

# 4

## PEDAGOGICAL INQUIRY WORK, PROPRIOCEPTION, AND A SWEATY QUAD

I want to turn now to thinking with a moment from my own research, *Moving Pedagogies*, a pedagogical inquiry research project done in close collaboration with early childhood educators and children. We drew in postqualitative propositions to think through how we move together in early childhood education. Two questions anchored our research: how do we move together? How do we get to know a place with movement? Our guiding questions cared deeply about the ethics and politics of moving as a collective project. This meant a rejection of many of the knowledges through which early childhood knows moving, which are largely drawn from physical education paradigms that situate moving as a method for developing an individual child's motor skills and physical fitness (Land & Todorovic, 2021). We wanted to take moving as a question and a proposition in its motions: how do we navigate space together through movement? How do we engage complex common worlds (Taylor, 2020) as a moving body? How do bodies move with our pedagogies – and how do our movement pedagogies respond with the world? In large part, we wanted to move while rejecting the humanist emphasis on a singular moving body traversing the world beyond its borders. It is here that *Moving Pedagogies* has great affinity with this book; we wanted to experiment with possibilities for being a moving researching body in the fissures of humanism.

Pedagogical inquiry research methodologies are close allies of postqualitative research. What is required of the researchers – educators, children, scholars – is a careful methodological patience that weaves pedagogy with researching. Put differently, pedagogical inquiry research pulls at the pedagogical threads advanced by postqualitative propositions and works to immerse postqualitative proposals in the rich muck of thinking with pedagogy. Questions of data, methodology, and clarity become meaningful for how they draw us into educational encounters and open horizons for thinking about how to live well with children in messy, inequitable worlds (Hodgins, 2019; Nxumalo & Pacini-Ketchabaw, 2017, 2022). Pedagogical

inquiry research asks for us to participate in a process of offering active provocations to work with that are aimed at agitating the status quo (Nxumalo, 2016; in our case, human-centered, developmental conceptions of moving), documenting these as pedagogical documentation or narration (Pacini-Ketchabaw et al., 2015) – that is, documentation that takes as its mode pedagogical interpretation and not capture, veracity, reproducibility, or assessment – and through processes of engaging this documentation in conversations with children and educators, opens toward alternate ways of interpreting the documentation. We then return to offering provocations that continue to invigorate the strands of inquiry that motivate our thinking together (Land & Danis, 2016). In *Moving Pedagogies*, we maintained an ongoing blog where we shared pedagogical documentation and our on-the-go theorising and interpretations. Pedagogical inquiry is quite an iterative methodology and it takes as its engine the pedagogical and thinks curriculum as a making, never reproducing the universalised technocratic demands of taken-for-granted early childhood education curriculum that thinks curriculum as a pre-articulated bundle of knowledge to be transferred to empty-vessel children (Hodgins, Kummen, & Merewether, 2022; Nxumalo, Gagliardi, & Won, 2020). Instead, pedagogical inquiry work is just that: work. As I have written previously,

pedagogical inquiry research sprouts tendrils that burrow, unevenly, into the copious political flows that unceasingly meet and disperse to create the ethical terrain that is early childhood education ... a situated concern might crawl atop others in our work of answering to the local political commitments of educators, researchers, children, families, and ecologies, but the multitude of politics that pedagogical inquiry work contacts endures even when not foregrounded.

(Land, 2022, p. 3)

Pedagogical inquiry work is, therefore, deeply non-innocent work. It activates our pedagogical declarations and intentions as researchers and educators (Nxumalo, Vintimilla, & Nelson, 2018; Vintimilla, Pacini-Ketchabaw, & Land, 2021).

The literature houses some brilliant examples of what can happen in collisions of pedagogical inquiry work and postqualitative research propositions (ex: Hodgins, 2014; Nelson & Hodgins, 2020; Molloy Murphy, 2021; Weldemariam, 2020). Often, these inquiries share a commitment to decentering humanism's human and engaging in a slow science that intentionally stutters toward creating conditions to understand children and educators' relations with place, life, and educational processes. Pedagogical inquiry is, as Hodgins (2014) argues, and I echo, a post-qualitative project. It thinks data as contingent and emergent, as a process and a practice aimed at getting to know the world without positivism, universalism, or a commitment to a fictional axiom of true authenticity. Methodologically, pedagogical inquiry research is invested in experimentation beyond certainty and takes methodology as an ontoepistemological question of knowledge generation and accountability in situated research gatherings. That is never loses sight of pedagogy

is its commitment to methodology. With clarity, pedagogical inquiry research seeks a relentless emphasis on returning to questions of pedagogy: what does this documentation or moment mean for how we take early childhood education as an educational experience? It is a refusal of clarity in the name of re-asserting the categorisations of child development and its associated practices, and instead seeks a clarity more loyal to emplaced relations that shape what becomes possible and impossible for children and educators' subjectivities and relations.

I am invoking the concept of "pedagogy" in a very particular way as I describe *Moving Pedagogies*. Vintimilla and Pacini-Ketchabaw (2020) propose that rather than defining pedagogy, we ask "*how might we think of pedagogy?*" This query allows us to share pedagogy's histories, conceptual difficulties, inherent foreclosures, and contextual particularities rather than merely defining the concept" (p. 629). Pedagogy, here, is a process, a project, a mode of life and speculative future-crafting. They continue, proposing that "pedagogy thinks early childhood education, not as a predetermined project but through open questions, such as: What is education? What are education's purposes? What is education for, and for who and what has it been hitherto?" (p. 635). Pedagogy, as it matters in pedagogical inquiry research, never strays from asking the crosshatched purposes of educational encounters; it cares deeply about the subjectivities and relations and knowledges made possible and impossible in different moments with children. In particular reference to the structural inheritances of humanism, and of humanism's grip on mainstream status-quo education in the Canadian context, Vintimilla and Pacini-Ketchabaw

argue against the proposition that early childhood needs to have an already defined ideal of humanity. Our suggestion is that pedagogy orients early childhood to keep the question of the human project open and in constant correspondence with the world in which it operates and brings newly into being thereby.

(p. 637)

Here we come to know humanism as a lingering and powerful actor in dominant education systems, one which pedagogical thought must disrupt. To think pedagogically is to recognise that our modes of meeting and moving are not defined by the structures of the human but are, in a much more hopeful vein, an open question to be grappled with. Decentering the child of child development becomes critical to nurturing alternative modes of engaging with children (Land et al., 2022). In the context of *Moving Pedagogies*, pedagogy does not resolve, abstract, or plaster moving to any singular conception or practice. It does not instrumentalise nor universalise nor define moving. Rather, it orients us toward ways of attuning to moving for its world-making possibilities with children.

Pedagogy is, importantly, not dictated by the epistemological configurations of child development. In the early childhood education context, child development matters as a profoundly interpretative practice (Burman, 2016). Child development is utilised to center an idealised, romanticised version of a Eurocentric, able-bodied

child who aligns with the “normative” vision of childhood (Castãeneda, 2002) – it is this child who is the outcome of healthy child development. The “universalizing, human-centred, technocratic, individualizing, and often violent logics and consequences of child development” (Land & Frankowski, 2022, p. 457) become a concern for pedagogy when pedagogy becomes concerned with achieving the dictates of child development (Vintimilla & Pacini-Ketchabaw, 2020). The child, as a subject of the education system, becomes the center of pedagogical concern such that all curricular activities are actualised in the name of materialising the child subject of child development. It is not dramatic to trace child development back to the humanist origins that it shares with mainstream qualitative research; they are partner projects in reasserting an anthropocentric, Enlightenment-informed vision of the “good” human and the ontoepistemic processes that sustain such a human. Just as postqualitative research intervenes in this image of humanism, postdevelopmental approaches (Blaise & Hamm, 2022; Land & Nelson, 2022; Murris, 2017, 2019; Nxumalo, 2021; Rooney, Blaise, & Royds, 2021; Woods et al., 2018) work to unsettle the ontological pillars of child development by advancing the contention that childhood is more situated, emergent, responsive, and entangled with the world than the sanitised and reproductive logics of child development allow. In the context of the research moment that I will share shortly, child development is relevant because I am discussing children’s movement, which is a facet of children’s experiences very often co-opted to the discursive captures of child development. Motor learning, skills acquisition, and physical fitness are popular development-laden techniques for apprehending children’s moving (Land & Vidotto, 2021). In what follows, I work to think children’s movement beyond these concepts and their developmental intentions.

## Proprioception

Proprioception names the body’s incredible ability to understand where it exists in space. It is the internal system that keeps us anchored in the world by navigating where our limbs are as they meet with the wider entanglements around us. Gandevia and Proske (2016) name it as a “sixth sense,” adding an almost mysterious edge to its very tactile, practical functions. Proprioceptive senses “include the senses of position and movement of our limbs and trunk, the sense of effort, the sense of force, and the sense of heaviness” (Proske & Gandevia, 2012, p. 1651). A torrent of neuron receptors, located throughout our bodies, come together to create a neurological “map” of our body, which they then use to locate the endpoint of each limb as it travels through space. Often, these receptors live in joints so that they have immediate access to the most vulnerable and flexible points of bodies. In the sensory cortex of our brain (Johnson et al., 2008), our proprioceptive system meets with the vestibular and visual systems, collating more information about how a body is encountering a space. This sense means that we can know, for example, where our hands are without having to see them; we can run across bumpy grass without looking down at our ankles. Because of this network of proprioceptive

senses, we can come to experience and understand how our bodies accelerate, balance, and coordinate. Proprioception can be both conscious and unconscious, taking on either an intentional bent or a reflexive response, and we most often draw upon our proprioceptive sense for stability and for pre-empting and tracking our movements through space.

To know how our bodies meet with space is to understand that we are not simply a human container moving through the world, but we are continually negotiating, with our proprioceptive sense, a mode of engaging with the world. Here is a fissure of humanism: we do not move through the world as easily as we might arrogantly imagine; to walk with confidence is to plug into an avalanche of sensory receptors and muscle fibers dedicated to keeping us upright. Our movement is, proprioception teaches us, inherently vulnerable. It is a collective activity from a neuronal scale to an interpersonal scale, entangled with the world at each juncture. When our limbs collide with space, they initiate this cascade of proprioceptive work that unsettles the image of a fully capable human traversing the world. Instead, we can tune to the constant work that is required for being a moving body within a place. Further, that proprioception is both intentional and unintentional disrupts the humanist vision of a fictional human cognition triumphing over a fleshy body, because proprioception keeps us upright and sturdy without a rational signal to do so. We can trust our bodies to hold us because of proprioception. This marks a relation of susceptibility but also of robust faith and reliance; we can very literally meet with the world because this “sixth sense” operates outside of humanist mind/body divide mythology.

I want now to move into a story from the *Moving Pedagogies* project to think with proprioception and our relations with moving with children.

## A Sweaty Quad

Here is an excerpt from our blog post, “Resisting Explaining.” The “quad,” as we colloquially name it, is a green space surrounded on four sides by a square-shaped building that houses university classrooms and the early childhood education center.

Today we went to a walk with a steamy/sweaty/dripping/raining/foggy quad – it was this unexpected, unfamiliar phenomena where the quad seemed to trap the warm air after a rainstorm, filling the quad with a dense, heavy mist as though it was raining from all directions.

The “rain” caused us and the children who noticed it to stop, to ask “what just happened”, but not necessarily to seek a rational, science-driven water cycle/weather explanation, but to actually wonder: what just happened – what is this incredibly cool thing that this quad place can do, and how do I respond to it?

We thought about words like liveliness and brilliance: attuning to the liveliness and brilliance of this place where we often pay attention to its risks and

troubles (needles, strangers, dogs, pollution, air quality). We thought about this alongside wanting to value this moment as just one moment of connecting to place, to the quad; about none of us having a for sure explanation for what happened, but also not wanting to seek an explanation, to capture this moment within a particular meteorological phenomena or technical explanation. To instead think about connectedness, and about how this one morning this incredibly unique and awe-some thing happened within the quad, and how that is a story we and the children now hold of this place.

In this moment, we walked a stumbly path of wanting to be awed by the awesome phenomenon that was mist trapped in the quad and of wanting to resist the pull to seek scientific explanations or to tell stories that might capture the mist into a concept that we already know. We encountered the steamy quad as a question of pedagogy: what about this experience draws us into unfamiliar relations that might inspire or ask of us strange responses? Inspiration, in this moment, mattered as an ethical and political decision, where to be inspired by this incredible pocket of foggy rain-smelling air in the middle of a huge city is to take seriously what this phenomenon asks of us and how we might make decisions as we get to know the mist. To be drawn into relation with this mist is to pay attention to it – deeply, and with a curiosity that rejects developmentalism’s mechanics or certitude – and to acknowledge that there is much we do not know about what is unfolding around us. The children stretched their arms in front of them, losing sight of their fingers in the mist. One of the children kicked at the mist, noticing it swallowing his foot. We tried to touch the untouchable mist; we marveled as it gobbled our limbs and limited our sight in front of us. Sensing – proprioception – in this sense, is a question of taking the risk of overwhelm, of sensing instead of explaining, of truly acknowledging there are worldly happenings that do not require humanist explanations. We knew we had hands but the sweaty quad made us question the realities of these hands – are they ours? Are they enveloped in a mysterious mist? How can we lose our limbs in the sweat of the quad – and what relations with our bodies become possible when we do?

This is sensing as the risky work of disorienting, of noticing our involvement as entanglement and not observation. Accompanying this is a sense of how our inherited frameworks for knowing bodies and sense, and proprioception, fail. We are often taught to know proprioception as an unassailable truth: my body will know where my arm is; it will sense that arm in relation to space and I will have a cognitive map of how this arm is engaging with the world. Instead, sense mattered as a marker of the failed, inadequate logics of expertise or cognition that fuel the figure of the human amid the Anthropocene (Taylor, 2020) because we had an embodied sense that this moment was meant to be responded with and carried with us, but not interpreted nor duplicated. Instead, thinking of our bodies with/in space took on questions of recognition and response, where we knew we were embroiled in a world with the misty fog and that moving with the air would require we set aside our typical movement lexicon and instead co-create situated,

small ways of moving with (Pollitt, Blaise, & Rooney., 2021) the fog as an overwhelming, lively, brilliant participant in our collecting movings.

Manning (2014, p. 168) writes of “exuberant disorientation” where “being danced in the moving, to feel the composition of movement tuning to a topology of spacetime that affects, that tweaks the emergent bodying affectively” (168) names the potentialities of moving with the world. Moving with exuberant disorientation demands of us not only a rejection of humanist frames of quantifying movement but also a suspension of the moving body as the independent, rational human subject. For Manning, “this force of movement-moving has a quality that is ineffable, a quality – an affective tonality in the moving – that touches movement’s limit as force of form, shifting the dance to a momentary place of intervention” (168). What becomes disoriented in practicing exuberant disorientation are the multiple processes of subject formation that we have allowed into our skeletons and how the pieced-together puzzle that is our body moves otherwise with disorientation. What is exuberant and disorienting about exuberant disorientation is that the brilliant overflow of exuberance and the rich inventiveness of disorientation cannot be pre-planned products of a moving encounter – it takes proprioception as a fact and rearticulates it as inaugurating an educational process. To sense with exuberant disorientation is to enter a relation of destabilising and excess, where sweaty air outstrips the bodied borders we often reiterate in our mechanised, perceptible movements. Doing proprioception with exuberant disorientation amid the misty, dewy quad is to move in concert with the unknowns of the heavy air and the damp grass; to move with, as Manning provokes, “movement [that] exceeds the theme, always out of reach of form-as-such” (168) amid a collective project of responding – toward creating conditions for exuberant disorientation – to the suspended rain, resisting the urge to recuperate movement to an already known language of twirling or rolling or jumping. To move in dialogue with exuberant disorientation can never be to plan for such a relation – exuberant disorientation cannot be a curricular goal for children. Instead, as Manning writes, exuberant disorientation happens when it is “not the subject inventing, but movement inventing” (168). Trapped mist, raining from all directions, bodies, grass, rubber boots, muscles that stretch, bodies that are made and remade as they respond with the dewy quad and become a little less Human: these relations inspire and are inspired by exuberant disorientation, over and over, pausing and recomposing each time early childhood education’s certainty or surveillance or developmental image of the ideal child subject interjects in movement.

Pulling our “Resisting Explaining” blog post into dialogue with Manning’s (2014) exuberant disorientation, proprioception becomes a question of epistemic accountability. Rather than inspiration being oriented toward motivated, fulsome productivity, getting to know our body as it meets this sweaty space names who we choose to think with and how we choose to notice and be within the world and why. Our bodies are here; the sweaty fog is here; moving is unfolding – and we are trying to comprehend our fleshy container within such an entanglement. What, we might ask, do we draw children into with our moving together at the

exuberant junctures of bodies and mist? How? Why? Rather than trust in resources or interventions that aim to inspire children to move, we might cultivate a suspicion as we pay attention to the construction of sense, making visible the intentions, reach, and relations that hold any iteration of proprioceptive force together. With Manning, we can add a strangeness to our moving with children, where to use existing tools of inspiration is to reiterate a prevailing child subject but risking moving otherwise might draw us into relations of motion that upset the sovereign, individual movement-skill demonstrating child. To be think proprioception beyond its techno-scientific literal interpretation with moving with children is to do moving with the world, a moving with that disassembles and re-crafts how any body moves with the dynamism of life. This entails a shift, where rather than the individuating and performance-oriented logic of “I know exactly where my arm is at all times,” we must think instead about how sense unfolds within moving, where sense threads through the complex ethical and political forces that call bodies into movement. Moving is always creating a relational constellation (one never estranged from the forces that try to capture it – like child development) in motion, creating bodies and worlds in moving over and over.

Internal T&F copy for restricted use only



# FRACTURE FOUR

## *Childless Offspring*

This poem, *Childless Offspring*, comes from Rebecca Salazar's (2021) anthology, *sulphurtongue*.

I should admit I would prefer the ghosts  
come out fully screaming just to prove  
that they are there; that I am as likely  
to turn up fucking wasted at your door  
as I am to sprout long, verdant wings.  
A haunting is only a pheromone stain,  
the rate of cortisol secreted in a place  
by bodies flown by by-wings, wormed  
to imperceptibility before you came.

I am the last resort my ancestors prayed  
long they would not come to. Inconvenient  
excess of emotion and of stubborn hair  
with one foot slipping on banana peels  
and one foot firmly in the grave. Loose end  
to their long plait of generations –  
guilty, although unrepentant, cup of flesh.

“A haunting,” writes Salazar (2021), “is only a pheromone stain” (p. 24), invoking a historicity of the body that is fractured in its physiology; a haunting – a nostalgia made of lingering, of the strangeness of a **voice** that threads past with potential – is a mark made by a biological body. Pheromones are about dialogue: they are secreted by one body, on its public edges, to be taken in by another body through its sensory affairs. Pheromones are meant to be received. I will think, in

the coming chapter, about the idea of our sensorial palate, where sensory experience implicates us in a world. For Salazar, this is a world of haunting, a world that has an eerie weight and wait to it. In thinking postqualitative research, we can take this a provocation toward temporality: what are the pheromones of our research that invoke a haunting? How do we do researching bodies that proffer something to be absorbed, taken in, sensed by another? Interestingly, much of the research on pheromones focuses on sexuality and attraction (Verhaeghe, Gheysen, & Enzlin, 2013). Pheromones, so it goes, matter because they bring mates together. They create an affinity. What modes of bringing bodies together do we make possible and impossible with postqualitative propositions? What affinities – leanings, wavelengths – do we craft with bodies against the walls of humanism? This is a question, I suggest, of how our research alliances become bodied. We so often create citational trajectories and friendships through words, through the typed brackets that certain citational styles use to invoke some sense of affinity (or, critique and refusal). But what is it to take that bracket as a wrinkle on a forehead, a pheromone offered up to a co-conspirator, a mark on and from a body that needs alliances in order to research otherwise?

Salazar (2021) continues, offering that “the rate of cortisol secreted in a place / by bodies flown by by-wings, wormed / to imperceptibility before you came” (p. 24). Imperceptibility. This is a word on postqualitative bingo. It is used to invoke a sense of unknowing, of becoming invisible to the radar of humanism’s status quo. To be imperceptible is not to be inconsequential, but is to no longer make sense to the epistemologies that structure our modes of gazing, of knowing. How does a body made of cortisol and of pheromones become imperceptible in postqualitative researching relations? Salazar’s mention of cortisol is a reminder that imperceptible does not mean invisible or fictional; a body is still made of adrenals that produce stress hormones and those stress hormones are secreted in dialogue with a world of various stresses and triggers and relations that demand a response. So then, how do bodies become imperceptible in postqualitative research? This is, I offer, a proposal toward bodying otherwise. To what do I want my body to be imperceptible? Technocratic data, instrumental methodologies, positivist clarity. I want my flesh to stop making sense to these, and I want my body to cease making sense of these. As a body researching in the fissures of humanism, to become imperceptible is an act of physiologies-grounded refusal, where I am not refusing the facts of my body as a physiological entity but I am intentionally and imperfectly denying it the ability to be made fully knowable by the conventions of Euro-Western science or normative humanism. This raises interesting questions about how and what such a body can do. What is it, for example, to type as an imperfect body thinking postqualitative propositions? With what do my finger muscles, tendons, neurons, and bones type as I grapple with data, methodology, clarity, and pedagogy – what worlds do I plug into? What entanglements do I body? What contagions do I risk?

To conclude this poem, Salazar writes, “loose end / to their long plait of generations – / guilty, although unrepentant, cup of flesh” (p. 24). This makes me think about the work of inheritance in postqualitative research. Throughout this

book, I have tried to imagine a generous citational practice that honors that post-qualitative thinking has lived an entire life before I even knew the world invoked by the word “qualitative” (let alone, “post”). This book is an inheritance; it is inheriting. My researching body, working with postqualitative propositions, is an inheritance. Bodying is inheriting. Salazar speaks of the “long plait of generations” (p. 24), putting forth an image that inheriting is not a linear task but an entangled one, one with rhythms and ebbs and flows, and one that asks that we do not draw straight lines where straight lines were never meant to live. To pick up the postqualitative propositions of those who have written before me is, as a researching body, to feel the labor of their sore bodies as they rise from a day of writing. It is to recognise that bodying postqualitative research is not a project invested only in the present or only as a proposal for an otherwise future. Bodies – be that a “cup of flesh” (p. 24) or a body of knowledge – do temporal research relations. This is a good question to carry as we work to body postqualitative research: how do we body the temporal relations, traces, and “loose ends” (p. 24) that nourish our propositions?

Internal T&F copy for restricted use only

# CONCLUSION

## Bodying Postqualitative Research

I want to conclude this little book by offering forward three propositions for thinking through and living through the work of being a researching body within the fissures of humanism. We have, to this point, thought through method, data, and clarity with caffeine shakes, antipsychotic medications, and scars; what I want to do now is to burrow into questions of how the body might proceed to deepen research relations and questions in an ever emerging and shapeshifting post-qualitative space. It is important that I craft these propositions in a propositional way – that is, I am not proposing that these three actions are concrete ways that we can better think with the body in postqualitative research. Rather, I situate them as events or as processes that open toward the possibility of being a researching body with the rich knots postqualitative researchers articulate and grapple with. Accordingly, I end each proposition with a series of questions that I resist answering. I want them to take on a life with the body and research caverns that each reader inhabits and inherits. I hope that they will drive postqualitative research questions into a future where we wonder, collectively, what it is to be this incredible array of flesh and microbes that takes seriously a world of knowledge generation and motion beyond humanism's grip.

### **Proposition One: Imagine How Postqualitative Relations with the Biosciences Might Proceed**

Lather (2013) writing on postqualitative research, argues that “out of mutated dominant practices, through a convergence of practices of intensity and emergence, both practice and objects of a field are redefined and reconfigured” (p. 640). What this means in the context of thinking postqualitative relations with the biosciences is that we are not seeking one relation between postqualitative research and the biosciences – their intersections and collisions are not questions

to be resolved. Rather, we need practices that engage biosciences with “intensity and emergence,” that are not scared by the epistemic and ontological power of normative and normalising Euro-Western bioscience, but that take biosciences as a powerful but non-totalising knowledge with which to think the possibilities for researching bodies. This is different than using biosciences as a metaphor, something I have tried hard to resist. We do not need to find the poetry or romanticism in bodily functions; we need to find the functions that ask hard questions of our researching proposals and practices of method, data, and clarity. This means tuning to the nuances of what biosciences know about bodies and then becoming the motion that drags these nuances into dialogue with postqualitative research’s tendrils: how do we read, hear, live sciences and postqualitative work together, knowing them for the aporias and disjunctures they enliven and being suspicious of their too-easily remedied affinities or allegories? How do bodies ask hard questions of postqualitative work, intervening in the powerful sentences we string together in the name of thinking ontoepistemic justice and invention in the wake of humanism’s regulatory sway? This is, perhaps, nearing a methodological question, one that asks how we engage biosciences in postqualitative work: what are the methodological innovations and attentions that we need to take bodies seriously in postqualitative scholarship? What if we do not know this answer already, what if it flees description or embodiment or interference, and asks us to imagine different modes of thinking sciences in the fissures of humanism?

The final line of Willey’s (2016) *Undoing Monogamy* is as follows: “when we claim sciences, instead of ‘engaging’ them, the terrain shifts from one of how unfriendly feminists are to Science to one of what a world of sciences has to offer, where so much is at stake” (p. 146). This is, I suggest, a timely initial motion into thinking bodies with postqualitative research where we need to think about the politics of claiming sciences with postqualitative proposals. This is not a contrite practice, not one where we apologise for the violences of normative Euro-Western Science and commit to becoming different types of scientists (although we probably need to do this too). Instead, taking Willey’s proposal seriously is about asking what this work of claiming vs. engaging puts into our researching lives: how do we claim different sciences differently with different postqualitative commitments? How, for example, do we need to claim sciences when talking about method – what of our methodological intentions and groundings cling to different threads of scientific practice, both hopefully, intentionally, and infuriatingly? This practice of “claiming” is, I contend, an interesting one to add to the lexicon of postqualitative research: what do we claim in the name of thinking sciences with postqualitative work? And, methodologically, what does the work of claiming sciences entail in the face of thinking bodies in the fissures of humanism? This is not, I would suggest, simply a practice of integration – I want to think with this scientific knowledge to add energy to this postqualitative question – but one of inventing a practice of claiming that we do not yet know the contours of. I am reminded here of St. Pierre’s (2013) postqualitative work:

deeply embedded in the new ontology are concerns that acknowledge the destruction of the world humanism and its science projects encourage with their man/nature, human/nonhuman binaries. Refusing that binary logic which pervades our language and thus our living is a priority, because if we see ourselves as always already entangled with, not separate from or superior to matter, our responsibility to being becomes urgent and constant.

(p. 655)

Constancy and urgency mark the project of claiming, and not simply engaging, with sciences in postqualitative work. We need to forge practices that take sciences' history as a violent epistemic formation seriously, but we need too to ask questions of what endures of the body after we strip back the normalising functions of science: what becomes possible for postqualitative work with the body through the labor of claiming sciences in a postqualitative vein? And – how do we figure out how to do this, collectively, and not as a practice isolated in the bounded, individualised research spheres that humanist research holds so dear?

### **Proposition Two: Build Otherwise Imaginaries and Lexicons for Doing Bodies with Postqualitative Proposals**

We have spent time with Squier's (2004) creation of biomedical imaginaries, and with Willey's (2016) conception of biopossibility, which have made clear that in postqualitative work, we need to turn toward what our relations with bodies, and bodily sciences, will ask of us and will generate as we continuously inherit the fissures of humanism. When I read biomedical imaginaries and biopossibilities in the context of postqualitative research, I am struck by the imperative to generate an unfamiliar lexicon, a lexicon for the afterlife of our relations with bodies where the after is an after positivism and normalisation and the violent epistemic captures of Euro-Western sciences. I use the word "lexicon" here carefully, wanting to stray from making only a discursive or semantic argument and thinking more along Karen Barad's (2007) conception of the material discursive, where a lexicon matters for what it puts in motion for life and for living, researching bodied practices. How then, do we begin to articulate a living lexicon for thinking researching bodies in the fissures of humanism? What kinds of teathy language do we need to autopsy the bodies we inherit and inhabit, and the research practices they make possible and impossible? Lather (2013) proposes that we might ask, in situated postqualitative research assemblages, "what deaths of this and that and (re)turns need to be taken into account" (p. 635). In our space, we might ask what (re)turns with language might we need for bodying postqualitative research? I propose that we (re)turn – re-encounter, flip and mull over and over for their differences – some of the vocabulary that we have become almost fearful of in postqualitative spaces. Words like consequence, diagnosis, and agonist are ones that flood through bodies and biosciences, marking relations that reactions that matter for how bodies come to matter. These are also, concurrently, words that rightfully spur suspicion in the

heart of postqualitative researchers who have come to be wary of the teleological, explanatory power of such language in humanist research. How then, do we (re) turn to these formations as bodies doing postqualitative work? How do we think about how the, for example, diagnostic structures that shape how we come to know a body also ask hard questions of postqualitative practices? What if we refuse to give up on the idea of diagnosing and, rather than allow for it to exist as a word ripe with incredible explanatory power, see it as a fragmented practice of getting to know a body: how do I diagnose my researching body, and how does bodying research in the fissures of humanism become a practice of ongoing diagnosis where to diagnose it to attune, not attenuate?

Taylor (2017) offers that

creating knowledge-making practices which are immanent, embodied, embedded, entangled and situated; which privilege indeterminacy, uncontainability, excess, multiplicity, and the happenstance; and which make space for the human alongside and with the nonhuman is a very real challenge. It requires making methodology anew with each research endeavour; it means attentiveness to the micro, to the instance, and to singularity; it is productive of multiplicity; and it is about entangled responsibility and accountability.

(p. 322)

Highlighting the “micro” and the “instance” is, I want to suggest, a practice toward building a different lexicon for thinking bodies in postqualitative research. There is, and deservedly so, an undercurrent of distrust for the universalising functions of science’s languaging of bodies: muscles are muscles, this already perceptible thing; depression is depression, this formation of medication and molecules and moments that can be conceptualised and treated in already perceptible (though slippery) ways. What if we delve into the micro, the instance, and think about building a lexicon for thinking bodying in postqualitative research as a project toward unthreading the familiar dictations by which we preach a body. For example, how do we get to know muscles for their singularities in a postqualitative research collision? This is, in a sense, a reclamation of the messy bodily happenings that science has worked hard to reduce into standardisations and universalisations. What if we take the most obvious of bodied lexicons, like muscles or brains or skin, and claim (following Willey [2016]) them as verbs instead of descriptors? What becomes of enzymes (think to Boulding’s *Fermentation*), eyes and skin and stalactites (revisit Choi’s *Turing Test\_Love*), or bodies as a fishbowl (here is Benaim’s *Minnows*) when we take the world-making power of these bodied languages seriously as interlocuters in postqualitative research? What if we dunk, for example, the fishbowlness of our bellies into the muchness of postqualitative research – what does this language open up for bodying postqualitative work? And, concurrently, what happens when the so-called simplest of bodied formations – fingers, feet – meet with postqualitative propositions? What does this do to the language with which we do research with these bodied formations? Can I describe a finger as a

finger, or do I need to build a lexicon around fingers, one that thinks in the energy of motion, bending, stretching, cascades of muscle activity, the buzz of motor neurons, the slip of a fingertip across a keyboard? And, most importantly, how do I avoid a lexicon that slips into metaphor or that returns to the familiarity of description, to instead ask what these muscles and motor neurons mean for how I take up a postqualitative problem: how do my fingers shape this moment with data? What becomes of data when it meets my hands? Why? How?

### **Proposition Three: Craft Ways to Intentionally, but Not Anthropocentrically, Body Postqualitative Research**

I have, throughout this book, been walking a sort of very slippery tightrope that, I recognise a skeptical reader might think, I have fallen off a few times: as the heartbeat of this book is a contention that we can think with the human body without humanism, that we can body postqualitative research without this being a reassertion of the anthropocentrism that postqualitative research has long endeavored to interrupt. I think that such a project is entirely possible: we can body postqualitative research without recourse to anthropocentrism and the dictates of humanism. On postqualitative research, Benozzo (2021) writes that “research that proceeds by callidae iuncturae, unusual combinations which become enlivened through hints or stimuli or pretexts (perhaps new ways to name what we usually call data?) of an aesthetic, theoretical, intuitive nature” (p. 169). It is this emphasis on “unusual combinations” that I think opens space for us to think the body beyond humanism: we need to tune to ways of bodying that are unusual, that are not typically woven into the literature through conventions that we already know like embodiment or emotion, and instead get to know the body beyond the fixtured of humanism. This is, as I have been arguing, also a project of getting to know the body beyond normalising Euro-Western sciences, but, harkening back to Benozzo’s proposal of unusual combinations, does not mean eschewing bioscientific narratives of the body and the possibility that we might claim these narratives otherwise. Humanism asks us to know the human body, to know the body of the enlightened, individualist, neoliberal subject. We can know a different body that is differently human: one that, following all of the feminist science studies scholars we have visited with – Frost, Mol, Murphy, Pitts-Taylor, Squier, and Willey – cares about how bodies come to matter in the project of navigating a collective ethical and political life.

For Lather (2013), “out of mutated dominant practices, through a convergence of practices of intensity and emergence, both practice and objects of a field are redefined and reconfigured” (p. 640). This is, I think, a mantra for bodying postqualitative research beyond humanism and anthropocentrism: we need to reconfigure how it is we get to know bodies within research – not just as the subject or object of research, or the vessel by which research gets produced, or the anchor that weighs down possibilities for thinking in the future or speculatively. Rather, we need to build postqualitative researching practices that confront the human



body for its humanisms and that, in the same move, imagine that body beyond the dictates of humanism so easily offers as referents for getting to know a body. One of these, that I have worked to move away from throughout the book, is metaphor: we cannot only know the body as metaphor. Another is vessel: we cannot only know the body as the material vessel that types out words on a page and the words then do the work. To think the body as a limitation is another; we might think we know the possibilities for how a body can and cannot participate in postqualitative research, but what if we take seriously that these possibilities are humanism's anthropocentric possibilities and are ripe for reconfiguration? This third proposition that I offer, that we need to craft ways to intentionally, but not anthropocentrically, body postqualitative research, is the proposition I think we will fail most often at. It is hard to intently know a body beyond the logics of a human-centered world, because so many of our existing modes for knowing bodies reinscribe the human body as the fulcrum upon which we meet the world. I think it is wonderful for us to fail at this proposition, as each failure unsettles humanism's grip on the researching body a teeny bit more. We are, after all, human bodies – perhaps not Human, but human, in that we are a specific container of flesh and microbes that works in particular, not always predictable but always situated, ways. That is not a reality we need to flee from, but one that we can turn into, lean into, and ask: how do we body postqualitative research in the fissures of humanism?

### Final Gesture: On Education Research

I hope it has not been lost that in the context of this book, I am thinking about bodying postqualitative research in *education* – be that early childhood or physical activity education, my interest in the project of what becomes of and with the body as we take up postqualitative provocations is one that unfolds in the context of educational spaces. This means that my interest is also pedagogical; I am invested in the work of bodying otherwise with postqualitative provocations because I hold dear that the question of knowledge generation and mobilisation in education is one entangled wholeheartedly with pedagogy. Following the work of my colleagues Cristina Delgado Vintimilla and Veronica Pacini-Ketchabaw (2020), pedagogy is about building a collective life with children, about figuring out how to live well together in the worlds we inherit and inhabit together. Bodying is, too, a collective encounter with crafting a more livable collective life: how, it asks, does taking seriously the work of bodying postqualitative research and living differently in the fissures of Enlightenment, Cartesian humanism change our everyday relations in education spaces? If we do not simply “bring the body back” through easy embodiment practices or treat the body as a metaphor, what happens when bodies, research, and pedagogy collide? This is, I propose, a space that can sustain postqualitative inquiry well into the future, where we might wonder together how blurring and blowing up the lines around data, method, and clarity with bodying change how we body our pedagogies. Perhaps we might foreground our relations with bodies, asking how bodily knowledges come to be made and remade amid

postqualitative propositions that claim sciences but do not know biosciences to be overwhelmingly interpretative or descriptive but part of the coming together of what a body can do. Maybe we will ask questions of how bodying meets pedagogies as postqualitative research agitates the fissures of humanism that linger around bodies – in the void, the shake, or the failure, what becomes differently possible for bodying in education spaces? And, most importantly, why does this matter for building a collective life together?

Throughout this book, my project has unfolded in two interconnected veins: I have intended to bring some propositions articulated by particular feminist science studies scholars into the terrain of postqualitative research in education, working to see how the knowledges advanced by these feminist science studies scholars make clear the fissures of humanism that we inhabit – but do not repair nor remediate – as fleshy bodies doing postqualitative work. I have then worked to raise some proposals and questions for how we might body postqualitative work; how we might do the labor of thinking body as a verb, as bodying, to imagine the body as more than a metaphor or a container and instead get to know the body and its work(s) as another interlocuter in the messy brambles that hold postqualitative research inquiries together. What is important is the impulse to get to know how the body asks questions of our research practices and names questions that feel less than familiar in the ever-growing, richly theorised postqualitative space. This book does not take on a life, I hope, of a theory of how or why to body postqualitative work. Rather, I hope that it gains momentum as a proposition toward thinking otherwise with bodies and the bioscientific knowledges they enliven, differently, with postqualitative proposals. In doing so, I am offering postqualitative research and feminist science studies and any entity inhabiting a body a question: what is the work of bodying, in specificity and in a context? And, what does bodying make visible within our research practices that shift how we get to know the world in meaningful ways?

## REFERENCES

- Aronsson, L., & Lenz Taguchi, H. (2018). Mapping a collaborative cartography of the encounters between the neurosciences and early childhood education practices. *Discourse: Studies in the Cultural Politics of Education*, 39(2), 242–257.
- Azzarito, L. (2009). The panopticon of physical education: Pretty, active and ideally white. *Physical Education and Sport Pedagogy*, 14(1), 19–39.
- Azzarito, L., Macdonald, D., Dagkas, S., & Fiset, J. (2017). Revitalizing the physical education social-justice agenda in the global era: Where do we go from here? *Quest*, 69(2), 205–219.
- Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs: Journal of Women in Culture and Society*, 28(3), 801–831.
- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.
- Basson, R., & Bayat, A. (2022). Skin scarring: Latest update on objective assessment and optimal management. *Frontiers in Medicine*, 9.
- Benaim, S. (2017). *Depression & other magic tricks*. Button Poetry.
- Benozzo, A. (2021). Post qualitative research: An idea for which the time has come. *Qualitative Inquiry*, 27(2), 167–170.
- Bhattacharya, K. (2021). Rejecting labels and colonization: In exile from post-qualitative approaches. *Qualitative Inquiry*, 27(2), 179–184.
- Blaise, M., & Hamm, C. (2022). Lively Emu dialogues: activating feminist common worlding pedagogies. *Pedagogy, Culture & Society*, 30(4), 473–489.
- Boulding, K. (2017). Fermentation. *Parenthetical*, 18. Retrieved from [https://issuu.com/wordsonpages/docs/iss18\\_online/14](https://issuu.com/wordsonpages/docs/iss18_online/14).
- Burman, E. (2016). *Deconstructing developmental psychology*. Routledge.
- Castañeda, C. (2002). *Figurations: Child, bodies, worlds*. Duke University Press.
- Choi, F. (2019). *Soft science*. Alice James Books.
- Colebrook, C. (2017). What is this thing called education? *Qualitative Inquiry*, 23(9), 649–655.
- Deleuze, G., & Guattari, F. (1988). *A thousand plateaus: Capitalism and schizophrenia*. Bloomsbury Publishing.

- Ferré, S. (2008). An update on the mechanisms of the psychostimulant effects of caffeine. *Journal of Neurochemistry*, 105(4), 1067–1079.
- Frost, S. (2016). *Biocultural creatures: Toward a new theory of the human*. Duke University Press.
- Fullagar, S. (2017). Post-qualitative inquiry and the new materialist turn: Implications for sport, health and physical culture research. *Qualitative Research in Sport, Exercise and Health*, 9(2), 247–257.
- Gandevia, S., & Proske, U. (2016). Proprioception: The sense within. *The Scientist*. Retrieved from <https://www.the-scientist.com/features/proprioception-the-sense-within-32940>.
- Gauglitz, G. G., Korting, H. C., Pavicic, T., Ruzicka, T., & Jeschke, M. G. (2011). Hypertrophic scarring and keloids: pathomechanisms and current and emerging treatment strategies. *Molecular Medicine*, 17(1), 113–125.
- Hamilton, J. A., Subramaniam, B., & Willey, A. (2017). What Indians and Indians can teach us about colonization: Feminist science and technology studies, epistemological imperialism, and the politics of difference. *Feminist Studies*, 43(3), 612–623.
- Haraway, D. (2006). A cyborg manifesto: Science, technology, and socialist-feminism in the late 20th century. In *The international handbook of virtual learning environments* (pp. 117–158). Springer, Dordrecht.
- Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.
- Hodgins, B. D. (2014). Playing with dolls:(Re) storytelling gendered caring pedagogies. *International Journal of Child, Youth and Family Studies*, 5(4.2), 782–807.
- Hodgins, B. D. (Ed.). (2019). *Feminist research for 21st-century childhoods: Common worlds methods*. Bloomsbury.
- Hodgins, B. D., Kummen, K., & Merewether, J. (2022). Speculative caring collaboratories: Mattering research alternatives. *Children's Geographies*, 1–15.
- Johnson, E. O., Babis, G. C., Soultanis, K. C., & Soucacos, P. N. (2008). Functional neuroanatomy of proprioception. *Journal of Surgical Orthopaedic Advances*, 17(3), 159–164.
- Koro-Ljungberg M. (2016). *Reconceptualizing qualitative research: Methodologies without methodology*. Sage.
- Kuby, C. R., Aguayo, R. C., Holloway, N., Mulligan, J., Shear, S. B., & Ward, A. (2016). Teaching, troubling, transgressing: Thinking with theory in a post-qualitative inquiry course. *Qualitative Inquiry*, 22(2), 140–148.
- Land, N. (2019). Thinking physiologies methodologically with post-qualitative and posthuman education research. In P. Trifonas (Ed.), *Handbook of theory and research in cultural studies and education* (pp. 1–21). Springer.
- Land, N. (2021). Doing muscling pedagogies with children (and with diaphragms, cold season, physiological knowledges, and fans). *Pedagogy, Culture & Society*, 1–18.
- Land, N. (2022). On hard work in early childhood education pedagogical inquiry research—Or, how do we do hard work while researching together? *Journal of Curriculum and Pedagogy*, 1–22.
- Land, N., & Danis, I. (2016). Movement/ing provocations in early childhood education. *Journal of Childhood Studies*, 41(3), 26–37.
- Land, N., Hamm, C., Yazbeck, S. L., Danis, I., Brown, M., & Nelson, N. (2020). Face-timing common worlds: Exchanging digital place stories and crafting pedagogical contact zones. *Children's Geographies*, 18(1), 30–43.
- Land, N., & Todorovic, S. (2021). Getting to know movement differently: Nurturing communicative, relational, and collective movement pedagogies with toddlers. *Journal of Early Childhood Research*, 19(2), 239–252.

- Land, N., & Vidotto, D. (2021). Tracing, interrogating, and re-imagining how physical development matters in Canadian early childhood studies. *Sport, Education and Society*, 26(6), 606–618.
- Land, N., & Frankowski, A. (2022). (Un) finding childhoods in citational practices with postdevelopmental pedagogies. *Contemporary Issues in Early Childhood*, 23(4), 452–466.
- Land, N., & Nelson, N. (2022). Doing Twitter, postdevelopmental pedagogies, and digital activism. *in education*, 28(1b), 102–115.
- Land, N., Vintimilla, C. D., Pacini-Ketchabaw, V., & Angus, L. (2022). Propositions toward educating pedagogists: Decentering the child. *Contemporary Issues in Early Childhood*, 23(2), 109–121.
- Lather, P. (2013). Methodology–21: What do we do in the afterward? *International Journal of Qualitative Studies in Education*, 26(6), 634–645.
- Lather, P. (2016). Top ten+ list: (Re) thinking ontology in (post) qualitative research. *Cultural Studies Critical Methodologies*, 16(2), 125–131.
- Lather, P., & St. Pierre, E. A. (2013). Post-qualitative research. *International Journal of Qualitative Studies in Education*, 26(6), 629–633.
- Liboiron, M. (2021). Pollution is colonialism. In *Pollution is colonialism*. Duke University Press.
- Lenz Taguchi, H. (2016). “The concept as method”: Tracing and mapping the problem of the neuro(n) in the field of education. *Cultural Studies Critical Methodologies*, 16(2), 213–223.
- Lenz Taguchi, H. (2017). “This is not a photograph of a fetus”: a feminist reconfiguration of the concept of posthumanism as the ultrasound/fetus image. *Qualitative Inquiry*, 23(9), 699–710.
- Lenz Taguchi, H. & St. Pierre, E. A. (2017). Using concept as method in educational and social science inquiry. *Qualitative Inquiry*, 23(9), 643–648.
- McKittrick, K. (2020). *Dear science and other stories*. Duke University Press.
- McKnight, L. (2018). Arthro-coda: Poetic notes (re) forming Patti Lather’s “Top ten+ list: (Re) thinking ontology in (post) qualitative research”. *Cultural Studies & Critical Methodologies*, 18(3), 202–215.
- MacLure, M. (2011). Qualitative inquiry: Where are the ruins? *Qualitative Inquiry*, 17(10), 997–1005.
- MacLure, M. (2013a). Researching without representation? Language and materiality in post-qualitative methodology. *International Journal of Qualitative Studies in Education*, 26(6), 658–667.
- MacLure, M. (2013b). The wonder of data. *Cultural Studies Critical Methodologies*, 13(4), 228–232.
- MacLure, M. (2023). Ambulant Methods and rebel becomings: Reanimating language in post-qualitative inquiry. *Qualitative Inquiry*, 29(1), 212–222.
- Manning, E. (2014). Wondering the world directly – or, how movement outruns the subject. *Body & Society*, 20(3–4), 162–188.
- Mazzei, L. A. (2016). Voice without a subject. *Cultural Studies? Critical Methodologies*, 16(2), 151–161.
- Mazzei, L. A. (2017). Following the contour of concepts toward a minor inquiry. *Qualitative Inquiry*, 23(9), 675–685.
- Mazzei, L. A. (2021). Postqualitative inquiry: Or the necessity of theory. *Qualitative Inquiry*, 27(2), 198–200.
- Mazzei, L. A., & Smithers, L. E. (2020). Qualitative inquiry in the making: A minor pedagogy. *Qualitative Inquiry*, 26(1), 99–108.
- Mol, A. (2002). *The body multiple: Ontology in medical practice*. Duke University Press.

- Mol, A. (2021). *Eating in theory*. Duke University Press.
- Molloy Murphy, A. (2021). The grass is moving but there is no wind: Common worlding with elf/child relations. *Journal of Curriculum and Pedagogy*, 18(2), 134–153.
- Murphy, M. (2012). *Seizing the means of reproduction: Entanglements of feminism, health, and technoscience*. Duke University Press.
- Murris, K. (2017). Reading two rhizomatic pedagogies diffractively through one another: a Reggio inspired philosophy with children for the postdevelopmental child. *Pedagogy, Culture & Society*, 25(4), 531–550.
- Murris, K. (2019). Children's development, capability approaches and postdevelopmental child: The birth to four curriculum in South Africa. *Global Studies of Childhood*, 9(1), 56–71.
- Murris, K. (2022). *A glossary for doing postqualitative, new materialist and critical posthumanist research across disciplines*. Routledge.
- Murris, K., & Bozalek, V. (2019). Diffracting diffractive readings of texts as methodology: Some propositions. *Educational Philosophy and Theory*, 51(14), 1504–1517.
- Nelson, N., & Hodgins, B. D. (2020). Unruly voices: Growing climate action pedagogies with trees and children. In S. Elliott, E. Årlemalm-Hagsér, & J. Davis (Eds.), *Researching early childhood education for sustainability* (pp. 150–165). Routledge.
- Nordstrom, S. N. (2018). Antimethodology: Postqualitative generative conventions. *Qualitative Inquiry*, 24(3), 215–226.
- Nordstrom, S. N. (2021). Plural pasts, presents, and futures of postqualitative inquiry: Two questions for the field. *Qualitative Inquiry*, 27(2), 247–248.
- Nordstrom, S., & Ulmer, J. (2017). Postqualitative curations and creations. *Reconceptualizing Educational Research Methodology*, 8(3).
- Nxumalo, F. (2016). Storying practices of witnessing: Refiguring quality in everyday pedagogical encounters. *Contemporary Issues in Early Childhood*, 17(1), 39–53.
- Nxumalo, F. (2021). Disrupting anti-Blackness in early childhood qualitative inquiry: Thinking with Black refusal and Black futurity. *Qualitative Inquiry*, 27(10), 1191–1199.
- Nxumalo, F., & Pacini-Ketchabaw, V. (2017). 'Staying with the trouble' in child-insect-educator common worlds. *Environmental Education Research*, 23(10), 1414–1426.
- Nxumalo, F., Vintimilla, C. D., & Nelson, N. (2018). Pedagogical gatherings in early childhood education: Mapping interferences in emergent curriculum. *Curriculum Inquiry*, 48(4), 433–453.
- Nxumalo, F., Cook, C., Rubin, J. C., Hendrix Soto, A., Cedillo, S., & Scott, M. (2020). Staying with the trouble: Grapplings with the more-than-human in a qualitative inquiry course. *Qualitative Inquiry*, 26(1), 24–35.
- Nxumalo, F., Gagliardi, L. M., & Won, H. R. (2020). Inquiry-based curriculum in early childhood education. In *Oxford research encyclopedia of education*.
- Nxumalo, F., & Pacini-Ketchabaw, V. (2022). Centering Black life in Canadian early childhood education. *Gender and Education*, 1–13.
- Pacini-Ketchabaw, V., Nxumalo, F., Kocher, L., Elliot, E., & Sanchez, A. (2015). *Journeys: Reconceptualizing early childhood practices through pedagogical narration*. University of Toronto Press.
- Pacini-Ketchabaw, V., Kind, S., & Kocher, L. L. (2016). *Encounters with materials in early childhood education*. Routledge.
- Pacini-Ketchabaw, V., & Kummen, K. (2016). Shifting temporal frames in children's common worlds in the Anthropocene. *Contemporary Issues in Early Childhood*, 17(4), 431–441.
- Phelan, A. M., & Hansen, D. R. (2021). Toward a "thoughtful lightness": Education in viral times. *Prospects*, 51(1), 15–27.

- Pitts-Taylor, V. (2016). *The brain's body: Neuroscience and corporeal politics*. Duke University Press.
- Pollitt, J., Blaise, M., & Rooney, T. (2021). Weather bodies: experimenting with dance improvisation in environmental education in the early years. *Environmental Education Research*, 27(8), 1141–1151.
- Pollock, A. (2021). *Sickening: Anti-Black racism and health disparities in the United States*. University of Minnesota Press.
- Pollock, A., & Subramaniam, B. (2016). Resisting power, retooling justice: Promises of feminist postcolonial technosciences. *Science, Technology, & Human Values*, 41(6), 951–966.
- Proske, U., & Gandevia, S. C. (2012). The proprioceptive senses: their roles in signaling body shape, body position and movement, and muscle force. *Physiological Reviews*, 92, 1651–1697.
- Rautio, P. (2021). Post-qualitative inquiry: Four balancing acts in crafting alternative stories to live by. *Qualitative Inquiry*, 27(2), 228–230.
- Riksen, N. P., Rongen, G. A., & Smits, P. (2009). Acute and long-term cardiovascular effects of coffee: implications for coronary heart disease. *Pharmacology & Therapeutics*, 121(2), 185–191.
- Rooney, T., Blaise, M., & Royds, F. (2021). With shadows, dust and mud: Activating weathering—with pedagogies in early childhood education. *Contemporary Issues in Early Childhood*, 22(2), 109–123.
- Roy, D. (2016). Neuroscience and feminist theory: A new directions essay. *Signs: Journal of Women in Culture and Society*, 41(3), 531–552.
- Roy, D. (2018). *Molecular feminisms: Biology, becomings, and life in the lab*. University of Washington Press.
- St. Pierre, E. A. (2011). Post qualitative research: The critique and the coming after. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (4th ed., pp. 447–479). Sage.
- St. Pierre, E. A. (2013). The posts continue: Becoming. *International Journal of Qualitative Studies in Education*, 26(6), 646–657.
- St. Pierre, E. (2014). A brief and personal history of post qualitative research: Toward “post inquiry”. *Journal of Curriculum Theorizing*, 30(2).
- St. Pierre, E. A. (2016). Practices for the “new” in the new empiricisms, the new materialisms, and post qualitative inquiry. In *Qualitative inquiry and the politics of research* (pp. 75–95). Routledge.
- St. Pierre, E. A. (2017a). Haecceity: Laying out a plane for post qualitative inquiry. *Qualitative Inquiry*, 23(9), 686–698.
- St. Pierre, E. A. (2017b). Writing post qualitative inquiry. *Qualitative Inquiry*, 24(9), 603–608.
- St. Pierre, E. A. (2019). Post qualitative inquiry in an ontology of immanence. *Qualitative Inquiry*, 25(1), 3–16.
- St. Pierre, E. A. (2021a). Why post qualitative inquiry? *Qualitative Inquiry*, 27(2), 163–166.
- St. Pierre, E. A. (2021b). Post qualitative inquiry, the refusal of method, and the risk of the new. *Qualitative Inquiry*, 27(1), 3–9.
- Salazar, R. (2021). *sulphurtongue*. McClelland & Stewart.
- Shotwell, A. (2016). *Against purity: Living ethically in compromised times*. University of Minnesota Press.
- Squier, S. M. (2004). *Liminal lives: Imagining the human at the frontiers of biomedicine*. Duke University Press.
- Subramaniam, B. (2009). Moored metamorphoses: A retrospective essay on feminist science studies. *Signs: Journal of Women in Culture and Society*, 34(4), 951–980.

- Subramaniam, B. (2014). *Ghost stories for Darwin: The science of variation and the politics of diversity*. University of Illinois Press.
- Taylor, A. (2020). Countering the conceits of the Anthropos: Scaling down and researching with minor players. *Discourse: Studies in the Cultural Politics of Education*, 41(3), 340–358.
- Taylor, C. A. (2017). Rethinking the empirical in higher education: Post-qualitative inquiry as a less comfortable social science. *International Journal of Research & Method in Education*, 40(3), 311–324.
- Thomas, K. & Saadabadi, A. (2022). *Olanzapine*. StatPearls Publishing.
- United States Institute of Medicine Committee on Military Nutrition Research. (2001). Pharmacology of caffeine. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK223808/>.
- Verhaeghe, J., Gheysen, R., & Enzlin, P. (2013). Pheromones and their effect on women's mood and sexuality. *Facts, Views & Vision in ObGyn*, 5(3), 189–195.
- Vintimilla, C. D., & Pacini-Ketchabaw, V. (2020). Weaving pedagogy in early childhood education: On openings and their foreclosure. *European Early Childhood Education Research Journal*, 28(5), 628–641.
- Vintimilla, C.D., Pacini-Ketchabaw, V., & Land, N. (2021). Manifesting living knowledges: A pedagogists' working manifesto. *Journal of Curriculum and Pedagogy*, 1–10.
- Weldemariam, K. (2020). 'Becoming-with bees': generating affect and response-abilities with the dying bees in early childhood education. *Discourse: Studies in the Cultural Politics of Education*, 41(3), 391–406.
- Willey, A. (2016). *Undoing monogamy*. Duke University Press.
- Woods, H., Nelson, N., Yazbeck, S. L., Danis, L., Elliott, D., Wilson, J., ... & Pickup, A. (2018). With (in) the forest:(Re) conceptualizing pedagogies of care. *Journal of Childhood Studies*, 41(3), 44–59.
- Yang, T., Liu, Q., Lu, M., Ma, L., Zhou, Y., & Cui, Y. (2017). Efficacy of olanzapine for the prophylaxis of chemotherapy-induced nausea and vomiting: a meta-analysis. *British Journal of Clinical Pharmacology*, 83(7), 1369–1379.
- Youngblood Jackson, A. (2017). Thinking without method. *Qualitative Inquiry*, 23(9), 666–674.