woolly mammoth has become the poster-animal for de-extinction and the latest techno-craze poised to resolve the Sixth Mass Extinction (McCauley et. al 2017, 1004). Existing below an umbrella of projects including cryo-zoos, trophic rewilding, the UK-based “Frozen Ark Project,” and the US bio-tech laboratory “Revive and Restore” are an increasingly vast sphere of suspended animals. Back-breeding, cloning trials, clinical experiments, and genetic engineering represent only the tip of the de-extinction-iceberg, deployed seemingly to combat collective grief, assuage fear, and make atonement for the growing realization that the Earth is experiencing the destruction and elimination of countless ecosystems with the Anthropocene.

My research is grounded in a deep desire to examine these interlinked realities by documenting the work of scientists in Greenland and Inuvik (*Arctic Claims* 2015–17) and more recently in Arctic Russia (see Fig.1–6). I am producing large-scale images of Arctic research alongside the reconstruction of domes and grids, which are often used at these climatology outposts, to query the scientific language employed to analyze more-than-human worlds. Utilizing historic photography processes and re-making scientific structures, my interdisciplinary research acts to recontextualize the gallery environment while producing intersections between art and science.

Deborah Bird Rose, a de-colonial researcher who is part of the Extinction Studies Working Group, presents a stark reflection on the Anthropocene:



Figure 1. Nicholson, Tara. *Northeast Science Station, (former Radio Station) Chersky, Russia*. 2020.

The Anthropocene is something of a mirror, and its reflection of human agency is grotesque—an agency that outstrips its capacity to manage itself; that wrecks, pillages, loots, and destroys; that has very little idea what it is doing; and that carries with it, in contradiction to all reason, an expectation of immunity. (2017, 147)

She closes off her statement with the important caveat: “causal responsibility for the looming catastrophe and vulnerability to it are unequally distributed among members of the human species as well as across other species” (147). Below, I have described the beginnings of my future-thinking about these climate contradictions tied to my study of Arctic rewilding and de-extinction projects informed by my time in Pleistocene Park.



Figure 2. Nicholson, Tara. *Exposed Permafrost Research Site, Duvannyi Yar, Sakha Republic*. 2019.

The Arctic has long been identified as a looking glass for the effects of climate crisis—a tipping-point, recording changes 2.5 times faster than its southern continents (“IPCC, 2019: Climate Change and Land” 2019). In 2019, I traveled to the Northeast Science Station (NESS) located in eastern Siberia (Yakutia). Founded by Sergey Zimov and directed by his son Nikita Zimov, NESS is home to international scientists studying the permafrost landscape and to Pleistocene Park, its highly publicized rewilding project. Described as the world’s largest rewilding experiment, I witnessed oxen, bison, horses, moose, and even camels relocated to a 144 square kilometer Arctic tundra. By introducing grazing, fencing, support staff, and selective logging, the Zimovs are geo-

engineering a savanna-like grassland similar to the Mammoth Steppe that dominated the Arctic 14500 years ago.



Figure 3. Nicholson, Tara. *Wild Horses, Pleistocene Park, Russia*. 2019.

The imported animals have truly transformed this remote territory. I spent several days in the Park and, over time, the boundary between fact and fiction began to blur. Something like Freud’s “uncanny” took place, tied to his definition of a “physiological state where things appear too real or strangely familiar” (Freud 1919, 2). Surrounded by caribou and yak, amongst a landscape deeply familiar to northern Canada, in one sense nothing seemed strange, but in another sense, everything did. Pure white Yakutian horses, imported Danish bison, and a freshly rescued baby moose are also existing within

this fabricated landscape. But, surrounded by moist earth and thick mud in a 30°C heat, the permafrost was definitely still melting.

Scientifically, Pleistocene Park has produced positive results with early studies showing a greater insulation of its permafrost by the creation of a natural support system similar to the Mammoth Steppe. Overall, there has been a successful slowing of carbon dioxide released from the soil. The Arctic permafrost is described as a carbon-bomb. There is an estimated 1.5 trillion tons of carbon stored beneath the surface (40 times more than the amount released in one year from human sources). The Park has seen a positive 1.9°C degree drop in temperature. Soil compaction from the grazing animals, an increase in snow depth, and an albedo effect produced from its more reflective grasslands all contribute to an upwards trend for the rewilding project (Beer et al. 2020, 2). But critics peg it as a utopian dream, a science fiction story reminiscent of *Jurassic Park* (the desire to return a current ecosystem to a prehistoric habitat), and claim that it is not representational of a realistic technique to combat climate warming.



Figure 4. Nicholson, Tara. *Moose Rescue, Pleistocene Park, Russia*. 2019.

Animal scholars emphasize a deep concern for the welfare of these animals. They cite a problem with forced relocations into a foreign habitat with unfamiliar climate, vegetation, and disease transfer from local species. Animal welfarists refute the use of animals for Arctic rewilding with winter exposures below -40°C due to the increased rates of starvation with forced breeding practices and the negative effects of fenced confinement (Browning 2019, 789). Transversely, many ecologists argue the Park's size would need to be massively reproduced, extending across international borders, and employing thousands of animals for it to produce any meaningful form of climate change (Olofsson and Post 2018, 2).



Figure 5. Nicholson, Tara. *Permafrost Tunnel*, Melnikov Permafrost Institute, Yakutsk, Russia. 2019.



Figure 6. Nicholson, Tara. *Prehistoric Dog*, Mammoth Research Institute, Yakutsk, Russia. 2019.

Pleistocene Park is distinct from science stations that only accommodate scientists publishing in peer-reviewed journals. The Zimovs have opened their experiment to world-wide media, including *Time-Life*, *The Atlantic*, *The New York Times*, *60-Minutes*, and most Russian outlets. Many others have published profiles of the Park. Headlines including “In Arctic Siberia, Russian Scientists are Trying to Stave Off Catastrophic Climate Change, Resurrecting an Ice Age Biome: Complete with Lab-Grown Woolly Mammoths” (*The Atlantic* 2017), “Releasing Herds of Animals into the Arctic Could Help Fight Climate Change” (CBS 2020), and “Undoing Extinction-let’s Talk About the Mammophant in the Room” (*The Guardian* 2018)—continue to profile the station. Perhaps even leaning into the fanatical, vodka-drinking, Russian-scientist stereotype, and aided by a global fascination with all things prehistoric, “mammoth-fever” has harnessed a

world-wide fascination to fund the Zimov's research. Through crowdfunding, social media, and ongoing press, the Park's rewilding has also been coupled with the resurrection of the mammoth, and thus magically recreating its future habitat.



Figure 7. Nicholson, Tara. *Tusks*. 2019. Porcelain raku and pit fired, (various sizes).

As I headed south to the Mammoth Research Institute and the Melnikov Permafrost Institute in Yakutsk, I reflected on how suddenly de-extinction mandates were becoming intrinsically linked to this far-flung Arctic grassland. At this point, an international slate of Hollywood-like characters seemed to enter the de-extinction race not dissimilar to the Soviet/US space-race of the Cold War era. Further fueled as a techno-fix to save our planet, Hwang Woo-Suk, the infamous Korean geneticist once imprisoned for illegal human cloning, who is also founder of SOOAM (the clone your dog for \$100,000 start-up) was collaborating with Semyon Grigoryev, Director of the Mammoth Institute, in order to obtain intact DNA from one of the permafrost-preserved mammoth carcasses that are increasingly being discovered. On the other side of the pond, George Church the TED-talking, US geneticist who spearheaded CRISPR (genome editing technology), recently announced Colossal (2021)—a 15-million-dollar

investment funded by the tech-billionaire Ben Lamm to support his mission to deliver a mammoth within the next decade. Together, these players connect genetics and biosciences, not only to bring back long-gone species, but for “sav[ing] us, our planet and the species that inhabit it” (Colossal 2021).

De-extinction writer and critic of eco-technic platforms, Matthew Chrulew describes three types of extinctions: evolutionary (dinosaurs), prehistorical (Pleistocene megafauna) and historical (dodo and passenger pigeon). Pinpointing these culture distinctions, Chrulew examines the evolutionary division between the dinosaur and mammoth; while the dinosaur is linked to an asteroid extinction event, the mammoth’s extinction is often tied to colonial violence and overkill hunting. Chrulew states, “the mammoth is the totem animal of postmodernity, a symbolic animal that, like the dinosaur, appeared relatively recently in our cultural awareness and soon became exemplary of the fears and hopes of our age” (2011, 34). While the dinosaur is depicted as a “representative of deep-time, a ghost from a distant palaeontologic past,” Chrulew situates the mammoth within a “liminal transition from deep time to historical time” found at the border between the Pleistocene/Holocene, at a “near-time” extinction that connects to our present-day ecological crisis (2011, 34).



Figure 8. Nicholson, Tara. *Dome*. 2021, Part of “Overburden,” The Kootenay Art Gallery.

In the winter of 2022, I hope to return to Russia to continue my documentation. Pleistocene Park has continued to expand and has imported larger herds of bison, horse, and camel, alongside the troubling practice of interbreeding species. My work questions how these relocated animals will exist in the future of this Arctic territory. Transversely, scientists in Yakutsk are continuing to study species being unearthed from melting permafrost. Will biogenetics and the advancement of cloning trails be accelerated amongst record-breaking climate temperatures, heat domes, and forest fires? Animal welfare scholar Heather Browning states, “Even if there are some positive experiences in the lives of the de-extinct animals, it seems likely that these will be far outweighed by the physical and psychological problems, and most de-extinct animals would not have what would be considered ‘lives worth living’” (2019, 795). Like Browning, I agree that the probability of any resurrected animals being able to fulfill their “intended ecological function” is questionable and caution against them becoming zoo-like placeholders (2019, 795).

“The dull edge of extinction” is how Thom Van Dooren, author of *Flight Ways: Life and Loss at the Edge of Extinction*, visualizes the “juxtapositions of violence and care” (2014, 13). He describes the lives and deaths of many non-endangered, supporting, and at-risk species, stating:

In short, these edges of extinction are varied, complex and conflicted spaces in which diverse relationships, diverse multispecies communities, emerge as possibilities of life and death for everyone—not just the ‘endangered’—are remade (2014, 13)

Ben Novak, the lead scientist for the passenger pigeon de-extinction project notes, “biotechnology changes the concept of extinction,” within the processes of synthetic biology the genomes of living species are used as scaffolds to align ancient DNA fragments, continuing to further intertwine interspecies divisions (2018, 8). In the same way, writer Adam Searle argues the mammoth and other ongoing de-extinction projects, including the bucardo and the black-footed ferret cloning trials, have already been situated within the present-day (2020). Amongst a collective understanding of a near-future with re-sequenced DNA, scientific ontologies, and cultural narratives, Searle positions the mammoth within the here-and-now. Through “ecological understandings, (paleo)climatology, climate change resilience, human health and epidemiology—and even the prospects of space exploration and terraforming” (2020, 337). Searle underlines that “these imaginaries are very much real,” and animates the mammoth as an animal of the future, past, and present (2020, 337).

Recently, my photo-documentary processes started to include ceramics with the production of “fake” mammoth tusks to probe the problematic export of mammoth ivory disguised as elephant ivory and in response to seeing mammoth tusks displayed in museums, storefront, and online auctions (see Fig. 7). Increasingly, climate warming is allowing for greater access to landscapes of melting permafrost, further eroding divisions between scientific discovery, illegal commerce, and the destruction of Arctic ecosystems. I have described the experience of seeing glistening Arctic permafrost as akin to uncovering a massive diamond within the mud; a disorienting and time altering experience. Walking amongst layers of prehistoric earth, littered with mammoth bones; a prehistoric archive, the experience of being within a melting ecosystem is both terrifying and sublime. At the root of many present-day science and technology studies, there is an overwhelming attempt to atone for past ecological disasters. Like Churlew’s “postmodern-mammoth tales,” my documentation of the Anthropocene continues to covet future-thinking-possibilities to remediate the extractive and colonial processes that have engineered a deep alienation of the earth’s species.

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