## Reconceptualizing Educational Research Methodology

ISSN: 1892-042X

Vol 13, No 3 (2022)

https://doi.org/10.7577/rerm.5138

# Portal-time and wanderlines: What does virusingwith make possible in childhood research?

Jayne Osgood, Middlesex University, UK, <u>https://orcid.org/0000-0001-9424-8602</u>, <u>J.osgood@mdx.ac.uk</u> Camilla Eline Andersen, Norway Inland University of Applied Sciences, Norway, <u>https://orcid.org/0000-0002-3394-0459</u>, <u>camilla.andersen@inn.no</u> Ann Merete Otterstad, Oslo Metropolitan University, Norway, <u>https://orcid.org/0000-0001-8144-</u> <u>9763</u>, <u>ottestad@oslomet.no</u>

### Abstract

This paper emerged from the forces of a pandemic that invited us to wrestle with what 'virusingwith' might potentiate in educational research-creation (Manning, 2016a). We sense the Coronavirus perform its agency on childhood in the Capitalocene in new, troubling, and sometimes hopeful ways. Research-creation has compelled us to dwell upon how virusing-with makes attuning differently to the world possible. We contemplate how virusing-with as concept and method holds the potential to disrupt and reformulate ways to undertake research and ways to conceptualise the child. Inspired by Manning's (2020) recent work in relation to the child of the wanderline, we explore how multiple wanderlines take shape and interweave through research processes. Through the curation of three threshold events we think-do qualitative research in ways that push ideas and practices about childhood in directions that attend to agentic relationalities between the human, non-human and more-than-human. We argue that practices of virusing-with in portal time provides space for coming-into-relations of differences (Manning, 2016a, p.11) as an ecology of practice that shapes how educational research might be conceptualised and practiced.

Keywords: research-creation, child/childhood, post-humanism, virusing-with

©2022 (The Authors). This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License (<u>http://creativecommons.org/licenses/by/4.0/</u>), allowing third parties to copy and redistribute the material in any medium or format and to remix, transform, and build upon the material for any purpose, even commercially, provided the original work is properly cited and states its license.

What is this thing that has happened to us? It's a virus, yes. In and of itself it holds no moral brief. But it is definitely more than a virus... It has made the mighty kneel and brought the world to a halt like nothing else could. Our minds are still racing back and forth, Longing for a return to 'normality' Trying to stitch our future to our past and refusing to acknowledge the rupture. But the rupture exists. And in the midst of this terrible despair It offers us a chance to rethink the doomsday machine we have built for ourselves. Nothing could be worse than a return to normality Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next. We can choose to walk through it, dragging the carcasses of our prejudice and hatred, Our avarice, our data banks, our dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it. (Roy, 2020, p.214)

### Introduction

This article has taken shape from the depths of a worldwide pandemic which forced us to grapple with what virusing-with makes both possible and impossible in educational research. We have stumbled upon 'virusing-with' as a concept and practice of knowing performed in a pandemic gateway, that is both of the world and creative of worlds. As childhood researchers we attempt to work with the forces activated from virusing-with and also from Roy's (2020) above assertion that "nothing could be worse than a return to normality" and her invitation to encounter the pandemic as a portal between worlds. What can we, as early childhood researchers, learn from virusing-with, both now and after? What matterings might be sensed from such knowing practices in portal-time? These questions also concern ontology, in the very broadest sense, - living - lived and shared - with all lifeforms, where too often humans assume a place at the top of a multispecies

### hierarchy.

Through open-ended experimentation we move beyond the limits of representationalism to generate potentialities within specific moments, to offer speculative accounts about the ways virusing-with influences knowledge production in educational research. Hence this article concerns ethics of care and ethical responses from the in-between time in a portal. We contend that by disrupting humanist discourses that come to shape contemporary imaginations of childhood and educational research, we are offered opportunities to critically interrogate the anthropocentric logic of individualism that destructively circulates globally, each day to limit what else might be possible. Taking up Manning's (2016a) invitation to attune to the minor gesture we attend to what is not known in advance, to the material-semiotic-affective thresholds that are generated by virusing-with.

Further, we work with hauntings that are agitated; by the monstrous that unfurls, with the withness that emerges when virusing-with via three curated thresholds. We are curious about what bringing affect, movement, materiality, animality into our research might potentiate. In order to wrestle with these curiosities, we work in a speculative mode, encouraged by Manning's propositional work for research-creation (2013; 2016a; 2016b), and for education and pedagogy (2016b; 2020). Moreover, we are particularly inspired by her engagement with the real as movement, with what lines the real might be creative of, that is lines that wander outside what commonly is framed as research, and what 'magnetized worldings' such 'wanderlines' enact (2020, p. 14). Finally, and crucially, we want to delve into the generative possibilities that virusingwith present to a practice of reimagining 'the child'.

Manning's work provides the foundation to the project; and further, we take inspiration from a number of feminist thinkers including Barad, Butler, Grosz, Haraway, Roy, and Tsing among others. We recognise that bringing other theorists together with Manning might appear unorthodox or unnecessary in a Special Issue devoted to Manning. However, like other feminist scholars before us, we contend that it is important to acknowledge that ideas are always collaborative and never privately owned (Mohanty, 2003). The work of the aforementioned feminist scholars, in partnership with Manning's scholarship, incites a collective encouragement for us to think-feel life in a worldly sense, to attend to how it is shifting ecologically, and to wrestle with what it is to undertake political educational research as childhood scholars. In this sense, "an ethics always passes into and cannot be readily separated from a politics, which addresses social, collective, cultural, and economic life and their possibilities for change" (Grosz, 2017, p. 1). Manning's oeuvre proposes onto-ethics as a means to 'think and do', in ways that address not just human life in its interhuman relations, but relations between the human and an entire world, both organic and inorganic. Such a philosophy of 'incorporeal materialism' (Massumi, 2002, p. 16) might help the intensity of the *felt* dimension of viruses to be attuned to, and so offer generative possibilities for worlding with viruses as a research strategy.

Feltness resonates with Manning's proposition of movement of thought. For Manning, researchcreation is a speculative mode of activities committed to generating new processes where the coming into relation of differences i.e. encountering the more-than, is an ecology of practices that embodies a transversality that generates more than-one-creation. This paper can be understood as an ecology of practices pursued through processes of research-creation involving poetry, movement, children's literature, media accounts, artwork and ultimately the non-normative curation of a manuscript that might be understood as a rupture to taken-for-granted and established modes of researching and framing childhood.

A portal.... A gateway between one world and the next....

### Virusing-with...

The in-between space that Arundhadti Roy depicts is replete with thresholds of anticipation, lurching towards relative freedom and back again which persistently follows a knowing 'out of bounds' (Manning, 2020, p. 4). A knowing that constantly wanders outside the frames of normality. This mode of knowing, we suggest, asks of us to be 'more attentive to the angular interstices through which the relational folds of experience make themselves felt' (Manning, 2020, p.5). In the portal we sense that 'normal' has been displaced and the 'factories of knowledge' (Manning, 2020, p. 4) that we have close affinities to, kindergartens and universities, are now compelled to produce other ways of becoming - that are markedly different but comfortingly familiar.

This displacement makes new demands of us as early childhood researchers, demands that are shaped by grief, loss, mourning, isolation, memories, anxieties, hauntings and hopes. This inbetween virusing-with time is sensed as gestation, mutation, debate, endless quantification, hate, fear and grief. With an ongoing risk to be afflicted and afflict others. An epidemiological conundrum for scientists to crack, hopes invested in human mastery that promises a return once more to 'normality', a vaccine *will* be found! An unwavering belief that the human species will be spared extinction...for now anyway. But as Swanson et al (2017, M4) state "suffering from the ills of another species: this is the condition of the Anthropocene, for humans and non-humans alike'. The anthropocentric logic, that human science will prevail, misses the need to tell other stories (Haraway, 2016). We are obliged to take seriously what else virusing-with as a worlding practice might potentiate. We are compelled to wonder at the affective forces and flows that are set in motion, the unrecognizability *and* humdrum familiarity of a life locked down, locked in, locked out. What can this time in the portal teach us? How might the felt dimensions of the virus lead us to the arts of living on a damaged planet? (Tsing et al, 2017).

We take these provocations as an invitation to attune, as Manning (2013, p.8) stresses: "attunement is a merging-with of vitality affects across experiences towards emergent events. Not a feeling of but a feeling-with". Our enmeshment with a pandemic virus that performs its agency in ways that are palpably sensed have opened up opportunities to attune to the forces that circulate (differently, uncomfortably, hauntingly) in our everyday lives as early childhood scholars and allow possibilities to encounter childhood in the Anthropocene in new, troubling, and at times, hopeful ways.

### Lines situating the becoming-child

Through virusing-with experiments we pursue a different logic to that which currently frames the child of the pandemic i.e. child as vector; child as innocent and in need of protection; and child suffering 'learning loss'. Research undertaken in early childhood contexts during the pandemic has been preoccupied with a search for answers to the multiple challenges children pose and encounter during a global pandemic. Such dominant modes of research seek to establish certainty, to provide the basis for taking control by managing, mitigating and fixing. The research -creation we go on to present below pursues an altogether different logic. Inspired by Manning, our concern is to ask what virusing-with might teach us about childhood that we had not anticipated or been conditioned to look for? What other possibilities are presented that allow an attunement to the world's differential becomings from virusing-with in portal time? As Roy (2020, p. 203) asks: can we walk through the portal lightly, with little luggage, ready to imagine another world? These questions offer possibilities to register differentials and to map the worldly becoming of the more-than child that surfaces through ordinary affects of the everyday (Stewart, 2007).

In line with this, Manning (2020) proposes 'the vector-quality of the becoming-child' as a force that holds generative possibilities. Virusing-with presents opportunities to attune to what else is unfolding in minor events, which in turn holds potential for us to encounter the world in other ways to reimagine childhood. As Manning explains:

"It is not the line from here to there that stands out, but the force of the indefinite that tranversalizes it. It is not less-than, not smaller-than. The difference between the major and the minor is not one of scale: its minority is heard in the angularity of its attunement. The minor moves across, diagonalizing the line while following it. This double-gesture of following and remaking is the force of all speculative pragmatism, and no one knows this better than the child-researcher. The child's "why" question is never, after all, a question that could properly be answered. It is a question that begs a worlding" (2020, p. 8)

As early childhood scholars we are invested in this double gesture of following and re-making through practices of worlding. Our posthumanist inquiries in early childhood (Andersen, 2015, 2017, 2018a, 2018b; Osgood, 2014, 2016, 2019a, 2019b, 2020a, 2020b; Osgood & Andersen, 2019; Otterstad, 2018a, 2018b) lead us to conceptualise the posthuman child as portal, not a sealed being but processes of porosity, intermeshed, entangled, and endlessly becoming. Our work is united by a common onto-ethical question about how to act in the present, and how to bring about a future different from the present. Perhaps this is what Manning (2013) identifies as the potential of the speculative middle. To speculate as a practice of changing the ending follows another logic than that of linear progress. Our scholarship and worlding practices align with Manning's proposals for thinking-doing qualitative inquiry and pedagogy differently, while pushing for action and community change.

# Our doings: research-creation that asks what does virusing-with make possible in early childhood?

One of the main arguments so far is that our ontological, ethical and political Covid-19 positions offer the possibility to practice new forms of research-creation to, as Roy (2020) writes, imagine another world and fight for it. Further, we have presented virusing-with as a practice of knowing that might be pregnant with new forms of research-creation and how this follows a different logic than one searching for answers. Instead, we ask, what else does virusing-with make possible? Also, we wonder how 'normal' has been displaced, where 'factories of knowledge' (Manning, 2020, p. 4) are forced to produce other ways of becoming? To wrestle with these questions, we work in the speculative mode by presenting a series of threshold performances.

It is by re-turning (Barad, 2007) to everyday but extraordinary events that our research-creation experiments take shape. The threshold events below are agitated from our routine lives-lived (and worked) from home; from our encounters at kindergarten and with a storybook; and from the forces generated by media images of animals caught up in the virus. These multiple and interwoven events are presented to the reader as three performative thresholds: the promise of wanderlines; the becoming-child of the line; and multi-species boundary crossing. These transversal events emerged during time in the portal and agitated a raft of uncomfortable affects that assisted us to pursue ways of 'knowing out of bounds' that highlighted unlikely points of connection and departure (Manning, 2020). These research-creation thresholds insist that we attune ourselves in ways that refuse preconceptions and instead allow impressions and affective resonances to generate emergent wanderlines of thought and action. We take these moments as invitations to reformulate and renew ways of thinking-doing qualitative research that push ideas and practices about childhood in the Capitalocene in other directions, that celebrate the 'dance of agency' and 'islands of stability' (Pickering, 2017) between the human, non-human and morethan-human. The question underpinning our research-creation processes is how can the virus as matter set in motion a means to dismantle regimes? That is, to dismantle by orienting toward the fold of speculative thought otherwise unheard (Manning, 2020).

### Threshold#1: The Promise of Wanderlines

Why would we assume that language can touch every aspect of experience, and why are other ways of sensing or expressing the environment sidelined? (Manning, 2013, p.9)

### *Figure 1* Author's Photo Assemblage: October 2020



This palimpsest assemblage of photos curated throughout portal-time registers, and then reignites a raft of uncomfortable affective forces brought about from our virusing-with that refuse language and invite ways to sense, to feel life in the world. The layering, intertwinement, opacity, glimpses at something, and overall lack of precision within these collaged images invites an engagement that refuses an immediate decoding of what is there and what it means. For us, it is what the image provokes that holds generative potential. We collectively sense discomfort, recognition and dislocation when encountering this visual assemblage. Research practiced as virusing-with draws into sharp focus our multiple privileges as well as our responsibilities to persistently think deeply and find ways to act within and beyond our immediate, localised encounters with Covid-19. We are haunted by the unknown of what will happen when the virus crosses other lines, territorial lines that a virus has no care for. Africa, India, South America where human populations are dense, poverty rates high, health services creaking and the scars of colonialism still raw. Yet our relative privilege does not erase fear, anxiety, or an overwhelming sense of loss. A peculiar grief felt as a form of worldly, dispersed, confederate bodily aching. The constant material-discursive manifestations of virusing-with seep into pores, into muscles and sinews, into dreams, there is no escaping the known and not-yet. Our time in the portal is shaped by situated knowledges and

partial perspectives (Haraway, 1988), that mean the virus works on and through us in particular ways in each moment, some predictable and others that hold potential for us to resist the scripts written for us by the Capitalocene. As Manning (2013, p.3) reminds us:

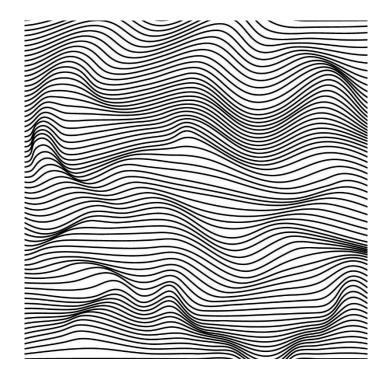
direct experience takes place not in the subject or in the object, but in the relation itself. The associated milieu is active with tendencies, tunings, incipient agitations, each of which are felt before they are known as such, contributing to a sense of the how of the event in its unfolding.

It was from sitting with the discomfort, and by registering the knowings generated from virusingwith research, that the emergence of a poetic response began to take shape. Neither the photo assemblage above, nor the poem below, were intended to demonstrate artistic capabilities. Rather their generation emerged relationally, in conversation with each other and as part of the wider research-creation experiments that constitute our virusing-with methodology. Both the photographic collage and the poem convey something of the out of bounds and (k)not yet known that affective research methodologies hold the potential to generate:

### The Promise of Wanderlines

We persist with some sort of 'normal':

teaching: online conferencing: online grocery shopping: online homeschooling: online oncologist appointments: online caring for distant relatives: online Trapped inside the line



Lines that contain, nurture, regulate and suffocate Lines reliant on cable, fibre and wireless links Lines of connection...fragile and desperate Lines that must be to(w)ed Lines two meters apart painted on pavements Lines that trace from 'normal' to now and then where? Lines that interweave, entangle and knot

Knots that tether us in a portal of hope...

And dread, and worry and chaos

But the promise of the wanderline

Somewhere down the line

Awakens lineages, pastpresences

Of hauntings and hopes

Persistently unfurling and agitating

In practices of virsing-with

Virusing-with as a research practice is relational; the agitations that are felt are its unfolding. It is through the everyday, routine, and mostly unremarkable events that unfold that we become attuned to the felt dimensions of the not-seen, but ever present. We sense the economic imperatives of the Capitalocene (Haraway, 2016) when we learn of virusing-with in kindergartens.

Whilst we, and other privileged, middle-class professionals work from the safety of our home we know that this is only possible because of a precarious line - the frontline of workers - including those in early childhood settings. Troubling, haunting questions surface about safety and well-being within early childhood settings. It seems that less is known than not known about how the virus behaves, how it spreads, mutates, targets and destroys. These unexplored lines of enquiry, this (k)not-knowing, is of no consequence in early childhood education it seems. Kindergartens have become spaces, places of refuge, portals of sorts. 'Vulnerable' children from 'vulnerable' families hunker down for food, safety and care. "Vulnerable' is code for malnourishment, neglect and/or abuse. As early childhood researchers we are prevented from crossing the line, as momor though, we are welcomed across the line. University-committee-approved research in kindergartens ceases, but life in kindergartens continues to unfold and infold in ways that provoke curiosity (Manning, 2020). These endless tensions, contradictions, inconsistencies and possibilities invite us to pursue lines of curiosity that can be found in everyday childhood encounters with a pandemic, as the Figures 2 and 3 (Author's photos of everyday childhood encounters with Covid-19, November 2020) illustrate:

### Figure 2

Frequent and thorough handwashing



### Figure 3

A 'Sanitiser Pump Station'



Part of our research-creation experiment was to (literally) follow the wanderlines of the becoming child, in this case a grandchild of one of the authors. His everyday life as a pre-schooler during a pandemic, his wanderings and wonderings, and his engagement with specific children's literature during this period of time in the portal, provided us with opportunities to attune to the (k)not-known as it unfurled. We were gifted opportunities to contemplate how else research might take shape and what it might teach us about childhood in the Capitalocene. As Manning (2020, p. 6) states:

a child is a researcher of life, and a maker of worlds. The indefinite runs through the child, protecting it from the frames we so eagerly wish to impose on it. The becoming-child promises no return to an innocent beginning. There is no inner child. What there is, in every line, is an indeterminate tendency for resonating with what else moves across it. This is the becoming-child of the line...

The next threshold takes Manning's notion of the child as 'researcher of life, and maker of worlds' as central to our virusing-with methodology.

### Threshold#2: Virusing-with the becoming-child of the line

Inspired by the above quotation from Manning we ask: What do children know that the adult has

not yet attuned to because they are too preoccupied with content and form, knowing and fixing? If we follow Manning's (2020) proposition that we are all children, always in excess of ourselves merging with the world around us, what wanderlines might be followed and what can they carry, reveal or conceal? Hence in this second threshold we strive to register connections between a child and what escapes the line by 'restoring a childhood of the world' (Manning, 2020, p. 4). Manning proposes that children teach us to be more attentive to the angular interstices through which the relational folds of experience make themselves felt. Knowing is not about filling a person up. Knowing is about finding a way, fielding a map (Manning, 2020). And what might knowing be for the child? It is the vector-quality of a set of relations, a force-field that orients conditions that might otherwise go unregistered. Manning (p. 7) states that 'to make thinking visible is to move with careful attention to the worldings it activates'. Children move across fields of relations, sometimes attuning to what weaves experience in the making, in portal- time, disciplined within the 'factories of knowledge'. Through worldly practices of virusing-with, both children and professionals in kindergarten have to undertake becoming anew.

Portal-time is a gateway between one world and the next (Roy, 2020) that provides us with opportunities to attune to the *somethings* (Stewart, 2007) becoming. According to Deleuze and Guattari, 'becoming is to emit particles that take on certain relations of movement and rest because they enter a particular zone of proximity' (in Manning, 2020, p.7). Our responsiveness rests with the child as researcher of life and maker of (other) worlds. So, by thinking with and learning from a becoming-child of the wanderline we wonder what virusing-with a child might make possible. One line to follow is the proposition of ethics of protection; but protecting who, when and how? Protection against what: infections, fear, death, dying, monsters? Living a different and ordinary life. Isolation, silence, loneliness... and futures to come.

By 'propulsing' the event towards what it can do (Manning, 2008, p.11), we pursue what wanderlines can create as they are sensed. A feeling is, according to Manning, never personal; it is a movement of thought in the act, a relationality becoming active. Tsing (2015) grapples with what happens when insecurity, flux, uncertainty and lack of a knowable condition becomes ordinary: 'What if . . . precarity *is* the condition of our time – or, to put it another way, what if our time is ripe for sensing precarity? What if precarity, indeterminacy, and what we imagine as trivial are the centre of the systematicity we seek?' (2015, p. 20, 21).

We resist making researchers the subject of wonder and instead urge relational processes to make themselves felt by being open to what they might produce. The worldly entities we connect to are images of torchlight and touching, sizes and shadowing that can be felt through entangled temporal relations with *Boba*, the protagonist in a children's book (Houm & Markus, 2011). We are in search of the feltness of what a storytelling assemblage can potentiate, and endeavour to attune to what is brought into relation.

#### Figure 4

Author's photo: Monstruous hauntings of the becoming-child of the line



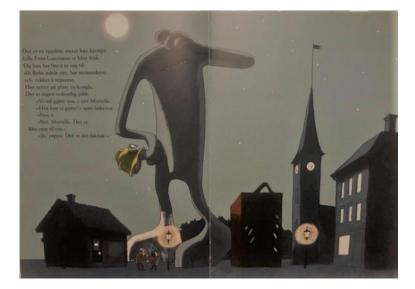
Living life with Covid-19 provides a haunted territory that obscures and complicates relationalities of fear, grief, death, loss, and of course, protection. Butler stresses: "the politically induced condition in which certain populations suffer from failing social and economic networks . . . becoming differentially exposed to injury, violence, and death" (Butler, 2009, p. 25). It is through an attunement to more-than human materialities that incorporate and call for close attention to the complexity of virusing-with, that we are invited to enter unknown virus territories through the wanderlines of the becoming-child.

In the middle of this pandemic, in times of precarity, we try to grasp our uncanny present by encountering 'the child' through a children's book: *When All Are Asleep* (Houm & Markhus, 2011) (original title: *Når Alle Sover*). This wanderline was gifted to us by the previously mentioned grandchild. The story in the book unfolds in the depths of the night, while everyone is asleep. This presents possibilities to stretch presence as a potential space for intensifying precarity. During the night in the small town, the presence of Boba appears in darkness. Boba is thirty-two meters high, barefoot and furry; he is a monster that destroys everything he sees. But no-one knows, and no-one sees what happens during his destructive rampages. Except Muriel and her father who work

through the night in a bakery. The story unfurls: Boba, the vandal, destroys everything and then another figure, Fetir Lutemann, twenty-eight meters high (including his hat), seeks to restore order before daylight. But Fetir Lutemann hurts his foot and is incapacitated. The sun rises to reveal a town in total disarray. Muriel and her father are held accountable for not preventing the destruction. They are the subject of moral condemnation, for their failure to protect the other townsfolk. They confess to having seen Boba, and the monstrous attacks that occur each night. During a town meeting a huge grave is dug, and Boba is captured. Everyone except Muriel watches. After a few days Boba's fur starts to fall off. Muriel cares for him, fighting for justice, hoping for a future shaped by multi-species kinship. She helps to set him free.

### Figure 5

Author's photo: Monstrous hauntings from 'Når alle sover'



When All Are Asleep is a Norwegian children's book that resurfaced during one of our Zoom meetings when discussing how the feltness of virusing-with followed unexpected wanderlines, including long forgotten storybooks. Boba had grabbed the attention of our child collaborator so much so that it became his bedtime reading throughout lockdown. His fixation with the storyline (the ostracism from an entire community, precarious adventures in the dark) and his affinity to Boba the monstrous protagonist, provided us with an invitation to linger upon the 'what else' of this book. Introducing this children's book to our research-creation experiment exposed felt intensities. We encountered a haunting discomfort that was brought about by dead-of-the-night destruction. A line of enquiry emerged that we felt an urgency to pursue. This haunting discomfort returned us to Judith Butler's questions about who is worth a life. Is Boba worth protection? For Muriel, Boba and his monstrous, stealthy, and scary destructive actions became part of an ethics of care beyond normative judgements: relationalities within a portal to the next world (Roy, 2020).

Living life with a pandemic, month after month, activates a raft of affective forces: protection, blame, shame, mourning, grief and death. Virusing-with witnesses children caught in the midst and depths of this catastrophic feltness. They are both captive and captivated by life in the portal,

sensing life in the in-between of many worlds. We propose that it is by attuning to children's living; by noticing their complex pursuit of wanderlines; by contemplating what we can learn through their becoming theorisations, that our time in the portal and our imaginaries for what else, might be widened. Through such attunement worlds in kindergarten can become more expansive, speculative and informative. Virusing-with the becoming child of the wanderline is an invitation to adults to embrace an opened-out view of the world that includes monsters, death, unknown infection, protection and living with more than human species. Like Rossello (2017) we are inspired to pay attention to the ways that children's imagination and theories about life and the world are shaped by discomfort and precarity about the future to come.

The third threshold takes up this invitation to embrace an opened-out view of the world to dwell more intensely upon the monstrous, hauntings, death, precarity and the more-than-human. Threads from thresholds one and two can be traced through to this final threshold which also begins from ordinary affects of the everyday, in this case the affective forces of media images of dead mink. Attending to the virus as a multispecies phenomena directly challenges Anthropocentric logic of human exceptionalism and insists that research benefits from being more worldly, uncertain and confederate.

### Threshold#3: Virusing-with multi-species boundary-crossing

In the midst of the global COVID-19 public-health emergency, it is reasonable to wonder why the origins of the pandemic matter. Detailed understanding of how an animal virus jumped species boundaries to infect humans so productively will help in the prevention of future zoonotic events. (Andersen et al, 2020, p. 451)

In our weekly dialogues about virus as matter and Manning's (2020) thinking on the vector quality of the becoming-child we shared felt material forces of borderlines guarding regimes at work in both our own, and various other fields of research. As previously mentioned, practices of virusingwith obeys no borders and viruses might not care for territorial lines. During our project we have learned that a virus jumps species. Hence, a knowing out of bounds allows a knowing that follows wanderlines as they traverse boundaries, including disciplinary boundaries and eras. Virusing-with can also create movement across times, across what we have forgotten and what haunts us. To be part of this mode of knowing is to work against an individualized, centred and intentional researcher subjectivity. Again, Manning's propositional work encourages us. In a recent publication she offered seven propositions concerning living and knowing out of bounds which underlines that propositions should not be thought of as a 'reclaiming the site of knowledge as we live it but as an operation of transversality' exceeding all factories of knowledge (Manning, 2020, p. 4). Hence, knowing out of bounds or creating transversal lines concerns opening 'one's own assemblages towards heterogeneous fields of dialogue and other forms of mutual exchange' (p. 4). In this final threshold, border-crossing vectors, transversing various fields are followed, 'magnetized' (Manning, 2020) by how non-human animals are also caught up in the virus. We attune to the haunting winds of the Anthropocene that become lively when extending 'our senses

beyond the comfort zone' (Gan et al., 2017, G2).

According to Gant et al. (2017, G1) the Anthropocene is the 'ecological epoch in which humans have become the major force determining the continuing livability of the earth.' As early childhood scholars we encounter childhood in the Anthropocene in troubling, yet hopeful ways. How can we not? As researchers inspired by radical perspectives for decades, future-orientedness has long worked on our knowledge-creation processes as a powerful and productive force. It has thickened thinking and broadening our perspectives from social justice to 'worldly justice' (od

od, 2016). Portal-time in the Anthropocene intensifies this thickening. How and what to be attentive to within this epoch where questions of living and dying on a damaged planet, on the verge of ruin, are pressing? Especially when coming from a field steeped in humanist discourse. Returning to Manning's propositions about living, Gant et.al (2017) argue that living includes dying and multi-species co-existence. They also suggest that seeing livability differently, as a way to use our research to 'stem the tide of ruination', concerns paying better attention to veiled 'arrangements of human and nonhuman living spaces' (G1). What better places to entangle with such arrangements, when wandering with the forces of a pandemic, than re-turning to the now infamous multi-species living at a market in China? And then moving to affective forces that are set in motion in the fur industry of Denmark?

It was late December 2019 when a new SARS-like coronavirus was first detected in humans - in Wuhan, China. The following January it was named SARS-CoV-2 and considered a bat borne disease. One year later, it still is. Because SARS-CoV-2 can cause the disease Covid-19 within humans, and because it is transmitted from animals to humans, Covid-19 is categorised as a Zoonose. The Zika virus is another recent example. The list of Zoonoses is long and many of the viruses on the list are innocuous, others deadly. By late January 2020 Covid-19 rapidly spread amongst humans across the world, and a clearly identifiable 'first wave' was swelling. Endless questions; followed by myriad answers: Where? When? How? Was the virus first transmitted to humans, from what animal? As a result of which human practices? Questions and theories endlessly circulating in the global news. Was it Huanan, a seafood and wet animal wholesale market in Wuhan? Or was a human host the cause? Although most scientists agreed early on that the virus originated from bats, theories of a synthetically manufactured virus circulated. Was it transmitted by bat, pangoline, or another wild animal? Was the transmission made possible because of trading domestic and wild animals (wolf pups, golden cicadas, scorpions, bamboo rats, squirrels, foxes, civets, salamanders, turtles, crocodiles) at wet markets? Or because of the illegal slaughtering of wild animals? Huanan market was marked as the epicenter of the SARS-CoV-2 virus. Static and moving images of human-animal coexistence at the Wuhan wet market went viral, and for some it was hard to witness. Questions about (the impossibilities of) human-animal multispecies living arose. Life on a damaged planet insisted upon other ways to appraise human exceptionalism and capitalist logic. The virus might just be an urgent call to the

### human race to imagine another world.1

In this time-portal, the practice of following vectors takes us to transdisciplinary knowledgecreation processes which emerged in direct response to the lightning speed at which this virus spreads, mutates, and challenges old orthodoxies and certainties. Researchers across disciplinary fields work with multiple questions: where did the virus originate? How does it infect? How to protect humans from infection? When and how to test, track and trace? How best to treat infected humans? Can "Tran"<sup>2</sup> be used to prevent people from developing Covid-19? On and on... in a collective quest to protect and preserve the human species. Our thick thinking encounters the World Health Organization and its work on human-animal-environment interface as part of public health risk<sup>3</sup>. We are taken to environments seemingly far from the lives of children; to knowledge on marine viruses and their importance for coral reef health and reef environments (Thurber et al., 2017) and how the spread of the Zika virus was a collaboration between humans, Aedes aegypti mosquitoes and wet areas in urban slums (Pratt, 2017, G169). Viruses are inherently morethan-human collaborations: bats, mosquitoes, pigs, birds, microbes, temperature and weather create the conditions of possibility. Although many viruses are deadly to humans, the most recent being SARS-CoV-2, most are not. We 'exceptional humans' are confronted with the fact that it is the unique ability for bats to fly that accounts for their survival against viral infections.<sup>4</sup>

Wanderlines are not true to existing maps. To trace wander lines as childhood researchers is a situated practice. Also, knowing out of bounds concerns drawing lines outside a recognisable field or frame, following lines of thinking that wander elsewhere, in and out, on and off. Our weekly dialogues persistently detoured from the line. The map we sought to draw and orient ourselves to when collaborating was transient, slippery and refused our attempts to pin it down. Staying with the trouble (Haraway, 2016) that the question 'what does virusing-with make possible?' ensured the project was lively and demanding. Manning (2020, p. 14) writes that to catch resonances of a work's work is to amplify the share of the speculative that runs through its pragmatic operations', so although familiar borderlines guide the process, we were encouraged to follow vectors that moved outside comfortable landscapes. We share fragments of lines on racism that in this threshold once more have found ways to renew itself<sup>5</sup>, fragile lines where the new virus created

<sup>1</sup> This text is crocheted together from various popular science and newspaper articles: <u>https://www.independent.co.uk/environment/wildlife-trafficking-campaign-wet-markets-china-coronavirus-pandemic-a9476821.html</u>

https://www.theguardian.com/world/2020/dec/12/where-did-coronavirus-come-fromcovid?CMP=Share AndroidApp Other&fbclid=IwAR1IIH5gI4r3j3AJ z3VdPFsrm7zq7qoA3MecX1xq8X nGXYiUFd6LbZso

https://theconversation.com/bats-are-hosts-to-a-range-of-viruses-but-dont-get-sick-why-139056 https://sml.snl.no/zoonose

https://theconversation.com/heres-how-scientists-know-the-coronavirus-came-from-bats-and-wasnt-made-in-a-lab-141850

 $<sup>^{\</sup>rm 2}$  "Tran" is cod oil sold as an omega-3 supplement for humans.

<sup>&</sup>lt;sup>3</sup> <u>https://www.who.int/myanmar/activities/animal--human-interface-for-health</u>

<sup>&</sup>lt;sup>4</sup> <u>https://theconversation.com/bats-are-hosts-to-a-range-of-viruses-but-dont-get-sick-why-139056</u>

<sup>&</sup>lt;sup>5</sup> <u>https://www.hrw.org/news/2020/05/12/covid-19-fueling-anti-asian-racism-and-xenophobia-worldwide</u>

an 'anthropause'<sup>6</sup> for more-than-human species, and not. Although hiatuses from traffic noise on land and at sea have affected more-than-human livability<sup>7</sup>, the rain forest in Amazonas is more threatened than ever<sup>8</sup>. The non-innocence of the matter that humans have become reliant upon during portal-time, in pursuit of protection, cannot be overlooked. Personal Protective Equipment: plastic face shields and goggles, surgical masks, latex gloves, bottles of sanitiser - all quickly discarded - now join the already catastrophic plastic pollution as it washes up in ports and seashores the world over. Human propensity for disposability, single-use materialities now add exponentially to mountainous piles of litter: an environmental disaster that will cross numerous lifetimes<sup>9</sup>.

Waves are phenomena that rise and ebb. In Europe the first wave ebbed during summer 2020. "Everyone" worried about the wave. The worrying was not wasted time. 'Infection control' provided the focus for national press conferences organized by government and public health institutes, which was then endlessly recounted in media news coverage. Infographics, charts, graphs reporting on the rising numbers of people infected by SARS-CoV-2; insufficient beds in intensive care; death rates disaggregated by demographics. As people returned from their summer vacation, the second wave swelled across Europe amidst reports of a mutated version, the cluster 5 of SARS-CoV-2, discovered in mink communities. We learn (again) that the virus can be transferred from animal bodies to human bodies. Again, questions and answers on human-animal coexistence circulate in the portal. This time another region of the world is in the spotlight; Denmark. From mink-tohuman, multi-species boundaries crossed, prioritising human exceptionalism surfaces once more. Cull the mink! Politicians are quick to act, to ward off a threat to the development of a vaccine. The global race amongst scientists to find the cure is at stake. Danish authorities order (later 'encourage') mink farmers to cull the millions upon millions of mink that are vital to the country's fur industry. Photos of dead mink, lying on their backs on metal plates, stacked, like freshly baked bread, is disquieting - agitating uncomfortable affective forces. 10

<sup>10</sup> This text is crocheted together by popular science paper articles: <u>https://forskning.no/genetikk-helse-medisiner/avlivning-av-dansk-mink-forsiktighet-eller-overreaksjon/1768868</u> <u>https://forskning.no/genetikk-helse-medisiner/avlivning-av-dansk-mink-forsiktighet-eller-overreaksjon/1768868</u>

<sup>&</sup>lt;sup>6</sup> <u>The pandemic stilled human activity. What did this 'anthropause' mean for wildlife? | Science | AAAS (sciencemag.org)</u>

<sup>7</sup> https://www.bbc.com/news/world-52459487

<sup>&</sup>lt;sup>8</sup> <u>https://forskning.no/ntb/8-prosent-av-amazonas-er-ryddet-siden-</u>

<sup>2000/1783130?</sup>fbclid=IwAR3C4efnU4qELYJzGzXlpLFawYGTn2qOvdEJMnuF\_yMAKp7VcEmgWR-4muI

<sup>&</sup>lt;sup>9</sup> <u>https://theconversation.com/coronavirus-face-masks-an-environmental-disaster-that-might-last-generations-</u> <u>144328</u>

### Figure 6

Author's Photo: newspaper coverage on the mass culling of mink



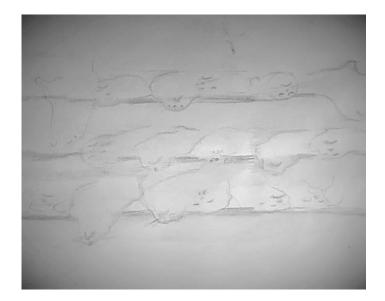
Images of dead mink bodies proliferate in the portal for a while. There is widespread media coverage of the plight of the virus-habouring mink, especially across the Nordic region. Humans, old and young, are subjected to these ubiquitous images. The portrayal of mass culling is powerful, and somehow taboo. With us this event produces difficult knowledge inexplicably hard to discuss. In early childhood difficult knowledge is typically productive of moral panic, however such knowledge can also be generative of how children sense their place within the world and how other worlds can be made possible (Osgood & Andersen, 2019). The deluge of photos of stacked dead mink, hundreds of dead mink falling off the loading plane of a truck on a highway<sup>11</sup>, dead buried mink rising to the surface of mass graves due to gases from decomposition only to lie beached on the sandy soil of Denmark<sup>12,</sup> feels difficult to us as childhood researchers. We sense a vector grow towards Boba trapped in the grave that humans created, but leave the wanderline to be unfollowed. A question is produced: Are mink that are already destined to be culled to fuel the fur industry worthy of protection? Also, the photos create imperceptible feelings of being haunted, the images resurface in our minds and our dreams. Our language is, as in thousands of other moments in this portal, not enough. To nurture the continuation of map-fielding, to extend our senses beyond our comfort zone within early childhood and cross yet another border, we reach for pen and paper, and follow the movement of thought (Manning, 2020). Manning writes that drawing activates 'a field of knowledge of the real', 'and the drawing on, of the wanderlines' (2020, p. 5). Without thinking, the news coverage of the culled mink is sketched.

Reconceptualizing Educational Research Methodology 2022, 13(3), Special Issue

<sup>&</sup>lt;sup>11</sup> <u>https://www.aftenposten.no/verden/i/vAAadw/levende-mink-dukket-opp-av-avlivingskasser-og-doede-laa-slengt-langs-ve</u>

<sup>12</sup> https://www.theguardian.com/world/2020/nov/25/culled-mink-rise-from-the-dead-denmark-coronavirus

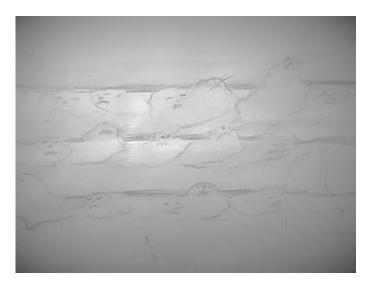
### *Figure 7* Monsters: a drawing of the above photo with pencil on paper



We continue to follow lines. When striving to open our senses, multi-species living and dying becomes sharper, it magnifies. The drawing and following after-images become a form of afterlife. We experiment with turning the drawing upside down. Mink ghosts materialise on the page.

### Figure 8

Ghosts: The previous drawing turned upside down



Ghosts are commonly thought of as dead spirits appearing for the living. However, they can also help grasp the eeriness of the past in the present (Gant et al. 2017, G. 3). So, when tracking histories to make multi-species living possible, it is not only living bodies that are important, but also dead bodies. We are compelled to ask what else emerges from the haunting minks? We suggest the ecologies made and unmade by the mink fur industry are based on lively bodies, becoming dead bodies, becoming clothes, becoming vectors for a deadly virus. Further, ghosts may generate capabilities for humans to stand up against messages constantly asking us to forget (Gant et al, 2017). Mink ghosts affect us in ways that make us pay attention to the fur industry's arrangement of human and non-human living practices; early 1900s experiments of bringing animals from one continent to another for commercial purposes<sup>13</sup>, caging-practices where minks are prevented from seeing the light of day, heinous culling practices, world-wide action and trading practices, and practices of accumulating 50-60 mink bodies to fashion a coat<sup>14</sup>, fur-class practices. Following ghosts also generates a remembering of modernist ideas of future, of progress and of human and culture as separated (Gant et al, 2017). This remembering is not nostalgia, rather this 'luggage' is something we consider might be left behind in the portal.

In the first threshold haunting and troubling questions about safety and well-being within early childhood settings in portal-time was generated. In this last threshold more haunting and troubling questions about how early childhood researchers can address multi-species livability on a damaged planet, while steeped in hauntings of humanist discourse, are generated. Time in the portal has provoked endless questions, and we arrive at 'what kinds of human disturbance can life on earth bear?' (Gant et al, 2017, G. 1) with no definitive answer. What this experiment has generated is the feltness of the everyday, the (extra)ordinary and our response-abilities to sense and think deeply about our place as early childhood scholars in the Capitalocene and what can be learnt from attunement to the wanderline via a virusing-with methodology.

### The promise of wanderlines for what else

This paper has sought to investigate the generative possibilities to reimagine childhood in the Anthropocene that are made possible through research practices of virusing-with. We have followed lines, outlined contours, pursued wanderlines that defy that which is assumed, and we have opened ourselves to what else might emerge if we allow ourselves to work in the speculative mode. The experiments that form this research-creation have been organised around three thresholds, however the unfurling of our inquiries reveal there to be infinite thresholds that are encountered inside the virusing-with portal. With Manning (2020) we suggest that the three thresholds, all speculative practices of following lines, are productive of transversal diagrams that challenge what is understood as knowledge and also what research in the field of early childhood education can be. Working with Manning's propositional philosophy we suggest that knowing out of bounds in early childhood also concerns generating knowledge that might not be intelligible 'within current understandings of what knowledge might look like' (2016b, p. 133). It involves speculative encounters, attunement and being open to the (k)not-yet-known. Portal-time has intensified our previous speculative and experimental methodological doings, so that through this interwoven, multilayered research-creation experiment it has been possible to play with the generative possibilities of knowing out of bounds which has underscored the felt dimensions, the non-linguistic (Manning, 2016b) and opened out what counts as knowledge and how knowledge is

<sup>13 &</sup>lt;u>https://snl.no/pels</u>

<sup>&</sup>lt;sup>14</sup> <u>https://www.animal-ethics.org/animal-exploitation-section/animals-used-for-clothing-introduction/fur-farms/</u>

produced.

### References

- Andersen, G., Rambaut, A., Lipkin, W. I., Holmes, E. C. & Garry, R. F. (2020). The proximal origin of SARS-CoV-2. *Nat Med* 26, 450-452. <u>https://doi.org/10.1038/s41591-020-0820-9</u>
- Andersen, C. E. (2018a). Becoming through an encounter with an artistic Congo Village event in Norway. *Qualitative Inquiry*, 1-8. <u>https://doi.org/10.1177/1077800418806617</u>
- Andersen, C. E. (2018b). Affirmative critique and strange race-things: Experimenting with art-ing as analysis. *Reconceptualizing Educational Research Methodology*, 9(1), 55-68. <u>https://doi.org/10.7577/rerm.2702</u>
- Andersen, C. E. (2017). Affirmative critique as minor qualitative critical inquiry: A storying of a becoming critical engagement with what happens. *International Review of Qualitative Research*, 10(4), 430-449. <u>https://doi.org/10.1525/irqr.2017.10.4.430</u>
- Andersen, C. E. (2015). Mot en mindre profesjonalitet: "Rase", tidlig barndom og Deleuzeoguattariske blivelser [Towards a minor professionalism: "Race", early childhood and Deleuzoguattarian becomings]. PhD (Monografi). Stockholm university, Department of Child and Youth Studies, Stockholm. <u>http://www.diva-</u> portal.org/smash/record.jsf?pid=diva2%3A795293&dswid=9400
- Barad, K. (2007). *Meeting the Universe Halfway*. Durham: Duke University Press. <u>https://doi.org/10.2307/j.ctv12101zq</u>
- Butler, J. (2009). Frames of War. When is life Grievable?. London: Verso https://www.freepik.com/vectors/background">Background vector created by Olga\_spb www.freepik.com</a>
- Gant, E., Tsing, A., Swanson, H. & Bubandt, N. (2017). Introduction: Haunted landscapes of the Anthropocene. In A. Tsing, H. Swanson, E. Gan & N. Bubandt (Ed.) Arts of living on a damaged planet. Ghosts of the Anthropocene (G1-G16). Minneapolis: University of Minnesota Press.
- Grosz, E. (2017). *The Incorporeal. Ontology, Ethics, and the Limits of Materialism*. New York: Columbia University Press. <u>https://doi.org/10.7312/gros18162</u>
- Haraway, D. (1988). Situated knowledges: the science question in feminism and the privilege of the partial perspective. *Feminist Studies*, 14(3), 575-599. <u>https://doi.org/10.2307/3178066</u>
- Haraway, D. (2016). *Staying with the Trouble: Making kin in the Chthulucene*. London: Duke University Press. <u>https://doi.org/10.2307/j.ctv11cw25q</u>
- Houm, N. (2011) Når alle sover. (When all are asleep) Oslo:Gyldendal.
- Manning, E. (2008) Creative Propositions for Thought in Motion. Inflextion (May), 1-24.
- Manning, E. (2013). Always More Than One: Individuation's Dance. London: Duke University Press. https://doi.org/10.2307/j.ctv11smsmz
- Manning, E. (2016a). *Minor Gesture*. Durham: Duke University Press. <u>https://doi.org/10.2307/j.ctv111jhg1</u>
- Manning, E. (2016b) Ten propositions for research-creation. In N. Colin & S. Sachsenmaier (Red.) Collaboration in performance practice: Premises, workings and failures (p. 133-141). Palgrave Macmillan. https://doi.org/10.1057/9781137462466 7
- Manning, E. (2020) Radical pedagogies and metamodelings of knowledge in the making. *CriSTaL: Critical Studies in Teaching & Learning*, 8, 1-16. <u>https://doi.org/10.14426/cristal.v8iSI.261</u>
- Massumi, B. (2002) *Parables for the Virtual. Movement, Affect, Sensations*. Durham: Duke University Press. <u>https://doi.org/10.1215/9780822383574</u>
- Mohanty, C.T. (2003). Feminism without Borders: Decolonizing theory, practicing solidarity. Duke

University Press. https://doi.org/10.1515/9780822384649

- Osgood, J. (2020a). Becoming a 'mutated modest witness' in early childhood research. In Shulte, C. (Ed) *Ethics and Research with Young Children: New Perspectives*. London: Bloomsbury. pp. 113-127. <u>https://doi.org/10.5040/9781350076495.ch-010</u>
- Osgood, J. (2020b). Queering understandings of how matter comes to matter in the baby room in L. Moran, K. Reilly, and B. Brady (Eds) *Narrating Childhoods across Contexts: Knowledge, Environment, and Relationships*. London: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-55647-1 9
- Osgood, J. (2019a). 'Materialised reconfigurations of gender in early childhood: Playing Seriously with Lego', in J. Osgood & Robinson, K. (Eds) *Feminists Researching Gendered Childhoods*, Feminist Thought in Childhood Research Series: Bloomsbury: London. Chapter 5. pp. 85-108. <u>https://doi.org/10.5040/9781474285810.ch-005</u>
- Osgood, J. (2019b). You can't separate it from anything!: glitter's doings as materialised figurations of childhood (and) art, in M. Sakr. & J. Osgood (Eds) *Post-Developmental Approaches to Childhood Art*. London: Bloomsbury. pp. 111-136. https://doi.org/10.5040/9781350042575.ch-007
- Osgood, J. (2016). Postmodernist theorising in ECEC: making the familiar strange in pursuit of social justice' in T. David, S. Powell., K. Sylva. (Eds) *Routledge Handbook of Philosophies and Theories of Early Childhood Education and Care*, London: Taylor & Francis. pp. 201-233
- Osgood, J. (2014) 'Playing with Gender: making space for post-human childhood(s)' in J. Moyles., J. Payler & J. Georgeson (Eds) *Early Years Foundations: An Invitation to Critical Reflection*. Milton Keynes: Open University Press. pp.191-202
- Osgood, J. & Andersen, C.E. (2019). A feminist new materialist experiment: exploring *what else* gets produced through encounters with children's news media, *Contemporary Issues in Early Childhood Journal*. 20(4), 363-380. <u>https://doi.org/10.1177/1463949119888482</u>
- Otterstad, A.M. (2018a). What might a feminist relational new materialist and affirmative critique generate in/with early childhood research, *Qualitative Inquiry*, 25(7), 641-651. https://doi.org/10.1177/1077800418800760
- Otterstad, A.M. (2018b). Å stå i trøbbelet. Kartograferinger av barnehageforskningens metodologier: Postkvalitative passasjer og (ny)empiriske brytninger. Dr. Philos. Det utdanningsvitenskaplige fakultet. Universitetet i Oslo. <u>https://www.duo.uio.no/bitstream/handle/10852/65587/PhD-Otterstad--</u> 2018.pdf?sequence=4
- Pickering, A. (2017). The Ontological Turn. Taking Different Worlds Seriously. *Social Analysis*, 61(2), 134–150. <u>https://doi.org/10.3167/sa.2017.610209</u>
- Pratt, M. L (2017) Coda: Concepts and chronotope. In A. Tsing, H. Swanson, E. Gan & N. Bubandt (Ed.) Arts of living on a damaged planet. Ghosts of the Anthropocene (G. 169-175).
  Minneapolis: University of Minnesota Press.
- Roselló, J. (2017) I'm not afraid: Zombies, video games, and life after death. *Contemporary Issues in Early Childhood*, 18(2) 145–161. <u>https://doi.org/10.1177/1463949117714077</u>
- Roy, A. (2020). Azadi: Freedom. Fascism. Fiction. London: Penguin Books.
- Swanson, H., Tsing, A., Bubandt, N. & Gan, E. (2017) Introduction: Bodies tumbled into other bodies. In A. Tsing, H. Swanson, E. Gan & N. Bubandt (Ed.) Arts of living on a damaged planet. Monsters of the Anthropocene (M.1-14). Minneapolis: University of Minnesota Press.
- Stewart, K. (2007). Ordinary Affects. London: Duke University Press. https://doi.org/10.1515/9780822390404

- Thurber, R.V., Payet, J. P., Thurber, A. R. & Correa, A. M. (2017) Virus-host interactions and their roles in coral reef health and disease. *Nat Rev Microbiol*, 15, 205-216. https://doi.org/10.1038/nrmicro.2016.176
- Tsing, A., Swanson, H., Gan, E. & Bubandt, N. (Eds) (2017). *Arts of Living on a Damaged Planet*. London: University of Minnesota Press.
- Tsing, A. (2015). The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins. Princeton, New Jersey: Princeton University Press. https://doi.org/10.1515/9781400873548