Weaving Child-plastic Relations in the Ecuadorian Andes

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ABSTRACT

In the small Andean town of Racar, Ecuador, plastics are deeply woven into land and culture. Within postqualitative framings, this dissertation puts into conversation research-creation and curriculum-making to invent pedagogical responses to plastics with children and early childhood educators at a local school named Santana. This pedagogical project interferes with prevailing Euro-western visions of the human in education that separate children in the Ecuadorian Andes from their relations with place and plastics. Together we think with material/conceptual contradictions and possibilities proposed through Andean weaving techniques as minor, but important, entry points to figuring the child within increasingly synthetic worlds in the Ecuadorian Andes. The dissertation takes shape as a collection that interlaces five key threads of inquiry: two articles, a research blog, the project’s Exhibit, and a series of websites that speak to the ongoing trajectories of the work. Woven together, these threads inhabit and further activate the ebbs and flows of the first year of an ongoing pedagogical project with Santana. Opening to the toxic/life-giving natures of plastics that figure this community, this research seeks to cultivate orientations to curriculum and pedagogy that enable children, educators and researchers to weave together a life with plastics in Racar.

Key words: childhood, plastic, research-creation, early childhood education, Andes
In the small Andean town of Racar, Ecuador, plastics are deeply woven into land and culture. Within postqualitative framings, this dissertation puts into conversation research-creation and curriculum-making to invent pedagogical responses to plastics with children and early childhood educators at a local school named Santana. This pedagogical project interferes with prevailing Euro-western visions of the human in education that separate children in the Ecuadorian Andes from their relations with place and plastics. Together we think with material/conceptual contradictions and possibilities proposed through Andean weaving techniques as minor, but important, entry points to figuring the child within increasingly synthetic worlds in the Ecuadorian Andes. The dissertation takes shape as a collection that interlaces five key threads of inquiry: two articles, a research blog, the project’s Exhibit, and a series of websites that speak to the ongoing trajectories of the work. Woven together, these threads inhabit and further activate the ebbs and flows of the first year of an ongoing pedagogical project with Santana. Opening to the toxic/life-giving natures of plastics that figure this community, this research seeks to cultivate orientations to curriculum and pedagogy that enable children, educators and researchers to weave together a life with plastics in Racar.
Chapter Two, *Interrupting Purity in Andean Early Childhood Education: Documenting the Impurities of a River*, is a published article that was co-authored alongside committee members Cristina Delgado Vintimilla and Veronica Pacini-Ketchabaw. I was the principal contributor and lead author of this paper. I assumed responsibility for 75% of the article including conceptualizing, writing and publication.

Citation:

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A friend once told me that Ecuador has a pull, here in the middle of the North and Southern Hemispheres. It gathers little pieces of the world and holds them here. I am so grateful to have been pulled and to be held by this place.

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CHAPTER SUMMARIES

Chapter One / Introduction: Weaving a life with plastics

Weaving is predicated on the presence of conviviality, a gathering of things that is hospitable to difference and the folding of particular fibers together in ways that enable an enduring, often contradictory, presence. This introduction opens to a conceptual vision and material encounter of weaving with which this dissertation acts. Setting a rhythm and a tempo to the dissertation as it moves with a life that Ecuador has immersed me in, it opens to a woven collection of pedagogical moves which inherit and respond to the contrary natures of childhoods and plastics in Racar.

Chapter Two / Article One: Interrupting Purity in Andean Early Childhood Education: Documenting the Impurities of a River

Chapter Two orients to the research site and initial pedagogical work with educators at Santana. This piece initiates pedagogical interruptions necessary for inheriting the ongoing life of plastics in a small river that runs through the school. Unfolding and thinking through the logics of purity that saturated Santana’s early childhood program through processes of pedagogical documentation at the river, this piece works to loosen stiff curricular fibers and stretch pedagogical desires beyond Euro-Western child development frameworks. Becoming permeable to living water memories that are carried through the arteries of Ecuador’s Andean rivers, this chapter flows into a series of fleshy, diverse strands of inquiry that are held together in a blog.

Chapter Three / Research Blog: Soaking Threads of Inquiry

Weavers often work alongside a small bucket or bowl of water. Prior to, and sometimes during braiding, the weaver prepares the threads by briefly soaking them. When met with water, the fibres become malleable, flexible in the folds with others and generous to the learning hand. Kin to these bowls of soaking threads, the project’s research blog, too, holds strands of inquiry that are becoming formable, awaiting to be woven. This chapter opens to the blog, offering a partial view into the pedagogical processes that take shape at Santana’s early childhood program,
Nivel Inicial. The blog holds threads that are supple, not yet fully formed, and open us up to experimentation with curricular ideas and processes.

**Chapter Four / Exhibit / Plastic Childhoods: Noticing Toxic Intra-dependencies in Andean Early Childhood**

This chapter bundles digital traces of the project’s Exhibit, hosted by the Centro Interamericano de Artes Populares (CIDAP) museum in downtown Cuenca, Ecuador. The Exhibit amplifies the material/discursive life of plastics at Santana, bringing attention to rationalities of efficiency, extraction and child-centeredness that often steer pedagogical decision-making. The Exhibit includes four installations, the short film ‘The Languages of Plastic’, photo series ‘Noticing Conflictual Intra-dependencies’, ‘The Logics of Plastic’ shuffling cards, and the focal piece of the Exhibit - a wall installation titled, ‘Interrupting Efficient Pedagogical Dependencies’, that suspends over 500 small plastic objects gathered from the school.

**Chapter Five / Article Two: Weaving child-plastic relations with early childhood educators in the Ecuadorian Andes**

Chapter Five returns to key pedagogical challenges magnified by the Exhibit such as humanist discourses of ‘the child developing in nature’. Thinking with Andean scholar Silvia Rivera Cusicanqui (2012, 2018), this piece draws on pedagogical documentation from a series of walks in a plastic debris-filled forest beside the school to make visible how plastics and children are situated in contrary place relations in the Ecuadorian Andes that are both toxic and life giving. The documentation offers a minor, but significant, moment with children and educators in the forest that gestures toward a shift in human dispositions to plastics beyond developmentalism. Given particular pedagogical attention, this encounter becomes an occasion that opens us up to Ecuador’s Andean ancestral weaving arts as a material process for braiding/thinking plastics and childhoods together.

**Chapter Six / An invitation to enlace**

This brief final chapter is an invitation to the multiple offshoots that have emerged, and continue to entangle, with the pedagogical work at Santana. Returning to previous knots of the
dissertation, the chapter includes a series of website links that enlace the work with a living, ongoing trajectory.

**Chapter Seven / Pedagogical Propositions**

Weaving these thick threads of inquiry throughout this collection, the dissertation ends carefully frayed as it unfolds to three interrelated pedagogical insights and propositions. This section suggests weaving as a technique which produces generative constraints for thinking pedagogically with plastics through the refrains of developmentalism, its peripheries and excess.
CHAPTER ONE

INTRODUCTION: WEAVING A LIFE WITH PLASTICS

Gathering threads

The sun is rising as I walk along the edges of Cuenca’s artisanal market, ‘Mercado de Artesanias Rotary’. This square block is usually bursting at its seams with hand made goods and local materials – clay pots, woven rugs, small sewn children’s dolls, wooden spoons and bowls. Though, at this early hour shop fronts are silent and all is hidden behind large woven plastic bags called saquillos that have been cut open and sewn together as blankets. I am here with particular instructions from an Auntie of one of the children at our school. On Wednesdays, very early in the morning, a woman stands at the north east corner of the plaza selling paja toquilla, a typical Andean straw used for traditional fine weaving. Paja toquilla straw emerges from a trunkless palm, with fan shaped leaves of two to three meters long. At the center of each expansive leaf is a thin, pearl white flesh that is extracted and dried. Paja toquilla only grows within specific conditions, as the flexibility of the flesh depends on a particular composition of humid soil. It is grown in the hills and mountains across Ecuador in areas such as El Aromo, Pile, San Lorenzo and Manabi. There are also crops in the provinces of Esmeraldas, Guayas and Santa Elena, and some in the Amazon, in the Province of Morona Santiago. Growers of paja toquilla explain that the grasses are highly sensitive to the place in which they are grown, and would not be the same if they were raised in dry soil - even if the soil was made damp by farmers. Paja toquilla does not respond to human interventions such as water and fertilizers, it requires a particular moist soil made possible only through ecological conditions that shape certain areas of Ecuador. It can only be harvested when the moon wanes, ‘luna menguante’.

I meet this woman on the sidewalk where she is waiting with a collection of brightly coloured saquillos that hold overflowing bundles of straw. As she speaks to me, her hands move quickly tousling and tying strands of grass into more bundles. She speaks Spanish like many Cuencanxs, with tones that sing high and low like the flows of the rivers that shape this city. She sets the materials down and, with empty hands resting between bent knees in a pleated skirt, continues to
tell me about her process braiding the fibres of straw, ‘sus nudos deben estar lo suficientemente apretados para mantener la forma, y lo suficientemente sueltos para moverse con el tejido,’ she tells me. In English, ‘your knots must be tight enough to hold shape, and loose enough to move with the weave.’ These techniques, taught to her by her grandmother, are similar to the ones she uses to weave her plastic saquito bags. Her words move to a rhythm that corresponds with hands that have now begun a dance below – thumbs and fingers swiftly rolling over and under, weaving an invisible braid. An educator tells me it is common for the hands of Andean tejedoras (women who weave) to move in this way, with a life of their own: ‘Tejer es una memoria del cuerpo, y es para siempre. Aunque se den cuenta o no, las manitos tejen todavía’. In English, ‘Weaving is like a memory of the body and that’s forever. Whether they notice or not, the hands keep braiding.’

In Ecuador, weaving is a millennial practice of many families, an economic livelihood and a worldview that takes form in heterogenous ways across particular regions. It is often said that Ecuador as a country is made of multiple distinct yet relating worlds, each with a particular physical geography that deeply figures ecologies and ways of being. These ways of being are echoed in the languages of weaving that shape and are shaped by certain places. For example in coastal regions such as Guayas, wide landscapes are textured by thick humidity, exposed curving mangroves, fields of banana palms and a sense of gregariousness and roughness generated by an ongoing rush of industrial port-commerce from the great River Guayas and the singularity of its flow from the Pacific. Though the river appears sluggish to the eye, it has a current that is intensely fast and with a pull that unapologetically suctions all that encounters it. In Guayas, there is a liveliness that is at once slow-moving and quick-witted. The heat produces a bodied lethargy that, uniquely, also hurries things up in the hustle of the day with an urgency to maneuver in ways that avoid waiting and lingering in the sweat. In these coastal areas, Spanish is fluid and fast; one word is interrupted by and spills over the next. Both spoken and woven languages share loose, open mannerisms where words and grasses are thick, overlaying one another with the lubricated quick pace of the port. There is a meeting that happens in the dense heat, where atmospheric currents of the Pacific Ocean from the West slide East, in contradictory direction over the flows of the River Guayas, and up toward the Andean mountains that mark Ecuador’s interior. Driving between these places, their point of conjuncture is announced by a profound dense fog.
On the other side of this thick brume, is Cuenca, the valley city of the Andean mountains where the introductory narrative emerges and my research is situated. Here, folds of thin grasses are held intimately together in a weave. In the hospitality of a fresh high-altitude climate, weaving is a process that is deeply dialogical and practiced by families that are often closely knit. Because Cuenca is located in a basin, the climate is cool but generally milder than in higher areas in the surrounding mountain scape, enabling a temporality in meetings and conversations that seems less hurried. The language of Cuenca, in both its verbal and woven forms, is expressed with clarity, detail and warmth, with a tone almost sung as if echoing the rocking motions of its four iconic rivers. In the Ecuadorian Andes, weavers are known for their meticulous and rhythmic work with fine straw and grasses, creating small and intricate patterns. In the higher altitude regions, the practice of weaving is often synonymous with a physical proximity produced by the cold, as weavers huddle together under shared bufandas, or large scarves. Though it is now more common to dye grasses using chemical tints for their efficiencies, dying grasses was also once a practice with a tremendous dependency upon place. For instance, in the highlands colours are often pulled from Andean tree nuts or root vegetables, while on the coast turmeric and achiote produce common shades of coastal weaves. As a medium of place and culture, weaving has immense pedagogical significance in Ecuador. Within an educational project that seeks to inherit plastics alongside young children, weaving situates this research within longstanding folds of Andean memory and ongoing contemporary improvisations.

TEJER (S.) / TO KNIT - TO WEAVE (E.)

(V.) Of the Latin texere, ‘to make a fabric’ and ‘to intertwine’ both materially and mentally

One. Interlacing threads or fibers, mechanically or by hand, to form a fabric or make a specific object.

Two. To pass a thread repeatedly and with different combinations between small meshes made with itself to create a form.

Three. The cross or mix of one thing with another toward an emerging formation.
Four. To carefully prepare or achieve a certain thing over time, usually from a series of ideas or actions.

Weave is a generous word. In English, it is both noun and verb - a thing and a doing. In the making of a weave, both process and product are deeply responsive to the other. Each fold is figured in dialogue with a tension between fibers that came before. Weaving is about repetitions and a responsivity to antecedent patterns; it has a felt nature of ongoingness. Yet, weaving is not only about inheritances. To weave is also to improvise – it is about attending to minor variations, perhaps even interruptions, in ways that sustain the unending rhythms of interlacing threads. A weave is predicated on the presence of conviviality, a gathering of things that is hospitable to difference and folds particular fibers together in ways that enable an enduring, often contradictory, presence—‘tight enough to hold shape, and loose enough to move’. It is with this conceptual vision and material encounter of weaving that this dissertation acts. However partially, it sets out to weave a collection of pedagogical moves that inherit and respond to the contrary natures of child-plastic relations in the Ecuadorian Andes with Nivel Inicial, an early childhood program at Santana Unidad Educativa (Santana).

This project is part of the Climate Action Network (CAN), an international research collaboration, directed by Professor Veronica Pacini-Ketchabaw and funded by the Social Sciences and Humanities Research Council of Canada (SSHRC), that is rethinking children’s relations with distinct climate and waste challenges through experimental pedagogies across Canada, Ecuador, Australia, the United Kingdom and the United States. Santana is also part of the SSHRC funded project, Rethinking the 3 Rs: Transforming waste practices in early childhood education, also directed by Dr. Pacini-Ketchabaw, that aims to unsettle managerial logics of the three Rs (reduce, reuse, recycle) in early childhood education. This research at Santana attempts to refigure ‘recycling’ by thinking closely with the ongoing life of plastic materials that deeply shape child-place relations in Racar.

Though this dissertation focuses on the intense first year of a continuing pedagogical collaboration with Santana, I cannot think it apart from an ongoing life Ecuador has immersed me in over the past four years. So, this collection interlaces stories and encounters of a life lived while weaving an experimental educational project with Santana and, as an effect of this,
resonances with people, places and plastics in Ecuador that deeply shape my vision of this work along the way.

My first encounter in learning to weave came alongside the banks of Cuenca’s great Tomebamba River. This river has a profound presence in Cuenca, as it runs through the old and new towns of the city, an aqueous reminder of a living past that flows with a present. Together with friends, whose mothers, aunties and grandmothers taught them the techniques of weaving in the mountain when they were young girls, we gathered with bundles of paja toquilla and empty plastic buckets to be filled with the Tomebamba’s cold water. We immersed the grasses to soak and slowly began selecting strands to initiate a braid. The river’s water enables this beginning, loosening stiff fibers. Dampened paja toquilla is supple, and works well with the guidance of the hand. At Santana, several educators speak to their memories of weaving at the river as a social practice, a dialogue that lives with ‘una tradición de la familia’, in English ‘a tradition of the family’. For some, weaving is a dialogue that is shaped and shared by generations of weavers before them such as uncles, aunties and grandmothers. Weaving with friends and educators as a white scholar, braided with living settler histories from the North, I am met with material tensions as I attempt to speak this language in translation, and the consequential excesses that emerge as an effect of our distinctions. I think with Marisol de la Cadena (2015) when she says, “my world [is] included in the world that my friends inhabit and vice versa, but their world [can not] be reduced to mine, or mine to theirs” (p. 5). Yet, in weaving, distinction does not equate to mutual exclusion (Liboiron, 2021). In my current home along the Western most point of Ecuador, I am now learning a coastal dialect of weaving with the guidance of my teacher, Juana, whose family runs a small artisanal shop in the town of Rio Chico. Here, I am studying the grammars of coastal weaving with the generous direction of Juana, attempting to help repair woven items that have been damaged – purses, baskets, belts, and other items that are for sale. Juana tells me that weaving is about being together. Rather than maintaining a separation that distinction causes, this dissertation tries to think with the divergences of togetherness that weaving with friends, educators, children - and with plastics - intensifies.

My role at Santana entangles research as part of my daily engagement as a pedagogical coordinator at the school. This has involved supporting school-wide pedagogical shifts toward curricular processes that are motivated by a culture of collective research and long-term
investigations that are made *with* children (Vintimilla & Kind, 2021), and that are deeply responsive to the particularities of Racar, a small town overlooking Cuenca where Santana is situated. This work has been part of a close and ongoing dialogue with Cristina Delgado Vintimilla and Veronica Pacini-Ketchabaw, who have thought and co-laboured (Vintimilla & Berger, 2019) with me through decisions that orient this project.

In the first year, my daily pedagogical work involved the coordination of five classroom spaces and an atelier, with 12 educators, an atelierista and 90 children. Significantly, my work also focused on an ongoing co-labouring with the school’s administration and leadership team to create structural conditions necessary for sustaining long-term inquiries that are nourished by a sensitivity to this particular Andean town, a place that is at once ecologically lively, damaged and culturally imbued. This required situated orientations to early childhood education in the Ecuadorian Andes that betray false securities of developmentalism and its transcendental baseline. As a decidedly co-compositional project, participants (educators, the atelierista, school administrators and children) have been co-researchers in an emerging process that works with the tensions and energizing momentums that come when beginning and creating something together. In this first year, creating a coherence between our emerging pedagogical vision, one which involves an ongoing working and (re)formation, and the structural formation of the school was significant. This included collectively rethinking many typical aspects of ‘schooling’ that

1 It feels impossible to articulate the historicity of this project. It emerges from relations and bodies of work that were nourished over so many years, well before my entrance.

My presence here is particularly indebted to the scholarship of Veronica Pacini-Ketchabaw and the long threads of connection she has gathered and sustained through the Common Worlds Research Collective. I cannot think pedagogy in Racar (or, anywhere) without the profound presence of Cristina Delgado Vintimilla, the depth of her pedagogical thought for early childhood and its inheritances from her life and generations of family in Cuenca.

Santana has a legacy in Cuenca as a school which, 36 years ago, decided to invent an educational project that responds to difference. Since then, Santana has worked to acknowledge children’s multiple ways of being in a broader educational climate deeply embedded in traditional Catholic educational practices, which in Cuenca often value uniformity.

With Veronica Pacini-Ketchabaw, Cristina Delgado Vintimilla, the educators and administrators at Santana, Alicja Frankowski and Adrienne de Castro also now hold this weave. As pedagogical coordinators, Alicja, Adrianne and I have entered the ongoing formation of this project in different times and intensities. Thinking through these encounters together, we continue to grapple with the openings and closures of developmentalism’s presence at Santana - its impermanence and sometimes seemingly ephemeral quality and, as Alicja says, ‘how it transforms a present.’
held the basis of Santana and its culture of education. Through consistent dialogue, dissensus and an intense re-working of dominant pedagogical assumptions, together we began refiguring grounding aspects of Santana’s structure to nourish conditions conducive of responding to children’s relations with place and plastics in the Racar. We collectively initiated a radical shift in how the school approached its national curriculum and learning outcomes, languages of evaluation, daily schedules, physical spaces, and aesthetics. We put into question holidays and events, how we celebrated children’s work, the school’s public presence, communication with families, orientations to problems and more. Through regular weekly meetings and engagements with the educators, we attempted to create circumstances that enable slower, collaborative pedagogical decision-making processes and with this, an intellectual, attuned and responsive educator who thinks inventively beyond managerial frameworks. Together, we differentially immersed ourselves in the intensity and risk that comes in realigning the life of a school in relation with particular pedagogical orientations. These orientations are led more broadly by a concern to recuperate long-standing relations with Racar through education. Though this initial work together generated significant change quite quickly, the ephemeral presence of developmentalism and its neoliberal logics continues to haunt pedagogical desires and impulses at Santana. This oscillating presence creates a moving refrain with which this dissertation interferes. Our pedagogical responses are thus ongoing, and generate openings to alterity that are inconsistent as we weave together an educational project that is embedded in a context shaped by both contemporary neoliberal presences and ancestral knowledges.

Figures 1, 2 and 3: Gathering threads
Dried grasses – length, width - bucket of water – memory of the hand – a body of stories and performances – material interferences – mistakes and improvisations. Weaving has particular techniques, or conditions through which its practice comes to expression (Simondon, 1958). Weaving techniques, then, are processual. As Manning and Massumi (2014) propose a technique “reinvents itself in the evolution of a practice” (p. 89). Weaving braids itself out, through its own consistencies and momentums of (un)folding processes. It has a pre-envisioned structure - a vision of what it is the weaver sets out to weave. This vision becomes lived with a spontaneity that is figured by the initial conditions that organize the emergence of the weave. In this dissertation, weaving gives metaphoric potential for thinking plastics and childhoods together in the Ecuadorian Andes. Yet, weaving’s conceptual propositions are more-than-metaphor; they are always exceeded by on-the-ground material enactments. Weaving enables this project to engage with research questions in ways that are both speculative/virtual and actual/material. A central focus of this dissertation is about opening up to a view of curriculum and pedagogy that enables us to weave together a life with plastics in Racar. In Racar, plastics are lively co-shapers of place and culture, yet are often overlooked in early childhood curriculum.

This collection interlaces five key threads of inquiry that respond to the following research questions:

One. What pedagogical sensitivities and orientations might be necessary for thinking plastics and childhoods together in the Ecuadorian Andes?

Two. How might research-creation and curriculum-making generate processes for rethinking child-plastic relations in the Ecuadorian Andes?

Three. How might weaving open up ways of thinking about and creating pedagogical practices?

Chapter Two, Interrupting Purity in Andean Early Childhood Education: Documenting the Impurities of a River, orients to the research site and initial pedagogical work with educators at Santana. Co-written with members of my supervisory committee, Cristina Delgado Vintimilla and Veronica Pacini-Ketchabaw, this piece initiates pedagogical interruptions necessary for
inheriting the ongoing life of plastics in a small river that runs through the school. Unfolding and thinking through the logics of purity that saturated Santana’s early childhood program through processes of pedagogical documentation at the river, this piece works to loosen stiff curricular fibers and stretch pedagogical desires beyond child development frameworks. Becoming permeable to living water memories that are carried through the arteries of Ecuador’s Andean rivers, Chapter Two flows into a series of fleshy, diverse strands of inquiry that are held together in a blog.

Chapter Three opens to the research blog, offering a partial view into the pedagogical processes that take shape at Santana’s early childhood program, Nivel Inicial. Kin to bowls of water that are often used by weavers to soak and elasticize straw prior to weaving, the blog holds threads that are supple, not yet fully formed, and open us up to experimentation with curricular ideas and processes. The blog also holds a digital archive of the project’s research-creation Exhibition, Plastic Childhoods: Noticing Toxic Intra-dependencies in Andean Early Childhood hosted by the Centro Interamericano de Artes Populares (CIDAP) museum in downtown Cuenca. The Exhibit was created in dialogue with Cristina Delgado Vintimilla and includes four installations, the short film ‘The Languages of Plastic’, photo series ‘Noticing Conflictual Intra-dependencies’, ‘The Logics of Plastic’ shuffling cards, and the focal piece of the Exhibit - a wall installation titled, ‘Interrupting Efficient Pedagogical Dependencies’, that suspends over 500 small plastic objects gathered from Nivel Inicial. Bundled together as the Chapter Four of the dissertation, these digital traces of the Exhibit amplify the material/discursive life of plastics at Nivel Inicial, bringing attention to rationalities of efficiency, extraction and child-centeredness that often steer pedagogical decision-making at Santana.

Chapter Five, Weaving child-plastic relations with early childhood educators in the Ecuadorian Andes, brings to light how these rationalities emerge in contradictory ways alongside existing ancestral Andean land relations. Written for emerging early childhood educators interested in education for sustainability, it returns to key pedagogical challenges that were magnified by the Exhibit such as humanist discourses of ‘the child developing in nature’. Thinking with Andean scholar Silvia Rivera Cusicanqui (2012, 2018), the paper draws on pedagogical documentation from a series of walks in a plastic debris-filled forest beside the school to make visible how plastics and children are situated in contrary place relations in Racar that are both toxic and life
giving. The documentation offers a minor, but important, moment with children and educators in the forest that gestures toward a shift in human dispositions to plastics beyond developmentalism. Given careful pedagogical attention, this encounter becomes an occasion that opens us up to Ecuador’s Andean ancestral weaving arts as a material process for braiding/thinking plastics and childhoods together. Finally, Chapter Six acts as an invitation to the multiple offshoots that have emerged, and continue to entangle, with the pedagogical work at Santana. Returning to previous knots of the dissertation, this brief final chapter includes a series of website links that enlace the work with a living ongoing trajectory. Weaving these thick threads of inquiry throughout this collection, the dissertation ends carefully frayed as it unfolds to pedagogical insights and propositions.

Theoretical Framework

This research uses a common worlds framework (Hodgins, 2019; Taylor & Pacini-Ketchabaw, 2019) to decenter the human as the sole protagonist in research and pedagogy and to situate the child within shared, yet uneven, common worlds. The notion of ‘common worlds’ is borrowed from Bruno Latour (2004) and enables this project to locate childhoods in Racar within contentious and common spaces that exist beyond dualisms of nature/culture and human/more-than-human. This theoretical orientation affirms that environmental education is more than a purely human endeavour. More-than-human actors – multiple species, materials, weather, geobiospheric forces and many others are lively performers in the co-composing of the worlds children rely on and are educated within (Blaise, Hamm, & Iorio, 2017; Nxumalo, 2017; Pacini-Ketchabaw, Kind & Kocher, 2016, Taylor, Blaise & Pacini-Ketchabaw, 2012; Taylor, 2017). Shifting attention from discourses of the individual developing child in nature, and toward children’s unequal relations with these actors is a socio-political move toward an anti-colonial and anti-oppressive educational project. Situating childhoods within more-than-human networks involves a critical interruption of dominant, Euro-Western imaginaries of the human as rational and autonomous from the world, a colonial epistemic projection underwritten by white, heterosexual masculinity and ability (Wynter, 1995, 2003). This human continues to re-invent itself within diverse and dynamic 21st century colonialisms, reproducing oppressive conceptual
categories of thought through dominant scientific knowledge systems (Walcott, 2021). In the context of early childhood education, interrupting this reproduction involves attention to hegemonic categories which separate this human from vulnerabilities to/with nature (Nxumalo, 2020) and importantly, what exceeds them (de la Cadena, 2014).


Grounding this common worlds project is a careful consideration of the socio-political histories that inform familiar connections between childhood, nature and stewardship (Taylor, 2013). Drawing on the feminist postdevelopmental critique by Erica Burman (2016), the positioning of the child as inherently connected to nature is rooted in an 18th century, Rousseauian construction of childhood as a distinct period in life that is untainted from the social milieu in which humans live. The young, pure and passive child is thus divorced from culture and joined to nature. This angelic picture of the naturalized child reinforces what eco-feminist scholar Plumwood (1993) has called the ‘sphere of inferiority’, in which women, racialized groups, children, animals and ‘natural’ others are subordinated within Cartesian dualisms of culture/nature, man/woman, master/slave. Backgrounded in order to foreground the assertion of masculine performance, nature and those associated with it are further distanced from legitimacy as human.

Burman (2016) proposes that ‘childhood’, figured as a distinct and separate period in the span of human life, “functions politically and rhetorically within national and transnational projects of (neo)colonial, heteropatriarchal, [and] late capitalist expansion” (p. 269). Past-present notions of childhood innocence predicate children’s exclusion from legitimate participation in their social contexts, creating conditions in which children are perceived as vulnerable and in need of social and moral intervention (Burman, 2016). In Ecuador, the imperial operation of mass schooling
continues to work as a vital regulatory apparatus of the colonial nation state. Euro-western theories of linear child development meet neocatholism in a discursive curriculum which prepares children with particular moralities that support a national vision of society. Through schooling, many children’s social positionings shift from localized working roles within families and communities to ‘students’ and eventually professionals. These positionings have been deeply interrupted by the COVID-19 pandemic and Ecuador’s economic crises, as many Ecuadorian children have left school and taken up various labour or support roles (International Labour Organization & United Nations, 2020). Following Burman (2016), there are multiple ways to envision the construction of childhood. A Euro-western baseline of childhood and schooling as a time of innocence and goodness via learning universalizes a false imaginary of how children live across diverse and incommensurable geo-political places. Seeped in Euro-western structures of knowledge, the ‘schooled’ child is formed as a subject who reinforces particular values in service of social efficiency and economic growth (Jardine, Clifford, & Friesen, 2008). It could be argued that this vision of childhood functions as a colonial rationality to manage and control child (body) and nature (land) via education.

By extracting concepts from their relationally situated origins, and appropriating them into the structures of the school, knowledge becomes fragmented, easily digestible and consumed. Pedagogies which rely on developmental rationalities, including human mastery over natural worlds, productivity and progress, preserve these histories of Euro-western Cartesian thought, and further distance children from their relational vulnerabilities and accountabilities to the places in which they live. With this said, familiar symbols of ‘good’ children learning and developing in nature overlook the complex impurities and contradictions inherent in the construction of childhood, education, and their subsequent ecological effects (Taylor, 2013). Separating bodies from land via schooling, colonial conquest and capitalist expansion becomes an ongoing violence with effects often invisible to those who benefit from it. Reinforced by technologies of developmentalism, the modern educated child is deeply encoded in logics that function to serve a trajectory of colonial growth via capitalism including individualism, competition and accumulation. A key argument across common worlds scholars is that harmonious notions of children’s innate care for nature within education simultaneously mask gendered and racialized oppressions and perpetuate Anthropocentric violence (e.g. Blaise, et. al, 2017; Nxumalo, 2017; Pacini-Ketchabaw et. al., 2016; Taylor et al., 2012; Taylor, 2017). The
developing child in nature then performs as a key symbol of imperial thought, at the intersection of colonial governmentality and neoliberal progress.

Following Stengers (2015), the multiple social, ecological and economic effects produced by colonial and capitalist growth are most deeply felt by those who have done little to contribute to the damage. Discourses that locate environmental injustices within individual responses hide the structural and systemic conditions that simultaneously propel consumptive economies and create opportunities for ‘moral’ ability and action as determined by social hierarchies of gender, race, class and geographic location. This privilege of perceived morality is framed by capitalist discourses that continue to operate within neoliberal logics where goodness is commodified as consumer choice - the belief that through seemingly ethical purchasing behaviours, some humans can effectively reduce, reuse or recycle their way out of ecological violence. However, what these practices may unwittingly do is reinforce what Stenger’s (2015) calls ‘green capitalism’, an original capitalist technology with a romantic earthy-packaging that further perpetuates human production, consumption and disposal. This packaging is also visible in early childhood spaces, where prevailing developmental practices are dressed up with natural aesthetics or existing classroom practices simply moved outdoors. Rethinking these commonplace moves to ecological innocence, it is easy to recognize Stengers’ (2015) imagery of capitalism as a savvy entrepreneur. Tricked by its invisibility, the archival rules of industry become so normalized that their processes are rendered imperceptible, further commodifying human desire for environmental stability. The image of the individual moral consumer lives abundantly within early childhood education through pedagogies which nourish self-autonomy, -surveillance and -regulation, foundational principles of recycling practices. With this thought, pedagogical responses to plastic-related challenges that are based on moral grounds of personal responsibility ensure that key aspects of capitalist logics remain intact, further perpetuating a neoliberal illusion of free moral choice and veiling the socio-political configurations that determine said choice.

Cusicanqui’s (2012) work supports this project in interrogating neoliberal moves to innocence that suppose social change in the Andes under the guise of individual moral citizenship, making visible how some cultural shifts actually renew the effective processes of colonization. She refers to such moves as “a change so that everything remains the same” (p. 101). Inspired by Cusicanqui, this dissertation critiques recycling as what she might call a ‘cross-dressing
strategy’, or ‘concealing mechanism’ that generates ongoing colonial subjugation in the Andes (p. 100). Cusicanqui’s propositions are put to work in relation to recycling practices in early childhood education, opening up curricular processes that produce different conceptual arrangements for responding to plastics (see Chapter Five).

**Orienting to child-plastic relations within a common worlds framework**

A common worlds theoretical orientation highlights that children’s dynamic positions within the places they live are relentlessly shaped and shared with multiple more-than-human others in ways which move beyond dominant Euro-western knowledges. Common worlds theories push past the disciplinary framings of early childhood education as an exclusively child-centered practice and takes on an increasingly substantiated position within environmental and social sciences which suggests that human and more-than-human others are inter-determinant in their relations, folding and unfolding in relentless co-creation with the places in which they exist (Hird, 2013; Latour, 2004). These notions are not new, and have been a central premise in Andean land knowledges for millennia (de la Cadena, 2015). While maintaining an attention to the co-compositional, contradictory natures of human/more-than-human worlds, common worlds scholars critique that stewardship pedagogies position children as separate, even superior, to natural environments and perpetuate notions of humans as consumers of natural spaces (Nxumalo, 2017; Taylor et al., 2012; Taylor, 2017). Taylor (2017) highlights that within the field of early childhood education, value is too often placed on the environment not for its own sake, but for human benefit. A common worlds theoretical framing asks researchers, educators and children to remain “open to what it might mean to learn collectively *with* the more-than-human world rather than *about* it, acknowledging more-than-human agency and paying attention to the mutual affects of human-nonhuman relations” in distinct contexts (p. 1455, emphasis added). This ‘with’-ness is important because it refigures educational coordinates that are often organized around the child, and generates a redistribution of pedagogical value to a network of multiple others.

Much early childhood education literature gestures toward pedagogical responses that address a broad ‘environmental concern’, a conceptual arc that attempts to encompass a vast array of
human-induced planetary ailments ranging from ocean acidification to mass deforestation, among countless others (Steffen, Broadgate, Deutsch, Gaffney & Ludwig, 2015). Troubling a humanist desire for answers that transcend the circumstances of particular climate crises, Stengers (2015) proposes that sedimented categories of theory, thought and ‘action’ must be radically reconfigured in order to situate pedagogical responses in specific contexts and to avoid the appropriation of possibility into pre-existing frames. Stengers’ (2015) offers a call to ‘repopulate the desert’ of human imaginaries. This call is coupled with a warning – that Euro-western capitalism and colonialism have entrepreneurial ways of benefitting from every situation, including supposed curricula reform. In the tireless pursuit of accumulation and anticipated progress, a neoliberal mirage of realized human growth simultaneously fuels economic expansion and destroys prospective life outside capitalist regimes. This project seeks to respond to this call by considering pedagogy as that which lies between the physical and symbolic pursuit of futures, not only within the actualized, stratified layers of schooling, but also virtually through subjectivities that speak from the imaginary of a distant human, a subject that taunts from a few steps ahead while grounded in a damaged present. Cautious to the anticipatory natures of progress, Stengers (2015) proposes pedagogy as a tentative occasion of thought – grounded in situated moments and arising from horizontal elsewheres, always hesitant to getting it right, or finding a ‘there’.

In a similar vein, Ulrich Beck (2015) presents an important position in thinking about pedagogical responses to plastic crises and the challenges of a modernist desire for scientific rationality and ‘solutions’. He argues that product industries and large-scale human technologies of the current day produce ecological consequences, such as climate change, which move beyond science’s ability to determine exact cause, a key function of modernity. Science is no longer an event conducted within contained spaces; the world is a giant lab for experimentation. Beck argues that this is an example of the human inability to manage the world of the 21st century, if ever, as repercussions of scientific reason have become so widespread that science can no longer control its progress. It is at this point where modernization exceeds modern theory (Beck, 2015) – it becomes a paradox - and as common worlds scholars suggest, is where pedagogy must be reconceptualised, returning to the relational more-than-human networks that continue to inventively support life. In Ecuador, Andean knowledges continue to disrupt false categories of
‘nature’ deployed by dominant Euro-western science frameworks, and enable different ways of conceptualizing the child and plastics (see Chapter Five).

In decentering the human, common worlds theories take up an ecological ethic in early childhood education which focuses on the intra-actions (Barad, 2007) of particular places as relational events and reimagines solidified understandings of natural worlds as spaces that can supposedly be compartmentalized and managed. Taylor (2017) maintains that “embedded within the very notion of environmental stewardship is the premise that ‘nature’ (out there) needs our protection” and ironically, the purer or “romantically wild” these natural spaces are, the more compelling it may be to protect them from humanity (p. 1456). Several common worlds authors argue that pedagogies which romanticize the purity of nature and the innocence of children’s outdoor play further distance some humans from accountabilities to ecological violence (Nxumalo, 2017; Taylor et al., 2012; Taylor, 2017). Drawing on Haraway (2003) and Latour’s (2004) work with ‘naturecultures’, a term which intentionally blurs the division of supposed natural and cultural worlds, a common worlds framing suggests that ecological ethics happens when children attune to their ‘relational vulnerabilities’ through encounters with animals (Taylor et al., 2012; Taylor, 2017), materials (Pacini-Ketchabaw et. al., 2016) and the agencies and inheritances of socio-geographic places (Nxumalo, 2017). As environmental anthropologist Anna Tsing (2015) affirms, this attention to encounters with more-than-human others requires an art of noticing, a way of reorienting attention to things that lie outside narratives of progress and production. A disposition to thinking not from a place of knowability or mastery but rather of precarity, where humans are vulnerable to/with others and “we are not in control, even of ourselves” (Tsing, 2015, p. 20). In this vein, Taylor (2017) posits that early childhood scholars must resist and rethink “modern humanist tendencies to enact the epistemological nature-culture divide that separates our species off from the rest of the world” and aim to reinvent pedagogies in ways which radically complicate what it means to be human (p. 1453). Common worlds scholars are also beginning to explore the agencies of waste materials in early childhood spaces and as shapers of human subjectivities (MacAlpine & Pacini-Ketchabaw, in press; Hodgins, 2015; Wintoneak & Jobb, in press).

In her work with textiles, Hodgins (2015) grapples with the tensions of waste/wasting materials in early childhood education by tracing the emergence and social effects of recycling initiatives.
at an early childhood center in Victoria, British Columbia. Borrowing from Hird (2014), her pedagogical orientation aims to interrogate waste management ideals that inadvertently uphold “a capitalist rationale to manage waste in ways that do not disturb circuits of mass production and mass consumption (and industry profit)” (p. 444). In staying with the difficulties and contradictions that emerged in an inquiry with reimagined fabrics and considering how her work with children moves in and out of environmental citizenship ideals (such as repurposing materials and other landfill diversion strategies), Hodgins makes visible neoliberal mechanisms of recycling that place moral responsibility on individuals and mask the socio-political structures that propel, and rely on, consumer mentalities. In this way, Hodgins (2015) argues that thinking more critically and ethically with waste requires that early childhood pedagogies not ‘smooth over’ the discomfort of young children’s implication in consumer culture through illusory images of children as happy, creative, ‘little recycling champions’. Following Hodgins (2015), my research aims to cultivate pedagogies that are situated in the midst of the problems and ambiguities that are proposed when children, educators and researchers think closely with plastic and the ways in which these materials perform within specific socio-ecological and political systems.

Though often perceived as impermeably existing outside of ‘nature’, the accumulation of plastics in the Ecuadorian Andes is not something that merely piles upon, but also lives with/in ecosystems. Thinking with Altman (2017), plastics have never been separate; they are grown from natural materials including crude oil, cellulose and coal. Under intense, human-induced heat and chemical reconfiguration, these materials become the infamous synthetic polymer that simultaneously refuses change and relentlessly reconfigures the geo-biological compositions of those that encounter it (Davis, 2015a). Framed by an onto-epistemology of plastic waste as materials existing in the world, which simultaneously inform how humans come to know them (Pacini-Ketchabaw, 2017), my theoretical framework positions plastics as not separate from, but intimately connected in relentless, and lively, human/plastic relations (Hird, 2012). Drawing from Hird’s (2013) waste research of the microbial underground of landfills, most of the transformative action on waste materials takes place in the “inhuman domain” of “geo-bacteria liveliness” (Hird, 2012, p. 457, 458), in which humans do not manage or control processes or outcomes. Hird’s studies demonstrate that despite human imaginaries, waste materials are not static or waiting for human intervention. Furthermore, as no matter exists outside of persistent
relational and intra-active networks (Alaimo, 2010; Barad, 2007), humans and waste materials exist in entangled relationships and affect one another (Gille, 2010; Hird, 2012). Though often imagined as existing in the inanimate domain of nonhuman objects, waste materials engage in lively performances that relentlessly spill past physical and virtual confines - landfill barriers and human knowledges. This notion of distributed agency challenges humanism’s insistence that human reason allows some humans the sole ability to enact reason and govern complex ecologies. This dissertation contributes to common worlds scholarship by taking seriously the agency of plastics as materials in the Ecuadorian Andes which, regardless of human censure, continue to shape places and subjectivities in multiple and distinct ways.

**Weaving a methodology**

Within feminist postqualitative framings, this dissertation puts into conversation research-creation and curriculum-making to cultivate educational conditions capable of refiguring child-plastic relations in the Ecuadorian Andes. Research-creation and curriculum-making are woven together in research as generative practices for refiguring childhoods and plastics with Santana. In this section, I will discuss the postqualitative groundings of the project and how this orients to processes of research-creation and curriculum-making. The section ends with an interpretive opening generated by an installation in the project’s Exhibit.

**Postqualitative Framings**

St. Pierre, (2016a) articulates postqualitative methodologies as a range of methodological moves “beyond concepts of conventional qualitative inquiry” such as interview, data, voice, and validity (p. 111). Offering an interruption to familiar qualititative framings, postqualitative orientations propose that qualitative practices recycle known assumptions about ‘what works’ and limits ‘what might happen’ in educational research. As St. Pierre (2016a) problematizes, much qualitative research of the 21st century has become so disciplined and prescriptive that it is dangerously reductionistic and hegemonic; it can not keep up with moving complexities of living worlds. St. Pierre (2016b) suggests:
Given that education begins in such diversity, it is doubtful that any single educational researcher can or should be too ambitious about (1) determining what educational research is or (2) predicting what it might look like in the 21st century. There is no is or it. (p. 7)

A postqualitative framing works generatively with a common worlds theoretical framework as it offers possibilities for considering research events beyond dominant humanist paradigms. This methodological orientation is distinct from qualitative perspectives, because it enables possibilities for thinking the world beyond bases of the colonial EuroWestern human and its methods. Closely attending to concepts as they emerge, the field of postqualitative research highlights the researcher’s implication and situated theorizations with/in the event. This implication brings forth historical contingencies that shape research views and contexts that are often obscured under the guise of objectivity (Haraway, 1988).

St. Pierre (2016a) distinguishes postqualitative research inquiry as a situated form of research that is dependant upon a researcher’s implication in the study, proposing that the ability to control personal bias in theorizing is an illusion, as the human description of phenomena is already an interpretation (p. 116). In this way, a desire to separate a researcher’s implication with the data through systematized measures perpetuates a positivist illusion that humans are capable of attaining an essential truth and supports the view that “thought needs a method, an artifice which enables the thinker to ward off error” (Patton, 2000, p. 19). With this, Patton (2000) explains that “there is no basis for a conception of method” (p. 19). Rather, postqualitative research uses theory as a guide that orients situated inquiry processes with the lifeworld and its socio-political inheritances - sculpting and (re)sculpting the formation of concepts as they emerge, as opposed to a set of formalized methods. As such, postqualitative research does not seek to definitively answer a research question or explain the ‘why’s’ behind experiences. Rather, postqualitative framings within common worlds research is concerned with how research might inherit and become answerable to complex and often contradictory lived experiences.

Emerging from lived experiences, the conceptual formations of research are never whole, stable or separate from those who think with them. As Haraway (1988) writes, both the researcher and her emerging conceptualizations are eternally partial as both are in part and only a part of the
world she studies. This partiality is not meant to be controlled or regulated; it is a central quality of feminist postqualitative research which opens up important sensitivities to the socio-political webs that figure seemingly ordinary everyday moments with children and their pedagogical significance. In this dissertation, I take up a postqualitative ethic of ‘data’ (Lather & St. Pierre, 2013) within a common worlds framing (Hodgins, 2019) as the personal, affective, experiential, minor and mundane life of things within specific contexts. This view of data informs how researchers and participating educators determine what comes to matter in pedagogical documentation of daily events. For instance, in Chapters Two and Five, pedagogical attention is given to minor encounters with children, educators and others in order to open up dialogue and dissensus about their significance. These events are interpreted through the practice of pedagogical documentation, as I will discuss below. Here, the minor matters because it brings small variations of experience into struggle with commonly accepted or major cultural views (Manning, 2016). This is particularly relevant to my project. In much early childhood waste curricula, prevailing developmental discourses continue to position the child as the primary beneficiary in pedagogical experiences that seek to address a macro waste-crisis. For example, an often-replicated discourse that orients early childhood waste practices around the four Rs (recycle, reduce, reuse, repair) can be understood as one that locates the ethical responsibility of managing a broadened waste crisis at the level of the individual (Berry & Jobb, 2020; Hodgins, 2015; MacAlpine & Pacini-Ketchabaw, in press). This generalized moralization obscures the ethico-socio-political contexts that determine individual capacities for response, and continues to ignore the specificities of waste relations with others in particular places and situations. In response to the macro-overwhelm of conventional waste discourse, I take inspiration from Manning (2016) in thinking through the ‘minor’ as an intentional and feminist move that draws attention to partial, particular moments and their perceptual cues. This sensitivity to subtle perceptions, rather than fully formed ideas, enables possibilities for hesitating dominant discursive associations and generating openings towards what is not yet.

Challenging prescriptivity, postqualitative research is an act ‘against methods’ (St. Pierre, 2021), where researchers shift attention from evidence-based practices toward emergent or ‘living’

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2 Here I acknowledge collaborations with the Common Worlds Research Network, particularly with my colleague and friend Cory Jobb, in thinking with me through the generative possibilities of ‘micro-moments’ in our different pedagogical projects.
ways of engaging with the world in study. Putting to work the notion that methods do not reflect or measure the world, but rather ‘produce realities’ (Law, 2004), postqualitative research seeks to invent ways of studying experiences that emerge in relation with particular events and their conceptual propositions. In this sense, a concept is not applied over or incorporated into an existing experience, nor is it formulated in isolation. Rather, as Deleuze and Guattari (1994) propose, a concept is “an act of thought” which emerges through an experimental doing (p. 21, emphasis added). Postqualitive inquiry then, is a “practice that thinks” (Manning, 2016, p. 27) and as such, takes on a significant methodological shift from the use of concepts to frame or prescribe methods, toward a radically inventive “pedagogy of the concept” (Deleuze & Guattari, 1994, p. 41). For Deleuze (1994), pedagogy has an interest in living conflicts that defy univocal sequences and open up to experimentation with the world in its becomings. Concepts are not grand or given claims about the world, but rather are subtle and reciprocal junctures of thought, centres of vibration that resonate rather than cohere. Concepts, then, are created as a function of conflicts which prompt thinking, they are made (Colebrook, 2006). Because thinking happens when it encounters ‘what is not itself’ (Colebrook, 2006, p. 4), conceptual propositions emerge in confrontation with the unthought, even the accidental. Deleuze proposes that such junctures are provoked through minor interferences in over-practiced patterns. The practice of interference becomes a central quality for the concept, as it comes from an exterior in ways which complicate the status quo. This practice holds no claim over emerging concepts. Rather, as Manning and Massumi (2014) propose, “like every practice, its only claim is to it’s own technique” (p. vvi).

In a pedagogical project that is interested in refiguring sedimented educational conditions, making visible and interrogating educative techniques that reproduce oppressive conceptual categories of thought becomes important. At Santana, the emerging conceptual threads that our practices give rise to might also be understood as a function of, or (dis)juncture to, other practices and technologies with which our work interferes (Deleuze, 1989). Deleuze suggests that it is at the point of interference of many practices “that things happen, beings, images, concepts, all kinds of events” (p. 280). This notion of interference amid multiple practices is a key condition of this research, and is particularly tangible in Chapter Four of this dissertation, the project’s Exhibit. In the Exhibit, the material-discursive flows of plastic artefacts gathered from Santana are magnified to make overtly present technologies of developmentalism,
anthropomorphism and child-centeredness, their refrains, and how our project collides with these paralleling pedagogical views.

Within a common worlds framing, situating research processes in the Ecuadorian Andes requires methodological orientations that “grapple with the complexities of being deeply embedded in neoliberal and settler colonial capitalism… [while] experimenting with methods that are receptive to and gesture toward the sensorial, the affective, the historical presences that haunt.” (Hodgins, 2019, pp. 4-5). This produces different forms of accountability to the study and its consequences. Acknowledging that Andean realities present proliferating multiplicities (Cusicanqui, 2018) an obligation to sustaining the juxtapositions these multiple cultural differences produces in research requires a methodology that unsettles hegemonic categories of thought. While Cusicanqui (2012) argues that Andean realities are shaped by the situated inconsistencies of paralleling differences that both “antagonize and compliment each other” (p. 105), particularly the contrary meetings of neoliberal and ancestral ways of being in particular contexts, de la Cadena’s (2015) research in the Peruvian Andes attempts to make palpable mutual and ‘incommensurable excesses’ that populate fieldwork. de la Cadena explains her relations in research as partial, where not-knowing is a condition of rapport which generates complex convergences that depend on subjective differences, enabling her to explore the contours and boundaries of the intelligible and its peripheries. She argues that these relations are ‘fractal’ and produce excess that escapes existing categories. Taking this notion of excess seriously as an ethical question obligates me, as a settler researcher from the North, to attend to presences that may also make absent or impossible what does not fit those categories – a provocation that I (imperfectly) attempt to exercise in the project’s Exhibit. Thinking with de la Cadena (2019), certainly the presences that early childhood education’s dominant categories assert do not disappear in favour of the new – but rather they are sustained, and exceeded by what they attempt to cancel. An initial task of this dissertation is to make tangible dominant categories that affirm fact and coherence in early childhood education and how they determine, or perhaps refuse, what becomes excess/other-than. At Santana, we attempt to do this by slowing down and thickening pedagogical processes (Vintimilla, 2018), so that together with educators we can think through developmentalism’s technologies, its haunting presences, limitations and incompatibilities. Identifying refrains is not about creating binaries (Stengers, 2008), or moralizing pedagogical work as good or bad, but rather, as Sylvia Kind proposes in her practice,
is about nourishing experimental conditions for what a collective project might be or become by attending to what it is not. Following Stengers (2008), experimenting with the forces of a refrain is about “learning how what we encounter affects us, how it empowers, or separates us from, our capacity to act (that is also to think and feel)” (p. 44). In our first year of pedagogical work at Santana, intensifying these refrains became a beginning place for cultivating minor perceptions to what might be possible on the other side of dominant curricular visions and bringing into existence what exceeds them.

A postqualitative methodological orientation opens my project to important ethical questions about how educational research is situated and becomes accountable to its consequences. How does this project reproduce/confront/respond to the historical contingencies of research methods and educational realities in the Ecuadorian Andes? How does a methodology attempt to rethink and refigure diverse/living/situated colonial conceptual networks? I orient to these questions through collaborative processes of pedagogical documentation (Dahlberg, Moss & Pence, 2013; Rinaldi, 2006) that seek to trace and respond to colonial discourses of purity in children’s encounters with the forest beside their school (see Chapter Two). As I will discuss, documentation becomes a force that presences the histories of purity as figured within contemporary developmental perspectives of childhood and nature, and generates an occasion for researchers and educators to begin cultivating modest perceptual cues that guide pedagogical decisions which interrupt them. Pedagogical documentation makes visible how neocolonial waste logics from the North attempt to obscure the complexities of Racar’s Andean ancestral place relations in favour of human-centred practices of rescue and conservation (See Chapter Five). Here, I rely on the scholarship of Cusicanqui (2012, 2018) to articulate how land relations in Racar continue to co-exist with these logics, bumping up against EuroWestern humanisms and generating new ways of being in their own right. Thinking through Cusicanqui’s propositions enables ancestral weaving practices to become prominent alongside plastics, activating collective braiding techniques toward minor pedagogical openings for conceptualizing the child within increasingly synthetic worlds in the Ecuadorian Andes (see Chapter Five).

Working both within/against what Cusicanqui (2012) calls ‘arboreal structures of internal-external colonialisms’ (p.100), these pedagogical openings emerge already blemished as research processes are mitigated within capitalizing forces of Northern empire via the Canadian neoliberal
university. Leaning into this tension and the flaws that mark, my methodology attempts to enact an obligation to research and pedagogies that are situated and responsive to Racar by interfering with ‘universal’ visions of the child present in Andean early childhood education as they are deployed through dynamic colonial developmental frameworks. With educators, I attempt this interference through collective pedagogical processes that make visible how this child shows up at Santana. Pedagogical documentation supports us in noticing where this projection of the child fails and is consistently interrupted by longstanding knowledges in the Ecuadorian Andes. Thinking with Cusicanqui’s scholarship, together we attempt to nourish sensitivities and perceptions that are proposed in the processes of weaving. I suggest these in-process sensitivities and their potential conceptual threads do not move simply or asymmetrically from the South to the North or vice versa, but rather they are mitigated within what Haraway (2016) calls ‘worldly’ assemblages that betray linear movements of discourse between Racar and the North, as well as divisive notions of the local and the global.3 Encountering the Cabogana’s forest beside the school grounds of Santana enlivens this.

Walking. Eucalyptus roots protrude like curly fingers from an exposed wall of Cabogana clay soil. Sun warped plastics spiral around the irregular topographies of clay and tree tentacles. Carried to Ecuador via Australian boats in the 1900s, eucalyptus trees thrive here and move beyond the confines of their original plantations. Woven into the rhizomatic structures of the forest, the children call the exposed roots ‘clay legs’.

Moving with/in shifting global assemblages – eucalyptus are originally desert dwelling water-guzzlers. In other areas of Ecuador they now shape an increasingly lucrative

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3 This complexifying of the local/global in early childhood education is inspired by conversations with Veronica Pacini-Ketchabaw and the rich dialogues she nourished in a graduate seminar alongside the text Global Assemblages: Technologies, Politics and Ethics and Anthropogenic Problems edited by Aihwa Ong and Stephen J. Collier.
trade for both small and large scale farmers, while simultaneously and robustly consuming soil nutrients. Decreasing Ph levels and increasing acidity, eucalyptus nurse hostile, monocultured plant societies. Subterranean roots tell stories of global market economies and scarcity - lubricated via papermaking, essential oils, living room diffusers and a thriving industry of ‘natural’ remedies and medicinal homeopathy now bolstered by a pandemic. Eucalyptus leaves - pastel greens and muted violet - purify contaminated air and cleanse human lungs. Eucalyptus move across Andean towns on the backs of women and in small trucks to the ill; sacred gifts for struggling lungs.

Acknowledging that what happens distinctly in one place matters to another (Berry, Pollitt, Nelson, Hodgins & Wintoneak, in press), our pedagogical work in Racar might be already both/and: both particular and common, both local and global. This double positive could also infer a negative. That is, what happens in Racar might be considered neither local nor global, but rather part of a dynamic assemblage that composes with multiple, yet particular, places and times at once, displacing (but not dissolving) colonial semiotic divisions that attempt separation (de la Cadena, 2019). Orienting to Racar as an assemblage requires attention to its situated contingencies, what Haraway (2016) calls ‘partial’ connections, and how these connections, such as those described in the narrative above, enlace with the world through tentative and flawed translations. Referring to her fieldwork in Cuzco, Peru, de la Cadena (2015) explains that Andean places are never singular or plural, “never one world and therefore never many either, but a composition (perhaps a constant translation)” in which the practices of its worlds constantly overlap and exceed each other (p. 5). These place making practices have implications for how this dissertation orients to notions of validity in research.
Interfering with ‘Validity’

Postqualitative methodologies have been scrutinized with academic criticisms which may mistake theoretical intention for lack of rigour. While ‘post’ theories, such as postcolonial, poststructural, posthuman, postmodern, postempiricist, and many others, have gained increasing traction and legitimacy across a variety of academic disciplines, post methods still have much catching up to do (St. Pierre, 2016a). Within this dissertation, emergence and experimentation do not equate to unintentional freedom. For Sullivan (2006), acts of making complexify systematic procedures attributed to much educational research that seek legitimacy through evidence, as the richness of experience cannot be compartmentalised into sequential methods or reduced to preconceived categories. Springgay, Irwin and Kind (2005) explain that this form of research moves beyond the “existing criteria that exists for qualitative research” and requires a loss, a shift, or a rupture where in absence, preconceived meaning is displaced, and divergent courses of action unfold (p. 898). As postqualitative research is partial, situated and temporary, notions of validity and the “authority to construct and evaluate knowledge claims” become put into question (Lather, 2006). As Tuck and Mackenzie (2015) argue, notions of validity reinforce colonial violences by attempting to mute affective relations that comprise a particular place, often under the guise of objectivity or anonymity. Grappling with the ‘validity of validity question’ (Kvale, 1996), postqualitative researchers have a unique obligation and sensitivity to how theory meets interpretations of living events. As Kvale (1996) stresses, researchers thinking with a postqualitative methodology must address this challenge by constantly revisiting their processes for congruency among their intentions and obligations, situated experiences, and theoretical framework. In this dissertation, research processes are grounded in pedagogical commitments and orientations that guide and continually return researchers and educators to key research questions that frame the ongoing emergence of inquiry. These commitments and orientations are reflexive with our theoretical framework, and sustain the living rigour of this project. This rigour is enacted through pedagogical documentation, where continual dialogues with participants about discernment and decision making ensures curricular processes reflect the intentions and ethical obligations of the project.
Curriculum-making

In this study, research processes are intimately entwined with the school’s daily pedagogical inquiries. Everyday inquiries with children and educators shape both my research study, and the school’s emergent curriculum. This collective project works with a view of curriculum as a living, eventful exchange that is co-produced by children, educators, researchers and others (Vintimilla & Kind, 2021). In this sense, curriculum is not an application of teacher-led content or a set of activities for children’s free exploration. Rather, curriculum is made through daily practices and is formed through sustained, long-term investigations alongside children (Vintimilla & Kind, 2021). The grounding ideas about curriculum formation that orient this dissertation emerge with the work of Cristina Delgado Vintimilla (Pedagogista) and Sylvia Kind (Atelierista) and their 13 years of collaboration with the Capilano Children’s Centre in North Vancouver, British Columbia (see Kind, 2010, 2018; Vintimilla, 2012, 2018; Vintimilla & Berger, 2019). In engaging with their work, this dissertation is in dialogue with a continuous trajectory of curricular scholarship which has a rich history that grows from the context of the Canadian West Coast, one which considers curriculum as a verb, a doing (Vintimilla & Kind, 2021). For instance, Pinar (2012) proposes curriculum not as a static structure that can be tweaked or intervened, but as an ongoing act that is felt and continually worked with. Pinar offers currere as an intimate analysis of educational experiences and how interpretation participates in the transformative life of curriculum. Currere, a Latin word meaning ‘to run’ over time, suggests an active practice of being in consistent conversation with the emergence of curriculum as it is shaped by a past-present, and gestures toward (but does not prescribe to) a possible future. Pinar’s (2012) notion of currere infers a vision of curriculum that is in responsive dialogue with what matters pedagogically in a particular educational context and a consideration of how curriculum gives form to an educational project that is in relation within the public sphere and a situated social context.

At Santana, our orientation to curriculum is situated within a common worlds framing, and thus engages with the question about what it might mean to make a collective and liveable existence with plastics in Racar. This is not about centralizing or instrumentalising children’s use of plastic materials or merely observing plastics’ agency. Rather, it is interested in what Kind (2012, 2018) calls the ‘dance’ of a living curriculum, the responsive and dialogic curricular processes that
shape and are shaped by eventful encounters with materials. This eventfulness requires a sensitivity to what materials do, the effects they produce when they are worked with, their movements, rhythms, intensities and productive exchanges (Pacini-Ketchabaw et. al, 2016). In other words, an attunement to how materials can give form to an experience. This attention to the life of materials unsettles early childhood curriculum from its developmental allegiances, where acts of making are often stripped of dialogic qualities and become “a technology, where something is done to something” (Bunn, 2011, p. 21, emphasis added), an already-formed idea impressed upon material through the imposition of the child’s will upon an unmoving world.

With Kind (2010), materials speak back to the maker, both physically in the touch and within the discursive social and relational context in which they are encountered. For example, weaving with children and educators in Racar asks for a bodied sensitivity as the hand negotiates with contradictory consistencies posed by plastics and paja toquilla - the slipperiness of thin synthetic strands and the firmer texture of paja toquilla are worked with into ongoing and overlapping folds. The distinctions of each fibre directs the pace, rhythm and formation of the folds as they meet with the hand – they inform both how we weave, and how the weave turns out. These material processes are interpreted within the socio-political circumstances of Racar, where plastics and paja toquilla come to matter through particular histories and presences (See Chapter Five). Viewing curriculum as an eventful exchange, curriculum-making becomes a dynamic process of activating situations or circumstances for inquiry (Vintimilla & Kind, 2021), noticing emerging possibilities, and what Vintimilla, in her practice as a pedagogista, calls ‘ideating’ with others around what/how meanings and methods are being produced. Working with a project that responds to what matters collectively, living curriculum is shaped through the dialogic processes of pedagogical documentation.

**Pedagogical Documentation**

Documentation is a pedagogical practice that is central in curriculum-making (Rinaldi, 2006). Documentation is related to curriculum making because it has a retrospective character (it tells researchers and educators what matters in what happened) and it has a prospective character (it invites the creation of future trajectories based on what is pedagogically significant) (Rinaldi,
Documentation is a practice that helps us pay attention to what is significant for the educational experience of a group of children and at the same time it makes visible the values and pedagogical orientations that matter to an educational project. In documentation, educators make decisions based on this process of rendering something significant. Documentation is the pulse of the educational processes that are being unfolded at the school (Vintimilla & Pacini-Ketchabaw, 2021).

Documentation also brings our work to a public forum (Dahlberg et. al, 2013; Rinaldi, 2006). It traces what children and educators engaging with and the different ways of inquiring that are part of such engagements. The practice of documentation allows educators to notice how weaving shapes emerging understandings and to re-configure curriculum in ways which respond to generative moments and collective processes. Pedagogical documentation is about both content and process (Dahlberg et al., 2013). In making documentation, educators think not only through pedagogical content, ideas and materials being generated in the inquiry, but also pedagogical processes, the experiences of making that create content, and the use of this content to reflect on/challenge thinking and make decisions. As articulated in Chapters Two and Five, pedagogical documentation is a means for thinking through both ‘ordinary moments’ and project inquiries, while tracing the emergence of individual and collective thinking. Put another way, pedagogical documentation is a practice of interpreting traces of lived experiences, ideating upon them with others, and opening pedagogical processes that propel long-term curricular investigations (Vintimilla & Pacini-Ketchabaw, 2021).

Within a common worlds framing, pedagogical documentation is not a mechanism for making visible children’s learning or development (see Chapters Two and Five). This dissertation considers how documentation is produced within dynamic, socio-political networks of discourse that figure pedagogical events and interpretations. Thus, documentation such as photos, notes, drawings, and videos, do not represent individual rationalities; they are seen as material testament of the movement, forces and conflux of particular discourses. In witnessing with educators the discourses which shape how we encounter the world with children, documentation becomes an occasion to think and make decisions around how our pedagogical processes might carefully and ethically respond.
Research-Creation

Creation, materials and daily curricular processes with children

Central to the purpose and premise of research-creation, is the notion that acts of making constitute research in their own right (Manning & Massumi, 2014; Manning, 2016). This project considers research as creation – and creation as research. In this sense, the arts are not superfluous additions to the study or data that represents children’s understandings (Pacini-Ketchabaw, et. al, 2016). Rather, the arts generate material processes for collective thinking and theorizing through research questions in our daily pedagogical investigations with children and educators. Research-creation situates our inquiries in a speculative practice that emerges through acts of making, and seeks to cultivate knowledges from performative, experimental, and bodied engagements with materials (Manning & Massumi, 2014). Within our pedagogical project at Santana, creation takes form alongside children in everyday inquiries with materials. Specifically, materials used in weaving offer particular ways of thinking through and communicating ideas with children. Materials such as dried vegetable fibres and reeds (paja toquilla, carrizo, cabuya, duda) and plastics have singularities that propose specific ways of perceiving and making. The languages of these materials enable how we are able to weave, and create unique ways of sensing, communicating and complexifying ideas with others (Vecchi, 2002). In the processes of weaving, the characteristics of these materials create grammars and vocabularies which enable specific relations (see Chapter Five and Seven).

With Santana, we continue to rethink children’s engagements with materials not as expressions of an already formed idea impressed upon matter (Pacini-Ketchabaw, et. al, 2016), but what Kind (2010) articulates as ‘an act of inquiry and investigation: a provocation and a question.” (p. 122). With Ingold (2013), materials pose riddles. They have dynamic properties which propose certain ways of working, where the resistances and frictions of materials speak back to the maker. In this sense, acts of making with materials are not purely free or self expressive, but rather are an act of ‘joining forces’ with an active material world and its physical gestures, temporalities and movements (p. 20). Materials propose dialogues which give shape to interpretations (Pacini-Ketchabaw, et. al, 2016), evoking perception and enabling the formation of thought in and through the processes of working with them (see Chapters Five and Seven).
In our work with children, we attend intimately to concepts *in-the-making* and their emerging ontological formations. For example, in Chapter Five ancestral weaving techniques pull children, educators and researchers into generative difficulties within the foldings of dried grasses and plastic yarn. Here, the qualities and characteristics of materials such as paja toquilla, carrizo and plastics are mediums that give shape to emerging conceptual propositions. As Eisner (2002) explains:

> the medium we choose to use and the particular form of representation we select – say, sound rather than visual form – affect our perception of the world. If we are to represent something through a medium, we try to find the qualities of experience or features of the world that will lend themselves to the medium we have selected. Thus representation influences not only what we intend to express, but what we are able to see in the first place. (p. 23)

With Eisner, materials – their distinct affordances and constraints – elicit ways of being together, how an experience is perceived and what can be thought. These processes of figuring ideas in/through a medium are co-composed alongside children and educators, and are made visible by pedagogical documentation. Pedagogical documentation enables us to notice subtle perceptual cues and conceptual seeds that become present in these acts of making. Through collective rhythms of braiding seemingly incompatible materials together, weaving with plastics and grasses generate a modest, yet significant, pedagogical force that unsettles Cartesian divisions of mind/body, nature/culture. Daily acts of weaving begin to propose material/conceptual threads of inquiry and curricular processes that recognize thinking/doing, nature/plastic as already intimately enlaced (see Chapter Five). Following Cusicanqui’s (2012) notion that anti-colonial work is much more than critique, but rather is a *practice*, research-creation via weaving offers possibility for responding to the plastic crises in Racar by theorizing childhoods and plastics together through artistic processes that are deeply grounded in doings and practices. This focus on doing and making together reaffirms that the purpose of this project is concerned not only with *what* is made in research but importantly *how* it is made, to ‘produce different knowledge and produce knowledge differently’ (Lather, 2006, p. 15). This requires a particular orientation to the arts in early childhood education.
An orientation to the arts

In this project the arts do not ask us to retell the story of plastics in Racar as it is or how it ought to be. The arts enable us to think alongside children in the unforeseeable. Following Sullivan (2006), material inquiries are not interested in the “probable or plausible, the quest is to ponder the possible” (p. 28). The arts enable speculative and unconventional ways of inheriting the catastrophic problem of plastics, liberating us from the literal (Eisner, 2002) and provoking minor perceptions and responses that are not paralyzed by discourses of climate catastrophe or developmentalism. The arts offer immense pedagogical potential for becoming sensible to the affectual qualities of this problem, and for asking questions about plastics that interrupt colonial and capitalist impulses of rejection, conquer or domestication common to education. Key to this is the recognition that while turning to the arts as a practice for reimagining the present and, in the context of Santana’s educational project, ‘unsolidifying’ taken-for-granted neoliberal forms (Phillips, 2015), we must be careful not to reproduce notions of art-making as a neutral endeavour (Berry, Pollitt, Nelson, Hodgins & Wintoneak, in press). This orientation is not about emancipation or redeeming ourselves from past-present violences that perpetuate economies of plastics in the Ecuadorian Andes, rather it seeks to immerse ourselves with children into the problems, puzzles and tensions of an increasingly synthetic world and its material/conceptual propositions. Situating children’s material processes within the living ruins of a synthetic forest, as both wounded and flourishing (Shotwell, 2016), our collective enactments are driven by a pedagogical desire to sink into the complexity of a childhood shaped by plastics. Through weaving, we engage with these difficulties in material ways, with techniques that attempt to produce different ways of living with plastics’ toxicity.

Thinking with materials opens this project up to questions not often asked in early childhood education - how can plastics be sensed/thought/lived with? Sensing/thinking/living differently with plastics, as violent and lively co-shapers of Andean places, requires a vision of the arts outside of developmental framings, one which energizes modes of activity, interrogates complicity and overspills ‘ready-made channelings’ of prevailing discourses (Manning & Massumi, 2014, p. 87). There are some conditions and orientations to the arts that enable us to collectively inhabit these questions with children. As a pedagogical coordinator, a central task of my research with Santana has been to cultivate such conditions alongside educators. These
conditions involve an ongoing refiguring of developmental approaches to the arts in curriculum that rely on ready-made sensors, particularly individualist or consumptive notions of art as an isolated or one-off activity, individual expression or manifestation of children’s innate creativity (Kind, 2012, 2018). These conditions are always unfinished and becoming in vibration with the educational circumstances which our project faces (See Chapter Three). For example we are often haunted by developmental presences and neoliberal educative impulses which require consistent attention and interference. With Deleuze (1994), interference proposes an initiation of potential, a curricular provocation that causes a collision or juncture in already moving systems, generating ripples in existing currents.

Santana’s decision to move away from developmental visions of the arts and toward a relational orientation to children’s engagements with materials works in response to colonial narratives of extraction, efficiency and accumulation in education. While children’s individual processes still matter, we seek to create situations for intense collective experimentation where ideas travel, contaminate and are shaped by multiple perspectives (Kind, 2012; Kind, Berry & Jessen, 2019; Vintimilla & Kind, 2021). These collective experimentations agitate rationalities of individualism that are upheld by developmental psychology and the image of the freely acting, rational, inherently creative child. This dissertation interferes with this image of the child, making visible colonial rationalities that are maintained by child-centered logics. Thinking with propositions from a plastic-debris filled river, it attempts to compose a grounding image of the child in our pedagogical project that is porous, leaky and deeply situated within the uneven contradictory worlds which children inherit in Racar (see Chapter Two). This view of the child informs much of our pedagogical decision-making, and how we understand children’s creativity as a performance of encounters that are co-composed and responsive to others (humans, materials, places, discourses etc.) (McClure, 2011). In this sense our project does not orient to children’s ideas as if they are regurgitated from an intrinsic, inner place of imaginative purity, nor do we understand meaning as held directly within children’s art or materials themselves (Kind, 2010). Rather, the conceptual propositions that emerge through our engagements with materials are part of an active, relational exchange where acts of making and materials are considered events (Davies, 2014; Pacini-Ketchabaw, et. al, 2016).
Following Pignarre and Stengers (2011), for an ‘event’ to be an event, a situation must activate interactions and collaborative processes that give rise to different thoughts. Central to the possibility of these interactions is that they are not pre-reduced to the delivery of ‘already-arrived-at conclusions’ (Manning & Massumi, 2014, p. 90). An event becomes eventful because of its improvisational quality amid multiple parts in composition. As Ingold (2013) proposes, improvisation in acts of making is not about a modernist search for novelty or newness in progress, but is about a responsivity that is embedded within ongoing histories and existing contexts - minor adaptations which move with already moving material worlds. The notion of material in/as event opens our project to a view of weaving as a living way of engaging with the world, full of movement, intersection and possibility. This requires educational conditions that betray the assumption that materials are inactive and waiting to be acted upon (Pacini-Ketchabaw et. al, 2016). Rather, materials propose eventful meeting places where nascent thought encounters a medium in an experimental juncture and familiar representational forms may be brought into question and take new modes of action (Kind, 2018). As O’ Sullivan (2006) articulates, the reciprocal and participatory exchange proposed through encounters with materials operate with a disruptive force, where we come into encounter with materials/bodies, their affective provocations, and are “forced to thought” (p. i).

Creation and the curation of the Exhibit

The project’s Exhibit, *Plastic Childhoods: Noticing toxic intra-dependencies in Andean early childhood education*, thinks with research-creation as a conjunctural practice (Chapman, 2019) in which research is an act of creation through the processes of curation. This methodological conjunction figures four installations that immerse spectators into the material-semiotic life of plastics at Santana and the pedagogical dependencies this life speaks with. Curation asks particular questions of this project. For example, ‘how will the Exhibit render public our research?’ As the classical French painter Edouard Manet once said, ‘to exhibit is to find allies in the struggle.’ Bringing our inquiries to the public space, the processes of ‘exhibiting’ our ongoing pedagogical work with Santana involves a re-encountering and re-proposition of the generative struggles that figure our project. We do this by making arrangements, associations,
juxtapositions and what Obrist (2014) calls ‘wordless gestures’ (p. 32), that enable an affectual public engagement with minor but significant aspects of our daily inquiries with children. In the making of the Exhibit, curation is a process of composing this engagement through a situation that both enlivens a particular pedagogical concern and re-channels its discourse. Curating the Exhibit consists of gathering, organizing and re-arranging collections of photos, plastic objects, phrases and video files in ways which magnify attention to plastics’ discursive presences at Santana. As Obrist (2014) explains, the actions of curating do not equate only to decision making, as decisions are made in innumerable everyday contexts outside of the arts. For Obrist, curation is about collecting, proposing and creating an experience that is drawn from the arts, a process of making that is inevitably a way of inquiring about the world through connections that this making makes. Curation, then, is a way of thinking through research questions; it is “a method of producing knowledge” (p. 38). Within this view of curation, the Exhibit does not seek to represent ‘what happened’ in research with children or to present findings and conclusions. Rather, the Exhibit is an event where processes and products inhabit and further activate our struggles in becoming intimate with plastics alongside children. The installations ask viewers to immerse themselves alongside us in research through a series of collective public encounters. In these encounters, aesthetics become a threshold for thought (Vecchi, 2002) where the visual gestures toward a slight conceptual provocation. The ways in which these provocations take shape are dependent on a field of social-political relations that figure a viewing experience (Bishop, 2005, 2012). In this sense the installations, both in their processes and performatively effects, are not stable or prefixed, but rather are ‘elusive and slippery’ (Cutler, 2019, p. 6), and rely on both a viewer and the social context to generate meaning. Each installation has a particular focus for resetting the public stage as a modest invitation toward alternative visions of childhoods and plastics in Racar. Together, the installations propose a deep interrogation into the comforts of familiar visions of childhood, early childhood education, the purity of Andean landscapes and how these visions participate in the plastic crisis.

_The wall of plastics_, an intensification of common plastic children’s items at Santana; a confrontation to notice these artefacts as a material-manifestation of neoliberal subjectivity and its curricular consequences.
The logics of plastic, a deck of over 100 hand-held cards each with a single quality or rationale of plastics; a slow, meticulous entrance into the ways of thinking that plastics make possible.

The languages of plastic, a short film that enlivens the bodied experience of being enwrapped, grown and born from a plastic cocoon; an immersion into being touched by the intimacies of a synthetic body becoming alive and its modes of communication.

Noticing conflictual interdependencies, a photos series that walks through the shades of our inquiries with children in/out of the plastic forest; an invitation to trace the toxic/life-giving lines of plastics as they entangle with earth, air, water land and life.

The Exhibit orients to a relational view of curation as the creation of a public experience that energizes participation into a particular socio-political arena (Bishop, 2005), in this case the context of early childhood environmental education in Racar and Cuenca. This relational orientation to the Exhibit produces a particular understanding of the viewing subject as one who is “existing as an effect of being-in-common with others” (Bishop, 2005, p. 115). Through curated perceptual cues, the engaged spectator enters into a prepared situation that actively decenters dominant patterns of subjugation and produces new forms of subjectivity within the material flows of discourse. A key premise of ‘exhibiting’ as part of a methodology is to become confronted with aesthetic provocations that ‘set ideas into motion’ and cause us to inhabit the world slightly differently (Bishop, 2005, p. 104). Creation via curation thus has immense possibility to produce effects that are deeply pedagogical and meaningful for our educational project with Santana. With Biesta, (2019) this pedagogical engagement with the public sphere conjugates the educational with the political, and proposes a manner of gathering and togetherness that attempts to situate plastics and childhoods as a collective concern.

Though the Exhibit took place early on in the project with Santana, it continues to decompose as an event in (and as) a particular way. As Pignarre and Stengers (2011) explain, an event is itself,
a way – a manner of doing in the public space. This way is inhabited by the questions the event is obliged to, and creates an ongoing force that makes these questions “exist for those who respond to it” (p. 4). The Exhibit produces interferences and, as an effect of being interrupted, a vulnerability that arises in the opening of something that is not yet. Following Pignarre and Stengers (2011), vulnerability is a condition for those called into the event, it is a quality of inhabiting a possibility for difference. These vulnerabilities continue to move in waves at Santana, as we ebb and flow with the refrains of developmentalism, its shaky lines and uneasy othersides. Traces of the Exhibit linger. The photos have travelled immensely, physically across various areas of Ecuador, Canada and virtually through immeasurable digital worlds. The Exhibit contributes to the discourse of early childhood education and its purposes at Santana and, in subtle ways, across Racar’s broader community relations.

Installing over 500 small plastic children’s objects on a large black gallery wall begins with a desire to make crisply visible the particularities of each piece beneath focused spotlights. We want those who encounter this installation to be pulled into the minute details of each plastic artefact – perhaps even to be disturbed by their collective presence which feels both obnoxious and somehow refined in the context of the gallery. Yet, processes of creating this installation are not simply about setting up materials for consumption. The installation involves a long labour and the resulting composition of pieces demands a slow viewing. We begin with a large colourful mountain of small plastic objects and toys piled in the middle of the gallery, gathered from Santana during an abreactive event in the early days of the project. Abreactive, because the event conjured to the forefront unconscious curricular excesses that shaped both the aesthetic life of the school, its materials and pedagogical desires.

We encounter these materials, initially confronted by a vibrancy of shiny, artificial colours. The mountain’s chromatic becomes our entry point into the meticulous labour of sorting. The processes of arranging are guided by subtle instincts, minor but important decisions to select one piece over another, to place
one figure here and not there. As Eisner (2002) tells us, in the arts small decisions have big effects. The installation is formed through the slow sifting of objects arranged by their colour distinctions - noticing differences that separate a particular piece from another while at the same time generating proximity and correspondence to others across subtly shared hues. In the processes of arranging, it becomes apparent that the emerging body of plastics is deeply shaped by both distinctions and commonalities across heterogeneous parts. The formation first takes shape along the floor of the gallery, until each piece is ready to be carefully transferred to the wall. Every nail must be hammered straight, with only a tiny dab of hot glue along its peak to avoid drippings. The plastic figures are arranged in response to the lights above which produce a network of shadows on the wall behind – one off-centred nail shifts the entire formation.

Turning to the piles of photos that would be placed along the long staircase winding from the basement to the top floor the gallery, we decide to sustain this sensitivity to minor colour variations as an aesthetic invitation to notice subtle disparities and consistencies in our encounters with plastics and across the photos as a series. Walking from the basement to the upper level of the gallery, the viewer moves between the shades of our inquiries.

_Cabogana’s dark-earth-greens meet webs of plastics deeply immersed in the umber of land under tree shadow. The forest becomes softened with tones of powdered olive, abundant eucalyptus bouquets carry Andean woods to the classroom and up the gallery stairs. Lively stems and sprouts coil, poking through openings of a smooth lime saquillo. Ribbons of rusting barbed wire in the green bramble. A crisp sliver of red plastic thread emerges in the lush as a sewing needle slips through a single leaf almost wet with emerald colour. Slowly a hand pulls the line of scarlet yarn – unspooling and lacing through the sequence of photos and its unfolding range of colour. Red plastic thread stitches through navy_
fabric swaddling children’s bodies as they simulate labour and life – infant creatures grown and birthed from the forests’ plastic cocoons. Red plastic thread tangles up with a spool of polymer sky-blue, one encounter of many in the long-going work of knitting nests and baskets. Braids of cherry red and aquamarine spirals climb the staircase, bending with creamy folds of paja toquilla. Oatmeal colours - children’s hands, taupe grasses and plastic bags inhale with the air and light of the second floor. Touched by the sun, red plastic thread glows scarlet. Its synthetic brilliance punctures the stark whiteness of saquillo bags with jagged irregularities as if monitoring a pulse. Red plastic thread stitches against the flowing curves of a visual weave and the photo trail behind. An opening to the nothingness of white.
CHAPTER TWO

ARTICLE ONE / INTERRUPTING PURITY IN ANDEAN EARLY CHILDHOOD EDUCATION: DOCUMENTING THE IMPURITIES OF A RIVER

Alex Berry, Cristina Delgado Vintimilla, Veronica Pacini-Ketchabaw

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Abstract

In an inquiry with young children at a small river beside a school in Cuenca, Ecuador, romanticizations of harmonious childhoods and pristine, even magical, river natures are in abundance. Using common worlds framings, this article interrupts purity in child-nature pedagogies. We argue that encountering the river as a site of contradiction, and as an inherently pedagogical contact zone, requires disrupting discourses of “purity” that separate humans from their vulnerabilities with/in mutual, already contaminated worlds. To do so, we revisit pedagogical documentation from our walks at the river, and put them in conversation with persistent anthropocentric logics and the vibrant life of plastics at this river. We also gesture toward the pedagogical dispositions that might be required to cultivate educational experiences that are situated in the midst of the problems and impurities that the world proposes.
Introduction

A small, human-made waterway passes through the centre of the campus at Santana in Cuenca, Ecuador. The waterway trickles from one end of the school grounds to the other and has become an axis of attention for a group of young children and early childhood educators who visit it regularly. Prepared to repel its splashes with plastic boots and ponchos, the children call this concrete framed stream “the river,” and ask where it begins and ends.

Following the trajectories of “the river” beyond the boundaries of the school yard, this question of beginnings and ends has fuelled a yearlong inquiry into the life of this small creek and the materials that thrive in it. The creek traces the body of the massive Cabogana mountain on the other side of the chain-linked fence that lines the school yard. We meet this creek as one of the multiple encounters with place that have been provoked through a common worlds pedagogical project that aims to decenter the human in educational experiences and forge new relations with waste by bringing closer together nature/culture and outside/inside colonial divisions (Taylor, 2013; Taylor & Pacini-Ketchabaw, 2019). Following particular lineages of feminist scholarship that labour for dissolving these colonial binaries (Haraway, 2008, 2016; Wynter, 1995, 2003), we think with common worlds pedagogies that imbed past/present/future lives as differentially entangled with multiple more-than-human others including animals, elements, technologies, land forms, and discourse (Taylor & Pacini-Ketchabaw, 2019). Noticing the presence of this artificial stream was the entry point of this pedagogical encounter that enabled us to step outside of an educational condition highly organized in sealing off children from the place that surrounds them.

At the start of the project, dichotomies between the school and its socio-cultural-ecological context were stark in both aesthetic and pedagogical dimensions. Even though Santana is cocooned within the rich greens of the Andean mountains and the blue and whites of the sky’s moving hues, like most schools, Santana’s classrooms were artificially divorced from this palette or anything that speaks of close relations with place. Instead, primary colours and images of smiling Disney-like characters of all types surrounded and fed the imaginary of Santana’s

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4 We arrive on these lands as visitors from Argentina, Ecuador, and Turtle Island (also known as Canada), all now living in the North.
children. We see this aesthetic as one of many dynamic neocolonial formations that continue to reduce geo-politically incommensurable childhoods into colonial imaginaries under a transcendental image of the innocent, *pure* child, bounded from the poisons of the world (Burman, 2017; Taylor, 2013). At Santana, such discourses of purity functioned to not only neutralize gendered and racialized childhoods into homogenous framings, but also to radically exclude children from the contradictory, messy, ecological milieu in which the school is actually situated.

Becoming permeable to what Shotwell (2016) calls “toxic connections” that simultaneously wound and sustain us, the purpose of this article is to interrogate these discourses of purity in early childhood education that perpetuate anthropocentrism and further distance children from their relations to the increasingly damaged worlds in which they are implicated. Inspired by Shotwell (2016), we argue that noticing the river as a place of toxic indeterminacy, inclusive of waste materials, requires puncturing narratives of purity that preserve seemingly banal colonial rationalities. We disrupt early childhood education’s long-standing ability to cloak colonial logics of division and expansion through pedagogies which separate humans from nature under the guise of purity.

In this way, following an established line of thought in the social sciences and humanities (Haraway, 2008, 2016; Latour, 2004; Wynter, 1995, 2003), we see the underlying logics of purity as located at the conjuncture of colonial conquest and neoliberal accumulation of that which lies just beyond the known. In situating purity as an ally in neocolonial subject-formation (Shotwell, 2016), it becomes possible to notice how it functions in the structures of meaning that frame the all-too-familiar nature/culture divide. The promise of purity lies both “*outside*” in the romantically undiscovered terrain of nature, and “*inside*” the body of the innocent child whose youth promises a future of progress and production.

We begin with an account of pedagogical documentation, our primary method of inquiry, and discuss how we bring a common worlds orientation to it. We then trace how purity functions as educators document walks to the river and move to destabilize the image of the innocent child in harmony with nature by returning to moments of our encounters with the creek. We conclude by
narrating the river as an inherently contaminated place in order to create pedagogical conditions conducive to messing up purity.

**Pedagogical documentation in a common worlds project**

As part of a large international project that includes six sites across Canada, the United States, and Australia, we use common worlds frameworks (Hodgins, 2019; Taylor & Pacini-Ketchabaw, 2019) and pedagogical documentation (Rinaldi, 2006). The overall goal of the project is to rethink our relations with waste (Pacini-Ketchabaw, 2017). Each site is concerned with a theme that aims to unsettle managerial logics of three Rs (reduce, reuse, recycle). Our research at Santana aims to reconceptualise ‘recycling’ by thinking closely with the ongoing life of plastic materials that deeply figure into child-place relations in Cuenca.

Working with common worlds conceptual framings, our research is foregrounded on a commitment to decenter the human as the sole focus of inquiry and to situate our lives within shared, yet unequal, common worlds (Latour, 2004). The notion of common worlds in early childhood education is an inclusive, more-than-human notion that challenges the child at the centre of pedagogy (Taylor, 2013). It also brings a critical interruption to the “human” as a colonial epistemic projection underpinned by white, heterosexual masculinity and legitimized only via Western knowledge-making processes (Nxumalo, 2019). In dissolving the imaginary of the rational human subject, common worlds framings aim to interrupt what Shotwell (2016) calls the fragile and dangerous fiction of the “pure” human that assumes individualism and inherent disconnections with the world.

Inspired by these common worlds framings, early on in the project we realized that to radically think with the complexities of living with plastics, our initial pedagogical work needed to disrupt the colonial discourses of purity so ingrained in daily practices at Santana. Thus, the first year of our pedagogical work was largely about opening up orientations that allowed for thinking about the river beyond notions of the purity. More specifically, our goal in the initial phase of the project involved challenging the discourse of the “developing child in nature,” unsettling discourses that center the individual child at the center of pedagogy, and attending to the
interdependencies of humans and nonhumans amid increasingly toxic ecologies. This article focuses exclusively on the pedagogical work we engaged in during this first year.

Dismantling and re-situating the discourses of purity has particular implications for the ways in which we understand and enact pedagogical documentation as both our pedagogical practice (Dahlberg et al., 2013) and our research method. We see pedagogical documentation as situated within the movement of local/global social and political discourses and forces, and as a tentative and speculative tracing of the material performances and manifestations of what takes place in pedagogical work. For us pedagogical documentation does not involve rationales of individual educators and researchers’ actions. In this way, we think of documentation as a process that highlights not what happened, but what mattered pedagogically in what happened (Rinaldi, 2006).

Considering this, documentation became the occasion for us and educators to be able to pay attention to what was emerging and, perhaps more importantly, to what was left out and overlooked. We used pedagogical documentation with educators to trace our processes of inquiry and to make decisions intimately related to pedagogical intentions that would enhance and intensify the disruption of purity discourses. Pedagogical documentation became an occasion to think about how present and ingrained purity discourses are in educative practices. Specifically, with pedagogical documentation we traced two important purity discourses in early childhood education: the romantic child, and our relations with a pristine and intact nature. Through pedagogical documentation, we witnessed how it is that we fell into the fable of the magically pristine river, and the anthropocentric logics we needed to interrupt in order to think with plastics.

**Encountering the city of four rivers**

Cuenca, a city in the middle of the Ecuadorean Andes, is a place with a complex history that now embodies its past in its present with very specific local aesthetic, political, cultural, and social conditions. As Fikile Nxumalo (2017) reminds us, place is not a physical backdrop to human activity; rather it is an active “‘gathering’ of human and more-than-human bodies and stories that
require attention beyond the individual child’s experiences” (p. 644). In this way, place is not only composed of pure or natural elements, nor is it made of a collection of paralleling, self-contained parts (Tsing, 2015). Place is porous, leaky and fundamentally contingent upon what Tsing calls “contaminated diversity,” whereby cross-boundary pollution, both materially and discursively, transforms place in new, often uneasy directions.

The Spanish translation of “Cuenca” literally means “basin.” Nestled in a small valley of the Andean mountains, Cuenca is a meeting place of four great rivers: Machangra, Tomebamba, Yanuncay, and Tarqui. These rivers trickle from high altitude lakes whose waters sustain life in the region (Michelutti, Wolfe, Cooke, Hobbs, Vuille, & Smol, 2015; Royer, Ferron, Wilson, & Karl, 2018). Running through the central areas of the city, Cuenca’s rivers frame the physical geography of the place and its architecture, and they are integral to the histories and cultural fibres of Cuencanx identity. It is often said that Cuencanxs live with the river’s waters as their blood. One educator told us, “We are the river.”

In Cuenca, Spanish is spoken in the language of the river, sung with tones that dance like currents from high to low. On Sunday afternoons when the city stores are closed and the cobbled streets of downtown are quiet, the river becomes a gathering place for leisurely readers, knitters, and families with young children. Sporadic collections of large stones around its banks are hiding places for lovers young and old, and the rigidity of its banks become washing frames where women and children wash clothing for the week. Families of the city’s largest rats also gather about the river, a species that fulsomely thrives in this place by the remnants of human waste. The river is undeniably a meeting place of multiple storylines that are told in the encounters this place facilitates and, in many ways, the river can be read as an archive of rich memory.

Prior to colonization by the Incas in the 1400s and Spanish conquistadores in the 1500s, this land originally belonged to the Cañari peoples, yet it also was a cosmopolitan space comprised of several other Indigenous groups (González Suárez, 1965; Pita, 2015). These layers of colonization in Cuenca continue to produce complex, overlapping hybridities between both peoples and place. For example, in the forest beside the school, Eucalyptus trees, which arrived from Australia in the early 1800s, are an imperious invasive species that rely on clay soil for
water (Flores Cota, 2009). Clay has a significant socio-cultural history here and is used abundantly in the making of local homes, roofs, pottery, and various other artisanal crafts. Eucalyptus forests have become prominent in Ecuador’s geo-ecological landscape. However, the proliferation of this water guzzling desert species destroys neighbouring farmlands and creates precarious socio-ecological conditions as it threatens the biodiversity of plants and animal species, as well as Indigenous peoples, connections to their traditional lands through agricultural cultivation.

Santana’s early childhood campus is surrounded not only by the expansive Eucalyptus forests of the Cabogana, but also by a community of farmers and brickmakers. This community is made up of people who hold immense knowledges of the lands and the ways in which they can be cultivated. The long road to Santana from Cuenca’s center is lined with the brickmakers’ houses and stacks of clay bricks, shingles, and pottery. This road is punctuated with small cattle farms and mini-markets with tables of vibrant vegetables whose colours are echoed in the textiles that accompany them.

**Interrupting purity in early childhood education**

*Tracing purity in Andean early childhood*

While children at Santana are physically close to the place that surrounds them, everyday pedagogical practices are not necessarily attentive with place and the contentious, interdeterminate relations that are so active here. Prior to the start of the first school year, Santana’s classrooms were embellished with popular Western symbols of childhood and languages of developmentalism (Burman, 2017): age-appropriate toys of popular children’s characters, unified crafts made of glitter, pom-pom, and pipe-cleaner. Also child-sized desks brightly painted in the primary colours of red, blue, and yellow are a few examples. A strong aesthetic attention was curated around images of the innocently fun and happy child, and in conversation with a pedagogy that pursued such “freedom” through the purity of early learning (Vintimilla, 2014). Situated within a large fenced patch of land that has been completely clear-cut of trees to make space for newly constructed lawns, playgrounds, sandboxes, and a cement
area for bike-riding classes, the juxtaposition between institutional spaces and place was profound. Outdoor pedagogical experiences also marked a dichotomy between nature and culture as recess and lunch hours were carefully scheduled to avoid times of intense, high-altitude sunlight in the afternoon when the deforested school yards provided little shade.

*Suited in nylon rain gear and clunky rubber boots, we followed the trajectory of the small stream in search for what we hoped might be a larger flow of water in the dense Andean forest that neighbours us. With Patricia and Cecilia, the educators, we walk, passing the walls of the school yard. Patricia uses both hands to jostle a weighted brass lock linking large metal chains that secure the gate to the forest, “Call Juanito! The gate is locked.” Pausing for the arrival of the groundskeeper, hands are in pockets, upon hips, and scrolling through cell phones as feet alternate the weight of waiting bodies. We stand on the pavement of the school parking lot, its mixture of black asphalt and tiny stones form a well-manicured line at the meeting place of mud and overgrown grass that marks the beginnings of the path to the forest. Juanito joins us with his gaggle of keys that unlock every door of the school. As the gate slides open, educators peer through small wiry holes of the towering chain linked fence to a narrow passage that runs between the parking lot and a pasture of horses that belongs to the farmers next door. Across the way, a young child is standing with his father, holding a large machete to aid in the trimming of the long grass.*

Encountering place meant to encounter difficulty. We met much tension and hesitation as educators, children, and families navigated spaces that did not allow for the smooth efficiencies to which we were accustomed or the predictability of an educational project grounded in child development. Initially, we moved awkwardly through the forest as fingers were pricked by thorns, hair and jackets were caught in branches, toes were stubbed by hidden rocks, and tired muscles grew vocal along the hills of the Cabogana. These first encounters with the forest were brief, lasting 30 minutes or less, and were often cancelled due to rain, a cough, or another more desirable activity happening in the day. Our walks aroused serious concerns from parents over consistently muddied clothing, sickness from the outdoors and, most significantly, a worry that
children were not learning what they were supposed to learn. Educators shared many of these concerns; several of them voiced urgent discomfort, guilt, even fear, of being unable to remain in control of the encounters that emerged in the forest. These worries were compounded after two events that prompted sheer panic along the pathway. The first week, we unknowingly trespassed through the territory of two aggressive dogs and were frantically chased back to the safety of the school’s gate. The second week, during a “family walk” that sought to involve parents in our pedagogical work in the forest, an educator stepped on a bees’ nest and activated the attack of a swarm that, again, sent us running.

**Documenting the pure child situated in innocent nature**

Yet, in revisiting together the documentation of these eventful walks, the tensions and troubles that were so robustly obtrusive were replaced with peaceful images of children being delicately “touched” by nature and narratives that spoke to the freedom and liberation that can be found in the simple enjoyment of “getting dirty.” Despite the disruptive decentering of the human and the acute vulnerability we felt so poignantly in the forest, the child was somehow still positioned as the sole protagonist and beneficiary of “harmonious” nature in all pedagogical documentation we carefully constructed. Patricia and Cecilia speak of this innocence as they narrate the “wonder” of children’s curiosity in nature.

Una nueva experiencia comenzó, cuando en una salida al bosque, encontramos el río. El entusiasmo, imaginación y preguntas de los niños fue lo que llevó a sentir curiosidad por descubrir aspectos relacionados con el río. Fue así como nos sentimos motivados a explorar en el bosque de la escuela todo lo que en el río podemos encontrar.

*A new experience started when in one of the walks to the forest, we encountered the river. The children’s enthusiasm, imagination, and questions prompted them to feel curiosity through discovering matters related to the river. This is how we were motivated to explore in the forest of the school everything that we can find in the river.*
En el momento de nuestro encuentro con la tierra, todos disfrutamos de su existencia, jugamos con ella, nos ensuciamos, pudimos sentir su textura y suavidad, creando un momento de mucha felicidad e imaginación.

When we encountered this land, we all enjoyed its existence, we played with her, we got dirty. We could feel its texture and softness which created a moment of great happiness and imagination.

Stengers (2015) proposes that the capitalist sorcery at play in purity narratives funnel heterogeneity into terms that better suit the vocabularies in which we are already versed. That which does not serve the pleasing imaginary of the smoothness of neoliberal life promised through education becomes invisible; the outlier does not fit the fable and becomes cast as a satellite. In meeting these logics, we started to recompose the vocabularies available to us by gathering this excess, both material and semiotic, toward a storying of this river that proposed not a friendly world, but rather what Stengers calls an “unhealthy milieu” and the subjectivities that are required to live well in what are often inhospitable worlds.

Two months into the project, we turned our attention to the specific ontological and epistemological orientations that made it impossible for us to notice, however slowly, toxic collaborations that constitute this place. Making a commitment to notice the “complicated, often ugly, and humbling” connections of the place (Tsing, 2015, p. 33), we began by disrupting the commonly held notion in early childhood education that positions the child as innately innocent, where children’s ideas are regurgitated from some intrinsic, inner place of imaginative purity (Kind, 2018). We invited educators and children to pay attention to the impurities present in the river. This form of paying attention disrupted the idea of curriculum as based on children’s interest and opened up a space for reconceptualizing curriculum as a medium for coming closer to the world through other ways of seeing that bring other ways of being (Nxumalo et al., 2018).

With educators, we read discourses of children’s “natural,” inherent purity as intimately entangled with Rousseau’s construction of childhood, figured as a distinct and separate period in
the span of life and untainted from the social and political milieu in which humans and others live. Erica Burman’s (2016) writings aided us to notice that this image of the child “functions politically and rhetorically within national and transnational projects of (neo)colonial, heteropatriarchal, [and] late capitalist expansion” (p. 269). As we revisited photos of our walks, we resisted “the young pure and inherently creative child divorced from culture and joined to nature” reading that we were accustomed to. We reminded each other that this angelic picture of the naturalized child reinforced what Val Plumwood (1993) has called the “sphere of inferiority,” in which women, racialized groups, children, animals, and “natural” others are subordinated within Cartesian dualisms of culture/nature, man/woman, master/slave. In Cuenca, a city with strong Catholic inheritances, these dichotomies are further emboldened by Judeo-Christian formations of purity that continue to preserve childhood as a projection of modernity. We made an effort to think about the idea that technologies of developmentalism, paired with the modern educated child discourse in Cuenca, are deeply encoded in purity logics that function to serve a trajectory of colonial growth via capitalism (read: individualism, competition, and accumulation) (Douglas, 1966; Kirby, 2017; Shotwell, 2016). As common worlds educators and scholars, we became interested in the making of more ethical relations that sustain heterogeneity, “inconvenient and disconcerting cohabitations” (Taylor, 2013, p. 1457). Yet, we kept aware that this desire for connection across otherness all too often is poeticized as mistakenly harmonious, and possibly veils the tensions and contradictions that form the places we share and shape unevenly (Taylor, 2013).

We revisited data from our walks through processes of pedagogical documentation, dissensus, and dialogue. Through these processes, we were able to notice the ways in which we are haunted, however unwittingly, by anthropocentric discourses that perpetually separate culture from nature and distance us from our relational accountabilities to the river as a place of intra-dependency among non-innocent, often messy human, material and more-than-human worlds.

**Unsettling purity through memories**

In early November, we mapped the formations and pathways of empty waterways as Cabogana’s riverbanks were dry with the absence of rain. The children theorized that the river must have
decided to leave, that it is far away but may come back one day. These early months of inquiry were difficult as educators tried to make sense of why we might choose to continue investigating a river without water. We bumped up against many barriers to emergent curriculum-making in ways that stayed with the trouble of such a problem, as Haraway (2016) might say, as they saw the literal absence of water as an indication to move on to another topic. We invited the educators to gather memories of their own childhoods around the rivers of Cuenca to think more about what the river does in this place.

Muchas veces suele pasarnos por desapercibido, ya que lo vemos pero no pensamos en su verdadera importancia. El contacto con la naturaleza en la primera infancia es una huella imborrable, que se guarda como semillas que más adelante germinarán en buenos recuerdos e importantes aprendizajes. (Patricia)

[Many times we often don’t notice, since we see it but we do not think about its true importance. The contact with nature in early childhood is an indelible mark, which is saved as seeds that will later germinate in good memories and important lessons. (Patricia)]

Podré hacerme varias preguntas a la vez, pero cuando estoy en contacto con el mismo, y al ver su movimiento, al ver el agua correr, al sentir como me envuelve y me cobija, me provoca una sensación de ternura, un recuerdo almacenado en mi memoria, el cual permite visualizar el tránsito de mi niñez, porque la vida fluye como un río, porque los ríos inspiran vida y reflexión y no hay recuerdo más bonito y significativo como el de mi infancia al compartir momentos únicos e inolvidables, en el que un río estuvo presente, comiendo cerca de él, jugando cerca de él, observando a mi abuela tejer, recuerdos que quedarán grabados en mi memoria, provocando sentimientos de amor, paz y tranquilidad. (Cecilia)

[I can ask myself several questions at the same time, but when I am in contact with it, and when I see its movement, when I see the water run, when I feels like it envelops me and covers me, it causes me a feeling of tenderness, a memory stored in my memory, which allows me to visualize the transit of my childhood, because life flows like a river, because rivers inspire life and]
reflection and there is no more beautiful and meaningful memory like that of my childhood when sharing unique and unforgettable moments, in which a river was present, eating near it, playing near it, watching my grandmother knitting, memories that will be engraved in my memory, causing feelings of love, peace and tranquility. (Cecilia)]

Figures 4 and 5: Purity at the river

We read and reread these writings with the educators. We noticed that in the pursuit of purity, as documented in figures 4 and 5, memory often has a tendency to clean up the less desirable place-stories we choose to forget. Place is a keeper of entangled threads of temporality where multiple, incommensurable components at play meet in a particular moment, and generate something greater than what was before. Tsing (2015) reminds us that these gatherings of the interdeterminate here and now are also past and future. We discussed how temporality at Cuenca’s rivers is neither static nor linear, as memory touches history and composes place as a meeting point of many times. Encountering Cuenca’s rivers cultivates these kinds of sticky threads of temporality where memory promises a return to better times, before the present scene that is so deeply marked by the stains of human progress. We noticed that river memories often craft the worlds we desire, rather than the world in which we live. Purity in this sense can function as an intimate tool in colonial place-making practices via human memory. As Shotwell (2016) tells us, memory is “a relational and situated process through which we collectively determine the significance of the past for the present as a form of forward-looking responsibility”
(p. 48). At Cuenca’s rivers, memory often forgets stories of socio-ecological violence that are inherent in place, rendering the river as a place of unblemished joy.

Stengers (2015) argues that through this amnesia to impurity what we have lost is not our ability to pay attention, but the art of attention. Artful attention requires more than poeticizing a happy memory or the lovely story; paying attention is more a manner in which we are pulled a little closer into the world and provoked to thought that might produce a reconfiguration of what is already here. Yet, in leaning closer, it becomes visible that what is here may be past the point of a return to cleanliness; already it is contaminated. In times of twenty-first century climate catastrophes, river memories create an illusion that we are able to stand outside of contamination, an essence of escapism made possible by purity ideals. Thinking with Sara Ahmed, Shotwell (2016) writes, “There are many ways of being oriented toward a future, some of which unfurl along an unexpected orientation, some of which deviate from the path laid out for us.” (p. 179). Yet, crafting new worlds in the ruins of the old requires an ability to inherit the traumas we may choose to forget toward futures that might activate a “wounded flourishing” (Shotwell, 2016)—without any novel claim of separation from the suffering that already exists here. Contaminating memory in this way, is both restraining and enabling; it is a push and pull between a fraught history and how we respond in contingency within already poisoned worlds. Shotwell (2016) describes this process of reforming subjectivities as being situated in a “terrain of possibilities” where knowledge is composed in the midst of past and present, damage and hope.

Unsettling purity by noticing plastics

The plastic leg of a child’s doll sways silently from one end of the classroom to the other. Once nestled at the bank of the river beside the school, this limb has been washed, dried, and carefully hung, suspended on a long clear wire that falls from the ceiling. Laying below the gently rocking movements of its pendulum are various stones—large rocks, pebbles, and echoing cool-toned pastels. As sounds of running water play throughout the room, the scene gathers double-looks of passersby as parents hurriedly shuffle off backpacks and unzip coats as the school day begins.
Interrogating the seemingly banal logics of anthropocentrism in education, such as the binary logics of nature/culture as an ongoing tool in colonial subject-formation, we notice plastics as a material manifestation of neoliberal subjectivity—an expansionist marker of human activity whose presence indicates an inescapable past (Altman, 2014). After a few months of working together, it was not enough to go to the river and merely listen without carefully thinking about what it was we were listening for, and in the name of what. This is, for us, what pedagogy calls us to attend to when putting in motion common worlds framings. In witnessing impurity and the intra-active relations that both thrive and die at the river (Barad, 2007), we began to construct pedagogies that avoid what Stengers (2015) calls the “utopian mode” which supposes to transcend circumstance. It was no longer possible for us to remain heroes of the old narratives (Haraway, 2016) that continue to lyricize an intrinsic, untouched essence of childhood and nature that, if discovered, will promise a salvation that might spill out and save us.

Contaminating river narratives

*When the river is full and rushing, it burps up everything that had once been left behind—fallen leaves, washed clothing, rubber tires, and old shoes. The river is a curator—it gathers small artefacts of the world and arranges them in ways that call attention to the stories these materials continue to carry, even after human disposal. These things are with the river, they are there, and already part of it. The river is a curator—if it encounters a viewer.*

After long periods of rain, water comes in abundance and Cuenca’s four rivers become moody with rushing waves that crash through their banks. The educators shared their fear of the four rivers during these times, telling stories of the rivers pushing past their banks and swallowing surrounding lands and animals. In these moments of intensity during the rainy season at the rivers, several people have drowned attempting to take videos and photos of its power. These rivers take and give without permission. During these months, the rivers rashly collect what is given and throw back gaggles of mix-matched things that may have otherwise been forgotten.

Yet, the ways in which Cuenca’s rivers move and function in the Andes are not only dependent upon the rain that is gathered west and rushes down from the high mountain lakes, they are also
deeply affected by human-induced changes, such as deforestation for cattle farming, mining, and other extractive activities. Situated at the high altitude meeting place where warm air from the Amazon interior meets the Ecuadorian coast, the ecologically diverse and fragile climate of the Andes produces vapour that is both necessary to water resources in this region and is also a carrier of greenhouse gases that are emitted when plastics are exposed to sunlight (Michelutti et al., 2015; Royer et al., 2018). While intense photo-degradation of plastics in the Andes contribute to increasingly toxic waters and pose significant threats to several species on the brink of extinction, plastics also hold an integral role in sustaining the ecological structures of life in this place, as pictured above. For example, with the clear cutting of Andean forests for cattle pastures, many riverbanks are now visibly upheld by woven plastic bags called “saquillos” that become part of the soil where plants root. These bags, now made in local factories, have replaced the ones woven by local women using organic grasses such as cabuya or carrizo.

Despite waste’s allusivity as “an ironic testimonial of a desire to forget” (Hird, 2012, p. 455), both water and plastics hold a shared, and interdeterminate permanence in Andean rivers as water continues to embody the chemical effects of plastic degradation. In Cuenca, a friend of ours has told us, “Water holds memory.” Carrying material effects of all it has encountered at a molecular level, water does not forget. Cuenca’s rivers are already contaminated and, with bodies composed of 60% water (Neimanis, 2017), humans, too, are animated by pollutants. In this sense, water memories already speak to contingent futures with plastics and actively interrupt human nostalgia and colonial utopia dreams.

Although the waters of Cuenca’s rivers often demand attention through an immediacy of acutely felt danger, the entanglements of plastics here gesture toward a slower, more distant catastrophe. Meeting the motion of water, plastics are tousled about Cuenca’s rivers like puppets on liquidy strings. Returning to the small creek beside Santana and noticing contradictions between troubled conditions and escapist imaginaries, we question what responsibilities are masked by purity and the charming stories that pacify the urgency for response.

“The river” eventually became a meeting place of many where manifold actors and storylines co-contaminate in ways which deeply unsettle an image of the impermeable individual acting in isolation. Encountering the river as a place of contaminated interdeterminacy allowed us to
notice materials and others, as pictured in figures 6, 7 and 8, who are already active makers of this place. At this particular river, the most profound presence is a full-sized Volkswagen Beetle tucked in the curvature between a small walking bridge and the river’s banks. Its black vintage paint is in intimate conversation with others here as rust scatters along its curves and green moss peaks through any small crevice that will house it. Alongside it, cemented into tightly compacted dirt along the river’s edge is an eye-catching, peachy leg—the smooth limb of a child’s doll that has found its way into the earthy foundation of the river. A few steps ahead, in a nest of stones, land, and saquillo is a small, plastic face. Delicately deformed, perhaps melted before finding its place here at the river, its once-blue eyes, button nose and berry pink lips sink slightly with what looks like tired weight of age.

Figure 6: Dismembered plastic limb
Figures 7 and 8: Waste entanglements

Traces of impurity

In revisiting data gathered during our walks at the river with the educators, we are able to notice the ways in which we veiled the subtle movements of these simultaneously toxic and life-giving relations, unwittingly meddling in the very anthropocentric fables our project aims to disrupt. A key point of interest for us is that despite their glaring presence, impurities were absent in almost all of the initial documentation of these events. Educators’ photos and videos of our encounters with the river highlighted hues of glistening river pebbles and clear flowing waters framed by a lush Andean forest. Poems and anecdotes of the river gestured toward a place of purity and a return to harmony with nature, made possible through an image of the child as a medium to such a fantasy. What we find particularly puzzling about this work is that, even given our involvement in a project that specifically aims to attend to the world’s relations with waste, we continued to encounter the river in a way that documented only its cleanliness, ignoring more-than-human agency that radically interrupts human purity ideals.

Returning to this place and encountering the river as a body of heterogeneous limbs, a disjointed composition of organs linked by water, provoked us in thinking what might become pedagogically possible if the human becomes undone in such a manner. We wondered, in the light of the river’s mix-matched body, how might we pull ourselves apart in such a way that we also might become permeable to notice that if “[we are the river],” we are also made of those satellite extremities that so often fall beneath mention?
We, and the educators, gather together fine strands of blooming black-eyed susans and branches of the most fragrant eucalyptus, two of the most pungently invasive, colonial plant species that threaten biodiversity in the Cabogana. Washing the mud from the folds of the small, wrinkled flowers, we placed them upon a long stick protruding from the center of the bouquet. Together we walk back to the school through our usual path, her furrowed smile leading the way.

In becoming susceptible to place, encountering the poisons it harbours means encountering a shared condition. To attend to the river as a place of impurity is to perhaps destruct the impermeable self. Witnessing the river, inclusive of its entanglements with plastics, our pedagogical project is threatened by what we might risk in paying attention. In encountering the river we meet two threats, without assurance of which is greater: the risk to ignore the trouble and continue as we were, or the risk of upsetting the happy story and the dominoes that might fall in the wake of such a disruption. In noticing how discourses of purity maintain the human subject as impermeable to nature, we interrupt the happy story by reimagining the question that the children asked at the beginning of this article: “What if the river does not begin and end?”

In the slow rousing of an attention to the un/common, contaminating worlds at the river, we are faced with a new question whose emergence is now haunting our walks: what might happen if pedagogy takes seriously more-than-human contamination, in particular the agency of Ecuador’s Andean river-waters, and the notion that we have never been separate?
CHAPTER THREE

RESEARCH BLOG: SOAKING THREADS OF INQUIRY

Tomebamba River water, soaking grasses, becoming permeable, supple

Weavers often work alongside a small bucket or bowl of water. Prior to, and sometimes during braiding, the weaver prepares the threads by briefly soaking them. When met with water, fibres become malleable, flexible in the folds with others and generous to the learning hand. This process of soaking is tentative and anticipatory, as threads enter in and out of water for the fluidity of the weave and the hand that guides.

Kin to these bowls of soaking threads, the project’s research blog, too, holds strands of inquiry that are becoming formable, awaiting to be woven. This chapter opens to the blog, offering a partial view into the pedagogical processes that take shape at Santana’s early childhood program, Nivel Inicial. The blog holds threads that speak to emerging in-process thinking provoked through daily inquiries with educators and children. Held together, the threads (or blog posts) make visible the ebbs, flows and intensities of the beginnings of a project that seeks to create educational conditions for thinking through situated child-plastic encounters in Racar.

The blog works to loosen stiff curricular fibres that initially saturated our work, particularly developmentalism and child-centeredness, and become permeable to alternative visions of plastics and childhoods that emerge when humanist divisions between nature and culture are disrupted. These strands trace the multiple emerging trajectories of pedagogical thought that shape the ongoing formation of our project with Santana. The blog holds threads that are supple, not yet fully formed, and open us up to experimentation with curricular ideas and processes.

http://riverplasticities.climateactionchildhood.net
Figure 9: Soaking threads of inquiry
CHAPTER FOUR

THE EXHIBIT / PLASTIC CHILDHOODS: NOTICING TOXIC INTRA-DEPENDENCIES IN ANDEAN EARLY CHILDHOOD EDUCATION

*Plastic Childhoods* traces the emergence of a pedagogical project that considers what might happen if researchers, educators, and children think with plastic to reconfigure childhoods in ways which can respond to times of ecological devastation. This Exhibition is reflective of a pedagogical commitment to rethinking human relations with waste materials, and honours the reconceptualist engagements by educators, children and families at Nivel Inicial, Santana. Installations from *Plastic Childhoods* have been featured in *Making-Time*, a digital Exhibit at the *inSEA World Congress* in Vancouver, British Columbia (2019) and *Disorientating the early childhood sensorium: Micro-interruptions for alternative climate futures*, a research-creation Exhibit with the *Responding to ecological challenges with/in contemporary childhoods Colloquium* at the Children's Museum in London, Ontario (2020).

The Exhibit engages with the intimacy of our relations with plastics at Santana and in the forest that neighbours the school. Through its installations, the Exhibit gestures toward the educational impetus of plastics within particular pedagogical views. For example, developmental visions of plastics are brought to the forefront through installations that highlight the discourses of plastic objects at Santana and the curricular desires they speak with. The Exhibit also creates encounters with plastics that are enmeshed within complex webs of relation, proposing a disruption in common responses to plastic crises in early childhood education that attempt to extract and control. As discussed below, the series of installations generates a proximity to plastics and their distinct presences at Santana.
Exhibit Opening Text

In the geological epoch of the 21st century now known as ‘Anthropocene’, in which human activity has dramatically shifted the earth’s geo-biospheric systems, the explosive growth of plastic waste materials poses a pressing global crisis. Despite our wish to manage, control, and ultimately distance ourselves from plastic materials through recycling practices, this problem continues to escalate. Though the familiar ‘three Rs’ approach (reduce, reuse and recycle), attracts high levels of attention and compliance, it is ineffective because it takes waste ‘out of sight and out of mind’ and perpetuates consumerism. Recycling behaviours create an appeasing notion of individual morality and ‘good citizenship’, while veiling capitalist systems that create the accumulative logics that now fuel human life.

Attuning to the symbolic life of plastics across childhoods in Cuenca, Ecuador, this Exhibition illuminates a pedagogical attention to plastic as a material manifestation of neoliberal subjectivity. In early childhood education, plastic materials speak not only to a human desire for efficiency, but also make visible capitalist rationalities that inadvertently haunt pedagogical work. For example, pedagogical decision making is often informed by theories of children’s development - progress-driven narratives which echo the individualist storylines of consumptive market economies.

Yet despite its toxicity, living with/in the Anthropocene requires a reconceptualization of educational experiences that pay closer attention to how plastics hold interdeterminate relations with surrounding ecologies. Forming roots that hold together river banks, composing the nests of colibris and framing lattices for new forest saplings - plastics’ adaptivity makes it impossible to throw away, and calls for new ethical engagements.

Tracing the discourses attached to plastic materials at Nivel Inicial, this Exhibit proposes that these all-too-familiar materials are not merely empty vessels for children’s amusement or learning. Rather, they tell stories of human dependencies on progress, production and accumulation. Responding to these dependencies and configuring pedagogies within the aesthetics of increasingly synthetic worlds requires new ways of knowing plastic. Highlighting the vibrant agencies of plastics before-during-and after human use, this Exhibit aims to notice the
intimacy of our relations and co-formations with/in plastic ecologies, keeping plastics ‘in sight and in mind’ (Hird, 2012).

Figure 10, 11, 12 and 13: The Exhibit at El Centro Interamericano de Artesanías y Arte Popular (CIDAP) – Cuenca, Ecuador, May 9th – May 20th, 2019
Installations

The wall of plastics


Figures 14, 15, 16 and 17: Interrupting efficient pedagogical dependencies

Intensifying the discursive presence of common plastic children’s items at Santana, the installation proposes a confrontation to notice these artefacts as a material-manifestation of
neoliberal subjectivity and its curricular consequences. The abundance of over 500 small bright objects, spotlighted chromatically on a black wall dramatizes their synthetic colours and protrudes through the room. Held together, the collective sensorial effect becomes invasive, disturbing the familiarity of the materials and the simple comforts associated with childhoods happy in plastic. The installation is accompanied by a series of texts titled, ‘Developmentalism: Age-appropriate toys’, ‘Extraction: Memorizable materials’, ‘Child-centeredness: The purity of happy fun childhoods’ and ‘Child-animal relations: Anthropomorphism’, which elucidate the particularities and semiotic presences of these materials at Santana and how they resonate with pedagogical desires.
The logics of plastic

http://riverplasticities.climateactionchildhood.net/index.php/exhibit/the-logics-of-plastic/

Figure 18: Deck of cards


The installation includes a deck of over 100 hand-held cards each with a single quality/rationale of plastics\(^5\), inviting a slow, meticulous entrance into the ways of thinking that plastics make possible. The deck stands on a tall black podium; the viewer holds them in hand flipping one by one.

\(^5\) ‘The logics of plastic’ began as a collective list made alongside CAN researcher, Kelly-Ann MacAlpine and educators at the London Bridge Children’s Centre in London, Ontario. Throughout the project, the list has continued to evolve through this collaboration and alongside the educators at Santana.
one through the heavy stack. The simplicity of the cards and the small continuous acts of flipping offer a shift in experience from other installations, which have an exaggerative and immersive effect. The shuffling cards ask for a pause in movement through the Exhibit, and gesture toward a view that is downward and still. The cards offer reprieve, a respite which grows discomfort in its endlessness. While the hand moves the body stands, leaning inward, reading and flipping, card after card.
The languages of plastic

http://riverplasticities.climateactionchildhood.net/index.php/exhibit/short-film/

Figures 19 and 20: Becoming in a plastic cocoon

The short film enlivens the bodied experience of being enwrapped, grown and born from a plastic cocoon; an immersion into being touched by the intimacies of a synthetic body becoming alive and its modes of communication. The film is an experimental storying of the processes taking shape in the children’s atelier at Santana, in an inquiry into the life of the creatures that might inhabit the plastic-filled forest beside the school. Inspired by Pinar Yoldas’ (2014, 2015) art exhibition, *Ecosystems of Excess*, the inquiry thinks with material and conceptual tensions, metaphors and hesitations in our encounters with plastics and its “inconvenient and disconcerting cohabitations” (Taylor, 2017, p. 1457) in what the educators have named, ‘The Plastic Vivarium’. The making of the film, its videography and editing, works with abrupt cuts to evoke juxtaposing intensities and silences that reverberate with the contradictions of these growing synthetic bodies. The film works with pedagogical documentation from the inquiry and becomes figured by its correspondences to a recurring audio composition of the children’s speculative sounds, a score sung from the vibrations of plastic lungs and vocal cords.
Noticing conflictual intra-dependencies

http://riverplasticities.climateactionchildhood.net/index.php/exhibit/photo-series/

Figure 21: Photo series

The photos series walks through the shades of our inquiries with children in/out of the plastic forest; an invitation to trace the toxic/life-giving lines of plastics as they entangle with earth, air, water, land and life. The making of the chromatic mosaic like exposure of the photos speaks with the multiple everyday intentional curricular compositions that attempt to create conditions for child-plastic encounters in ways which bring plastics in sight and in mind. Woven together, the multiplicity of these everyday attunements make visible how children, educators and researchers are woven in a composition of experiences that disrupt dominant educative logics of separation that distance.
CHAPTER FIVE

ARTICLE TWO: WEAVING CHILD-PLASTIC RELATIONS WITH EARLY CHILDHOOD EDUCATORS IN THE ECUADORIAN ANDES

Paper accepted to the *Australian Journal of Teacher Education Special Issue: Early Childhood Education for Sustainability in Initial Teacher Education.*

Abstract

In a small village in the Ecuadorian Andes called Racar, plastics are intimately woven into social and ecological structures. These entanglements move beyond human control and generate toxic dependencies between humans, plastics, and others. This requires a pedagogical shift in how early childhood educators understand and respond to plastics. Drawing on field research with educators in Racar, this paper attempts to interrupt anthropocentric discourses of the child as separate from Andean ecologies, and resituates childhoods as differentially embedded in complex place relations.

Keywords: plastics, pedagogy, Andes, early childhood education, weaving
Introduction

In the small Andean village of Racar, Ecuador, plastics are intimately woven into social and ecological structures. Forming roots that hold together riverbanks, bottling milk for young children, and framing lattices for new forest saplings – plastics are forging toxic relations with others who share this place. These contrary dependencies pose significant ethical and pedagogical implications for educators who are interested in early childhood education for sustainability.

To engage with plastics in Racar beyond the waste management framework of three R’s (reduce, reuse, recycle), our research team6 embarked on a series of walks with children and educators through a plastic-debris-filled forest that neighbours their school. During these walks, we as a group sought to notice the ongoing life of plastics before, during, and after human use. In revisiting these walks with the educators through photos and field notes, it became apparent that children, not plastics, were the center of pedagogical interest. The educators praised the children for cleaning up litter or for gaining a developmental skill in their creative engagement with litter. In these initial encounters with the plastic-forest, persistent attention to the child as the sole protagonist of pedagogy erased possibilities for noticing the agency and relational life of the forest and the plastic materials that are so intimately enmeshed here.

This paper shares the emergence of a pedagogical project with early childhood educators that aims to rethink children’s relations with plastics toward more sustainable futures in the Ecuadorian Andes (Berry, et. al, 2020; Climate Action Network, 2021). Through processes of pedagogical documentation (Rinaldi, 2006), this project seeks to support early childhood educators in creating ethical responses to the proliferation of plastics - responses that move beyond human censorship and control. The project takes place at an early childhood program in Racar called Santana; one of six international sites where researchers and early childhood educators are rethinking human relations with waste materials in pedagogical contexts (Climate Action Childhood network, 2021; Pacini-Ketchabaw, 2017). Our research at Santana aims to

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6 This research is part of an international project titled, Transforming waste practices in early childhood education: Rethinking the 3 Rs through the arts. The ideas in this paper emerged through ongoing dialogues with members of my supervisory committee, Veronica Pacini-Ketchabaw and Cristina Delgado Vintimilla and their generous guidance.
unsettle recycling by noticing and attending to plastics’ transformative natures as co-shapers of Andean place and culture.

The anecdote above illustrates a dilemma that underpins our research: Despite the research team’s desire to understand plastics as dynamic co-shapers of the forest, our walks in the forest were often appropriated by the human-centered stewardship discourses we set out to disrupt. This tension is pedagogically generative. It calls attention to colonial, anthropocentric logics that unwittingly divide and instrumentalize complex plastic-ecologies for the progress of the individual, developing child. It also prompts a consideration of human subjectivity as a place of important pedagogical attention for rethinking how emerging early childhood educators might come to know plastics differently with young children.

In this paper, I draw on documentation from the first year of pedagogical work at Santana to tease out a minor but impactful moment in the plastic-forest that reoriented educators’ sensibilities toward dispositions that might be capable of inheriting and responding to the contrary natures of child-plastic relations in the Ecuadorian Andes. I begin by situating our project within the specificities of Racar. I then discuss pedagogical documentation as a process that makes visible anthropocentric rationalities which separate educators from complex relations of this place and, in turn, plastics. I then draw on the scholarship of Silvia Rivera Cusicanqui (2012) to situate Andean relations with place (and plastics) as dynamic, inconsistent and multiple. Her conceptualizations of Andean relationalities interrupt dominant EuroWestern categorizations of nature and figurations of the human as separate and superior to plastic ecologies. Next I share a moment in the plastic-forest that gestures toward a shift in educators’ sensitivities to child-plastic relations. Attending to this moment with educators opened us up to ancestral weaving practices as an artistic process with immense pedagogical possibility for thinking childhoods and plastics together in Racar. Finally, I offer curricular provocations for emerging educators in initial teacher education.

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7 I arrive to this pedagogical work as a settler with European ancestry living on the lands of the Valdivia peoples in Santa Elena, Ecuador, with settler relations to Turtle Island (also known as Canada).
Situating Pedagogy in Racar, Cuenca

Santana is a private school nestled along the fringes of the Cabogana mountain in the neighbourhood of Racar, Cuenca. In Quechua, the language of the Indigenous peoples who tend to these lands, *Cabogana* could be interpreted in English as ‘assault’ (Encalada Vasquez, 2002), a testament to the uneasiness of this mountain’s complex landscape⁸. The Cabogana boasts some of the highest peaks in the area at 3700 meters. In Cuenca it is said that the Cabogana is sacred, a place where the land touches the sky. The material remains of Cañari rituals from pre-colonial times lay here along its highest tops (Reinoso Hermida, 2017). Santana’s campus is located at the base of the Cabogana, at the end of a long, winding street from the city centre, where the concrete ends and a dirt road begins a trail that edges the base of the mountain. Through small farmlands and the houses of brickmakers, driving on this road to Santana is like moving into a microcosm of contemporary Andean culture and weather. Smells of roasting clay and grasses – affective traces of potters and brickmakers whose ancestors have molded the aesthetic of this neighbourhood and the city below for centuries with hues of oxidized red and amber. Small storefronts sell local vegetables, fresh yuca bread and corn tortillas. Their outer concrete walls are marked with bright yellows, blues and reds - plastered with names and numbers of political candidates from past elections. Men on horses pass along the sides of modern family vehicles that have come from the city below, lined up to enter the school grounds for morning drop off. A woman in a long traditional skirt drives an all-terrain vehicle, carrying large bundles of grass on her back. There is a moodiness to high-altitude temperatures much different than the mild climate below in the city centre; the mountain can create intense inconsistencies of cold mornings felt deep in the bones and strong afternoon sunlight that burns the skin. Encountering the complex Cabogana requires attentiveness to these contradictory lived experiences, temporalities and affects. As Cusicanqui (2010) tells, Andean time moves in ‘cycles and spirals’ where the past-future is contained in the present (p. 96). Shaped by spiralling forces of regression and progression, Andean places like Racar become a contemporary conjuncture of juxtaposing relations. These relations ‘both discern and realize’ a possibility for life beyond schemes of capitalist modernities (p. 96). Such contrary relations are present in the forest that neighbours

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⁸ The Cañari peoples of the Andes speak Quechua, which is a language of lived meanings that are situated in ancestral Land relations. Words and phrases gather and produce meaning because of their relations within a living, complex Andean knowledge system. Quechua cannot be simply reduced into English; in this context it is used to gesture toward the uneasiness of living alongside the Cabogana mountain.
Santana. Directly beside the school, on the other side of a chainlink fence is a dense eucalyptus forest rooted in ancestral clay. Plastics are deeply entangled here, woven between spiralling tree roots. In the forest, plastics nestle between small stones in networks that frame the banks of a creek that moves through the mountain and across the school yard at Santana. Plastics are an integral part of this place, yet, in a pedagogical context that centered the developing child, plastics were left out of the pedagogical documentation of our initial encounters with the forest.

**Decentering the Child with Pedagogical Documentation**

A key interest of our research partnership with Santana is to unsettle, through educational processes that are enlivened through the pedagogical practice of documentation, discourses that position the individual child at the centre of curriculum and attend to the complex interdependencies of humans and others within increasingly synthetic ecologies. This research uses a common worlds framework (Hodgins, 2019; Taylor & Pacini-Ketchabaw, 2019) that decenters the human as the sole pedagogical protagonist by resituating the child within shared, yet uneven, common worlds. This decentering involves a critical interruption of dominant, Euro-Western imaginaries of the human as rational and autonomous from the world, a colonial epistemic projection underwritten by white, heterosexual masculinity and ability (Wynter, 1995, 2003). In this first phase of the project, our focus was to challenge this figuration of the human as it emerged through discourses of ‘the child developing in nature’. This child acts upon/for nature but is not part of it (Taylor, 2013), often gaining developmental or moral skills through recycling and other stewardship practices. In decentering this human, we sought to open up pedagogical opportunities that account for children’s complex entanglements with multiple nonhuman others, particularly plastics (Berry, et. al, 2020). This rethinking of the human subject informs how we approach documentation as both a pedagogical practice (Dahlberg, et. al, 2013) and research method (Hodgins, 2019).

Pedagogical documentation is used with participating educators to gather traces of emerging curricular processes and to revisit and revision their meaningfulness (Dahlberg et al., 2013). We use documentation to make visible not only what happens during our inquires with children and educators, but also what is pedagogically significant (Rinaldi, 2006). Documentation is about
both content and process (Dahlberg et al., 2013). It is a practice of interpreting traces of lived experiences, ideating upon them with others, and opening pedagogical processes that propel long-term curricular investigations (Vintimilla & Pacini-Ketchabaw, 2021). Within a common worlds framing, documentation is not a mechanism for making visible children’s learning or development. Nor is it an evaluative measurement tool. Rather, we view documentation as situated within dynamic, socio-political assemblages of discourse that shape daily events (Berry et. al, 2020). In this sense, the documentation that emerged in our inquiries with educators and children in the forest, such as photos, notes, drawings, and videos, are not viewed as representations of educators’ or researchers’ individual rationalities. This documentation is encountered as material testimony of the flow and concentration of particular discourses. Interpreting these traces together with educators allows us to notice how anthropocentric discourses of the human play out in ordinary moments with children and opens a dialogic space for us to make collective decisions that disrupt them.

This pedagogical desire to interrupt anthropocentric discourses that position children as champions of plastic removal and recycling is kin to waste scholar Myra Hird’s (2013) call for an ethic of environmental vulnerability. An ethic of vulnerability resituates humans as mutually implicated with/in the ecologies they depend on - not despite, but inclusive of plastics. This pedagogical orientation takes seriously the notion put forward by some waste scholars that plastics act on their own, despite human attempts at management and control (Gille, 2010; Hird, 2012). With interest in creating different sensitivities to plastics, we seek out encounters in the plastic-forest that might interrupt discourses of the freely acting autonomous human by attending to plastics as active agents in Andean childhoods and curriculum.

This orientation disrupts developmental values for children’s individual growth and autonomy, two progress-driven narratives that often saturate pedagogical dispositions in early childhood contexts (Land, Vintimilla, Pacini-Ketchabaw, & Angus, 2020). These pedagogical foci can be viewed as expressions of modernity’s fixation with instrumentality and functionality that separate some humans from environmental vulnerability (Stengers, 2015) and produce subjectivities which sustain neocolonial relations with plastics in Ecuador. In this context, neocolonialism is legitimized through discourses of the goodness of childhood (underwritten by whiteness) and recycling from the North that normalize exploitation of Ecuadorian lands at the
hands of big waste producers such as the United States and Canada. For example, during our first encounters with plastics in the forest beside the school, documentation often demonstrated a focus on children’s removal, collection, and creative use of plastic waste materials. Through discourses of ‘the good recycling citizen’, the forest was positioned as a site of freedom and harmony within a pristine, intact nature. In the service of children’s developmental needs and moral citizenship ideals, plastics were extracted from existing entanglements with forest ecologies and neutralized into art activities such as plastic hand-puppets, Disney characters or classroom decorations. In these early days of the project, documentation showed how plastics were stripped of relations with this place and forged within dominant, EuroWestern characterizations of childhood. Plastics became palatable under neocolonial symbolisms of childhood fun and innocence, and valuable only when they were understood as contributing to the pleasure or progress of the individual child. In collectively revisiting documentation of these events with educators, we noticed how recycling activities distanced us from implication within the messy realities that shape the Cabogana and how the anthropocentric logics we sought to interrogate remained unchallenged. This documentation highlights how discourses of the young recycling citizen participate in consumptive global waste systems, soothing consumer guilt and accountability to specific places that are increasingly marked by their effects.

Cusicanqui (2012) interrogates neoliberal moves to innocence that suppose social change in the Andes under the guise of individual moral citizenship yet renew the effective processes of colonization. She refers to these moves as “a change so that everything remains the same” (p. 101). Inspired by Cusicanqui, we recognize recycling as what she calls a ‘cross-dressing strategy’, or ‘concealing mechanism’ that generates ongoing colonial subjugation in the Andes (p. 100). The consistent emergence of recycling discourses in the forest can be viewed as part of a colonial epistemic legacy that assumes a human ability to live separately from relations with place and plastics. Recycling figures sustainability as an individual consumer choice (Hird, 2015) and neutralizes Andean human-plastic relations from the gendered and racialized politics in which they are produced and mitigated. Central to rethinking plastic relations, then, is a decentering of anthropocentric frames that predicate an illusion of individual freedom and choice in encounters with plastic waste. These anthropocentric discourses refuse inheritances of the forest as a place of complexity that is shaped by contradictory co-dependencies with plastics. Thinking with Cusicanqui (2012), such anthropocentric orientations to the forest are one of many
neocolonial formations that shape contemporary Andean subjectivities. These rationalities both co-exist with, and are often interrupted by, children’s ongoing ancestral land relations (Pacini-Ketchabaw, Vintimilla & Berry, 2021). Thus, understanding Andean subjectivities as multiple and forged within dynamic place relations is relevant for early childhood pedagogies that seek to inherit and respond to plastics in Racar.

Place and plastic relations in the Ecuadorian Andes

Cusicanqui (2012) articulates Andean place and culture as a coexistence of multiple distinct elements that work together with colonial capitalist flows and ancestral relationalities. Cusicanqui (2012) argues that these multiplicities shape Andean subjectivities. Both contemporary neoliberal presences and traditional sensitivities to land co-exist, without becoming fused or assimilated into the other. These conjugations between disparate forces generate contradictions in subjectivity that are not subsumed or appropriated, rather they are inhabited, sustained, and produce new ways of being in their own right (Cusicanqui, 2012). This generates subjectivities that are multiple, becoming and also specific to the circumstances with which they are produced and mitigated. Andean subjectivities are thus dynamic, inconsistent, and situated within the particularities of these incommensurable presences in particular situations and contexts (Cusicanqui, 2012). Cusicanqui’s notion of subjectivity is significant to understanding how plastics might be inherited within educational framings in the Andes. In Ecuador, human relations with plastics are differentially mitigated through the discursive presences of both neocolonial waste flows and ancestral legacies that are contrary, yet held together. These presences show up in multiple and distinct ways.

For example, with heightened social and ecological fragility caused by the COVID-19 pandemic, Ecuador is further positioned within exploitive international trade relations and has recently registered record amounts of imported waste, particularly non-recyclable plastics from the United States (McCormick, Murray, Fonbuena, Kijewski, Saraçoğlu, Fullerton, Gee, & Simmonds, 2019). Ecuador is now one of the biggest receivers of international plastic waste in Latin America, and 96 percent of these materials are buried directly into the land (Morán, 2021). Many of Ecuador’s coastal towns have been, and continue to be, built over clusters of these
unregulated landfills. In these coastal towns, it is also common to encounter resurfacing plastic materials, emerging from beneath the edges of homes and within gardens. A friend there once told me, ‘Shovel a meter or two into your backyard soil and you’ll probably find trash.’ With intermittent public trash pick-up, plastic waste also frames life above the ground - hung in small, bagged bundles along the low hanging arms of trees that line the streets and out of reach from scavenging animals. These neighbourhoods hold a particular aesthetic relation that speaks with an increasingly synthetic world both sustained and polluted by uncanny human/plastic cohabitations. Plastics are also present in the movements of traditional farming practices and economies. Coastal communities depend on various types of plastic sacks and baskets as reliable carriers of harvests – moving produce from land to markets, homes to curbsides and back to the land again.

In Racar, these contrary presences are visible in the lands, rivers and practices of community members who are also forging complex dependencies with plastic waste materials, particularly woven plastic sacks called saquillos. In Racar, saquillos matter; they fold together contradictory storylines of ancestral weaving arts and Ecuador’s growing plastic manufacturing industry. Saquillos originally woven using local grasses such as cabuya and carrizo are now manufactured by large private companies using polypropylene. Many Ecuadorian weavers continue to weave saquillos, though they often use plastics for its efficiencies. Unlike traditional grasses, plastics do not cause cuts or splinters. When met with intense high-mountain sunlight, discarded plastic saquillos in the Ecuadorian Andes engage in processes of photo-degradation, activating greenhouse gases which are then carried through to the arteries of Cuenca's infamous river systems (Michelutti, et. al, 2015; Royer et. al, 2018). Yet, Andean relations with plastics are not asymmetrical. Paradoxically, as an effect of deforestation by cattle farming, networks of discarded plastic saquillos are now replacing tree roots that once reinforced riverbanks. Sustained by plastic waste materials that are deeply woven into the lands, Racar’s riverbanks are becoming toxic cradles that sustain the flow of these waterways. These contrary allegiances disrupt Western recycling discourses that continue to deny the ongoing life of plastics as dynamic shapers of place and culture. While simultaneously poisoning waterways that enliven this valley, plastics participate in ongoing ancestral knowledges that move with emerging, and disconcerting, convivialities of this place. In Racar, plastics are already knitted in what Brazilian scholar Vanessa Andreotti (2021) calls the ‘living metabolisms’ of land and culture. These
dependencies are both toxic and lifegiving, and help to situate the material basis of Andean place relations as shaped with, not despite, plastics. This poses significant onto-epistemological provocations for plastic pedagogies in the Ecuadorian Andes, and calls for a conceptualization of plastic waste as materials existing in the world which simultaneously inform how we come to know them (Pacini-Ketchabaw, 2017). Thus, our project seeks to create conditions where educators, children and researchers might notice differential intimacies in relentless, lively and incongruent plastic relations. When encountered through their contradictions, plastics have an educational impetus. They complicate existing conceptual categories that seek coherence and simplicity, asking pedagogy to refigure the coordinates from which its protagonists think and act. At Santana, this involves remaking visions of the child we educate toward, particularly the EuroWestern developing human whose growth is linear, accumulative and autonomous. Plastics bring this human into question by entangling the child to the metabolizing forces of an indeterminate synthetic forest. Within the circumstances posed by a life with plastics, human growth is non-linear, degenerative and exists only as an effect of conflictual dependencies with others.

The notion that humans and plastics exist in entangled, heterogenous relations is important because it unsettles the EuroWestern, colonial projection of the human that assumes separation from nonhuman worlds. This figuration of the human subject as divided from nature is common in early childhood spaces (Nxumalo, 2019; Taylor & Pacini-Ketchabaw, 2019) and requires an ongoing attention to how its discursive effects play out in pedagogical situations. As Rinaldo Walcott (2021) tells, the European invention of the rational, freely acting human continues to reinvent itself within diverse and dynamic 21st century colonialisms. This EuroWestern human produces oppressive conceptual categories of thought through dominant scientific knowledge systems (Walcott, 2021). In the context of early childhood education for sustainability, interrupting these knowledge systems involves attention to categories which separate this human from vulnerabilities to/with nature. Waste scholar Max Liboiron (2021) suggests the very language of ‘nature’ as a category of thought can be viewed as one of these EuroWestern

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9 The meeting place of plastics and pedagogical thought in the Ecuadorian Andes generate energizing questions for our educational project. These questions are made possible because of the context with which we understand pedagogy. This context emerges from a vision of pedagogy in early childhood education proposed by Cristina Delgado Vintimilla and Veronica Pacini-Ketchabaw (2020).
colonial mechanisms of separation that classifies and divides plastics from entanglements with real-world ecologies. This conceptual frame makes Racar’s living contradictory plastic-natures, as described above, unthinkable. Andreotti (2019) affirms that such contradictions disrupt modern colonial ontologies that “seek coherence and are averse to paradoxes” (p. 63). An educational project that is interested in re-thinking plastics in Racar, then, must be open to inconsistencies and ambiguities of place as they move beyond dominant thought categories. At Santana, these categories of thought emerge in photo documentation of children with magnifying glasses in hand, described as ‘little scientists’ of an unknown forest. Accompanied by notations describing children as ‘setting out to discover the forest’s magic and mystery’, these pieces of documentation depict the Cabogana as a natural haven, untouched by plastics. This documentation makes visible how colonial anthropocentric discourses show up in ordinary encounters in the Cabogana forest and divide children from the damaged places they are implicated in.

Figure 22: The child of discovery as protagonist
In an educational context guided by anthropocentric framings, nature and plastics could not be thought together. This is a growing concern in early childhood education for sustainability. As Nxumalo and Vintimilla (2020) suggest, the ecological challenges children unevenly inherit require shifts away from conceptual categories of the EuroWestern human and “romanticized ways of learning”, toward pedagogies that take seriously nonhuman participants and emerge from complexities of damaged landscapes. This notion is not new, as de la Cadena (2015) affirms that Andean cosmologies have presenced and taken seriously the agencies of nonhuman beings for millennia. In Andean knowledge systems, nonhuman beings are taken seriously as they give and take away opportunities to others, make requests and can respond with serious consequences if ignored by humans (de la Cadena, 2015). As one of the educators at Santana told, the great Cabogana is ‘moody, and demands respect’. While anthropocentrism is a strong discursive presence in the daily practices at Santana, there are also discontinuities to these narratives through educators’ imaginaries of nonhuman others as agentic and co-dependent. de la Cadena (2015) describes modern exclusions of these nonhuman others from knowledge-making processes as an effect of intensifying neoliberal political networks that continue to try to manage, control and exploit them. These neoliberal reasonings are made visible in documentation that centres children’s agency over nature and plastics. Yet, they are also actively contradicted by educators’ living ancestral sensitivities to Andean lands and culture. These sensitivities became tangible in dialogues around the documentation of a specific walk in the forest, when the children came across a bird’s fallen nest.

**Encountering the Woven Plastic Nest**

*Walking in the forest, a child notices a fallen nest. Delicately woven by the beaks of ‘Diglossas’ (in English, ‘Flower Piercer’ birds), this prickly home is composed of knotted fibres – fine sticks, dried grasses and muted blue, plastic candy wrappers. Each piece is distinct, indispensable, and carefully structured. The children ask why the bird left his house here. They decide to leave it on the ground in case he returns for it.*
The next day in the forest, we find the nest again still empty and on the ground. The children suggest we should bring the nest back to the classroom, as it might need repairs for the bird to return to his home.

Figure 23: Woven plastic nest

Together with the educators, Cris and Maria Paz, we revisited notes and photos of the children’s encounter with the nest and discussed this moment as a pedagogical opportunity to think differently with plastics. We considered the metaphoric qualities of the nest, an entanglement of Andean grasses and plastics that shapes a home. Documentation of the nest generated questions about what it might mean to find refuge in a shelter both comforting and toxic. Ethical questions also arose, as the nest’s structural dependency on plastics created hesitation about habitual practices of extracting and moving litter from the forest. Noticing its delicate woven architectures, Cris was reminded of her family’s weaving traditions and over several weeks she shared these memories with the children. Throughout her life she has woven alongside her mother, grandmother and uncles. The nest became a figure that helped us to think about how we might create pedagogical conditions kin to nesting in the classroom. Nesting has a particular
nature and involves processes of gathering heterogenous filaments to make a home. Nests are hospitable to difference and require sensibilities to how particular fibres can be held together, toward the structural purpose of sustaining a life. Attempting to maintain the nest’s existing contradictory relations inside the school, the classroom was curated into a ‘nesting room’ with bundles of grasses, rolls of plastic yarn, saquillo bags, needles, scissors and other materials prepared over a large woven rug for close experimentations.

Figures 24 and 25: Weaving with plastics

Over several months children and educators wove together using Cris’s family’s weaving methods and the children’s improvisational strategies. A massive nest began to take shape. As if the nest was holding them as they worked, inside educators and children continued weaving together, braiding various homes and structures for animals of the plastic forest using cabuya grasses and long plastic threads unravelled from saquillo bags. The aesthetic of these nests both animated our ongoing implication with the plastic forest and intensified the anthropocentric impulses we needed to betray to engage with it. For example, the abundance of nests gathered the attention of educators from neighbouring classrooms who voiced concern about how this inquiry was preparing children’s developmental learning needs. This prompted a gathering around the documentation of our inquiry processes, an occasion to re-enliven dialogue about the discourses that shape pedagogical desires and concerns. Importantly, we returned to questions about the kind of human our collective project sought to create; ‘Who is the child of the
Cabogana’s plastic-forest? In response to these questions, educators and researchers assembled traces of weaving processes that further enlivened the contradictory allegiances the nests rely on. Attempting to shift focus from the individual child, we highlighted correspondences between plastics, grasses, humans and nests in-the-making. Documentation such as photos, notes, woven artefacts, and children’s drawings were arranged in the room to signify attention to emerging ideas about these contrary homes, their itinerant structural dependencies, and the conditions for existence they might make possible.

Slowing down to the uneasy processes of nesting with plastics, we made decisions to engage in small, ordinary acts of attention. For example, at the end of each day of weaving, children, educators, and researchers laboured together in re-spooling excess wool and plastic yarn, and re-bundling leftover grasses and saquillos. In these instances, educators encountered plastics not for their instrumentality in children’s developmental progress, but as dynamic shapers of a shared space. In these minor acts of attention, we noticed subtle differences in the ways of being that plastics and grasses generate. For instance, we noticed how used plastic yarn is forgiving, it can be immediately re-stretched and re-spooled as if it were new again. Cabuya and carrizo grasses have their own singularities; they hold marks like a script of unknotted knots. The grasses must be soaked in water for some time to loosen before they can be used again. They decelerated the processes of inquiry and demanded a different relation of us. The differences of these materials shaped our responses to them, each proposing particular processes and ways of being together. Several of the plastic nests were returned to the forest, carefully arranged in trees by the children as a proposition for the bird who had lost his home.
Curricular Provocations

The presence of the children’s plastic nests throughout the forest became a visual and ethical provocation that linked classroom processes to an imperfect nature. This modest gesture speaks to a shift in educators’ and children’s relations with the plastic forest. Slowing down curricular processes and decision-making through dialogues with educators around documentation, it became evident how anthropocentric discourses were shaping pedagogical desires. Within common worlds framings, documentation generated an occasion to trace the onto-epistemological coordinates that frame pedagogical imaginaries and sensibilities to place. This matters for early childhood initial teacher education because it calls on emerging educators to critically question how human subjectivity is produced through pedagogical inquiries. Following Cusicanqui (2012), contemporary Andean subjectivities are multiple, inconsistent, and engage with both colonial and ancestral presences that are mitigated within particular circumstances. These forces are divergent but co-existing, and offer propositions for how pedagogies in the
Ecuadorian Andes might become capable of thinking plastics and childhoods together. As Cusicanqui suggests (2012) unsettling colonial structures of thought in the Andes requires more than attention and critique to discourse. This also requires pedagogical responsivity – a practice. At Santana, this responsivity was slowly and imperfectly enacted through daily weaving processes. Weaving with plastics became a collective process of experimenting with subjectivities, threading together a tentative ‘child’ of the plastic forest.
CHAPTER SIX
AN INVITATION TO ENLACE

This brief final chapter is an invitation to the multiple offshoots that have emerged, and continue to entangle, with the pedagogical work at Santana. Returning to previous threads of the dissertation, the chapter offers a series of website links that enlace the work with a living ongoing trajectory. Some of these offshoots knit the dissertation within an ongoing and emergent conversation across the broader Climate Action Network (CAN), making visible that our work with Santana is dependent upon, and enlivened by, a larger collective concern and collaboration as we pursue alternative ways of thinking situated child-place relations in the midst of climate crises. Offshoots One and Two below enliven a key question of our research with Santana: What pedagogical sensitivities and orientations are necessary for thinking plastics and childhoods together in Ecuadorian Andes? Offshoots Two and Three enfold this question within a broader collective framing by considering the project’s resonances within CAN’s international research collaborations. This chapter gestures toward the ongoingness of the work, tangling the dissertation into the momentum of this greater collective weave.

Offshoot One / Research Blog – River Plasticities

http://riverplasticities.climateactionchildhood.net

Returning to the dissertation’s research blog, this link opens up to the multiple trajectories (offshoots, knots, un/foldings) of pedagogical thought that continue to shape the project with Santana. The blog is consistently worked with, enabling researchers and educators to experiment with ongoing curricular ideas and processes.

Offshoot Two / Exhibit Digital Archive - Plastic Childhoods: Noticing Toxic Intra-dependencies in Andean Early Childhood

http://riverplasticities.climateactionchildhood.net/index.php/exhibit/
This digital archive bundles key threads of the project’s Exhibit, *Plastic Childhoods: Noticing Toxic Intra-dependencies in Andean Early Childhood / Exhibit Digital Archive*, which was hosted by the Centro Interamericano de Artes Populares (CIDAP) museum in downtown Cuenca, Ecuador in May 2019. The archive offers a series of partial portals into the event and its installations.

**Offshoot Three / Disorienting the Early Childhood Sensorium: Micro-interruptions for Alternative Climate Futures**

[https://www.disorientatingearlychildhood.net](https://www.disorientatingearlychildhood.net)

As part of an international Exhibit series by CAN this link offers a digital archive of the Exhibit, *Disorienting the Early Childhood Sensorium: Micro-interruptions for Alternative Climate Futures*, which was hosted at the London Children’s Museum (London, Ontario, Canada) in February of 2020. The Exhibit was inaugurated as part CAN’s Colloquium, *Responding to Ecological Challenges with/in Contemporary Childhoods: An Interdisciplinary Colloquium on Climate Pedagogies*. With its sister Exhibits, *Conversations with Rain* (Perth, Western Australia, Australia), *Sensorial Becomings: Climate Pedagogies with Children* (Victoria, British Columbia, Canada), the Exhibits in this series are linked together by a collective commitment to refuse and refigure grandiose colonial narratives of environmental heroism toward situated pedagogical possibilities in early childhood education.

In collaboration with CAN’s 14 research sites across Canada, Ecuador, the United States, the United Kingdom and Australia, *Disorientating the Early Childhood Sensorium* wove together multiple project themes through six interlacing threads: plastics, energy, food, weather, water and ruins. The Exhibit consisted of six performative installations which proposed interpretive renderings of these threads and the distinct projects they reverberate with. In close dialogue with committee members, as curator of the Colloquium’s Exhibit the intention was to create a permeable frame, where gallery walls acted as discursive thresholds with which the resonances of multiple projects could both diverge and be held (Berry, Pollitt, Nelson, Hodgins, & Wintoneak, in press). The Exhibit’s installation titled *Plastic Worlding* overlayed the ephemeral
resonances of plastics violence and pedagogical impetus across two distinct research sites, bringing our research with Santana into dialogue with an ongoing inquiry into the life of plastics with children at the London Bridge Children’s Center in Ontario, Canada.

**Offshoot Four / CAN Colloquium - Responding to Ecological Challenges with/in Contemporary Childhoods: A Colloquium for Climate Pedagogies**

[http://conference.climateactionchildhood.net](http://conference.climateactionchildhood.net)

Created by Nicole Land, this link transports to a breathing and exercising digital archive without chronicity that recollects the CAN Colloquium. This archive thinks with the Colloquium’s commitments for unsettling taken-for-granted ways of navigating ecological relations with children as an orientation for regathering and revisioning the days of the Colloquium and their provocations for early childhood pedagogies (Land, 2021). The archive is proposed as an active and bodied composition of the Colloquium, bringing together the Colloquium’s events including the Exhibit, *Disorienting the Early Childhood Sensorium*, the Colloquium’s Food Experience, as well as multiple relations and practices brought together through CAN’s projects, sites, participants and growing connections. The Colloquium was attending by a participating educator at Santana, and created spaces where aspects of the project could be engaged with in the context of the larger research network.
CONCLUSION

PEDAGOGICAL PROPOSITIONS

Weaving the five thick threads of inquiry throughout this collection, this dissertation ends carefully frayed as it unfolds to three interrelated pedagogical insights and propositions. This section suggests weaving as a technique which produces generative constraints for thinking pedagogically with plastics through the refrains of developmentalism, its peripheries and excess.

Proposition One: Weaving as a technique for returning to and making with

As a novice weaver, I am carefully learning to speak within an already lively and millennial dialogue that braids Ecuador as a place of many places. This dialogue happens because of the language that weaving thinks through, and speaks with, in certain places. Weaving alongside friends, educators and children in the Ecuadorian Andes and with others on the coast asks for a sensitivity to the circularity of this technique and its divergences; how weaving emerges from and creates particular ways of being in these distinct places. Its technique has a common circular quality that is bodied as fingers move round with a half-moon twist and fibers curve to follow. Circular also in its discursivity, as the language of weaving is cultivated from the specific way of a place, and always returns back to it – a continual spiral that makes and re-makes a life. In this sense, the processes and products of this making come into existence with the assemblage it calls for (Stengers, 2008).

Weaving has ongoing iterations; a persistent pace of folding that is returned to over and over. Yet, the fibre that folds never returns precisely in the exact same way twice. The fibers dry, the hand tires and the fold’s initial smooth bend might become slightly angular. The following fold consistently swallows the shape of the last and, little by little, the entire form of the weave answers to this minor variation. Weaving is a technique which structures a recurring juncture of material where consistency creates tempo, speed, and with this, a temporality. Juana’s braids are fluid like water as she speaks, one fold swiftly cascades into the next, often without even a glance. Her fingers dance each fold with a snugness that is never too tight/loose. She weaves with a bodied wisdom that feels the meeting places and equilibrium of her folds with a sensitivity
that seems unthought. She does this all while moving around the aisles of her family’s small store, guiding her two children as they help and greeting those who pass by. My hands cannot yet keep up with the rhythms of folding without engrossed, focused attention. I look up at Juana and constantly back down to my braid. When my vision leaves the rhythms of the weave, the pace quickens, and the folds often become too tight - stuck. My dance with paja toquilla requires a slow attention and, though it gives rise to a tempo, its pulse is often interrupted by strain, pauses and unravellings. The weave often begins, and begins again, but never from a place of novelty. Paja toquilla, carrizo, duda - these grasses hold impressions of my mistakes, a score of too-tight folds and unknottings. Unmaking their marks is not an option. Weaving, then, is about making with what is already and responding to protruding and shifting past-presences (Ingold, 2013).

This manner of weaving, its repetitious quality and endurance, offers pedagogical propositions: The consistent returning to – folding and folding again with variation, asks something of how a weaver thinks and acts, while becoming sensitive to the fold’s dependency on what came before, and how it might act as a threshold for emergence. In this sense, weaving is figured by a past that is actively discerned and reshaped by the weaver.

At Santana, weaving weaves into the lively histories and material culture of Racar. At the same time, weaving is a technique that helps us to think with multiple conflicting socio-political and material inheritances of this place as a threshold by which we make curriculum. As part of an ongoing and collective thinking, I am interested in the manner of thought, or minor sensibilities, this technique enables as we encounter plastics with children. Returning to Manning (2016) such techniques are not only about opening to action, but a perception that precedes and guides. Weaving does not often involve grand gestures, it is an intimate and meticulous work where subtle repetitions give shape to an emerging form, one which comes into existence through a living archive of folded folds. Weaving and thinking with Stengers (2008) reminds me that our work with Santana is about learning, together and in struggle, how to inhabit a place in its impurity. For Stengers (2010), learning in ecological crises is not about progress or discovering solutions, but rather is about a capacity for relation-making, in the midst of “a situation already

10 This gesture toward the impossibility of unmaking and its pedagogical implications is inspired from Carmen Rodriguez de France and her conversation with Narda Nelson, which was later shared with me. In reference to colonial violences in Canada, Rodriguez de France articulates that pedagogy cannot ‘unmake’ or ‘undo’ a past – we cannot unmake something that has already been in the world.
produced by a multiplicity of relations” (p. 33). With Deleuze and Guattari (1987), crafting such relations is always a question of technique, and the technical problem of creating in the presence of forces that abstract us from a capacity to think/feel/act.

This dissertation, and the continuing project it speaks with, attempts to embed itself in the folds of Racar – however partially - as it is marked in particular ways by contrary discursive forces of neocolonial violences and lively Andean land relations. Making a curriculum with Santana as an effect of this condition emerges with a rhythm similar to the sensation of weaving with plastics, a pace that has a repetitious, yet unstable, pulse. In the ongoing emergence of our project, together with educators we consistently return to the, sometimes ambiguous, territories of the refrains with which our work responds to – a prevailing one is the presence of the human of developmentalism in early childhood education, its dynamic and conflicting definitions (see Chapters Two and Five). Following Stengers (2008), betraying and experimenting with this refrain is never stable or done in general, “it is always a matter of encounter and connection” where connection is an incident of “coming into existence” amid shifting assemblages (p. 39). Because both we and the refrain are living, of the shifting discursive patterns and dependencies that make us, each time we return to it slightly differently. For us, this re-encountering is not about playing against developmentalism as what la paperson (2017) calls ‘a monolith’, a static figure we consistently bump up against and accuse. With la paperson (2017), we might think developmentalism as an assemblage where others, in their alterity, are subverted into its mechanics. For la paperson, the school and its developmental structures is not a monolithic institution with a static unified force; it is a field of complexity that is actively made and can be reassembled by the subverted, their resistances and possibilities, within and outside of its living shell. Thinking again with Stengers (2008), betraying developmentalism, then, does not equate to denouncement. Rather, through curricular processes that are shaped through the practice of pedagogical documentation, we think with and through the discursive mechanics of developmentalism and remain hesitant to notions which infer our project might be uncontaminated by, or detached of, the constraints it inherits and works with. As discussed in Chapter Two, such notions of purity function as a trickery of the refrain that pursues to appease us (Haraway, 2016), one which made plastics unthinkable for much of the first year.
As Vintimilla and Pacini-Ketchabaw (2020) propose, nurturing lively pedagogical spaces that betray the grips of developmentalism happens “in the midst of struggles, interruptions, and even failures.” (p. 638). Weaving enlivens this notion through the generative restraints of the braid, where the tensions of fibers and irritations of their meeting places are worked with. These restraints are continually mitigated by the weaver who works with their restrictions and affordances in the fold - **tight enough to hold shape, and loose enough to move**. Refrain becomes a central force, even a function, of the weave and its consequences for emergence, where the outside of one thread provokes the inside of another.

Weaving helps me to think with the notion of refrain pedagogically, to study what the terrain of developmentalism at Santana belongs to, what connects it with an outside against which this refrain protects and stabilizes itself (Stengers, 2008). In other words, what is the life of developmental psychology at Santana, and how is this life preserved and dynamically refolded through particular educational attachments? This question brings me to the potential pedagogical force of Chapter Four, the project’s Exhibit, which engaged with processes of adding dimension, dramatizing, and attempting to bring complexity to the life of a refrain as a way of gesturing toward its networks, allies and mechanisms.

**Proposition Two: Intensifying (and dissociating) with refrains**

“It is the assemblage that comes into being when one encounters a force and is affected by it, which demands experimentation and discrimination, because capturing a force, being modified by a force, ‘forced to think’, feel and experience is never without danger.”

*Stengers, 2008, p. 44*
In this dissertation, alongside research collaborators and my supervisory committee, I have attempted to begin thinking through the neoliberal developmental boundaries with which our project mitigates, modestly becoming sensitive to what de la Cadena (2019) describes as the “boundaries of the intelligible”. In collaboration with Santana, this has involved repetitious exposures to the pedagogical refrains that reaffirm prevailing educational impulses. The Exhibit’s magnification of the material-semiotic life of plastics at Santana attempted to immerse us into our co-dependencies with plastics and the developmental rationalities of efficiency and progress these materials speak with. Importantly, the Exhibit sought to highlight how these dependencies inform educational assumptions with which Santana’s practices referenced in the early days of the project, and to make them less comfortable. Though the Exhibit was only held at the gallery for some weeks, it speaks in close relation with key tensions we had been engaging with in our daily work with Santana throughout the year. Through encounters with the installations, the dramatization of plastics’ aesthetics and conflicting discursive narrative at Santana aimed to create a situation whereby viewers could be met with neoliberalism’s developmental pulse at the school, to become confronted with what it can and cannot do pedagogically. This invitation to begin rethinking educational practices, and the discourses that shape them, took a different form in daily engagements at the school, through processes of pedagogical documentation in curriculum-making. Exposing and collectively thinking through developmental refrain and its living ‘web of conflicting definitions’ (Stengers, 2008) as it shows up in documentation made felt the intimacy of its corresponding neoliberal force – its desires, tendencies, and refusals.

Thinking through the processes of pedagogical documentation in the first year of the project sought to cultivate a nascent pedagogical impulse guided by a hesitation and discernment to how we orient to minor everyday moments with children. As discussed in Chapters Two and Four, our intention is that this discernment might open us up to encounter and make perceptible the characteristics of developmentalism and become attentive to how it functions in situated living circumstances. In this sense, pedagogical documentation creates an occasion to begin bringing the human of developmentalism to encounter what is of and other than itself. For example, in Chapter Two, documentation prompts us to notice how developmentalism performs in sustaining the purity of childhoods at the plastic-filled river. In Chapter Five documentation speaks to its incapabilities of thinking child-plastic relations in their distinctions and incoherences. Paying
attention to the life of developmentalism with Santana during this first year of pedagogical work also incites us to slowly (and itinerantly) begin cultivating openings/possibilities of its othersides, what Vintimilla and Pacini-Ketchabaw (2020) describe as “the vital void of indiscernability” where pedagogy can be thought and experimented with. With de la Cadena (2019), I am interested in this void or peripheral space as a site of excess that might be generative for thinking pedagogically with plastics in Racar. Though it is beyond the scope of this dissertation, it feels important to note that we only began to encounter the possibility of this excessual space more distinctly after four years into a collaboration with Santana, in a profound opening generated by the COVID-19 pandemic, and an urgency for an educational response that resisted online alternatives to educational experience (The Itinerant School for Viral Times, 2021).

**Proposition Three: Attempting to weave with excess**

This dissertation attempts to take seriously a methodological obligation to excess through the processes of weaving with plastics. Excess has a divergent quality (de la Cadena, 2019). It constitutes itself, in distinction, through its practice in a mutuality. To situate this notion of divergence within the pedagogical work at Santana, I think with de la Cadena’s (2019) expression of a ‘complex we’; a conceptual proposition she suggests for thinking through mutual excesses, or “forms of being that each of us in the ‘we’ [are] not” (p. 478). de la Cadena uses this concept to convey a common condition which constitutes mutual excess as it emerges through ‘intra-acted assertions of divergence’ (p. 478). Because mutual excess occurs at the meetings of categorical peripheries, it has a divergent characteristic that escapes/disassociates/protrudes from its other, while remaining in common. de la Cadena (2019) argues that such divergences cannot be thought as ‘contradictory’ or even ‘different’, because these terms infer comparison or equivalency, whereas divergence is constituted through practices of being in common with another while remaining distinct. de la Cadena (2019) draws on Stengers (2011) to articulate this, “Like orchid and wasp, through an interest in common that is not the same interest, practices self-make with others as they diverge in their own positivity” (p. 478). de la Cadena (2019) suggests attention to mutual excess as a generative space for rethinking the human and its
relations with the earth, an invitation to flesh out the categories/classifications that sustain this human and its practices, and to become open to what exceeds and cannot be contained by them.

Plastics might be thought as such an excess; a threshold material which exceeds the conceptual boundaries of the human and nature (Altman, 2017). As I have discussed, plastics in Racar, particularly plastic saquillos, betray dominant conceptual distinctions of culture and nature, while producing new constitutions of itself through its situated connections and consequential divergences. For instance, plastics in Racar have ongoing enfoldings within human framings through waste economies, landfills and recycling initiatives. Yet, as this dissertation has attempted to make visible, plastics also spill past conceptual categories of the human in a continuous, deeply connective (and toxic) existence with place. Plastics, then, might be understood as a mutual excess that is both perpetuated by and escapes its categories proposed by humans. This ‘oxymoronic’ existence (de la Cadena, 2019) emerges both with the will of Progress and its rationality of relentless linear development, and the excesses of that will which consistently escape and compose with it. Weaving as a technique offers a potential circumstance for thinking more about this kind of existence and its educational impetus.

When woven on its own, plastic yarn proposes a weave that is quick-paced, where folds have a tendency to slide closely together with little room between. Plastic yarn braids a moving pace of the hands that is fast and slick. Braided alongside paja toquilla, plastic yarn complicates the meeting place of the fold with a smooth slipperiness and lightness. When paja toquilla and plastic yarn are worked with together, each fold becomes shaped by diverging material temporalities, confronting the weaver with a struggle in holding disparate fibers together in a sustained and endurable rhythm. In response, the weaver experiments with the textures and affordances of each fiber – the firmer resistances of paja toquilla and the sleekness of plastic yarn. Held together, their singularities become more felt, producing an intensification of difference. Weaving becomes a dance of negotiation amid material temperaments – the hand loosens and tightens threads in response to the conditions proposed at the meeting place of seemingly antithetic fibers. Working them together in the weave requires sensitivity to the specificities of each, how one moves with the other, over and over, and creates a tentative dependency. Thinking with de la Cadena (2019), this rhythm cannot be understood as existing despite difference, or even because of contradictions. Paja toquilla and plastic yarn propose a
manner of weaving and an affective rhythm that moves as an effect, or consequence of distinct, co-existing material forces. For de la Cadena, these material singularities are not comparative, but constitutive through their encounter in the common weave.

Weaving offers a unique way of being with plastic materials in early childhood education, one which interrupts the prevailing figure of the human as a manager of plastic worlds. Braiding with plastics becomes an occasion to touch, and be touched by, troubling dependencies proposed through what at times feels like endless folds. Weaving is a technique that requires an ongoingness and a working with, rather than a doing to (Bunn, 2011). Through its processes, weaving proposes a reformation of the constitutive categories that often overdetermine child-plastic relations. This is a minor but important reformation from orientations to plastics in early childhood education which consider plastics as static, passive or as a material children can simply act upon or solve. Ingold (2012) explains this shift toward thinking with and alongside materials, an orientation artisan’s such as Juana have long known. He suggests, “To know materials, we have to follow them … Their every technical gesture is a question, to which the material responds according to its bent.” (p. 435). Following the rhythms of paja toquilla and plastic yarn resonates with this notion; where weaving is not an imposition of human will upon material, but rather is a ‘co-responding’ with (p. 435) which demands a careful listening to their histories, performances, uncertainties, and productive force.

Un/foldings

Weaving, I attempt to anticipate an emergence as my hands work at the edge of the braid, shuffling backwards to re-adjust already-folded-folds in response to the openings they might propose. These folds are foregoing, and, always on the cusp of - a materialization of potential. Vintimilla and Pacini-Ketchabaw (2020) propose that at its heart, pedagogy is about “working at a life, becoming studious of it, and becoming interested in its different forms and formations in what it does and how we become of it.” (p. 637). Like the temporalities of weaving, our pedagogical work with Santana negotiates with a past and a future in the hands of the present (Cusicanqui, 2012). Complicating developmental notions of linearity, its immediacy has a simultaneously retrospective and prospective characteristic. Vintimilla and Pacini-Ketchabaw
(2020) speak to this multi-temporal essence of pedagogy, it has a tentative nature as it is always becoming and responding through its connections with a history that may be at once held and transformed by a present. This weave did not begin here, and it continues to be formed and re-formed with others who pick up threads and enlace with the braid along the way.
BIBLIOGRAPHY


Encalada Vásquez, O. (2002). Diccionario de Toponimias Ecuatorianas, Tomo I. Cuenca: Centro Interamericano de Artes Populares, CIDAP. Universidad del Azuay, UDA.


Kirby, V. (2017). What if culture was nature all along?. Edinburgh University Press.


https://doi.org/10.4324/9780203481141

https://doi.org/10.1515/9781478021445


https://doi.org/10.1080/00393541.2011.11518829


APPENDIX A: ETHICS APPROVAL FORM

Western University Non-Medical Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Veronica Pacini-Ketchabaw
Department & Institution: Education/Faculty of Education, Western University

NMREB File Number: 109333
Study Title: Rethinking the Rs Through the Arts: Transforming Waste Practices in Early Childhood Education
NMREB Initial Approval Date: July 13, 2017
NMREB Expiry Date: July 13, 2018

Documents Approved and/or Received for Information:

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<td>Received June 29, 2017</td>
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<td>Letter of Information &amp; Consent</td>
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<td>Letter of Information &amp; Consent</td>
<td>Appendix D - Educator</td>
<td>2017/06/29</td>
</tr>
<tr>
<td>Other</td>
<td>Appendix A - Interview with educators and artists</td>
<td>Received May 15, 2017</td>
</tr>
<tr>
<td>Other</td>
<td>Appendix J - Confidentiality</td>
<td>Received May 15, 2017</td>
</tr>
<tr>
<td>Recruitment Items</td>
<td>Appendix F - Family Info Session Invite</td>
<td>Received May 15, 2017</td>
</tr>
<tr>
<td>Recruitment Items</td>
<td>Appendix C - Information Session Invite</td>
<td>Received May 15, 2017</td>
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<tr>
<td>Instruments</td>
<td>Appendix B - Protocol for Educators</td>
<td>Received May 15, 2017</td>
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<tr>
<td>Recruitment Items</td>
<td>Appendix E - Director Email reminder</td>
<td>Received May 15, 2017</td>
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</tbody>
</table>

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer, on behalf of Dr. Randal Graham, NMREB Chair or delegated board member

EO: Erika Basile___ Grace Kelly___ Katelyn Harris___ Nicola Morphet___ Karen Gopaul___ Patricia Sargeant___
Dear Dr. Veronica Pacini-Ketchabaw,

The Western University Non-Medical Research Ethics Board has reviewed this application. This study, including all currently approved documents, has been re-approved until the expiry date noted above.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

The Office of Human Research Ethics

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).
APPENDIX C: CURRICULUM VITAE

Alex Berry

Education

Sept 2017–April 2022  Western University, London, Ont., Canada  
**Ph.D. Candidate, Curriculum Studies, Faculty of Education**  
*Cumulative average: 92.5*

2014 – 2017  University of Victoria, Victoria, BC., Canada  
**Master’s Degree, Child and Youth Care**  
*8.50 GPA*

2012- 2014  Douglas College, New Westminster, BC., Canada  
**Bachelor’s Degree, Child and Youth Care**  
*4.0 GPA - Valedictorian*

2011  Douglas College, New Westminster, BC., Canada  
**Diploma, Early Childhood and Special Needs Education**  
*3.8 GPA*

Research Activities

Research Assistant and Pedagogical Coordinator  
*Rethinking the 3 R’s: Transforming Waste Practices in Early Childhood Education*  
September 2018 – Current | Western University  
[http://riverplasticities.climateactionchildhood.net/](http://riverplasticities.climateactionchildhood.net/)

Research Assistant and Pedagogical Coordinator  
*Equitable Pedagogies for Viral Times in Ecuador*  
September 2020 - Current | Western University  
[http://viraltimes.climateactionchildhood.net/](http://viraltimes.climateactionchildhood.net/)

Research Assistant  
*Developing Educational Practices and Methodologies to Enhance Young Children’s Voices: Mitigating Climate Change Injustice in Andean Communities*  
September 2018-2020 | Western University  
[http://uncommoningintheandes.climateactionchildhood.net/](http://uncommoningintheandes.climateactionchildhood.net/)
**Creative Knowledge Mobilization Outputs**

**Exhibits**


Berry, A. (June 5-8, 2019). ‘Knittivism’: *Weaving plastic worlds*. Exhibit at Empresa Municipal de Aseo de Cuenca (EMAC), Cuenca, Ecuador.

Berry, A. (2019). *Braiding worlds: Convivialities of plastics and place*. Exhibit Extension, InSEA World Congress Conference, Vancouver, Canada

**Websites and Digital Archives**


**Research Funding and Scholarships**

Joseph Armand Bombardier Doctoral Scholarship | Social Sciences and Humanities Research Council of Canada | $115,000 | May 2019

Ontario Government Scholarship (OGS) | Government of Ontario | $15,000 | April 2019

Graduate Student Conference Award | Western University | $2,000 | September 2020

Graduate Student Conference Award | Western University | $2,000 | September 2019

Ontario Government Scholarship (OGS) | Government of Ontario | $15,000 | April 2018

Doctoral Scholarship | The University of Western Ontario | $23,000.00 | September 2017
Queen Elizabeth II Diamond Jubilee Scholarship | Federal Government of Canada | $5,000.00 | September 2015

Graduate Scholarship | University of Victoria | $10,000.00 | January 2015

Graduate Entrance Scholarship | University of Victoria | $5,000.00 | September 2014

**Academic Awards**

Crossing Borders Research Award | Center for Asia-Pacific Initiatives (CAPI) Research Network | University of Victoria | June 2015

Valedictorian Award of Distinction for the Faculty of Applied Community Studies - Bachelor of Arts Competition | Douglas College | June 2014

Gold Cord Award | Douglas College | June 2014

**Other Academic Endeavors and Memberships**


Exhibit Digital Archive Creator and Colloquium Co-Organizer, *Responding to ecological challenges with/in contemporary childhoods: An interdisciplinary colloquium on climate pedagogies*, Western University, September 2020 – Current


Peer reviewer, *Pedagogy Culture and Society*, February 2019 – Current

Peer reviewer, *Journal of Childhood Studies*, November 2017 – Current

Research Associate & Member, Common Worlds Research Collective (CWRC), September 2017 – Current

Research Associate & Member, Early Childhood Pedagogies Collaboratory (ECPC), June 2017 – Current

Member, Network for International Policies and Cooperation in Education and Training (NORRAG), April 2021 – Current

Member, Early Childhood Educators of British Columbia (ECEBC), June 2012 - Current

Member, Centre for Asia Pacific Initiatives (CAPI) Crossing Borders Research, September 2015 – Current
Member, Queen Elizabeth Scholars Research Program, September 2015 – 2017

Certified Narrative Therapist, Vancouver School for Narrative Therapy, October 2015 – Current

**Academic Publications**

**Peer-reviewed Publications**


**Non-blind Peer-reviewed Publications**


**Forthcoming Peer-Reviewed Publications**


Berry, A. (Accepted). Book Review: Max Liboiron’s Pollution is Colonialism. *Journal of Postcolonial Studies*.

**Presentations**

**Conference Presentations**


MacAlpine, K., Berry, A., & Drew, J. (May 2018). *Problematising the nature/culture divide: Exploring material entanglements in environmental issues*. Panel presentation, Canadian Society for the Study of Education, Saskatchewan, Canada, 33.3%

Berry, A. (March 2018). *Rethinking child-place relations in early childhood education.* Rosa Bruno-Jofré Symposium in Education, Queen’s University, Kingston, Ontario


**Invited Presentations and Guest Lectures**

Berry, A. (2021). *Engaging with Max Liboiron’s ‘Pollution is Colonialism’ in Andean early childhood education.* Panel presentation at ‘The Ediths Roundtable Series’, Edith Cowan University, Australia


Montpetit, M. & Berry, A. (2018). *Drawing together in early childhood curriculum.* Workshop for community stakeholders, faculty and students at Western University’s Faculty of Education, London, Ontario, Canada


Berry, A. (2015). *Exploring the possibilities of Narrative Therapy in child and youth care practice*. Guest Lecture, School of Child and Youth Care, University of Victoria, Victoria, British Columbia, Canada

**Theses**


Supervisor: Dr. Veronica Pacini-Ketchabaw
Committee Members: Dr. Cristina Delgado Vintimilla, Dr. Sylvia Kind

Berry, A. (2016). Becoming affected with Artistic Memoir: Entanglements with arts-based education in India. *Master’s Thesis*, Faculty of Human and Social Development, University of Victoria

Supervisor: Dr. Veronica Pacini-Ketchabaw
Committee Member: Dr. Sylvia Kind

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*Alex Berry*

*April 2022*