

Plastic City: A Small-Scale Experiment for Disrupting Normative Borders

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Abstract

Since plastics became available in the 1950s, consumers have dealt with the issue of plastic discards by simply sending them “away”—considering them “out of sight and out of mind” and looking away from any responsibility for this material and its ongoing effects. In this article, an interactive exhibit was generated to provoke relational encounters between children and plastic discards. Situated on a university campus that wins annual awards for sustainability, Plastic City was erected anew each week; a compelling small-scale experiment regarding what is made visible and what is outcast in the utopian settler-colonial imaginary of the U.S. Pacific Northwest.

Key words

Environmental education, remida, plastics, more-than-human kin, border crossing

Author Biography

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Angela served as the coordinator for the Inventing ReMida Portland Project (IRPP), a cultural project for sustainability housed in Portland State University’s Helen Gordon Child Development Center from 2017-2020. She is taking on the role of Lecturer in Early Childhood Education at The University of Melbourne in June of 2020.

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Human civilizations are on the threshold of what may be the sixth mass extinction of life on planet Earth (Cafaro, 2015; Ceballos et al., 2015; Mitchell, 2018; Steffen, 2019). This catastrophic loss of life, while not unprecedented, is unique in that it has been instigated primarily by the acts of Earth's human inhabitants, who have triggered climate change (Herndon, Whiteside, & Baldwin, 2018; Magurran & Dornelas, 2010; McLellan, Iyengar, Jeffries, & Oerlemans, 2014; Steffen, Crutzen, & McNeill, 2007). The question of how to live ethically as humans in an era of massive, human-induced destruction poses an epic dilemma for humankind.

As the global predicament has become dire, there has been increasing awareness of climate-related risks that impact children's lives (Philipsborn & Chan, 2018; World Health Organization, 2014). The material effects of climate change present social and ethical, as well as environmental, challenges, as nonhuman species (Urban, 2015) and children from vulnerable populations (Adelman, 2018; Friel, Marmot, McMichael, Kjellstrom, & Vågerö, 2008; Katz, 2019) are likely to be hurt "first and worst."

The role of plastics in climate change is becoming increasingly evident. Research from The Center for International Environmental Law (Moon, Doun, & Morris, 2019) demonstrates plastics' toll on the global environment across its life cycle. "Emissions from plastic emerge not only from the production and manufacture of plastic itself, but from every stage in the plastic lifecycle—from the extraction and transport of the fossil fuels that are the primary feedstocks for plastic, to refining and manufacturing, to waste management, to the plastic that enters the environment" (Center for International Environmental Law, 2019, p. 8). Therefore, a collective dependency on plastics and, correspondingly, on plastics production, carries direct consequences for the climate. Bennett (2010) speaks to the role of consumerism in this phenomenon, arguing that "the sheer volume of

commodities, and the hyper-consumptive necessity of junking them to make room for new ones, conceals the vitality of matter" (p. 6).

Since plastics became available in the 1950s, consumers have dealt with the issue of plastic discards by simply sending them "away"—considering them "out of sight and out of mind" (Hird, 2017) and looking away from any responsibility for this material and its ongoing effects. However, as Banning and Sullivan (2011) remind us, "a vital materiality can never really be thrown 'away,' for it continues its activities even as a discarded or unwanted commodity" (p. 6).

With no easy "away" for discarded plastics, the U.S. is increasingly confronted with material evidence of a consumer culture that can be characterized by its focus on the values of convenience and disposability. Although encountering large amounts of plastic waste may be new to many in the U.S., inhabitants of economically challenged countries have co-existed with the detritus of consumer culture for decades. It has become evident that waste is accumulating in every corner of the planet, toxifying waterways, soil, and air.

The activities of discarded plastics are particularly noticeable. In the U.S., over 35 million tons of plastics are produced each year, half of which is intended for single use. These plastic products take hundreds of years to break down. As a result, humans and other animals are increasingly coexisting with what may be termed a deluge (MacAlpine, 2019) of plastics pollution, "the visible and tangible part of human-made global change" (Kramm, Völker, & Wagner, 2018, p. 3336).

In the U.S. Pacific Northwest, the vital nature of discarded plastics makes itself visible in multiple ways. Plastics wash ashore on the beaches and scatter along the sand in tiny, colourful bits. Plastics tangle up with driftwood, birds, fish, and other organic matter, or accumulate in floating masses that undulate with vibrancy along shorelines.

Incontrovertibly, plastics are already an active, more-than-human participant in the ecology of this region.

The purpose of this paper is to consider how the presence of plastic discards in public spaces of civilizations can challenge unquestioned waste practices and make way for new relational conceptualizations of discarded materials. I begin by looking at the role of plastics and plastic discards in the human imaginary and propose the idea of plastics as border crossers. Next, I consider Liborion's (2019) proposal of plastics as kin and discuss the implications of this acknowledgement for humans. Reaching beyond human-centered perspectives, I then explore ways of conceptualizing plastic waste that are "otherwise" from entrenched narratives of human stewardship. I go on to introduce *Plastic City*, a small-scale experiment designed to disrupt the normative nature/culture divide that underpins colonizing waste practices, and make space for ways of thinking, living, and flourishing with plastic discards. Lastly, I present data from *Plastic City* in narrative vignettes that engage feminist new materialisms to think with child-plastics encounters.

Conceptualizations of Plastics

Abject Relations

Plastics have become a powerful and complicated metaphor in the collective consciousness. Being a direct product of industrialization and among the most highly processed materials on the planet, plastics are often regarded as the quintessential symbol of consumer culture on the extreme end of an imagined nature/culture divide. Liborion (2019) speaks to this notion in saying, "The opposite of nature isn't plastics. That's a very false dichotomy that comes out of colonial science" (para. 12). Sending plastics "away" from all things deemed natural, then, is a colonizing act that protects us from the darker side of our consumer culture and reinforces normative nature/culture borders. Consequently, when discarded plastics act as border crossers, washing onto pristine beaches, becoming entangled with marine life, entering oceans through wastewater streams, and making their way into the food chain (McDermott, 2016), the imagined nature/culture divide is disrupted.

Recently, abject studies have been used to understand the psychology behind waste practices (Gidwani & Reddy,

2011). This branch of psychology teaches us that humans ostracize people, objects, and practices that cause us to feel fear or disgust. Our collective waste practices, with plastics in particular, have been linked to a "throwaway culture," a term used by Pope Francis I (2015) to describe the current social and economic structure of society in which unwanted things and people are rejected as waste. (McDermott, 2016).

Abjection theorists remind us of the impossibility of permanent exclusion of the abject (Moore, 2012) despite relentless efforts because "that which we attempt to radically exclude constantly returns" (Arefin, 2015, para. 3). The persistent and unwanted (re)appearance of the abject, then, acts as a transgression of normative borders and "thus threatens a breakdown in conventional or dichotomous ways of making meaning of the world" (Arefin, 2015, para. 3).

This thinking has significant implications for considering our relations with plastic discards. When discarded and unwanted plastics act as conspicuous border crossers from the margins of society (Urban, 2018) into "civilized" spaces, both the nature/culture divide and colonizing waste practices are disrupted.

Plastics as Kin

It is one thing to consider plastics as earthly *relations*, but is it too big a leap to regard plastics as *kin*? Do we dare "risk attachment" (Instone, 2015) with plastics in this intimate way? Cultural geographer Lesley Instone argues for the importance of risking attachment with "unlikely others" to meet the challenges of the Anthropocene in saying, "Such a transformation will not be abstract or grand, it will be multiple, ordinary and everyday, forged in the un-finished and hopeful work of risking attachment" (Instone, 2015, p. 36). It is a bold move to be sure; risking attachment to that which we have cast out.

Haraway (2016) proposes that the ties of kinship transgress the merely ancestral or genealogical in saying, "All earthlings are kin in the deepest sense, and it is past time to practice better care of kinds-as-assemblages (not species one at a time)" (p. 103). Our kin are our "significant others" (Haraway, 2003) with whom we learn to "live well with" despite our differences. In the tradition of Haraway and common worlds scholars, I use this paper to think with the concept of plastics as kin... "oddkin" (Haraway, 2015) or "queer-kin" (Haraway, 2008) to be sure, but

kin, nonetheless. Feminist, anti-colonial environmental scientist Max Liborion (2019) also argues for an active kinship with plastics saying,

Plastic is our kin, it's our relation. It's from ancestors—organic ancestors from a long time ago. And if you neglect your relations to that, then you're bad kin. Even when plastic is misbehaving, which means it's being bad kin, you can still do good kinship with bad kin. (para 10).

Kinship, however, can be a complicated matter. Zoe Todd (2017) engages with the fossil fuel industries of her home city of *amiskwaciwâskahikan* (Edmonton, Alberta) as “a paradoxical kind of kin” (p. 104). For Todd, plastics, as an offspring of the petro-economy of the region, are kin that represent a legacy of colonization and environmental degradation. Adding to the complexity, Liborion (2020, January 29) reminds us that the claiming of kin, though well intended, can be a colonizing act—we cannot claim kin like a possession. Rather, as she points out, kinship is reciprocal, and oftentimes kin claim us. Indeed, the persistent (re)appearance of plastic discards in pristine natural spaces such as shorelines and oceans might be understood as plastics’ way of *claiming us* as kin; a stubborn refusal to be forgotten by those responsible for its proliferation.

With this in mind, how do we go about practicing good kinship with discarded plastics, which for many are regarded as the ultimate symbol of waste colonialism? Ties of kinship, whether they be human or nonhuman, require practices of care (Puig de la Bellacasa, 2017). Liborion (2019), who engages in what she refers to as “care work” with marine plastics, proposes that we attend to our relations with plastics despite its tendency to “misbehave” when out of our sight—entangling seabirds and marine life, transporting invasive species and contaminants, and causing hypoxic conditions in the ocean.

It should be pointed out, however, that even when plastic discards are causing harm; they are not alien beings encroaching on a pre-existing and fixed natural world. Rather, discarded plastics are “becoming with” planetary life in a sympoietic (Haraway, 2016) co-shaping of the world. The Plastisphere, or the thin layer of microbial life that feeds on plastics in aquatic environments (Marine Biological Laboratory, 2020), is evidence of plastics’

participation in the world’s becoming. Davis (2016) calls attention to this unique ecosystem, arguing that like plastics, the bacterial organisms of the plastisphere also are our queer progeny and thus are deserving of our care and compassion.

The ideas put forth by Liborion (2019, 2020 January 29), Todd (2017), and Davis (2016) challenge us to accept an ethical responsibility to plastics and its ongoing effects across its life cycle, from fabrication to decomposition. Taking our ethical obligations to plastics seriously is an acknowledgement of our “radical relationalities” (Nxumalo, Vintimilla, & Nelson, 2018) with this material—our shared histories and legacies. Contemplating the ethical implications of a multispecies kinship (Haraway, 2016), with plastics is a potential launching point for attending to our “messy relationalities” (Taylor & Pacini-Ketchabaw, 2015) with this material, an “unexpected partner” (Haraway, 1995) with whom we share common worlds.

It is important to note that this way of thinking is not new. The concept of the entangled nature of, and responsibility to, all earthly things is central to many Indigenous knowledges (Davis & Todd, 2017; Kimmerer, 2013, 2017; Malone, 2016; Nxumalo & Cedillo, 2017; Tuck & McKenzie, 2015) and thus is neither original nor unique to contemporary ontological reconfigurations. It is rather, one of the many conceptual overlaps between Indigenous knowledges and contemporary feminist new materialisms. Taylor (2017) reminds us that “Non-divisive Indigenous onto-epistemologies offer powerful counter-logics to the humanist premises of Western stewardship discourses” (p. 1453). Thus, feminist new materialist orientations are both allied with and dependent on Indigenous knowledges for their understandings of a more-than-human, relational ontology.

Human Stewardship Narratives

There is substantial evidence showing that human exceptionalism—the notion that humans are the pinnacle of existence and the world exists primarily for our privileged use—has been nothing short of toxic for the planet (Kimmerer, 2017; Latour, Stengers, Tsing, & Bubandt, 2018; Haraway, 2015; Schutz, 2019; Wilson, 2018). Human exceptionalism is so foundational to collective ways of thinking and doing that disrupting the human cycle of engagement with the planet as a resource

to extract, produce, consume, dispose, and rescue at will can seem an insurmountable task. Meanwhile, scientists warn us that the global situation is dire (Chapron, Levrel, Meinard, & Courchamp, 2018), and, regardless of human action, global warming will continue for at least several more decades, if not centuries (NASA, 2019).

Unfortunately, many of the approaches to address human-induced climate change employ the very thinking that has helped to advance it (Hird, 2017; Hird, Lougheed, Rowe, & Kuyvenhoven, 2014; Taylor, 2017). In many cases, popular social stewardship initiatives mimic the consumer demand for convenience with “quick fix” solutions such as *10 small steps to save the planet*. Though well-intentioned and arguably valuable from a personal ethics perspective (Bain & Bongiorno, 2019; Hutton & Hess, 2019), individual behaviour changes will not, and cannot, reverse or even halt climate change (Stafford & Jones, 2019). Further, these approaches divert attention from the bigger picture of neoliberal corporate protections, weak environmental policies, and capitalist-fueled hyper-consumption (Latour et al., 2018; Schutz, 2019).

Latour (2017) speaks to the chasm between consumer choice and the fate of the planet by saying, “Right now there is no path leading from my changing the light bulbs in my home straight to the Earth’s destiny: such a stair has no step; such a ladder has no rung” (p. 26). However, token gestures such as *10 small steps* continue to proliferate as temperatures rise and catastrophic conditions advance. Meanwhile, hyper-consumption promotes the proliferation of plastic production for packaging, shipping, and single-use containers. Global recycling pipelines have also inadvertently supported “business as usual” practices of overproduction and hyper-consumption by enabling most humans to avoid being confronted by their waste.

Narratives of rescue and recovery (Haraway, 2013) unintentionally re-enforce human exceptionalism by depicting human heroism and progress (Haraway, 2015) as the sole solution to imminent extinction of planetary life (Bauman, 2015; Taylor, 2017, 2019). These dominant human stewardship narratives (Stengers, 2015; Taylor, 2017), position humans as the sole protagonists in the story of the planet and “look away” from the entangled ethical complexities of our multispecies co-existence.

New Ways of Thinking, Researching, Living

Research Beyond the Human

Amidst the frenzy to prepare the next generation to redeem the human species by achieving planetary repair, there is a quiet call from childhood scholars, educators, and pedagogues to think, to research, and indeed, to *live* differently (Hultman & Taguchi, 2010; Parnell, Downs, & Cullen, 2017; Taylor & Pacini-Ketchabaw, 2019; Urban, 2018) in response to our global predicament. Drawing from multispecies feminist theorist Haraway (2016), early childhood researchers are leading the way with posthuman scholarship in education for environmental justice (Somerville & Powell, 2019).

Among the researchers at the forefront of this movement are the Common Worlds Research Collective (Common Worlds Research Collective, 2020) and AniMate—Research of Child–Animal Relations (Animate, 2019) who attend to entangled earthly relations, thereby opening up radical new imaginings of what is possible for early childhood research and practice. This massive shift in thinking proposes that humanity moves to “join forces” with unexpected partners for a “partial ... recuperation and recomposition” (Haraway, 2015) and perhaps even a “flourishing” (Instone & Taylor, 2015) of life in our multispecies common worlds. In doing so, these researchers are breaking away from familiar and comfortable human-centered research approaches “in which the same prescribed means pursue the same known ends” (Moss, 2015) and producing experimental research approaches that account for life beyond the human. Among these are feminist common worlding approaches, which require a willingness to be response-able (Blaise, Hamm, & Iorio, 2016) for the worlds that are produced and re-produced by research, and a desire to “compose those worlds with others” (Haraway, 2016, p. 219).

One approach to attending to entangled relations in a more-than-human world is to consider the importance of matter in children’s daily lives—the “tinythings” (Myers, 2015) that constitute children’s everyday worlds. This research is often informed by feminist new materialism(s) as discussed by physicist Karen Barad (2007) and political scientist Jane Bennett (2010). Emerging from her theory of vital materiality, Bennett defined “thing-power” as

“the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle” (p. 6). Bennett posed the significant question: “What might be possible if we give the force of things more due?” (p. 118), a provocation that certainly seems fitting to consider in the context of young children and their seemingly “irrational love of matter” (Tesar & Arndt, 2016, p. 61). Many early childhood scholars have responded to this query with provocative research that explores the power of things in young children’s lives (Hohti, 2016, 2016b, 2018; Rautio, 2013, 2014, 2017; Tesar & Arndt, 2016; Thiel, 2015). By providing relational encounters between young children and plastic discards, my work humbly aspires to continue in that tradition.

Small-Scale Experiments

In composing worlds that are otherwise from one that can only be resolved through its salvation or destruction by humankind, some environmental researchers (Kimmerer, 2017; Taylor, 2017; Taylor & Pacini-Ketchabaw, 2019; van Dooren, 2019) are taking up experimental forms of research that generate ways of thinking beyond these entrenched narratives. These research approaches entail “making a stand for certain worlds and for certain ways of living on the planet and taking responsibility for helping to make these worlds more likely and these ways of living more widespread” (Cameron, 2015, p. 100).

One such experimental research approach is proposed by geographer and environmental studies scholar Jenny Cameron (2015). Cameron suggests that in response to the geophysical planetary experiment brought about by global industrial development, social research could also take a more experimental approach. She reminds researchers, however, that we do not have to respond to the disastrous planetary experiment on an equally planetary scale. Rather, the scale of our experiments may be small, and perhaps should be small, to resist being subsumed into decontextualized practices. In this vein, Cameron advocates for:

open, even playful forms, of experimentation to try out new ways of living in the Anthropocene... to respond to the planetary experiment that so many across the globe (human and non-human) are unwittingly caught up in by proliferating small-scale experiments that might offer multiple openings and avenues for new ways of living. (pp. 99–100)

In considering the value of small stories and small-scale experiments, I am reminded of Taylor and Pacini-Ketchabaw’s (2015) proposal that “responding to the Anthropocene is as much about paying close attention to everyday small things, contingent partialities, and messy relationalities as it is about the geo-sublime proportions of carbon measurements, global warming, and melting ice caps” (p. 525). As an early childhood educator and scholar living in the midst of an environmental predicament so vast it threatens to wholly consume us, I find the proposal to respond by generating small stories and small-scale experiments with “entangled earthly relations” an energizing and hopeful one. Thinking with Cameron’s (2015) proposal for the small-scale experiment and Taylor and Pacini-Ketchabaw’s (2015) recommendation to attend to “everyday small things, contingent partialities, and messy relationalities” (p. 525), this paper aims to make space for ways of thinking, living, and “flourishing” with young children and plastic discards—unexpected partners in the common worlds we share.

Conceptualization Summary

I have examined collective conceptualizations of plastics through the lens of abject studies and named plastic discards as border crossers due to their tendency to make a “persistent and unwanted (re)appearance” (Arefin, 2015, para. 3) in “civilized” spaces. Next, I considered the complex implications of the acknowledgement of plastics as multispecies kin. Looking beyond human stewardship narratives, I explored experimental research approaches that might generate space for new relational possibilities to emerge. In the following section, I introduce *Plastic City*, a small-scale experiment designed to disrupt normative human/waste and, thus, nature/culture borders.

Plastic City

With the intention of generating a provocative encounter between children and discarded plastics by disrupting normative borders, I conceived a small-scale experiment called *Plastic City: (Re) Creating Portland With Our Discards*. In this small-scale experiment, large quantities of discarded plastics were deposited in the middle of the Portland State University campus each week for a month. I followed MacAlpine and Pacini-Ketchabaw to “exaggerate the presence” (MacAlpine, 2019) of plastics for this exhibit. Thinking with the abject studies proposal that “that which we attempt to radically exclude

constantly returns” (Arefin, 2015, p. 1), I aimed to explore the pedagogical implications of encounters with plastic discards, which, with the help of humans, have made a border crossing from their relegated “away” and returned to a “civilized” space.



Encounters with plastic discards

This research is situated within a common worlds theoretical framework, drawing from the feminist new materialisms of Barad (2007) and Bennett (2010) to consider children’s relations with materials, in this case, plastic discards. In this study, I am “thinking with theory” (Jackson & Mazzei, 2012; Kuby, 2017; Lenz Taguchi & St. Pierre, 2017) to plug in feminist new materialisms as a post-qualitative research approach (Lather & St. Pierre, 2013; St. Pierre, 2014, 2018) and produce new ways of understanding data. “Thinking with theory” has also been referred to as “concept as method” (Lenz Taguchi, 2016; Lenz Taguchi & St. Pierre, 2017; Rautio, 2017; St. Pierre, 2014), which Deleuze and Guattari (1987) defined as “experimentation in contact with the real” (p. 12).

Young children were brought to the exhibit from the campus childcare centre and invited to work with discarded plastics and the public to (re)create their city. Situated on a university campus that wins annual awards for sustainability and in a city that prides itself on environmental consciousness, *Plastic City* was erected anew each week; a compelling and disorienting “small-scale experiment” regarding what is made visible and what is outcast in the utopian “settler-colonial imaginary” (Nxumalo & Cedillo, 2017) of the Pacific Northwest.

This interactive exhibit and the corresponding research were conducted under the auspices of Inventing Remida Portland Project (IRPP), a cultural and educational project for sustainability housed at Portland State University (PSU). Remida is an initiative that promotes the idea that waste materials can be resources and “offer(s) an

optimistic viewpoint in an ever-expanding message of calamity” (Parnell, Downs, & Cullens, 2017). Like the renowned ReMida Reggio in Italy (Reggio Children Foundation, 2020), the initial project that acted as the impetus for IRPP, we aimed to generate material reuse provocations that were contemporary and contextual to our time, place, and culture. *Plastic City: (Re)Creating Portland With Our Discards*, an interactive exhibit at the Portland State University campus, was one such provocation and provided the setting for this research. The participants were the educators and children ages two to five from the campus childcare centre, visiting elementary school children, college students and staff, professors, the general public, and salvaged plastics from the IRPP and the post-consumer warehouse that locals refer to as “the bins.”

Small Stories from *Plastic City*

In the following section I offer a series of vignettes of plastics encounters that occurred during the month of the *Plastic City* exhibit. The vignettes draw upon fieldwork photographs and observational field notes and enact relationality frameworks from the feminist new materialisms of Barad (2007) and Bennett (2010). My approach to observation and photography involved moving from traditional, human-centric methods toward a holistic witnessing (Rose, 2015) approach. In my observations, I practiced “shifting, engaging, and noticing” (Iorio, Hamm, Parnell, & Quintero, 2017, p. 126) happenings beyond the human context. This means that during my observations, I *shifted* my attention from the children and other humans, *engaged* with material practices, and *noticed* the ways in which the children were called into connection with the more-than-human; plastics in particular. Because of this intentional shift in perspective from the exclusively human realm, the vignettes occasionally move from describing the actions of children to describing the movements of materials and other forces.

Thinking with feminist new materialisms, this study employed the use of photography as an “entangled” method of data collection (Hohti, 2016a; Kind, 2013; Myers, 2015). While the language of photography implies that the camera can be used to “capture” and objectively reflect an “unmediated copy of the real world” (Sturken & Cartwright, 2009, p. 17), I employed photography as an approach to worldmaking rather than world mirroring (Goodman, 1976). Following the work of Kind (2013), I

explored the ways in which photography can attend to the in-between spaces and help me consider how actors, in this case, children, plastics, and other forces, are “spun together in a dense web” (Bennett, 2004, p. 354) of relational entanglement. While I could not and did not resist my decades-old practice of portraying images of children at work, I also challenged myself to take photographs with no human subjects; instead, featuring assemblages, movements, and flows.



Child-Plastic Assemblage

Bubble tea.

Today the youngest children from Helen Gordon have come to experience *Plastic City*. The invitation to recreate Portland has been accepted to some degree by all the visiting children, but the two-year-olds appear to be unaware of or disinterested in this provocation. At one point I notice two girls who have taken tall plastic containers, stuffed them each with a string of plastic beads, and inserted straws in them. They stand close to one another in the middle of the rugs, looking into the distance and sucking on the straws. The children from their class play on the carpet at their feet. My first thought is how ridiculous it was for me to bring straws and not realize that very young children would use them as such. While I work with straws with three-to-five-year-old children with some frequency, I should have known that younger children were likely to put them in their mouths. I wonder if I should stop them or if their teachers will, but nobody does. Someone asks what they are drinking, and they respond, “Bubble tea.” They stand holding their “cups” with their straws in their mouths for what seems an absurdly long time. I notice that one of the “cups” is a bright orange pill bottle, and suddenly the event has

shifted in my mind from interesting to disturbing. It was only later, when revisiting the photo, that I realize the girls were completely engaged -- with one another, with the materials, and with the space they occupied. Perhaps they were even engaging with a concept of their city, where people can often be observed



Bubble tea

standing around with disposable coffee and teacups in their hands in public spaces. For me, the photo provides an unflattering, yet fascinating glimpse into what is made visible and what is outcast in our city.

Child-plastics-wind encounters.

It is the third Friday of the exhibit and a very windy morning. Plastic ping pong balls roll off the long, rectangular carpet that demarcates the public exhibit space and somersault playfully down the street. Children follow the balls; teachers follow the children. There is laughter and excitement in the air. The wind topples over a few of the lighter structures that the children have built. Empty cups and plastic spoons crash down from towers and spin away unpredictably. A small group of preschoolers run around the exhibit in circles. Their voices are high and



One end of the cellophane is held by the child; the other end is held by the wind.

shrill. A child picks up a long, clear piece of cellophane with gold stars on it that has been pinned under a bin to hold it in place. One end of the cellophane is held by the child; the other end is held by the wind. The cellophane responds to being held in this way with a delightful crackling sound.

Continuing this child-plastics-wind event, the child runs up the street with one end of the cellophane in his hand. The wind carries the other end behind him--unevenly, wildly, offering surprising noises and movements. The cellophane's vitality is revealed by the intra-action of wind, child, and cellophane "coming into play" with one another. I do not recall the cellophane from the first two weeks of the event; however, its vibrancy is now unmistakable.

The plastic ping pong balls and cups scatter with the wind. The children demonstrate their kinship with these materials by moving in tandem with them--quickly, playfully, unpredictably darting around the space with glee. The feeling in the air verges on frantic. Teachers and other supervising adults shift into management mode, corralling runaway children and gathering fleeing plastics, attempting to return everyone and everything to the boundaries of the designated working space. The children and plastic materials, affected by the wind, are glowing with vitality. They persist in transgressing the designated border, evading containment. Before long, the wind dies down, and both plastics and children return to their sanctioned activities.

Real trees, fake trees.



City zoo

A four-year-old child is creating a "city zoo" on a mirror using plastic trees and animals. His zoo is a playful imaginary somewhere in between a replication of the Oregon Zoo in Portland and the zoo in his mind's eye. I ask him if I can photograph his work, and he agrees. When I show him the photo, we laugh because we can see his reflection in the mirror that forms the base of the zoo. He looks at the image more closely and notices that he can also see the trees overhead in the reflection. He turns his attention back to his work, changing the arrangement of the plastic trees on the mirror to frame the reflection of the trees overhead. He sings quietly to himself, "My zoo has real trees, fake trees, real, fake trees...". A small group of children gather silently around him to observe the child and his city zoo.

Analysis

In the vignettes, and with the child-plastics-wind vignette in particular, plastic discards boldly exhibited their border crossing abilities. Though the physical borders transgressed were merely the edges of the carpet demarcating the exhibit space, in a greater sense, there was an awareness that the presence of discarded plastics in the heart of downtown Portland constituted a human/waste border crossing. The plastic sippy cups, tumblers, pill bottles, Easter egg halves, bottle caps, lone doll shoe, and marker lids strewn across the carpet in the centre of campus seemed out of place at best. Children generally responded to this flagrant border crossing with curiosity and excitement as in the description of the child-plastics-wind-assemblage. Adults however, tended to display unease and a sense of disequilibrium when happening upon the exhibit, which often looked like the contents of a recycling truck dumped in the middle of the street.

The vignettes illustrate that plastic discards such as straws, plastic spoons, ping pong balls, and plastic trees were participants in play as vital as the children, the educators, and the offered provocation. It seemed to be particularly powerful for children to have a relational exchange with a recognizable household item. Plastic cups, hair curlers, vinyl records, plastic buttons, cellophane gift wrap, when recognized for their unique qualities, cannot ever be regarded in the same way, as existing for one purpose alone. Their nobility, or personhood (Bennett, 2010), becomes apparent, and with it, an understanding that they have a life that extends out in both directions beyond

their momentary encounter with humans. Odegard & Rossholt (2016) support this finding, saying, “holding the reusable materials in our hands, constructing, exploring and playing with them, gives them value and identity and they may additionally increase our awareness of the darker sides of wealth and consumption” (p. 54).

Considering the girls playing at “drinking bubble tea” with their straws, I am reminded of the multiple identities of discarded materials in terms of their original function and their “lost function” (Odegard, 2012). As children were playing with the materials, they also engaged with the ghost of the materials’ original function. In reference to this concept, Guerra and Zuccoli (2014) point out that the original function of an item “is always evident, and it is not invalidated despite subsequent changes. It lingers in the new choice, directing and conditioning it” (p. 1990). It seems likely that the draw of the straws’ original function was an enticing one for these particular children, who subsequently designed an entire activity around it.

These vignettes show how the border crossing of plastic discards from their designated “away” and into a space deemed “civilized” created openings for new ways of encountering these materials. Children created beloved places, such as the city zoo; mimicked familiar activities, like drinking bubble tea; and had playful exchanges with items that had previously been deemed worthless. The possibilities that emerged from these encounters are yet unknown to us. What we can say is that border crossings such as these provoke “a breakdown in conventional or dichotomous ways of making meaning of the world” (Arefin, 2015, para. 3), thus creating openings for new, entangled ways of relating with previously outcast materials.

Gatherings

In this paper, I have reviewed the literature that describes the role of hyper-consumerism and human exceptionalism in the climate crisis and considered how we might move away from human stewardship discourses (Taylor, 2017) to do environmental education “otherwise.” I brought forth the concept of plastic discards as *border crossers* due to their uncanny ability to return “despite relentless efforts” (Arefin, 2015, para. 3) to put them out of sight and out of mind (Hird, 2017). I considered Liborion’s (2019) notion of plastics as kin and looked at the ethical implications of this acknowledgement. I explored various

ways that early educators, scholars, and pedagogues are reaching out beyond traditional human-centric research and enacting experimental approaches to attend to our entangled earthly relations. Drawing on these various literatures, as well as my own proposed notion of plastic discards as border crossers, I produced a small-scale experiment to offer material and pedagogical encounters between children and plastic discards. Lastly, I engaged feminist new materialisms to consider some of the child-plastics encounters produced by this experiment.

As Barad (2007) notes, “Knowing does not come from standing at a distance and representing something, but rather from a direct material engagement with the world” (p. 49). *Plastic City: (Re) Creating Portland With Our Discards* offered an opportunity to materially engage with the concept of plastic discards as border crossers. More than merely a metaphor or ideological exercise, the discarded plastics in this interactive exhibit made at least two border crossings to participate in this experiment.

The first border crossing, made in partnership with various humans, was from their designated “away” to the Inventing Remida Portland Project. Whether their “away” was a recycling bin, trash can, or a paper bag stored deep in a closet or basement, these discards temporarily evaded their presumed fate of an incinerator or landfill and migrated to the beautifully curated shelves of IRPP. With my support, the second border crossing was made from either IRPP or “the bins,” the post-consumer warehouse that serves as the last stop in Portland for unwanted items, to the centre of the PSU campus. Additionally, plastic spools, cups, ping pong balls, and other discarded plastics tumbled and rolled across the exhibit borders one windy Friday, and as I later learned from teachers, tiny plastic treasures such as bottlecaps and bubble wands made their way to classrooms and children’s homes in children’s pockets and clenched fists.

The tendency of plastic discards to announce their vitality through repeated border crossings offers us an opportunity to reconceptualize our relationship with these once useful or cherished materials that were rendered worthless yet refuse to be forgotten. Perhaps by “risking attachment,” (Instone, 2015) with discarded plastics, our unlikely partner and kin, we can begin to take the legacies of plastics seriously across their lifespan and refuse to produce, consume, and discard plastics without care or concern.

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