Reorienting Environmental Art Education

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Abstract

Art educators have already responded to eco-social challenges for decades by seeking to advance environmental awareness, sensitivity, eco-social justice, democracy, and cultural sustainability. These various approaches and conceptualisations are discussed in this doctoral dissertation as *environmental art education (EAE)*.

The dissertation investigates EAE with a focus on its philosophical-theoretical groundings. A comprehensive mapping of EAE literature highlights that despite EAE aims at challenging modern Western dualistic thinking, the applied humanist theories problematically reassert the separateness of the categories of human and nature. The dissertation discusses the limitations of traditional EAE as it does not seem to offer a means for questioning human exceptionalism (anthropocentrism). Particularly when living through ecological crises, EAE, which furthermore runs the risk of romanticising human-nature relations, appears inadequate.

The research reorients EAE by engaging with posthumanist theories. It draws from the threads of environmental, critical, feminist, and educational posthumanist theories that decentre the human, unpack categorical divides through materialist and process-oriented ontologies, and intersect with decolonial, race and other critical theories. The methodology of the research is informed by the recent developments in post-qualitative inquiry, including multispecies and walking methodologies.

The research puts posthumanist theories to work by developing and employing an experiment called *becoming-with the forest*. Through focusing on artistic thinking, and embodied, sensory, movement-based ways of knowing, the experiment aims at groping towards multispecies and material forest entanglements, provoking thinking-with others, and queering habitual responses and conceptions of subjectivity. Different aspects unfolding in the experiment are introduced through visual-textual stories. The experiment activated considerations concerning the recognising of vulnerabilities, difficulties of disturbing anthropocentrism, and complex responses to the enmeshment of nature and culture. These topics are discussed further with posthumanist theories, and their implications for EAE pedagogies are speculated upon.

The research proposes generative potentials in art educational strategies for queering normative human-nature relations, acknowledging more-than-human agencies, and creating new stories of shared worlds beyond human mastery. It encourages focusing on complex material and multispecies entanglements and attending to their ethics and politics in arts and their education, and proposes practices that are critical-creative, experimental, open-ended, transdisciplinary, and engage with multiple ways of knowing. These suggestions pave the way for exploring further the profound implications of posthumanist ontologies for subjectivities, pedagogies, learning, and the arts.

Tiivistelmä

Taidekasvattajat ovat tarttuneet eko-sosiaalisiin haasteisiin ja pyrkineet edistämään ympäristötietoisuutta, -herkkyyttä, ekososiaalista oikeudenmukaisuutta, demokratiaa ja kulttuurista kestävyyttä jo vuosikymmenien ajan. Näitä monimuotoisia lähestymistapoja ja käsitteellistyksiä kutsutaan tässä tutkimuksessa *ympäristötaidekasvatukseksi* (EAE, engl. environmental art education).

Väitöstutkimuksessa tarkastellaan EAE:n teoreettisfilosofisia perusteita. EAE-kirjallisuuden kartoittaminen nostaa esiin sen, että vaikka EAE pyrkii haastamaan länsimaista dualista ajattelua, siinä sovellettavat teoriat ylläpitävät ongelmallisesti ihmisen ja luonnon kategorioiden erillisyyttä. Tutkimuksessa keskustellaan perinteisen EAE:n rajoitteista, sillä se vaikuttaa olevan kykenemätön tarjoamaan keinoja ihmiskeskeisyyden (antroposentrismi) kyseenalaistamiseen. Varsinkin ekokriisien ajassa EAE, joka saattaa lisäksi romantisoida ihmisen ja luonnon suhteita, vaikuttaa riittämättömältä.

Tutkimus suuntaa EAE:a uudelleen posthumanististen teorioiden kautta. Uudelleensuuntaamisessa ammennetaan kriittisistä, feministisistä ja kasvatuksellisista posthumanistisista teorioista, jotka siirtävät ihmistä pois keskiöstä, purkavat ontologisia jaotteluita ja lisäksi risteävät kriittisten kolonialismin, rodun ja muiden teorioiden kanssa. Tutkimuksen metodologinen lähestymistapa nojaa viimeaikaisiin jälkikvalitatiivisiin tutkimuksellisiin kehittelyihin, muun muassa inhimillistä ylittävään kävelytutkimukseen.

Posthumanistisia teorioita koetellaan kokeilun kautta, jota kutsutaan nimellä *kanssalaistumista metsän kanssa*. Nojaamalla taiteelliseen ajatteluun ja huomioimalla kehollisia, aistisia ja liikkeestä ammentavia tietämisen tapoja kokeilu kannusti tunnustelemaan monilajisia ja materiaalisia yhteenkietoutumisia metsän kanssa, haastoi ajattelemaan toisten kanssa, sekä outoutti totuttuja vastaamisen tapoja ja käsityksiä subjektiviteetista. Kokeilusta kehkeytyviä huomioita esitellään kirjallis-kuvallisten tarinoiden kautta. Kokeilu käynnistää pohdintoja, jotka liittyvät haavoittuvaisuuksien tunnistamiseen, ihmiskeskeisyyden horjuttamisen vaikeuteen sekä luonnon ja kulttuurin toisiinsa sotkeutumisen synnyttämien vastakaikujen monimutkaisuuteen. Aiheista keskustellaan posthumanistisen teorioiden kanssa ja niiden seuraamuksia EAE:lle spekuloidaan.

Tutkimus ehdottaa, että taidekasvatuksellisilla strategioilla on potentiaalia normatiivisten ihmis-luonto -suhteiden outouttamiseen, ei-inhimillisten toimijuuksien tunnistamiseen ja kehittelemään uusia tarinoita ihmiskeskeisyyden ylittävästä yhteisestä maailmassaolosta. Tutkimus kannustaa keskittymään monimutkaisiin materiaalisiin ja monilajisiin yhteenkietoutumisiin ja niiden eettisiin ja poliittisiin ulottuvuuksiin taiteessa ja taidekasvatuksessa, ja kannustaa käytäntöihin, jotka ovat kriittisiä, luovia, kokeellisia, avoinloppuisia, tieteenaloja ylittäviä ja nojautuvat moninaisiin tietämisen tapoihin. Nämä ehdotukset pohjustavat jatkoa sen tutkimiseen, minkälaisia käsityksiä subjektiviteeteista, pedagogiikasta, oppimisesta ja taiteista posthumanistiset ontologiat avaavat.

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Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places. In urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, or stopping something from happening that looms in the future, of clearing away the present and the past in order to make futures for coming generations. Staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or Edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings.

(Haraway, 2016, p. 1)

1. Introduction

1. Introduction

This doctoral dissertation explores a branch of art education that engages with environmental, ecological, and sustainability-related topics. The focus of the research is on the philosophical-theoretical groundings of these approaches and conceptualisations.

Much has been and is currently being done in the field of art education for advancing more just and sustainable ways of living. However, I see that promoting change and a shift towards sustainability requires constant interrogation of art pedagogical practices and the theoretical frameworks employed. The dissertation is thus launched by a motivation to investigate the sufficiency of the existing conceptualisations and to reorient them through an alternative theoretical frame.

Introduction to Environmental Art Education (EAE)

Art education as a discipline, scholarship and practice has responded to eco-social challenges by seeking to advance awareness of environmental issues, eco-literacy, eco-social justice, democracy, diversity, and cultural sustainability[1] for decades (e.g. Blandy, 2011; Blandy & Hoffman, 1993; Coutts & Jokela, 2008; Erzen, 2005; Gradle, 2007; Jokela, Hiltunen, &

[1] Cultural sustainability according to Räsänen (2015) means respecting creativity and cultural diversity, as well as promoting interaction in and between cultures. Härkönen (2019) stresses the importance of a culture-inclusive approach built on respect and dialogue in the promotion of culturally sustainable development.

Härkönen, 2015b; Jónsdóttir, 2017; Kauppinen, 1990; Mahlmann, 1970; Mantere, 1993, 1995; McFee, 1975; Stankiewicz & Krug, 1997; Suominen, 2015a, 2016b; Tanzer, Ruocco, & Ruocco, 1966; van Boeckel, 2013). Hicks & King (2007, p. 332) sum up: "Artists and art educators can and must play a role in the creation of a more responsible and ecologically literate culture". Blandy (2011) encourages art educators to take leadership positions in local endeavours around environmental and sustainable practices. Inwood (2008, 2010) in particular calls for art educators to 'green' their practices and the whole field of art education.

The intersections of art, education, and environmental thought have been conceptualised in art education in many ways during the past decades. These approaches have been named **eco-art education** (Inwood, 2008, 2010), **place-based art education** (Bequette, 2014; Bertling, 2013; Graham, 2007a), **arts-based environmental education** (Humaloja, 2016; Iivanainen, 2001; Mantere, 1995a, 2004; Pohjakallio, 2008, 2010; van Boeckel, 2009, 2013, 2015), **earth art education** (Anderson & Suominen Guyas, 2012), and for example **art education for sustainable development** (Huhmarniemi, 2019; Illeris, 2012, 2015; Macdonald & Jónsdóttir, 2014). The theoretical backgrounds, concepts, and contexts may vary, but there is a shared overtone connecting the approaches, especially concerning their aims, and the pedagogical approaches, as I will discuss in more detail in the next chapter. These various conceptualisations and practices are discussed in this research under the term **environmental art education (EAE).**

Environmental art education is not a totally new concept in the field of art education. Ulbricht (1998) uses this concept in his article aiming at widening the conception of environmental art education. Inwood and Taylor (2012) also use the concept of environmental art education in their article describing efforts to develop courses on the topic in higher education. I have chosen to reclaim this concept as an umbrella that allows the different conceptualisations that do not constitute one solid tradition or art pedagogical theory to be encompassed.[2]

EAE has taken shape as being versatile and adaptable to varying pedagogical contexts. EAE can be practised in general, secondary, or upper secondary schools as part of visual art education, in vocational and higher education, in basic education of arts, in early childhood education, in the third sector, or, for example in larger multi-, inter-, or transdisciplinary projects. The context colours the pedagogical and

[2] My approach to the concept should be read as environmental + art education, rather than environmental art + education (education of environmental art).

methodical choices as well as the contents. There are no limitations on the ages of participants in EAE activities. Practices aimed at children and school-aged young people stand out in the EAE literature (e.g. Bertling, 2013; Hansen, 2009; Huhmarniemi, 2019; Humaloja, 2016; Tereso, 2012; van Boeckel, 2007; Weir, 2016), but EAE approaches are also profiled for adults (often students in higher education), such as in Erzen (2005), Gradle (2007), and Jónsdóttir (2015), or aspire to activate intergenerational collaboration of people of all ages (Hiltunen, 2009, 2016).

Nevertheless, if I had to name one feature that seems to overarch all EAE conceptions, I would highlight the idea of collaboration. The understanding of the complexity of ecological/environmental/sustainability challenges has encouraged art education scholars and practitioners to underline that the views and knowledge of different disciplines and stakeholders are needed for forming a multidimensional understanding of the studied phenomena (Anderson & Suominen Guyas, 2012; Mantere, 1993, 1995; Pohjakallio, 2008). As Hicks (2012) points out, collaborative partnerships are required both within academic disciplines, and "between researchers, students, artists, and the communities in which they live" (p. 269). Recently, art educators have particularly advocated integrating the arts and sciences in order to be able to create more interdisciplinary approaches to the study of environmental and ecological topics (Anderson & Suominen Guyas, 2012; Cornelius, Sherow, & Carpenter II, 2010; Huhmarniemi, 2012, 2016; Randazzo & Lajevic, 2013; Tereso, 2012; Weir, 2016).

EAE can be considered to be a subfield of art education. The specific environmental/ecological/sustainability emphasis can relate to the studied topics, to the educational aims, to the theoretical framing, be focused on certain working methods, or cover all of these. This is why it is not always clearly identifiable what kind of practices and approaches can be considered as EAE. Moreover, the whole field of contemporary art education can be perceived as societally active and political, contributing to social and cultural change towards more just and sustainable cultures (Kallio-Tavin, 2015; Räsänen, 2015; Suominen, 2016b; Tavin & Ballengee Morris, 2013; UNESCO, 2006).

EAE is likewise intrinsically connected to other subfields of art education, particularly approaches advancing social justice. Issues such as race, ethnicity, gender, and disability are discussed in art education publications through concepts such as socially engaged art education, social justice art education, and community-based art education (e.g. Buffington, Cramer, Agnelli, & Norris, 2015; Campana, 2011; Darts, 2006; Jung, 2015; Kallio-Tavin, 2020b; Lai, 2012; Lee, 2013; Rekow, 2012;

Rhoades, 2012; Shin, 2011; Suominen & Pusa, 2018; Tavin & Hausman, 2004). Furthermore, Indigenous knowledge and other non-mainstream (local) arts and crafts are often included in culturally diverse art education (e.g. Bequette, 2007, 2014; Jokela, Hiltunen, & Härkönen, 2015).

Compared to the previously mentioned social and cultural orientations, EAE foregrounds ecological and environmental themes and focuses on human-nature and nature-culture relations (e.g. Anderson, 2000; Gradle, 2007; Humaloja, 2016; Tereso, 2012; van Boeckel, 2007, 2009, 2013, 2015; Weir, 2016). However, in EAE, ecological, social, and cultural aspects are often bound together by acknowledging the inter-connectedness of social justice and environmental issues. Many EAE scholars are using theoretical approaches that blend local environmental issues with cultural awareness, social critique and community-building[3] (Anderson & Suominen Guyas, 2012; Bequette, 2014; Bertling, 2013; Blandy & Hoffman, 1993; Gradle, 2008; Graham, 2007a; Hansen, 2009; Illeris, 2015; Inwood, 2010; Jokela et al., 2015a; Lai & Ball, 2002; Reisberg, 2008). This brief outline of the art education approaches focusing primarily on social or environmental/ecological issues does not, however, demonstrate how fluently the interrelatedness of the environmental and social dimensions unfolds in EAE practices.

Connections of EAE with environmental and sustainability education

In addition to the former notions, EAE approaches often have clear connections with environmental and sustainability education. Some art education scholars even consider EAE to be an approach that merges art education and environmental education (Inwood, 2008, 2010; Inwood & Taylor, 2012). Despite the framing of this research prioritising art educational interests, I consider it relevant to acknowledge the overlapping of these fields.

Outlining the role of the arts as well as pedagogical strategies depend on the approach: from the perspective of environmental and sustainability education, artistic and arts-based approaches can be considered an enriching and animating addition that makes it possible to increase experientiality, personal meaning-making, sensory knowledge, and emotions in environmental learning (Marks, Chandler, & Baldwin, 2017;

Nordström, 2004; Sipari, 2017; Song, 2012; York, 2014). Art education scholars for their part also consider the specific contribution of arts and art education for environmental and sustainability education in the experientiality and creation of personally relevant meanings (Mantere, 1993a, 1995a; Pohjakallio, 2008). Some see art education as offering "the means to stimulate learners' senses, open their minds, and touch their hearts" (Inwood, 2010, p. 34). Furthermore, art and art education are seen as relevant for addressing values relating to sustainability, awareness, and developing personal action competences (Jónsdóttir, 2015, 2017).

Some art education scholars, however, prefer to distinguish EAE from 'other' kinds of environmental and sustainability educations. Some might stress the potential of art as a special way of knowing that should permeate all the stages of environmental learning (Mantere, 1995a; Vira, 2004), or underline that the arts and artistry should be kept as the main emphasis in the concepts of art education (Suominen, 2015b).

Approaches to environmental and sustainability education are, however, diverse, and the changes in the pedagogical and theoretical frames during the previous decades draw very different prospects for the relations of arts and environmental and sustainability education. The traditional forms of environmental education developed in the 1970s were often science-based education about environmental and ecological issues with an instrumental[4] orientation that encouraged straightforward "from awareness to action" kinds of models (Wals, Geerling-Eijff, Hubeek, van der Kroon, & Vader, 2008). With this kind of model, the role of artistic approaches might be reduced to an illustration of cognitive content or as a separate warm-up exercise (Mantere, 1995b). These kind of stereotypical and reductive attitudes might still prime the relations of arts and environmental/sustainability education (e.g. Laininen & Workgroup, 2018).

More recent theories in environmental and sustainability education are, however, advocating emancipatory pedagogical approaches instead of instrumental ones (Wals et al., 2008). Hence, the conceptions of learning that are considered productive for creating more sustainable lifestyles and addressing complex (wicked) eco-social problems are articulated as emergent transformative processes, social meaning-making, and active dialogue through participatory practices and continuous negotiation (Eernstman, 2014; Lotz-Sisitka, Wals, Kronlid, &

[3] Critical place-based art education that combines place-based pedagogy and bioregionalism with critical pedagogy and social change (Graham, 2007) is a representative example of this kind of an EAE conceptualisation.

[4] An instrumental approach to environmental education presumes that the desired behavioural outcome of environmental learning can be known and pre-determined (Wals et al., 2008).

Environmental and
ecological
orientations

Art Education

Social and cultural
orientations

**Environmental
Art Education**

Socially Engaged Art Education

Social Justice Art Education

Community-based Art Education

…

Eco-Art Education

Place-based Art Education

Arts-based Environmental Art Education

Art Education for Sustainable Development

E*art*h Art Education

…

Environmental and
Sustainability Education

Figure 1: A visualisation
of the hierarchical
relations of EAE.

McGarry, 2015; Wals, 2015; Wals et al., 2008). These kinds of articulations seem to open new possibilities for interfaces, shared interests, and collaborative practices joining arts, art education (EAE), and environmental and sustainability education (e.g. Eernstman & Wals, 2013).

Why think and rethink human-nature relations?

In this dissertation I am particularly interested in the philosophical-theoretical groundings of EAE, since they offer an entry for grasping what kind of conceptions of the human and human-nature relations are promoted in EAE.

As several scholars have argued, the deeply rooted Western cultural understanding of nature as objectifiable 'otherness' that humans are entitled to instrumentalise and exploit for human benefit can be traced as a significant driver of environmental degradation and other severe environmental problems (Bateson, 1972; Berleant, 1995; Plumwood, 1993, 2002; Skolimowski, 1984; White, 1967). The instrumentalising approach to nature is, according to ecofeminist theorists, inherently tied to the emphasising of reason, Cartesian mind-body dualism, and other culturally dominant dualistic assumptions and ideals (Martusewicz, Edmundson, & Lupinacci, 2015; Plumwood, 1993, 2002). Following this logic, the human appears as separate and superior to nature. Understandings of relations building on the idea of separateness foreground human agency and capabilities as precedent, whereas other creatures, materials, things, and those who are not counted as humans are backgrounded and considered subordinate (Martusewicz, 2013; Plumwood, 1993, 2002).

One might ask whether EAE research and practices have not advanced responsible and caring human-nature relations already for decades, and also promoted understanding of the interconnectedness and interdependence of humans and nature. I am not questioning whether art education has been in a good cause or whether art educators have done enough. I think that art educators do a great job. Instead, I have a doubt that the conventional EAE conceptualisations do not go *far enough* in adopting the idea of interconnectedness and interdependence. It appears to me that the critique of subjectivity in EAE should enable the ideals of human subjectivity as autonomous and individual (Martusewicz et al., 2015; Plumwood, 1993, 2002) to be radically questioned and the assumptions of the centrality and exceptionality of humans to be challenged.

My doubts around the sufficiency of existing EAE approaches and conceptualisations stem from recent discussions relating to the escalating of the environmental challenges to the scale and scope of a planetary emergency. Many scholars call this era, where anthropogenic influences are rapidly changing the surface and atmosphere of the Earth and giving rise to mass extinction of species, as the Anthropocene.[5] I refer to the overlapping phenomena such as climate change, biodiversity decline, pollution, ocean acidification, and deforestation in this dissertation as environmental crises. Environmental crises are however intricately interlinked with social phenomena such as human population growth, urbanisation, and poverty, as well as with social injustices, capitalistic economies, neoliberalist values, and consumption cultures (Guattari, 2000; Kahn, 2010; Klein, 2015; Moore, 2017). Environmental crises thus have multifaceted aspects: cultural, philosophical, political, social, ethical, and biological, and their complexity goes beyond the grasp of a Western divisive epistemologies (Oppermann & Iovino, 2016).

There is no consensus on what would be the best way to respond to the complexity of environmental crises. In order to be able to find ways of thinking that are responsive to life in the 21st century, Pyyhtinen (2016) calls for a reassessment of the understanding of relations. The ecological crises have shown that "our lives are marked by unprecedented connectivity" (p. 6) and the ways we are used to thinking of interconnections are not well equipped to handle these complex webs. Oppermann and Iovino (2016) in turn point to the need for conceptual

[5] Anthropocene as a term originates from the combination of the Greek words *anthropos* (human) and *kainos* (new) and refers to a time of rapid ecological and social change and crisis. The concept was suggested in the field of Earth system sciences by Crutzen & Stoermer (2000) who claim that we have moved from the 11,000 years of the Holocene epoch to a new geological epoch that is labelled by planetary anthropogenic transformations and instabilities. The feminist scholar Rosi Braidotti vividly articulates the situation by saying that now even "the rocks notice our presence" (Braidotti, 2017a).

There has been lively discussion concerning the concept in many fields of science in recent years, even though the Anthropocene has not been stratified as a geological epoch and there is no clear understanding of the meaning of the concept (Toivanen et al., 2017). The concept of the Anthropocene has been applied to the humanities, social sciences, and arts in different, often incommensurable, ways. Toivanen and Pelttari (2017) note that the concept has the potential to serve as a platform for inter- and transdisciplinary discussion, since it manages to encompass the mesh of the environmental challenges of our time. The mainstream Anthropocene discussions have been criticised – with good reason – for maintaining anthropocentrism, being politically neutralising, cultivating a teleological narrative of human history, and universalising the human (Eronen et al., 2016; Lummaa, 2017; Toivanen & Pelttari, 2017). Alternative concepts such as the Capitalocene (Moore, 2017), Chthulucene (Haraway, 2015, 2016), and Anthrobscene (Parikka, 2014) have been suggested as more fitting names for the new epoch.

frameworks that enable discussion of how the human is (also ethically) entangled with the nonhuman. They are inviting new kinds of thinking that might provide answers on "how to relate to that which is beyond human dichotomies, which is both vulnerable and dangerous, distant and proximal, and which is risky and familiar at the same time" (Oppermann & Iovino, 2016, p. 2). In a very COVID-19 timely manner, they further remind us that the material world of nonhuman agencies "is bound up with the human reality on many scales and levels, from viruses and bacteria to geological forces" (p. 2).

Some scholars (particularly in the field of environmental education) argue that rethinking human-nature and nature-culture relations, and the notion of the human is crucial for responding to the implications of the environmental crises (Duhn, Malone, & Tesar, 2017; Kopnina, Sitka-Sage, & Blenkinsop, 2018; Lindgren & Öhman, 2018; Lloro-Bidart, 2018; Malone, 2015, 2016b; Moore, 2017; Murris, 2018; Rautio, 2013a; A. Taylor, 2017). Taylor (2017) prompts a paradigm shift for "thinking about what it means to be human, what we mean by the natural environment, and about our place and agency in the world" (A. Taylor, 2017a, pp. 1448-9). She highlights, like Pyyhtinen (2016) and Oppermann and Iovino (2016), that it is no longer possible to deny the intertwinement of human and natural histories and futures. Instead, new scholarship and practices are needed to resist "modern humanist tendencies to enact the epistemological nature-culture divide that separates our species from the rest of the world; and secondly to think and act as if we are the only ones that shape the world" (p. 1449).

In relation to these scholarly discussions, as well as to the recent research reports on climate change and biodiversity loss (IPCC, 2018; UN Convention on Biological Diversity, 2020) – and not forgetting the ongoing COVID-19 pandemic – the need for problematising the position of the human appears as a matter of life and death. It seems pellucid that we cannot solve the complex, wicked problems of the era of ecological crises with the same kind of thinking we used when we created them, as Albert Einstein is reputed to have said (also referred to in Braidotti & Hlavajova, 2018). Are, then, the promotion of environmental and ecological awareness or 'greening' the practices of art education sufficient aims for EAE at this time?

Moreover, there seems to be a confusing inconsistency between the idea of nature that some EAE approaches are promoting and the nature of environmental crises. If EAE promotes closer relationships with nature or aims at reconnecting people with the natural world (e.g. Finley, 2011; Gradle, 2007, 2008; van Boeckel, 2007, 2009, 2013; Vasko, 2016;

Weir, 2016; York, 2014), is this the same nature that is also disturbed, fragmented, degraded, and polluted (e.g. Kolbert, 2016; Morton, 2013; Tsing, Swanson, Gan, & Bubandt, 2017), or is it some other nature that is considered vitalising, restoring, and healing?

The above considerations have inspired me to ponder on how to regard the human relationship with nature at this precarious time, and what the roles and possibilities of art education (and EAE) could be in this situation. I have likewise speculated on where the focus of art education should be taken now and in the future. Musings like this have served as the starting points and inspiration for the research and guided me to challenge the prevalent theories of EAE. However, the more focused research question is elaborated later, after mapping contemporary EAE more carefully.

Reorientation through posthumanist theories

The theoretical-philosophical groundings of EAE are reoriented in this research through posthumanist theories. Posthumanism is an emerging theoretical movement, particularly in the Western context, that problematises the human of Western universal humanism (Braidotti, 2013; Kruger, 2016). Posthumanism radically challenges assumptions of the centrality and exceptionality of the human and throws into doubt the understandings of subjectivity as autonomous and individual (Braidotti, 2013; Ferrando, 2014; C. A. Taylor, 2016). It further seeks to undo binaries such as body/mind, subject/object, nature/culture, and human/nonhuman that are inherently tied to Western humanist thought, and instead highlights relations with no clear borders or categorical divides (Kruger, 2016; C. A. Taylor, 2016). Posthumanist theories are already changing how nature-culture and human-nature relations are understood, for example, in environmental education and early childhood education, as elaborated later in the research (e.g. Blyth & Meiring, 2018; Clarke & McPhie, 2014; Duhn et al., 2017; Karlsson Häikiö, 2017; Kopnina et al., 2018; Lenz Taguchi, 2011; Lindgren & Öhman, 2018; Malone, 2015; Nxumalo & Pacini-Ketchabaw, 2017; Rautio, Hohti, Leinonen, & Tammi, 2017; A. Taylor, 2017; A. Taylor & Pacini-Ketchabaw, 2015).

The dissertation draws widely from various intersecting post-humanist theories. The conception of the posthumanist[6] onto-episte-mology by Karen Barad (2003, 2007, 2012; Dolphijn & van der Tuin, 2012), and the critical, feminist theory of posthumanism by Rosi Braidotti (2013, 2017b) inform the understandings of relational ontologies and their implications for human subjectivity, the refusal of dualistic thinking and human engagements with matter and the nonhuman. Furthermore, I lean on the posthumanist, feminist thinking of Donna Haraway (2008, 2016), particularly in areas where human-nonhuman relations are foregrounded. Feminist new materialist/environmental humanities scholars such as Astrida Neimanis (2017) and Stacy Alaimo (2010) offer the research complementary theoretical understandings of posthumanist embodiment and the intersectionality of environmental and social forms of oppression and asymmetrical power relations.

With respect to posthumanist educational theorising, the central theoretical inspirations come from the fields of early childhood education research and childhood studies, particularly from scholars such as Karen Malone, Veronica Pacini-Ketchabaw, Pauliina Rautio, and Affrica Taylor. There is not yet any actual posthumanist educational theory to draw from, and the majority of educational researchers lean on posthumanist theories arising from other fields. From the field of art education, I draw from scholars who are engaging with poststructuralist and posthumanist philosophies in their research (e.g. Charles Garoian, jan jagodzinski, Laura Trafí-Prats).

Posthumanism encourages movement towards "an intensive form of interdisciplinarity, transversality, and boundary-crossing among a range of discourses" (Braidotti, 2017b, p. 20) because the "transdisciplinary approach affects the very structure of thought" (ibid.). I have answered the call to cross disciplinary borders by engaging with theoretical conversations in several fields and bringing together potentially new and unexpected theoretical views and letting them activate new thought. I have, however, attempted to maintain sensitivity to the different contexts and keep the topics central to the theoretical-philosophical groundings of EAE at the centre of the dissertation. I have turned my attention

[6] The terms posthumanism and new materialisms are in some contexts articulated as parallel because they share a similar agenda, with slightly different emphases (Bozalek & Zembylas, 2016; Sanzo, 2018). In some other contexts, they are considered to be nested. In this dissertation, as elaborated later, new materialism is considered a specific branch *within* the posthumanist theoretical movement (Ferrando, 2013). However, scholars such as Braidotti and Barad might be referred to as both posthumanist and new materialist philosophers (Bozalek & Zembylas, 2016). In this research they are considered posthumanist philosophers.

specifically to fields of educational scholarship where posthumanism has already had a considerable impact on emerging research, and can offer inspiration for reorienting EAE. In my view, the developing posthumanist educational thinking offers a fluid continuation of the educational projects promoting democracy and social justice (see Snaza & Weaver, 2015), that are already guiding contemporary art education (e.g. Kallio-Tavin, 2015; Räsänen, 2015; Suominen, 2016a). I am not drawing from the recent posthumanism-engaged artistic research, because I have found the emerging posthumanist educational theorising and pedagogical thinking more apt for reorienting the theoretical-philosoph-ical groundings of EAE.

Drawing from environmentally oriented critical and feminist posthumanist theories invites the research to a network of scholarship that attends to analysing power relations, and varying forms of domination and injustices that originate from humanism (Braidotti, 2017b; Truman, 2019). This theoretical network likewise brings along a political orientation that calls for accountability and responsibility to the situatedness of the research. I will attend to these topics in the methodology chapter and discuss the situatedness of the dissertation particularly with respect to Finnish understandings of human-nature and nature-culture relations.

Methodology of the research

Doing research on EAE with a posthumanist theoretical orientation challenges conventional understandings of qualitative research meth-odologies. The problematising of the human subject of humanism as separate and individual, and refusing the idea of the separateness of subject and object necessitates the rethinking of research concepts such as data and method (Koro-Ljungberg, Löytönen, & Tesar, 2017; St. Pierre, Jackson, & Mazzei, 2016; Weaver & Snaza, 2017). Further, the ideas of what counts as knowledge and the conception of the relations of the researcher and the researched need to be challenged (MacLure, 2013). As C.A. Taylor (2016) explains, what in posthumanist research emerges as 'research' "cannot be 'about' something or somebody, nor can it be an individualized cognitive act of knowledge production" (p. 18). She clarifies that posthumanist research unfolds instead as "an enactment of know-ing-in-being that emerges in the event of doing research itself" (ibid.). This means that thinking and doing merge, and offers an invitation to "come as you are and to experiment, invent and create both with what

is (already) at hand and by bringing that which might (or might not) be useful, *because you don't yet know*, into the orbit of research" (ibid.). Posthumanist research thus unfolds as active world-making, where knowing is always partial, situated, and becoming (St. Pierre et al., 2016; Ulmer, 2017).

I am developing a posthumanist methodological approach for this research by building on the idea of research methods as techniques for being inside a research event (Springgay & Truman, 2018, p. 83). I am putting posthumanist theories and concepts to work by taking them concretely to the forest, by thinking with them (and the forest), and by agitating new thinking through embodied engagement with them. Moreover, certain materials from the large amount of collected texts, thinking experiments, and doings appear afterwards to be the most important ones that have helped in producing new insights (Rautio, 2020). The role of arts in the research methodology is highlighted through the potential of artistic thinking and artistic practice to open embodied and sensory dimensions of knowing, and to disturb the habitual, normative responses and conceptions of relations.

I perceive this particular research as a practice where thinking, writing, reading, and doing merge with each other, and are guided by orienteering-like responsive strategies. I relate the idea of orienteering to navigating and wayfinding. My take on orienteering should not be confused with endeavours seeking to dominate and enclose, or to ideas related to effective progress. You might have some sort of a feel for the direction in which you are heading, but the movement in the research terrain unfolds as a groping towards emerging tensions, unexpected encounters, moments of smooth progress, and other moments that might get you lost. Several things are happening at the same time and constant reorientation is necessary. Mapping the research terrain, writing, reading theory, and putting it to work take place side by side. All the actions feed each other, stem from each other, and constantly move each other – in an organic, rhizomatic[7] way. Through the metaphor of orienteering, the research unfolds as nonlinear and indeterminate.

[7] The rhizome is a key concept for Deleuze & Guattari (1987) to address connections and connectivity. Pyyhtinen (2016) clarifies their idea by highlighting: "A rhizome is not a closed system or unified structure, but an open system susceptible to constant modulation" (p. 16). Pyyhtinen's further elaboration informs my methodological thinking: "The notion of the rhizome draws attention to the fact that anything is a multiplicity, consisting of lines and constituted by connections. Instead of closing entities upon themselves, it breaks things open and dissolves them into relations" (p. 17).

The chapter form of the monograph maybe falsely supports the impression that the research followed separate stages. The written format does not communicate well with the nonlinearity of the research event. Despite the fact that the reader might find it unpleasant and difficult to follow, I have intentionally wanted to maintain elements of the layered entangled thinking-writing-doing in the structure of the monograph. I have also decided to sustain a sense of thinking-in-progress in parts of the texts.

In the methodology chapter of the research I elaborate how new insights and thinking for EAE are generated through an experiment. I further introduce how the methodology of this research is informed by recent developments in postqualitative inquiry, and how this taps into artistic thinking, multispecies ethnographies, and more-than-human walking methodologies.

Background and motivation of the researcher

My educational background is in visual art education, and my interest in the intersections of environmental thinking and art education stem from the time when I was studying at the University of Industrial Arts, Helsinki in the late 1990s (now Aalto University School of Arts, Design and Architecture). Familiarising myself with arts-based environmental education (Mantere, 1993b, 1993a, 1994, 1995a) as a curriculum content area inspired my pedagogical thinking. Cultivating a sensitive and responsible relationship with the environment, and experimenting with alternative ecological lifestyles through and with arts appeared to be the most important things one could promote as an art educator. But later in the practical pedagogical realities, I found myself concentrating most often on other dimensions of art education: art history and practices of contemporary art, skills of visual expression, and, for example, design and architecture education. I regularly tried to include experiential, sensory-based practices in varying places in my teaching, but was doubtful whether my art educational efforts made any difference to the environmental relations or ecological awareness of my students. My art pedagogical practices attending to environmental and ecological topics appeared to me – especially when I evaluated them afterwards – as separate and unconnected exercises. In other words: I appeared to be lousy at advancing the particular dimension of art education that I

personally cherished the most. This discontentment motivated me to both deepen my theoretical understanding of the area and learn from my colleagues what kind of approaches and practices they had developed in their local contexts (Ylirisku & Thomas, 2017). This in turn, motivated me further to focus in the doctoral dissertation on the theoretical-philosophical groundings of EAE.

I am writing this research as an art educator with diverse teaching experience at different levels of schooling and basic education in the arts. However, my approach is likewise the approach of an artist. Neither can I separate from the research approach my history with studies in geography and decades of practising martial arts. This intricate combination produces interest in movement-based and embodied practices and the idea that I am more than one, always somehow between disciplines.

My current professional practice is located in higher education, in educating future visual art educators. I see that particularly this time urges art education students to consider the potentials of art education for responding to the pressing ecological challenges, as well as advancing equity, social justice, democracy, and cultural diversity. As a part of conceptualising and pondering the possible roles, justifications, and aims of art education, I would like to invite the art education students to ask themselves difficult questions of their conceptions of human-nature relations. I have started to think that becoming familiar with the theoretical and philosophical dimensions of human-nature relations might offer tools for critical thinking and fruitful provocations for further developing their pedagogical 'metatheory' (Syrjänen, Jyrhämä, & Haverinen, 2014). I agree with Meri-Helga Mantere (1993a) in considering environmental thinking and the conception of the human-nature relations of the art educator as central for EAE practices. Particularly in formal, institutional educational contexts, the environmental orientation of the educator has a direct impact on what kinds of practices are promoted as meaningful, what kinds of aims are considered valuable (and possible), and what kinds of (art) pedagogical strategies are highlighted within the frames of the core curricula. I would also like to remind the art education students that dealing with environmental topics is not a new phenomenon in the field of art education. The versatile tradition might offer them inspiration and something to draw from – as well as topics to critically evaluate and rearticulate.

Due to my current professional practice, I am thinking particularly of current and future art educators,[8] within this research. However, I see that this work can also offer a relevant contribution to actors in other fields, since the linkages of art, education, and environmental thinking are manifold and not tied to disciplinary borders. The way in which I am discussing the philosophical-theoretical groundings of EAE is not tied to any particular educational context, nor specific characteristics of the students/participants.

Overview of the research structure

The dissertation is divided into two sections. These sections are dependent on each other: The first section sets the stage for the second section, and the second section offers a proposition for reorienting the frame portrayed in the first section.

In the first section (Chapter 2), the field of EAE is mapped. This mapping should not however be considered as only a literature review of the previous research on EAE. Instead, the heterogeneous field of EAE needs to be more thoroughly mapped, since there is no previous research that offers a sufficient overview of the theoretical and philosophical groundings of the field. The mapping thus examines EAE in both the Finnish context and international conceptualisations. The mapping allows what kind of conceptions of the human are advanced in EAE, what kind of human-nature relations it promotes, and further, what kind of art pedagogical theories and strategies are mobilised in EAE, to be grasped. This mapping enables some of the potentials to be demonstrated, but above all it reveals the limitations of EAE at a time of environmental crises.

[8] There are various, sometimes conflicting understandings of the differences between a teacher, an educator, and a pedagogue in the context of arts. In this research, an art teacher is understood as a person who is a teacher by occupation and is engaged in the activity of teaching (Biesta, 2015). It is also significant to underline that teaching is not considered in this research as an act of control (Biesta, 2016), or in the narrow sense, as a person delivering certain skills and content (Maunu, 2018). In Finland, the terms art teacher and art pedagogue are often used equivalently, and differentiating these titles might be related to professional identities rather than educational contexts. Orenius (2019) refers to professional artists who teach art as artist-teachers. The field of art education thus consists of art educators, art teachers, art pedagogues, artist-teachers, museum pedagogues, and beyond.

Moreover, an alternative theoretical grounding for EAE is introduced in the first section. General features of posthumanist theories and their challenges to humanist educational frames are presented. The research question is amplified finally in Chapter 2, through the mapping and the preliminary introduction to posthumanist thinking.

The first section includes two supplementary text sections that deepen the framing of the research. The first supplementary section offers an overview of the special characteristics and historical development of EAE in Finland. The second introduces the general features and genealogies of the posthumanist theories that enable the theoretical frame of this research to be located in a wider whole.

In the second section of the dissertation (from Chapter 3 onwards) EAE is reoriented through posthumanist theories. Chapter 3 discusses the methodological orientation of the research. In Chapter 4 I challenge myself to take the posthumanist theories to the forest to experiment with them. An experiment called *becoming-with the forest* is introduced and enacted, and unfolding insights and aspects of the experiment are presented through visual-textual stories. In Chapter 5, the threads emerging from the experiment are theorised with posthumanist scholars. In Chapter 6 the implications of the theorising for EAE are speculated on, and suggestions for future EAE proposed. Chapter 7 closes the dissertation and briefly evaluates the realisation of the main research elements: the mapping of EAE and experimenting with posthumanist theories.

2. Mapping Environmental Art Education

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This chapter presents a comprehensive mapping of various EAE approaches and conceptualisations, and traces their philosophical-theoretical groundings. First, I deepen the introduction of EAE by highlighting five central emphasis areas that are typically present in EAE approaches. Thereafter, I continue mapping by focusing on elements that unite EAE conceptualisations: they all merge and apply in distinctive ways pedagogical frames, conceptions of art, and environmental thinking. Based on the mapping, I analyse briefly the potentials of EAE, but concentrate on discussing the possible problems and limitations recognised in their philosophical-theoretical groundings that make many of the approaches insufficient in a time of ecological crisis.

How to map EAE

The mapping of the field of EAE is challenging in many respects. As I noted in the introduction, there is no one EAE that is widely recognised and practised. Instead, practitioners and scholars have created manifold approaches based on their interests, drawing from different theoretical sources, and have responded to phenomena that are significant in their local contexts. These responses form a loose and miscellaneous tradition. Most of the writers of EAE-related literature describe and validate their specific approach to environmental, ecological and sustainability issues through, with, and in art, and if they refer to others in the same field,

they only briefly acknowledge them. There are only a few articles that aim at creating an overview of the field of EAE.[9]

Another factor that makes mapping of EAE cumbersome is the fact that the approaches aligning with socially engaged art education in many cases overlap with EAE in their linking of the environmental and socio-cultural dimensions. Van Boeckel (2013) struggled with a similar challenge while conducting his doctoral research: amongst "the diverging and converging perspectives at the intersection of the fields of art, pedagogy and environment" (p. 103) it seemed to be hard to describe commonly agreed principles or criteria to EAE (arts-based environmental education, as he calls it[10]).

The literature for the mapping is not gathered following a systematic principle but rather by following a comprehensive idea of extraction guided by the orientation set by the preliminary research questions. This orientation motivated the selection of literature for the mapping from research articles, books, and other texts that link art and art education with environmental and sustainability thinking and environmental education as understood in a wide sense. First, I searched using the partly overlapping and relating keywords 'environmental', 'ecology', and 'sustainability' to be able to track the EAE terrain as widely as possible. As I see it, a tighter framing to specific terminology would have allowed only a partial impression of the diversity of views and could have limited the literature to nature-related and place-based EAE approaches. From major art education journals I came up with approximately 50 articles with this framing, starting from 1966. I started familiarising myself with apposite texts that came up with all three keywords. I then added further texts to the collection by following obvious overlaps and interesting titles I found in the reference lists of the texts, and searched other publications of art education scholars who have written extensively with

a recognisable environmental emphasis. Furthermore, I chose to focus my attention mainly to the time span of the last 30 years. I decided to exclude texts from the mapping that only briefly mentioned sustainability or sustainable development as larger goals of art education, media reviews, and texts focusing on socio-cultural topics and phenomena without linkages to the surroundings/places/environments.

In addition, I familiarised myself with Finnish EAE by writing a book chapter on the trends in environmental teaching in Finnish art teacher education during the past 50 years (Ylirisku, 2016b). All in all, I have used in the mapping 64 journal articles, six doctoral dissertations, 21 book chapters, three books, and other materials (e.g. educational resources) (see Appendix for the list of literature used). These texts are very heterogeneous. Their contents, aims and styles vary: some of them are theoretical explorations, some theorising or introducing pedagogical experiments, some offer instructional resources, and some consider the role of art education in society.

Unavoidably, my perspective on EAE is strongly influenced by the tradition of EAE at Aalto University, my home university. To extend my expertise on Finnish EAE beyond Aalto University, I familiarised myself with EAE-related writings of art education scholars from around Finland. The scholars and staff affiliated to the University of Lapland and related visual art teacher education in Rovaniemi are worth a special mention. I will present an overview of Finnish EAE illustrated in a particular graphical layout later in the chapter.

Broadly taken, I am writing about and within Western perspectives. I have aimed at creating a sufficient general impression of international EAE by prioritising articles mainly from the most influential art education journals: an international journal *IJETA* (*International Journal of Education through Art* associated with the UNESCO's International Society for Education through Art, InSEA), and from the key art education journals from North America (*Art Education* and *Studies in Art Education*). The close relations of the Finnish and North American art education realms validate my choice, as well as the fact that the English language serves as the lingua franca in Western art education and has made these journals accessible for me. These journals likewise represent recent research and international discussion in the field of art education comprehensively.

The literary material that I use for the mapping in this chapter actually forms the tip of an ice-berg. My own art teacher experience at different levels of schooling brings a practice-based approach to the reading of the EAE literature. EAE, and especially the Finnish

[9] Inwood (2008) has mapped the development of eco-art education in the North American context and Pohjakallio (2008, 2010) has developed environmental education approaches in Finnish art education. Van Boeckel (2013) has an extensive literature review of arts-based environmental education with a specific framing as a part of his doctoral dissertation, and Anderson and Suominen Guyas (2012) review art education with environmental orientation in their article.

[10] Van Boeckel (2013) focused in his research on exploring the kind of learning that takes place through arts-based environmental education. He reflects on activities he had facilitated through a phenomenological analysis. Van Boeckel highlights artmaking in nature as a way of combatting "disconnection from nature" (p. 24). Despite van Boeckel includes in contemporary arts-based environmental education some of the same texts that are used in this mapping, he does not focus on the critical pedagogical orientations of art education or the overlapping of social justice and environmental challenges.

approach of the 1990s has been familiar to me since my art teacher education. Additionally, I have familiarised myself with EAE through collegial conversations, listening to conference presentations, teaching EAE-related courses to art teacher students at Aalto University, advising and examining Master's theses relating to the field, participating in editing a book on Finnish EAE in 2015-2016 (Suominen, 2016b), and through conducting interviews with visual art teachers on their conceptions of EAE. All these elements unavoidably influence the way and orientation in which I move around and perceive the terrain of EAE.

The methodological orienteering strategy metaphorically guides the mapping. I orienteer amongst the varying conceptualisations, theories, and described practices. The EAE terrain has been at least partly familiar to me from before, but orienteering up and down with the idea that there is no stable knowledge nor clear answers has enabled me to locate linkages, connections and tensions, and helped new insights to emerge. As I comprehend it, the field of EAE is diverse and multilayered, and constantly on the move. It is possible to create a momentary mapping of it in order to be able to "do the next thing" (Guttorm, Hohti, & Paakkari, 2015) in research and to share the journey with others.

Five emphasis areas of EAE

Dealing with environmental, ecological, and sustainability themes opens several entry points and possibilities for study in art education. Based on my research, I have summarised five common emphasis areas that are identifiable in the conceptualisations that I discuss in this research as EAE. The emphases overlap with one another and my attempt to present them in the following as separate is somewhat artificial, but hopefully makes it easier for the reader to recognise what kinds of aims and practices become foregrounded with each emphasis. However, some EAE approaches might focus on only one or two emphasis areas. It is also important to note that different EAE conceptualisations are not necessarily compatible with each other. For example, some approaches might underline the individual human as the focus of learning, and others take the community as the priority. Likewise, approaches underlining the importance of embodied and sensory nature experience might sometimes hold scant critical and political considerations.

Responsible materiality

The most practical step for "greening art education" (Inwood, 2008, 2010) is to concentrate on advancing the environmental friendliness and sustainability of the material dimension of art education. Some EAE scholars consider that ecological issues enter the art class rooms especially through the materials that are used (Inwood, 2010; P. G. Taylor, 1997).

There has been a clear change during the past two decades concerning the entrenchment of sustainable material practices in art education. The material dimensions of art education were discussed in many North American EAE texts in the 1990s as a new emerging theme (Blandy, Congdon, & Krug, 1998; Lankford, 1997; P. G. Taylor, 1997). There was a growing awareness that the tools and materials of art education, as well as the waste generated in art-making, are issues to be taken into consideration.

Nowadays, reducing the amount of waste and recycling are established practices in contemporary Finnish art teaching – at least in those contexts I am aware of via my own teaching experience and preliminary research. In Finnish art education the use of natural materials as well as found or recycled materials is these days customary – the rationale for this can be promoting of sustainable and responsible use of materials and/or scarcity of resources. Furthermore, the use of non-toxic materials,[11] conserving energy, considering the lifespans of artistic materials and their ethicality are ways of taking sustainability issues into account in art education practices. These material aspects are not necessarily the main focus of the teaching. Rather, they filter through along with other practical daily realities of art teaching. Then again, recent (international) EAE approaches have focused particularly on creative recycling practices and using waste and debris as the artistic material as initiatives towards a pedagogy of sustainability (Garnet, 2014; Hansen, 2009; Yeboah, Appau Asente, & Opoku-Asare, 2016).

The trends and changes in the art world have likewise had their impact on the material aspects of EAE. In Finland, artists using recycled materials in their art, such as Anu Tuominen and Kaarina Kaikkonen, had an influence on the development of EAE practices in the 1990s (Mantere,

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[11] In the field of visual arts many materials that are used in traditional forms of expression are environmentally harmful and include toxic ingredients. The increasing attention to occupational health and safety in art-related professions and art education, in sync with advancing environmental responsibility, has promoted developing non-toxic (or at least less harmful) alternatives to traditional materials e.g. in graphic arts, painting, and photography (Salonen, n.d.).

1995a). Likewise, the emergence of conceptual and environmental art with their temporal, vanishing, processual and immaterial practices resonated with the attempts to create art that is environmentally responsible in a material sense in EAE.

Advancing sensitivity to the environment

In the EAE literature, becoming receptive to sensory perceptions and embodied presence is often perceived as the basis for the development of personal environmental understanding and responsibility (Anderson & Suominen Guyas, 2012; Erzen, 2005; Iivanainen, 2001; Mantere, 1993, 1995; Pohjakallio, 2010; van Boeckel, 2007, 2009, 2013). The EAE approaches that are based on place-based theories (e.g. Gruenewald, 2003; Sobel, 2004; Tuan, 1977) can, for example, describe sense-knowing as a strategy to locate us in a place (Gradle, 2007). In arts-based environmental education, the sensitising of sense perceptions and openness to our own environmental experiences is seen as a possible method for advancing a sense of belonging and being in contact with the world (Mantere, 1995a; van Boeckel, 2007, 2013).

Supporting a holistic conception of the human and creating linkages between different kind of knowledge (sensory, emotional, affective, cognitive) is typical of art education in general (Eisner, 1985; Gardner, 1993; Räsänen, 2010; Sava, 1993), not solely of EAE.[12] Advancing sensory knowing and embodiment is, however, a clear emphasis in many EAE conceptualisations. Several EAE scholars agree that art-making can help in concentrating and tuning in to one's own embodied sensations (Anderson & Suominen Guyas, 2012; Iivanainen, 2001; Mantere, 2004; van Boeckel, 2007, 2009, 2013; Vasko, 2016).[13] These underpinnings often relate to the ways in which the human connection to nature/place/local environments is promoted through EAE practices. In other words: There seems to be a shared assumption among several EAE scholars that expects a linkage between increasing awareness of sensory-based embodiment and realisation of humans' interconnection with nature.

[12] Varto (2003) presents that making art forms a special relation with the world, a 'whole' world relation based on embodied existence and a sense of relationality compared to the 'thinned' world relation that is egocentric, instrumental and objectifying (pp. 64-67).

[13] According to Anderson & Suominen Guyas (2012) and Coutts & Jokela (2008) other possible activities (besides traditional artistic practices) that support embodied experience and sensory knowing include for example playing with sand and other materials, walking, and physical work.

I recognise two kinds of argument supporting this: The first is based on the idea that art practice is a special way of forming a relationship with the natural world/place based on embodiment, enhanced sensibility, and experience (Tereso, 2012; van Boeckel, 2013, 2015). This kind of relationship-forming is seen as deeper than that which the scientific-rational approach to nature is capable of offering (Song, 2012; Vasko, 2016; Weir, 2016). The other argument emphasises the similarities of art and nature, and a profound bond between these. Attending to both the art and natural worlds requires a certain aesthetic engagement and sensibility, according to Vasko (2016).

Particularly concerning children and young people, some place-based EAE practices encourage multisensory observations and the use of imagination. Direct environmental experiences and observations are seen to increase awareness of natural phenomena and to invite sensitivity, joy of discovery, sense of wonder, and amazement (Blandy & Hoffman, 1993; Häggström, 2020; Jokela, 1995; van Boeckel, 2007; Vasko, 2016).

Building and strengthening meanings, engagement, and communality

EAE approaches typically aim towards developing a personal, meaningful, and responsible environmental relation in, through, and with art. Artistic reflection and activities can be aimed at visualising better environments, objects, and alternative lifestyles, as well as exploring dark environment-related emotions (Hartikainen, 2013; Mantere, 1993, 1995). Similarly, personal environmental experiences and thoughts are communicated and shared with others and processed through artistic means.

Artistic meaning-making can likewise be directed at creating a personal relation to theoretical concepts or global phenomena that are abstract and difficult to grasp (Mantere, 1995; Randazzo & Lajevic, 2013). In this sense EAE aligns with one of the central goals of environmental and sustainability education: raising awareness of environmental and ecological concepts and developing ecological literacy. Concepts such as protection, conservation, preservation, or restoration might be relevant for EAE, but two ecological concepts are mentioned in EAE literature more often than others: interconnectedness (Blandy & Hoffman, 1993; Garoian, 2012; Randazzo & Lajevic, 2013; Weir, 2016) and interdependence (Anderson & Suominen Guyas, 2012; Birt, Krug, & Sheridan, 1997; Blandy & Hoffman, 1993; Inwood & Taylor, 2012; Jónsdóttir, 2017; Song, 2012). Inwood (2010) suggests that the engagement with these concepts

in EAE should be supported through creating sensory experiences and conceptualising them through artistic means.

Some art education scholars give priority to enhancing engagement, participation, and communality in EAE (Gradle, 2008; Hiltunen, 2009; Huhmarniemi, 2019; Jokela et al., 2015a). The communal orientation stands out especially in EAE conceptualisations that are informed and guided by situational and socially engaged art theories and social justice art education. This kind of community engagement aligns with the strong tradition in art education of working with and for local communities (Illeris, 2013; Lawton, 2019; Ulbricht, 2005). The foregrounding of the communality likewise highlights the social, collaborative, and dialogical aspects of learning (Anttila, 2017). The operational models for art education, such as arts-based action research methods, which have been developed at the University of Lapland in the Faculty of Art are a representative example of this kind of approach (Coutts & Jokela, 2008; Hiltunen, 2009, 2016; Jokela, 2015, 2016; Jokela et al., 2015a, 2015b).

Critical reflection

Critical attitudes towards existing, normative values, practices, beliefs, and habits permeate the majority of EAE conceptualisations. Subjects which should be critically reflected on are expressed in the EAE literature with varying emphases: Hicks (2012) encourages critical reflection on social and cultural practices in general, and Jónsdóttir (2015) promotes rethinking value systems and discovering ethical challenges in contemporary life. Graham (2007) sets the critical focus on disturbing standardised curriculum models and taken-for-granted assumptions of power. Finley (2011) advocates critiquing the colonising, dehumanising, and oppressive structures of daily life, in line with Bequette (2014), who urges countering underlying assumptions of power, legitimacy, and ethnocentrism. With a wider orientation, Illeris (2015) suggests seeing art and visual culture education as a driver of reflective and transformative thinking (p. 289). She recognises the potential of art education in exposing and discussing social and cultural ideologies, values, and worldviews underlying sustainable development discourses.

The critical orientation is also aimed at art and the field of art education itself. Garoian (1998) calls for discussing visual images, aesthetic assumptions, and anthropocentric metaphors in traditional Eurocentric landscape art and revising the anthropocentric assumptions of art education (see also Blandy & Hoffman, 1993; Iivanainen, 2001). Graham (2007) challenges art educators to promote cultural awareness

by studying local, outsider, and Indigenous artists instead of sticking to elite mainstream art. Illeris (2012), in turn, reminds art educators to keep a reflexive approach when inhabiting questions of environmental sustainability. She finds it important that epistemological and ideological complexities relating to sustainability issues are not reduced, and that art educators consciously avoid becoming dogmatic (ibid.).

Making change

The critical orientation in EAE-related literature appears to be inseparably linked with artistic/creative action and change-making. Mantere (1993) in the Finnish context underlines that developing critical awareness or plans for better environments are not alone sufficient goals for artistic environmental education. Students need to gain experience in how to act and influence the quality of one's local living environment through artistic means (Hartikainen, 2013; Mantere, 1993a, 1995a). North American art education scholars were also already highlighting the action-orientation of art education practices with respect to environmental concerns in the 1990s (Birt et al., 1997; Naperud, 1997). To my reading, Graham (2007a) sums up aptly the widely approved view: He considers art-making as a strategy "to make statements that influence social consciousness and advocate for change" (p. 384).

While Graham (2007a) draws from visual culture art education[14] (Darts, 2004; Freedman, 2003; Tavin, 2003), the mapping reveals a wide variety of approaches to change-making that seem to engage with different art education paradigms and strategies of contemporary environmental and eco-artists.[15] Some art education scholars aim at empowering and activating students/participants to take action "toward making the world a better place" (Stout, 2007, p. 331). This can materialise, for example, through teaching children how environmental planning in communities operates and taking part in planning processes that have an influence on local environments (Lindblad, 1995; Mantere, 1993a), or imagining and visualising alternative ecological futures (Bertling, 2013). Likewise, mobilising ecological restoration projects (Birt et al., 1997)

[14] According to Graham (2007a), visual culture art education "aims to develop students' ability to critically evaluate the images and artefacts of art and visual culture by considering issues of power, persuasion, privilege and politics" (p. 384).

[15] Weintraub (2012) offers one suggestion for organising and analysing environmental and eco-art related strategies in her book *To Life! Eco Art in Pursuit of a Sustainable Planet*, in which she presents instructing, intervening, visualising, activating, celebrating, perturbing, dramatizing, satirizing, and investigating art strategies.

or using the works of environmental and eco-artists as inspirational examples for developing artistic projects to improve the conditions of local environments (Bae, 2013; Inwood, 2010; Randazzo & Lajevic, 2013; Song, 2012) appear to be exemplary 'pro-environmental' art education practices.

Some scholars adopt more disruptive strategies that activate action through challenging normative structures and experimenting with alternatives. Disrupting the existing social, cultural, and visual formations can take place through artistic interventions (Illeris, 2012, 2015; Jónsdóttir, 2017), performative embodied actions such as performance (Finley, 2011; Weir, 2016), or catalysing new, affirmative communal festivals and other events (Blandy & Fenn, 2012; Humaloja, 2016). These and many other approaches that are presented in EAE-related texts can be read as micro-tactics and strategies, that "do not necessarily alter the macro structure, but if they are well conceived and organized they can positively impact on the welfare of a community" (Rekow, 2012, p. 306).

The more radical approach to change-making aims at renewing and transforming society and its core values. This kind of activist idea of change-making requires a profound change in how education at large is understood and organised, and is fuelled by critical pedagogies, visual culture art education, and social justice art education (Kallio-Tavin, 2015; Räsänen, 2008). Furthermore, the performative and dialogical environmental and community art methods sometimes applied in EAE, are often particularly seen as societal activism (Huhmarniemi, 2012; Jokela, 2016).

Reducing waste, recycling

Use of ecological, natural materials

Vanishing, immaterial, temporal art

Promoting a sense of belonging, reconnecting with nature

Tuning in to sensory perceptions and embodied presence

Increasing awareness of natural phenomena

Responsible materiality

Advancing sensitivity to the environment

Creating a personal relation to theoretical concepts and abstract phenomena

Promoting cultural awareness and sensitivity

Building and strenghtening meanings, engagement and communality

Critical reflection

Criticizing and making visible normative values, practices, habits, and beliefs

Enhancing participation and communality

Making change

Making/imagining alternative futures

Influencing local environments

Societal activism

Environmental planning

Processing and communicating personal meanings, experiences, emotions through artistic means
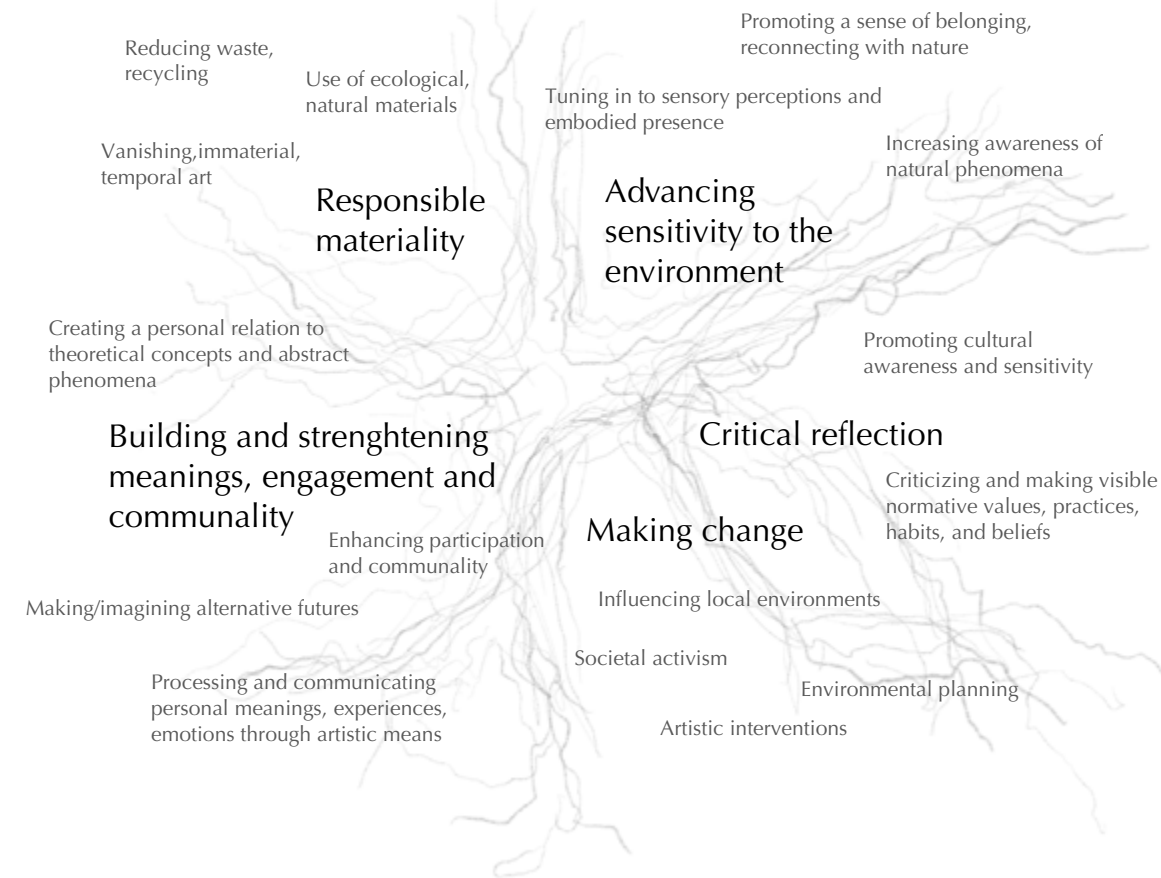
Artistic interventions

Figure 2: Visual mapping of the five emphasis areas of EAE.

Finnish environmental art education

EAE conceptualisations and practices sprout and gain their flavour from varying local art educations, cultural traditions, and special environmental characteristics. In Finland, the emphasis on environmental themes has since the 1960s and 1970s been a considerable thread in visual art teacher education[16] and art education (Mantere, 1992, 1995a; Pohjakallio, 2010; Ylirisku, 2016b).[17] Because of this, Finland-bound art education scholars often consider Finnish EAE to be a distinctive pioneer in merging environmental topics with art education (Anderson & Suominen Guyas, 2012; Mantere, 1992; Pohjakallio, 2010; Suominen, 2016a; van Boeckel, 2007, 2013; Varto, 2014).

In Finland, along with other Nordic countries, the culture in general is strongly based on the environment and close human-nature relations (Jokela, 2007). This in part probably explains the inbuilt environmental orientation of Finnish art education. Partly, I assume, the orientation stems from the educational policies of visual art teacher education. Finnish visual art teacher education was located originally in the school of industrial arts, Helsinki, and thus the applied arts such as architecture, graphic design, design, and aesthetics of the everyday still play a strong role beside the so-called fine art and art worlds (Pohjakallio, 2016; Pohjakallio et al., 2015).

Environmental and ecological themes are intertwined in art education in basic education on arts, in comprehensive school, in museums and other art institutions, as well as in nonformal education. Likewise, the sites and contexts of environmentally oriented art education practices and their focus of study have traditionally been wide in Finland. EAE has been practised in urban built environments, industrial areas, remote villages, gardens, parks, school yards, as well as in culturally historically relevant locations and more 'untamed' natural environments, such as rivers, seas, islands, and natural parks (Humaloja, 2016; Mantere, 1995a; Suominen, 2016b).

Professor emerita Pirkko Pohjakallio, one of the central figures in developing the environmental emphasis of Finnish art teacher education, has described how the focus of EAE may vary due to the interests of the individual art teacher. The art pedagogical practices of a polemical environmental activist teacher (see image A on the following page) differ from an art teacher who is more drawn to visual culture, design, and architecture (image B). EAE also takes different forms when the teacher aims at fostering students' personal environmental relations and sensitising their sense perceptions (image C), or primarily adopts the strategies of environmental artists and studies environmental phenomena through art (image D).[18]

The rich tradition

Finnish art education of the 1960s and 1970s was marked by societal activism and cultural criticism (Pohjakallio, 2005). The interest in integrating environmental and ecological topics into art education at the time appeared as part of a paradigm shift away from, "on one hand the child centred, self-expressionist approach, and on the other the formalist, modernist approach" (Pohjakallio, 2010, p. 73). The increasing worry over the state of the environment was typically dealt in art education with polarising visual analysis methods (Pohjakallio, 2008; Ylirisku, 2016b) – often with a declarative and educating tone. Later, the approach to environmental issues in art education of this time has been described as a pedagogy of "screaming images" due to their societally critical orientation (Pohjakallio, 2016).

The critical orientation to environmental topics turned in the early 1980s towards pedagogies that stressed a personal, sensory approach to the environment and experiential learning (Pohjakallio, 2008, 2016; Ylirisku, 2016b). Instead of analysing the environment, environmental educational endeavours in art education built on lived, subjective environmental relation (ibid.). New forms of contemporary art, such as performance, conceptual, and environmental art,

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[16] Visual art teachers have been educated in Finland since 1915. First, they were only educated in Helsinki at a school that called Taideteollisuuskoulu 1915-1965, the Academy of Industrial Arts 1965-1973, the University of Industrial Arts and Design 1973-2010, and Aalto University School of Arts, Design and Architecture since 2010. In 1990 a programme educating visual art teachers was established at the University of Lapland, Rovaniemi (Pohjakallio et al., 2015). At present all art teachers in Finland graduate from these two universities.

[17] As early as in the early 20th century, environmental protection merged with the protection of local cultural traditions and landscapes in the visual art education of the time, following the spirit of romantic nationalism (Pohjakallio, 2016; Pohjakallio et al., 2015).

[18] Pohjakallio has discussed different approaches to environmental pedagogy in art education in her lectures by introducing four different art teacher stereotypes. These stereotypes were also utilised in an exhibition at the InSEA European Congress 2010 in Rovaniemi, Lapland, to demonstrate different forms of arts-based environmental education.

Image 1(A-D): Images of the face-in-the-hole boards at the InSEA European Congress in 2010. Image A upper left, B upper right, C bottom left, D bottom right. (Photos: Mari von Boehm)

offered inspiration for developing new kinds of environmental educational practices (Jokela, 1995; Mantere, 1992; Pohjakallio, 2008; Räsänen, 1990). Moreover, gestalt therapy, eco-philosophies (especially Deep ecology), environmental aesthetics, and environmental psychology had an impact on the development of new forms of artistically oriented environmental education (Mantere, 1993a, 1995a; Pohjakallio, 2008, 2010, 2016). In the early 1990s, this approach became known as arts-based environmental education (Mantere, 1995a).

Right from its beginning in the late 1980s, arts-based environmental education aimed at promoting environmental understanding through sensitising skills of environmental perception, and expressing environmental experiences through art[19] (Mantere, 1993a, 1995a; Pohjakallio, 2008; Vira, 2004). Furthermore, it strived to create new meanings, creative visions, and actions towards more sustainable lifestyles (ibid.). Arts-based environmental education offered an open and flexible approach for studying and rendering human-nature and nature-culture relations. The scope of the potential topics ranged from dealing with personal environmental fears to the study of everyday practices (such as food), and from organising empowering communal art events to sustainable design education, and further all the way to romantic back-to-nature approaches.[20]

The recent emphasis and trends of Finnish EAE are not as clearly describable as the previous 'stages'. In the first decades of the 21st century, critical visual culture pedagogy has gained ground in Finnish art education, and aiming for societal responsibility and social justice is in the process of becoming an integral part of art education (Kallio-Tavin, 2015; Suominen, 2015a, 2016a; Suominen & Pusa, 2018). As I discussed earlier, it seems that Finnish EAE has during recent decades constantly taken new shapes, and could be characterised as diverse and eclectic (Ylirisku, 2016b). Variations of arts-based environmental education are being developed further (Häggström, 2020; van Boeckel, 2009, 2013), and new forms of activist art and art education are being promoted (Foster, 2017; Huhmarniemi, 2012, 2016;

[19] Pohjakallio (2008, 2010) describes that the artistic ways of knowing foregrounds creative experimentation, play, multisensory engagement, and the use of the imagination.

[20] Some arts-based environmental education practices have later been criticised for over-stressing individualistic views and individual experience (Pohjakallio, 2010).

Image 2: School children observing an installation called The Past made of recycled materials in their school yard in Tehtaankatu, Helsinki in 1990. Art education students from University of Industrial Arts and Design facilitated an art workshop at the school. (Photo: Pirkko Pohjakallio)

Härkönen, 2019; Stöckell, 2016; Suominen, 2015b, 2018). I also relate many experimental practices combining ecological/environmental thinking, arts and sciences, for example using bioart as a platform (Berger, Mäki-Reinikka, O'Reilly, & Sederholm, 2020a; Sederholm, 2015), to the field of contemporary EAE.

Concepts of EAE at the University of Lapland

Since only two universities in Finland qualify visual art teachers, the influence of these institutions on both research and teacher education is remarkable. The early tradition of Finnish EAE was strongly bound to the University of Industrial Arts and Design, Helsinki (Aalto University from 2010). Lately, plenty of research, publications, projects, exhibitions, and events with a clear environ-

mental orientation have also been produced in the other university educating visual art teachers, the University of Lapland, Rovaniemi. The approach to art education that has been developed in the visual art teacher education programme there since its establishment in 1990 (Hiltunen, Jokela, & Härkönen, 2015) is an interesting example of a concept where EAE no longer actually appears as a subfield of art education, but to my mind instead informs and reorients the conceptions of the role of the whole of art education.

At the University of Lapland, the connections of communities and environments in the North are taken as the basis for developing a culturally sensitive approach to art education that supports sustainable development and decolonialisation (Jokela, 2016; Jokela et al., 2015a). The faculty and students have developed working methods drawing from place-specific and community-based contemporary art, and established project studies where art educators collaborate in multisectoral and multidisciplinary projects with local players in culture and arts, economic life, and the welfare/social sector. Practices of working through art with the world outside the institutional educational contexts are nowadays called YTY activities (Yhteisö – Community, Taide – Art, Ympäristö – Environment) at the University of Lapland (Jokela, 2015, 2016).

Distinctive contemporary art practices of the North (in relation to YTY activities and the communal-environmental orientation to art education) include in particular the forms of winter art: snow and ice sculpting and winter events utilising the performative, dialogical, and process-based strategies of contemporary art (Coutts & Jokela, 2008; Hiltunen, 2009; Jokela, 2015, 2016; Jokela et al., 2015a, 2015b). Furthermore, a research method called arts-based action research has been developed together with YTY activities to support the development of art education research (Jokela, 2016; Jokela et al., 2015a; Jokela et al., 2015b). In arts-based action research, as the name suggests, critical action research methods are incorporated into community-based and environmental art activities (Jokela et al., 2015a). Furthermore, the Faculty of Art and Design at the University of Lapland has advanced international circumpolar Arctic collaboration through the ASAD network[21] to meet the specific needs and challenges of the cultures and environments of the North.

[21] The Arctic Sustainable Arts and Design network is a thematic network consisting of 26 circumpolar universities and art and design institutes form eight circumpolar countries concentrating in Northern Europe (Jokela & Coutts, 2014).

Environmental orientation in Finnish art education school curricula

The national core curriculum in Finland offers a framework for compiling local curricula at the municipal and school levels. The regularly reformed core curriculum outlines the common aims and value basis of education as well as the objectives and core contents of each school subject (New National Core Curriculum for Basic Education: focus on school culture and integrative approach, 2016). The core curriculum serves as both an administrative guiding document and a tool for teachers to develop their pedagogical thinking and practices, thus offering means for enabling educational change (Vitikka, Krokfors, & Hurmerinta, 2012).

The environmental engagement of Finnish art education had already materialised in the art education curriculum almost 50 years ago (Kuvaamataito: POPS-opas, täydennysosa, 1976). In the first core curriculum steering, the school reform that established new public schools for all children in the 1970s, environmental education was set as one topic area of art education (Pohjakallio, 2005, 2010). Environmental education through art education aimed to "build democracy and prepare for the related forms of citizenship by empowering everybody to learn to take care of the ecological and cultural environment" (Pohjakallio, 2010, p. 70). Later, the environmental orientation has been articulated in core curricula with different emphases and conceptual approaches. The 1994 core curriculum raised environmental aesthetics as one thematic component of the art curriculum (Pohjakallio, 2010), and the 2004 core curriculum emphasised appreciation of multiculturalism, while maintaining environmental aesthetics as a topic area in art education (Peruso-petuksen opetussuunnitelman perusteet, 2004).

The recent National Core Curriculum for Basic Education 2014 stresses even more emphatically than the previous one the necessity for sustainable lifestyles (National Core Curriculum for Basic Education, 2014). This shines through in the articulation of transversal competence areas[22] and the value basis of the core curriculum.

[22] The seven transversal competence areas in the core curriculum are: 1) Thinking and learning to learn, 2) Cultural competence, interaction, and self-expression, 3) Taking care of oneself and managing daily life, 4) Multiliteracy, 5) ICT competence, 6) Working life competence and 7) Participation, involvement, and building a sustainable future (National Core Curriculum for Basic Education 2014, 2016). Kallio-Tavin (2018) explains that transversal competence refers to an entity consisting of knowledge, skills, values, attitudes, and will. The need for developing transversal competences arises from changes in the surrounding world.

The objectives of visual art education have been divided into: 1) visual perception and thinking, 2) visual production, 3) interpretation of visual culture, and 4) aesthetic, ecological, and ethical values (ibid.). Each of these objectives intersects with the transversal competence areas, and to my reading, EAE-related practices can be connected to all of them. EAE relates most closely to the fourth, value- and justice-oriented, objective and thus intertwines with architecture, design, environmental planning and environment-related studies, as well as the study of diverse visual and material cultures. The values and pedagogical vision that the core curriculum is building on present pedagogical thinking that is already familiar in EAE: interdisciplinary approaches (phenomenon-based learning, subject integration), pedagogical activities linking the school realm to local communities and environments, and driving values emphasising democracy, cultural diversity, and the creation of sustainable futures (National Core Curriculum for Basic Education, 2014).

Image 3: A familiar environmental art exercise with children: a mandala made of found natural materials. (Photo: courtesy of the author)

The pedagogies, arts and environments in EAE

After mapping the typical emphasis areas of EAE and contextualising the Finnish approaches with their historical development, I will continue the mapping by delving deeper into the theoretical-philosophical groundings of EAE. First, I head towards outlining the larger shapes of the terrain that are distinctive to EAE. For a start, I explore the commonly applied pedagogical frameworks and conceptions of art that inform EAE approaches. Then, I elaborate on what kind of environmental ethical premises and views of the environment, nature, and human-nature relations are recognisable in EAE conceptualisations. Lastly, I discuss on one hand the findings that appear workable and generative for future EAE, and on the other hand, through critical analysis point to the limitations and problematics arising from the philosophical-theoretical groundings of certain EAE conceptualisations.

Shared pedagogical approaches

While mapping eco-art education ten years ago, Inwood (2008) noticed that despite the varying theoretical groundings, art education scholars recommended pedagogies that are alike: transformative, experiential, place-based, community-based, interdisciplinary, dialogic, and ideologically aware. After familiarising myself with more recent EAE literature, I would add critical pedagogy (specifically mentioned in Bequette, 2014; Bertling, 2013; Blandy, 2011; Blandy & Fenn, 2012; Finley, 2011; Hicks, 2012) to Inwood's list.

To me, EAE altogether appears to be motivated by radical educational thinking[23] aiming at change. The focus of change can be explored through different dimensions:[24] It can be directed at advocating personal (paradigm) change and increasing awareness (Anderson & Suominen Guyas, 2012; van Boeckel, 2007, 2009, 2013; Vasko, 2016) or at examining local environmental and socio-cultural features and challenges (e.g. Bequette, 2007, 2014; Bertling, 2013; Gradle, 2008; Graham, 2007a;

[23] Radical education aims at increasing equality, democracy, and justice, and thus promotes societal change (Suoranta, 2005, pp. 9-10). Suoranta (2005) describes radical education as participatory learning that can be discussed through concepts of practices of freedom, critical consciousness, empowerment, and dialogue (ibid., p. 20).

[24] Following the division of the emancipatory dimensions of radical education by Suoranta (2005).

Huhmarniemi, 2012; Jokela et al., 2015a, 2015b). The widest dimension of this change refers to larger societal and global challenges beyond the individual self, how awareness of these can be advanced, and what can be done in order to change them. The personal and local scales stand out in the EAE literature but are linked with awareness of larger contexts, for example through the topic of water (Cornelius et al., 2010; De Sousa Vianna & De Aragao, 2012; jagodzinski, 2007). These wider dimensions are approached, for example, by directing EAE to increase awareness of ecological problems (Randazzo & Lajevic, 2013) or human impact on the planet (Hasio & Crane, 2014). The character of the pursued change in EAE literature is articulated varyingly in different conceptualisations: as emancipatory (e.g. Finley, 2011; Garoian, 2012), revolutionary (Finley, 2011), reconstructive (Anderson & Suominen Guyas, 2012), or transformative (e.g. Bequette, 2014; Graham, 2007a; Illeris, 2012; Jónsdóttir, 2015).

Most of the place-based pedagogical frames in the mapped conceptualisations, especially the North American ones, appear to build on two sources: the seminal text "Toward an Art Education of Place" by Blandy & Hoffman (1993) drawing from environmental philosophy and bioregionalism, and Graham's (2007a) article locating art education in a critical place-based pedagogy. Following this genealogy, the critical and place-based pedagogical aspects intersect in EAE (see Bequette, 2014; Bertling, 2013; Blandy et al., 1998; Finley, 2011; Gradle, 2007, 2008; Hansen, 2009; Lai & Ball, 2002). The Finnish approaches stressing the centrality of place in environmental (and communal) education through arts (Huhmarniemi, 2019; Humaloja, 2016; Jokela & Hiltunen, 2014), compared to the North American ones, seem to emphasise more the connection to place-specific and place-based arts when articulating the theoretical basis of their approach.

The topics of art education with a place-based pedagogical framework can relate, for example, to studying specific local ecological characteristics (Hansen, 2009) or native ecological lore (Bequette, 2007). Furthermore, they might work with decorating a yard in the neighbourhood (Lai & Ball, 2002), or providing cultural counter-narratives through quality multicultural picture books (Reisberg, 2008). The place-based art education in the Finnish North highlights the culturally sensitive approach to the diversity of local cultural traditions and aims at promoting psycho-social well-being in local communities (Jokela & Hiltunen, 2014).

Conceptions of arts in EAE

Since art education has an integral connection to art, the changing emphasis and trends in the art world and art theories have had a significant influence on the ways in which EAE has been conceptualised. Two major phenomena are recognisable relating to the emergence of EAE: the turn from a modernist conception of art towards a postmodern one during the last decades of the 20th century (see Milbrandt, 1998), and the rise of environmental and ecological art since the 1960s.

Based on the mapping, Suzi Gablik's book *The Reenchantment of Art* (1991) seems to have offered a seminal art theoretical basis for several EAE conceptualisations. Gablik (1991, 1995) argued for connecting art to everyday experiences and for art to be used as an agent of social change. She proposed a new connective aesthetics for art based on "the inter-relational, ecological and process character of the world" (1991, p. 163) instead of the old "Cartesian and Kantian aesthetic traditions, based on autonomy and mastery" (ibid., p. 163).

Environmental and eco-art (sometimes also interrelatedly called land or earth art) has offered art educators inspiration to develop art education practices by applying the strategies and methods typical of these artists (Inwood, 2008; Jokela, 1995, 2016; Mantere, 1995a). The early environmental art in the 1960s and 1970s was typically focused on utilising the physical qualities of the environment as sculptural material (Johansson, 2005; Kastner & Wallis, 2005). However, more intimate, embodied and sensory artistic approaches to perceiving the environment and leaving only respectful, subtle marks of human presence appeared more inviting for educational purposes.[25] Jokela (1995) writes of environmental art practices as suitable methods for developing environmental sensitivity, for example through exercises that make visible the processes of nature: growth, decay, changes in the weather and light. Making small-scale environmental art pieces out of natural materials by collecting, sorting, and re-arranging them is a 'classic' Finnish arts-based environmental education exercise with children.

Some art education scholars suggest introducing eco- and environmental artists as inspiring examples of how to contribute to local environments and communities through the means of art (Hicks & King, 2007; Inwood, 2008; Randazzo & Lajevic, 2013). Graham (2007b) states that eco-artists see "artmaking as a social practice that can promote community reconstruction, help define communal self, and develop

[25] The works of the artists Andy Goldsworthy and Richard Long often come up as examples in this connection (Anderson & Suominen Guyas, 2012; Graham, 2007a; Humaloja, 2016; Jokela, 1995; Jónsdóttir, 2017; Weir, 2016).
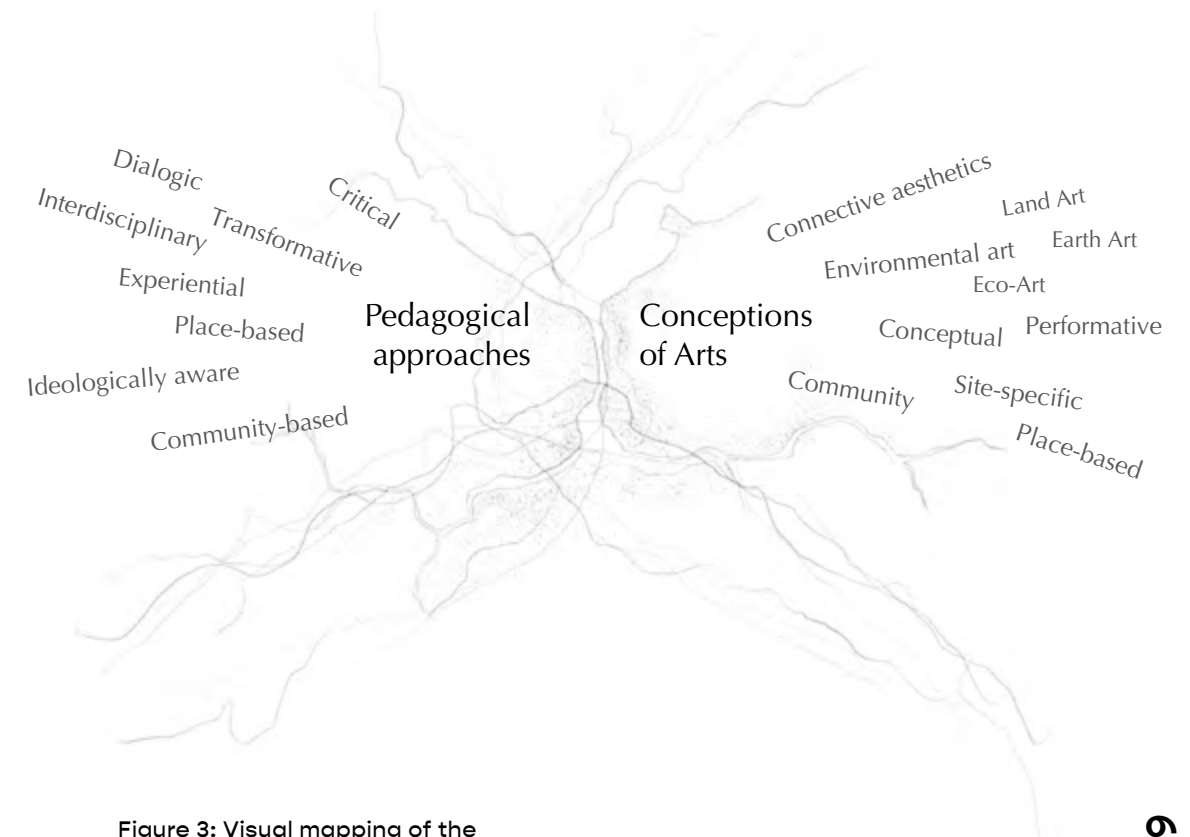
Figure 3: Visual mapping of the pedagogical approaches and conceptions of arts in EAE.

ecological responsibility" (p. 380). He argues that involving students in this kind of art and art practice connects education to a meaningful local, real-life context (ibid.).

In general, art and art-making (along with pedagogies) are considered in the mapped literature as potential vehicles for social change. However, there are varying approaches to how the other aspects of art and art-making are understood. Some scholars articulate art as exploration, enquiry, experience, and communication (Anderson & Suominen Guyas, 2012), some as a medium of expression (Huhmarniemi, 2012), some as a voice of dissent (Finley, 2011), and some as therapeutic self-expression (Tereso, 2012).

On the grounds of the forceful word choices in the mapped texts, art educators seem to be convinced of the generative possibilities of arts for promoting diverse aims. In the mapped texts, arts are believed to entail power to persuade, to create doubt, consciousness, and a

new global perspective (Tereso, 2012), and also to open humans to previously unknown or articulated modes of being, understanding, and experiencing (Anderson & Suominen Guyas, 2012). Further, arts are seen as having the potential to challenge habits of conventional thinking (Graham, 2007b), create and discover the kinship that exists amongst all living beings (Erzen, 2005), bring about general changes in attitude (Jónsdóttir, 2015), and communicate ideas, call attention to problems, and actively preserve, restore, and make whole (Hicks & King, 2007).

Conceptions of environment, nature and human-nature relations in EAE

Mapping the pedagogical and artistic frames of EAE conceptualisations reveals so far only hints of the environmental philosophical and ethical thinking they are promoting. Nonetheless, this aspect of the theoretical-philosophical groundings of EAE appears significant with respect to amplifying the preliminary research question concerning the human relationship with nature at this precarious time.

In most cases, the environmental suppositions in EAE literature appear to be implicit: they filter through the concepts that are used, from the value basis of the pedagogical-theoretical approach, as well as from the tone in which nature and the environment discussed, valued, and positioned. Often in the EAE conceptualisations the aesthetic, ecological, and ethical dimensions appear to be knitted together as hybrid collages. In order to be able to grasp what kind of environmental thinking drives EAE, I focus more closely on mapping and analysing the environmental ethical stances that are recognisable in the texts. I attend to the use of the concepts of environment and nature, and then orienteer further by tracing the driving presumptions about the human-nature relationship in EAE approaches.

Environmental ethical affiliations of EAE

What connects different EAE conceptualisations is the criticising of and attempts to unpack the exploitative, utilitarian human-nature relation based on anthropocentric environmental ethics. Anthropocentric environmental ethics is often explained as a structure where humans consider themselves as separate and above the rest of nature, and morally justified to subjugate and take advantage of nature as a resource for serving human interests and needs (Kjellberg, 1995; Nurmio, 2000; Oksanen, 2012). Most Western philosophies and monotheistic religions are based

on a human-centred way of instrumentalising nature, and their impact on Western human-nature relations is pervasive (Oksanen, 2012). To be more precise, the anthropocentric human-nature relation appears as a subject-object relation with a hierarchy that materialises, for example, in seeing nonhuman beings (earth, animal, vegetal others) in terms of what they are worth for human use and benefit[26] (Lupinacci & Happel-Parkins, 2016; Martusewicz et al., 2015). A belief in technological development and a trust that humans are capable of fixing environmental problems with the help of technology and human rationality are also typical of anthropocentric environmental ethics (Kjellberg, 1995; Vilkka, 1993).

Anthropocentric environmental ethics should not, however, be considered as a single, bulk category to be polarised with non-anthropocentrism (Kronlid & Öhman, 2013). Avoiding dichotomisation between these categories enables a plurality to be recognised, with varying views on morals and values in human-nature, nature-culture and human-nonhuman relations in EAE approaches. Next, I will elaborate three different kinds of environmental ethical views that are identifiable in EAE literature.

Traditional nature protection and environmentalism are often based on humanistic environmental ethics, which also has an anthropocentric basis, even though with a milder orientation (Vilkka, 1993). Based on this 'stewardship ethics', which can be described as enlightened self-interest, the good of the world is linked with the good of the human. In other words, nature needs to be respected and protected since it is significant for human well-being (Nurmio, 2000; Vilkka, 1993). Humanist environmental ethics aims at finding a balance between the aims and needs of humans and nature and guides towards responsible use of natural resources and treating nonhuman animals with care and dignity (ibid.). While keeping humans and human rights (as well as social justice) in the focus, humanist environmental ethics supports an appreciative and respectful attitude to nature and embraces the beauty of nature (Pietarinen, 1992).

Views on human-nature relations drawing from humanistic stewardship ethics have seemed to guide many North American writings pondering the relations of ecology and art, especially in the 1990s (Lankford, 1997; Stankiewicz & Krug, 1997; P. G. Taylor, 1997). The editorial of the special issue of the *Art Education* journal from 1997 pondering the relations of ecology and art education offers a representative example: the dominating and instrumentalising environmental

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[26] Some scholars call hierarchical anthropocentrism speciesism or human chauvinism (Kopnina, Washington, et al., 2018).

relation of the earlier art education should now be replaced with an idea of human stewardship, meaning human care for nature (Stankiewicz & Krug, 1997). Lankford (1997), in turn, in the same issue presents how art education can promote ecological stewardship. Ecological stewardship for him means awareness, caring, and effort-making in order to seek balance between the dominating environmental use and restoration and preservation of the planet (ibid.).

The orientation of humanist environmental ethics is present in some recent EAE articles. The discourse comes to the fore in articles that emphasise human capability and ownership. They might speak of "helping the planet and improving its future condition" (Randazzo & Lajevic, 2013, p. 39) or of conservation that is based on an ethical responsibility to save 'our' planet (Hasio & Crane, 2014, p. 36). Another echo of humanist environmental ethics percolates from the inbuilt humanist-anthropocentric orientation of international policy documents such as UNESCO's Education for Sustainable Development Goals (UNESCO, 2017) and UNESCO Road Map for Arts Education (UNESCO, 2006). EAE conceptualisations validating their approach via such policy documents carry forward their humanist environmental ethical orientation (see e.g. Jónsdóttir, 2015, 2017).

The more radical move away from anthropocentric environmental ethics is often called ecocentrism or biocentrism.[27] Both eco- and biocentrism consider nature to have intrinsic and inherent value, and support the idea that all forms of life are as valuable and should be treated with similar respect (Nurmio, 2000). Land ethics, developed by Aldo Leopold, is a well-known representative of ecocentric environmental ethics. Leopold presented the idea that the human belongs to nature and is a part of its wholeness (Leopold, 1949). Another well-known ecocentric approach is Arne Naess's Deep ecology (Naess, 1973, 1989).[28] Naess's philosophy can be acknowledged as significant for EAE since it has inspired several EAE conceptualisations over the years (e.g. Anderson & Suominen Guyas, 2012; Mantere, 1995; van Boeckel, 2007, 2009). EAE

approaches influenced by deep ecology seek to contribute to developing a (deep ecological) awareness of belonging to a larger web of life. Deep ecology also offers a philosophical base for criticising consumptive Western lifestyles and the exploitation of nature. Deep ecologically oriented EAE approaches promote, for example, identifying with the natural world (van Boeckel, 2007, p. 134) and establishing a balanced relationship with nature (Anderson & Suominen Guyas, 2012, p. 230).

Furthermore, influences of ecofeminist environmental ethics are recognisable in some EAE conceptualisations (Anderson & Suominen Guyas, 2012; Finley, 2011; Foster, 2017; Inwood, 2008; Suominen, 2015a). The influences appear particularly on the ways in which developing senses of care, love, and empathy in relation to nonhuman nature (and also towards diverse humans) are underlined. Furthermore, EAE approaches drawing from ecofeminism usually stress the interconnectedness of social justice issues, such as gender, ethnicity, poverty, and environmental exploitation.[29] [30]

Views on the concepts of environment and nature in EAE

Since tracing the environmental ethical affiliations of EAE approaches does not sufficiently open up the environmental suppositions of EAE, I approach the EAE terrain through a slightly different route by focusing on the central concepts. The concepts *environment* and *nature* are often interrelated in EAE, but the concept of environment tends to be understood as being wider than nature. The customary view of the concept of environment consists of the immediate surroundings, and encompass both built and natural environments (Vilkka, 1993). The concept of nature on the other hand usually refers to natural

[27] The main difference between ecocentric and biocentric approaches is that ecocentrism values intrinsically both living and nonliving (abiotic) beings in ecosystems and biocentrism prioritises the living things (Cairoli, 2018; Differences Between Ecocentric & Biocentric Philosophies, 2016).

[28] Deep ecology aims for ecological self-realisation and a paradigm shift towards an ecological world view that emphasises the togetherness of humans and nature. Deep ecology considers all life to have intrinsic value and embraces diversity of life. It is based on values of respect, care, and empathy, and seeks to combine deep experience and deep questioning with a commitment to action for more ecological/sustainable lifestyles. (Harding, n.d.).

[29] Ecofeminist environmental ethics focuses on critically analysing how modern Western culture creates and assigns binary concepts that are linked with hierarchical logics of domination. Drawing from Plumwood (1993, 2002), Foster (2017) sums up that ecofeminism underlines the interconnectedness of the domination of nature and oppression of women. It further encourages recognising connections "between the derogation of certain human bodies, and mistreatment of environmental bodies, including other animals" (Neimanis, 2017, p. 9), thus widening the gender-related focus to critical theories of race, colonialism, disability, anthropocentrism, and others.

[30] Despite there being diverse other eco-theorists and environmental ethics scholars mentioned in the mapped EAE literature, the most clearly recognisable background philosophies relate to the above-mentioned deep ecology and ecofeminism. With respect to the development of Finnish arts-based environmental education, the importance of eco-theorists such as Henryk Skolimovski, Viktor Papanek and Steve Van Matre is highlighted (Pohjakallio, 2010, 2016).

environments (in as natural state as is possible), and is aligned with the responsibility for protecting nature (ibid.).

In Finnish approaches, here used as an example, concepts from different fields are drawn together to justify the critique of environment as separate from the human: as something outside us, surrounding humans and their culture, and as an object to be observed from a distance. Phenomenological conceptions of the environment from, for example, environmental psychology, ethics, aesthetics,[31] and cultural geography, have been applied to stress the place-like characteristics of the environment as lived and experienced (Hiltunen, 2009; Jokela, 2016; Mantere, 1995a). Readings of environmental art have offered compatible views of the meanings of the environment (Johansson, 2005; Jokela, 1995). The environment is, according to the phenomenological view, a personal milieu situated in both place and time, created through experiences and actions. This approach further underlines a close reciprocity between the place and the human (Forss, 2007). The broadest approach to the concept of environment also covers the cultural, societal, and communal aspects. Environmental politics and environmental justice are emphasised when the environment is understood as a site of exercising societal power (Jokela, 2016).

Discussion of the concept of nature in EAE approaches seems to be more complex. Some conceptualisations attach EAE primarily to education of/in nature (Tereso, 2012; van Boeckel, 2007, 2013, 2015; Vasko, 2016; Weir, 2016). These approaches seek to promote deep engagement and a sense of connection with the natural world, and are often the same ones that emphasise embodied, sensory being in a place. Next, I will attend more closely to this thematic.

Spiritual-holistic orientations to human-nature relations in EAE

Many EAE approaches underlining the interconnectedness of human and nature seem to be influenced by a kind of spiritual-holistic orientation. This term is not maybe the most apt, but I find it more fitting than, for example, using only 'spiritualism' or 'holism' separately, since these dimensions are often interwoven.

The spiritual orientation in the context of EAE can be seen as an implicit supposition that considers nature to be sacred, to have intrinsic

[31] A certain theorist who could be raised in this connection is Arnold Berleant. The influence of Berleant's environmental ethics is mentioned by both Mantere (1995b), and Pohjakallio (2010). Berleant also inspires the practice of Erzen (2005) in the Turkish context.

value, and thus to be worthy of respectful care (based on B. Taylor, 2010, p. ix). According to Bron Taylor (2010), who has studied the present-day forms of green spirituality, spirituality involves one's deepest moral values and most profound religious experiences, and can also be thought to be about personal growth (p. 3). Personal growth in this sense means gaining an understanding of one's place in the cosmos that intertwines with environmental concern and action (ibid.).[32]

As in green spirituality (B. Taylor, 2010, p. 13), there are ingredients and influences in many EAE conceptualisations that draw from a wide range of sources to articulate the kinship felt with the rest of life, and the ideas of interconnectedness and mutual interdependence. Some adopt the personal philosophies of environmental artists to their pedagogy, some employ secular concepts from ecology, and some draw from Indigenous epistemologies, Buddhism, nature mysticism, or Deep ecological philosophy. Remnants of old pre-Christian Finno-Ugric nature spirituality is visible in some Finnish EAE approaches. The sacredness of the forest, folklore characters, rituals, and other cultural-historical elements might offer themes that resonate with a deep, respectful, and modest relationship with nature (Jokela, 2007; Kovalainen & Seppo, 2006; Mehto, 2002; van Boeckel, 2007).

As a representative example of how a spiritual-holistic approach to nature can stand out in EAE literature, I present Hollis (1997), who is concerned how the people of the late 20th century have lost "the awareness of our symbiotic relationship with the Earth" (p. 21). Hollis wishes to enlarge the boundaries of art teaching to investigate the ways

[32] Bron Taylor (2010) offers two main types of present-day green spirituality. I find these helpful for recognising different tones in the spiritualities backing EAEs. The first type for Taylor is *animism*. Contemporary animism refers to perceptions that "natural entities, forces, and nonhuman life-forms have one of the following: a soul or a vital lifeforce or spirit, personhood (an affective life and personal intuitions), and consciousness" (p. 15). Spiritual animism is based on beliefs that there is some immaterial and supernaturalistic dimension in the way in which spiritual intelligences animate natural things. Naturalistic animism that is agnostic or sceptical to immaterial dimensions underlying the natural forces would speak of lifeforces.

The second type of green spirituality for Taylor is *Gaian Earth Religion*. This type of approach is marked by the understanding that the whole biosphere, be it called the universe or cosmos, is alive or conscious. Taylor describes Gaian Spirituality as forms of belief that are supernaturalistic and consider the biosphere or the whole divine universe to have consciousness – be it an expression or part of God, Brahman, or the Great Mystery. This approach is based on pantheistic and holistic metaphysics and is open to New Age interpretations. On the other hand is the Gaian Naturalism that is sceptical to supernaturalistic metaphysics. It includes a disbelief that there is a spiritual world parallel to the Earth that animates living beings or the Earth itself. According to Taylor, there is here, however, a sense of kinship and ethical concern for nonhuman life.

humans interact with nature in order to promote a spiritual and positive "reconnecting to nature" (p. 24).

It is however important to note that holism in connection to EAE can carry several meanings. Holism can be considered as a general idea of human being as a complex, embodied whole (e.g. Anttila, 2017), or as an orientation to education that aims at cultivating and balancing the moral, emotional, physical, social, and psychological dimensions of the individual (Campbell, 2011).[33] The particular elements of holistic education that resonate with EAE are spirituality and the principle of interconnectedness. Spirituality in holistic education is clearly separated from religious connotations. If religions typically provide answers to existential questions and frameworks for social life, spirituality in holistic education is understood as a search for the ultimate meanings and purpose of life (Campbell, 2011). Holistic education likewise encourages asking existential questions, allowing for multiple perspectives to be voiced (p. 19). In this sense, becoming aware of one's spirituality means becoming aware of one's profound interconnectedness with others. This is further understood as a route towards personal transformation and social change (ibid.).

A significant discourse in EAE that I relate to the spiritual-holistic orientation shares the concern that people, especially children, are disconnected and alienated from nature. EAE scholars talk especially of overcoming the estrangement that students feel from the natural world (Gradle, 2008; van Boeckel, 2013) or restoring a balanced relationship with nature (Anderson & Suominen Guyas, 2012; Gradle, 2008; Vasko, 2016). Many EAE approaches sharing this concern (e.g. Finley, 2011; Gradle, 2007, 2008; van Boeckel, 2007, 2009, 2013, 2015; Vasko, 2016; Weir, 2016; York, 2014) have been inspired by the Child in Nature movement through the influence of writers such as Richard Louv (and his influential book *Last Child in the Woods* from 2005) and David Sobel. Typical of this discourse are arguments that children have an innate connection to nature and suffer if they lack engagement with the natural world in their everyday lives. The believed impact on children's health and well-being if they lack nature experiences is called *nature deficit disorder* by Louv (2005)

[33] Finnish art education research also underlines holism – especially in order to be able to articulate the relevance of emotions, imagination, senses, embodiment, and intuition in learning (Anttila, 2017). The philosopher Lauri Rauhala, who has articulated a holistic conception of human beings based on existential phenomenology, and emphasises corporeality, consciousness, and situationality as modes of human existence (Rauhala, 2005), has had a significant impact on the development of these views.
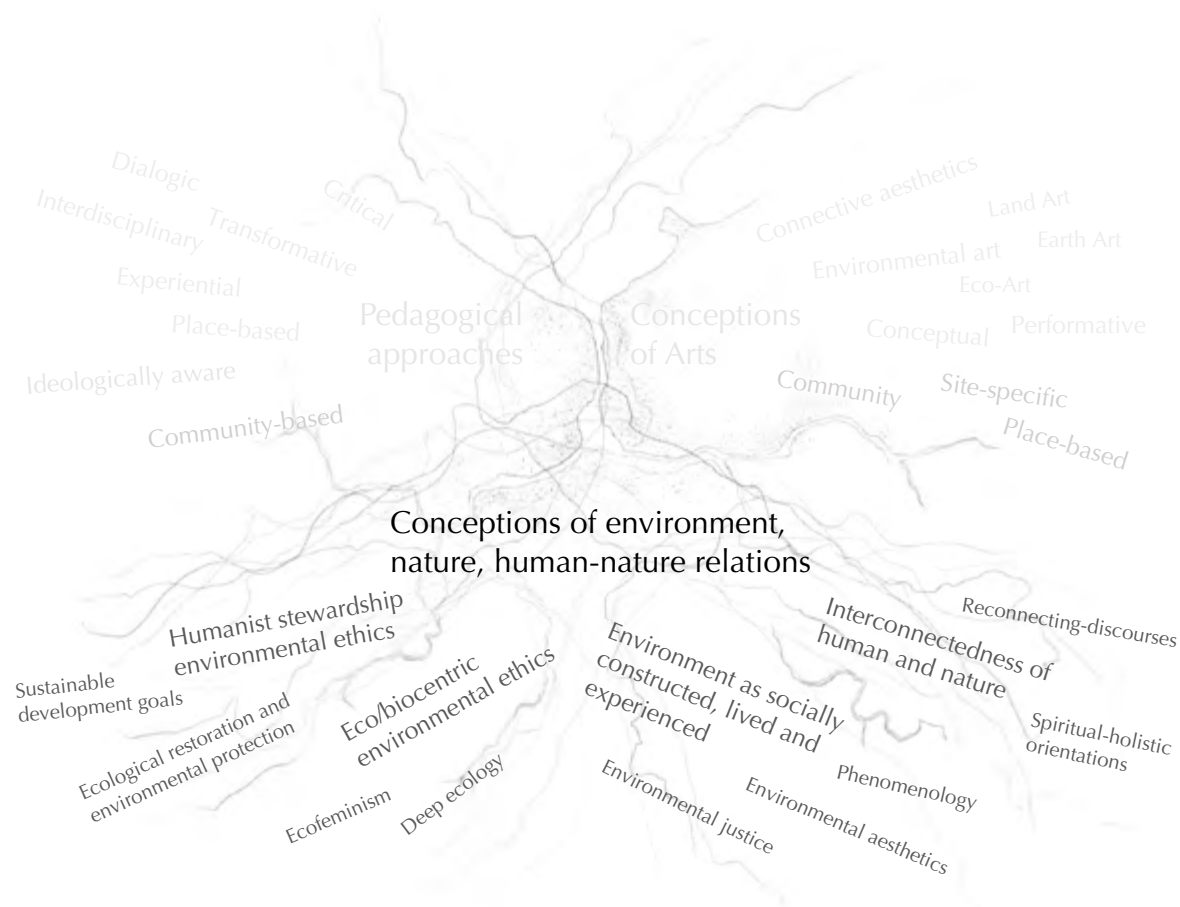
Figure 4: Visual mapping of the conceptions of environment, nature, and human-nature relations in EAE.

Potentials and limitations of EAE

Orienteering up and down the EAE terrain with varying themes and interests strengthens the impression of the diversity of art education approaches gathered under the umbrella concept of EAE. However, the general features of the field are becoming clearer to grasp through the mapping, and allow connections and shared theoretical genealogies to be traced. I acknowledge that certain approaches are so unique and differ from all others (e.g. Slivka, 2012) that they remained unaddressed in the mapping. Nevertheless, I now move forward to discuss what can be concluded based on the mapping. I briefly attend to the unfolding elements and strategies that appear to have particular potential when thinking of the responses of EAE to the current state of the planet. I will however more thoroughly concentrate on the surfacing problematics in the philosophical-theoretical groundings of certain EAE approaches. Through attending to these problematics, I aim at revealing the limitations and gaps of the existing approaches that call for further rethinking.

In many respects, EAE conceptualisations and practices of the previous decades should be appreciated as important pioneering work in exploring new societally active and responsible roles for art and art education. In addition, the endeavours towards inter- and transdisciplinary collaboration (see the introduction to EAE in the first chapter) concerning environmental, ecological and eco-social issues have provided experimental openings. I consider specifically arts integration and collaboration between arts and natural sciences (art & sci) as workable methods that enable the exploration of complex phenomena (as contemporary ecological and social issues typically are) with a pedagogical orientation (see e.g. Bequette, 2014; Huhmarniemi, 2012, 2016; Pohjakallio, 2008; Randazzo & Lajevic, 2013; Tereso, 2012; Weir, 2016). As Pohjakallio (2008) notes, transcending the traditional disciplinary boundaries is a necessity at this time.

The mapping of EAE conceptualisations has clarified to me the core phenomena that EAE seeks to criticise: EAE aims at challenging the Western dominating and instrumentalising human-nature relations. EAE points to problematics of dominating human-nature relations as well as seeking to solve the challenges arising from the foundational human-nature, nature-culture, subject-object, mind-body, etc., dualisms. The following examples drawn from the mapped literature present the wide array of strategies and viewpoints of how these problematics have been approached in EAE:

- sensitising sensory and embodied dimensions of knowing and being in order to learn to perceive in new, more aware, and subtle ways (contributing to personal pro-environmental change as the goal)
- promoting a sense of connection with places/nature/environments through artistic means (generating meaningful experiences in order to advance informed, caring, responsible environmental relations)
- supporting engagement, participation, and communality in local communities and environments, making/imagining alternative futures (supporting sustainable development, eco-social justice, democracy)
- criticising and making visible destructive cultural habits, practices, and values (critical visual culture art education, art as activism)
- integrating art and science in order to be able to create a multifaceted understanding of and creative responses to environmental problems (art + science, arts integration, etc.)

Many of the previous strategies are workable as they are, and I do not intend to disparage the significant work EAE scholars and practitioners have done. However, when exploring the presumptions that the varying EAE conceptualisations carry along with them, I have recognised some tensions and problematics. What struck me while mapping was the realisation that EAE seems to be struggling with the same challenges as Western environmentalism as a whole. As Moore (2017) points out: "Green Thought has always pointed beyond the dualism of Nature and Society. Just as often, it has been captive to the binary it challenges" (p. 599).

Let me explain my point: As a whole, the genealogy of EAE is building on a humanist tradition. It celebrates humanist ideals such as democracy, justice, and human rights. It trusts the power of education to civilise humans to become better humans (with the help of other humans). There is much good and valuable in humanisms, and I do not intend to claim that humanisms should be abandoned altogether. I agree with Braidotti (2013), who reminds us: "[Humanism] has promoted solidarity, community-bonding, social justice and principles of equality" (p. 29). Furthermore, humanism has for long advanced respect for science and culture, against the authority of religious texts and dogma (ibid.). Braidotti further highlights that humanism "also contains an adventurous element, a

curiosity-driven yearning for discovery and project-oriented approach that is extremely valuable in its pragmatism" (ibid.).

However, as several critics have argued, humanism as a Western cultural intellectual enterprise is ultimately anthropocentric and entails internalised normative hierarchical dualisms that centre only particular humans and categorically separate nature from culture and humans from nature (Braidotti, 2013; Martusewicz et al., 2015; C. A. Taylor, 2016). Therefore, humanism problematically encourages egocentrism through underlining individualism, breeds domination through embracing self-determination, and further, generates epistemic injustice and violence towards the others that are not counted as humans (Braidotti, 2013). This means a tensed and contradictory position for EAE: it tries to criticise and overcome anthropocentrism and problematic dualisms with means and frames that are also anthropocentric and caught within the dualisms they are trying to undo.

Based on the mapping, two basic main philosophical-theoretical strands are identifiable in the genealogy of EAE relating to what is seen as the direction away from destructive and dominating anthropocentric human-nature relations: aiming for *becoming less human-centred* or *becoming more connected and/or ecocentric*. Both strands suggest a move from a separate, subject-object based conception of nature/environment towards an understanding of nature/place/environment that is socially constructed, lived and experienced. In the following I elaborate these directions in order to be able to present their main challenges.

Becoming less anthropocentric?

The first strand in the genealogy of EAE basically suggests combatting environmental problems and eco-social injustice through teaching people to become less anthropocentric. I attach EAE conceptualisations founded on the sustainable development discourse and promoting humanist stewardship environmental ethics to this strand. As a universal human emancipation project, these efforts are, however, linked with valuable and timely pedagogical aims, such as promoting solidarity, equality, social justice, and cultural diversity.

The problem with the aim of reducing the amount of anthropocentrism is that the human exceptionalist assumptions remain unchallenged. Even though the connectedness of social and environmental issues (and injustices relating to these) are acknowledged and nature is respected, appreciated, and protected more, the exceptional human remains at the

centre and superior to others. The human is believed to have exceptional capacities both to destroy and alter, and to protect and save, the natural environments (A. Taylor, 2017). Thus, consciously or not, these pedagogies reassert the division between culture and nature. Nature appears as 'out there', pristine and untouched, in need of human protection. Further, this premise encourages bifurcating humans into bad and good – nature spoilers and protectors (ibid.).

I illuminate this with a few examples:

A brief review of the EAE conceptualisations in North American art education journals in the 1990s[34] indicate well the complexity of reducing anthropocentrism: Underlining the idea of human interconnectedness with nature is clear in the texts. There are important considerations of the relationships of art and everyday life and the social and ecological responsibility of art education, and the dominating environmental relationship in the Western art tradition is questioned. Between the lines of the articles it is however possible to read an anthropocentric pedagogical presumption: the students become more aware of environmental problems with the help of teaching. Greater awareness is expected to empower students to protect, improve and reconstruct local environments and solve environmental problems. Humans (participants of EAE practices) in the texts are considered to be active, developing, autonomous (co-operative and community-oriented) agents. There is a growing sense of how the environmental devastation will negatively affect human lives, but the nature/environment remains in essence as something apart from the human despite the increasing talk of interconnectedness. The idea of interconnectedness seems to remain a symbolic ideal, and humans are promoted as environmental stewards.

Thus, a significant challenge to the 'becoming less anthropocentric' orientation is that the idea of individual, independent human subjectivity[35] remains unchallenged. The majority of EAE texts (especially

[34] This partial review is based on the following articles: Birt et al., 1997; Blandy et al., 1998; Blandy & Hoffman, 1993; Garoian, 1998; Hollis, 1997; Lankford, 1997; Naperud, 1997; Stankiewicz & Krug, 1997; P. G. Taylor, 1997; Ulbricht, 1998.

[35] As the philosopher Juha Varto claims (from an anti-humanist perspective), the humanist conception of the human subject as independent, and fixed is ethically problematic: if what is experienced is interpreted always from the human point of view, the human will form a lifeworld for themself that will function according to their own rules (Varto, 2011). The human subject becomes a totality that tries to be the measure of all things (ibid.). This kind of relation to the world creates an ontological distance from other beings and, further, generates a controlling and exploiting orientation towards others. Other beings appear as resources, objects, for the subject to consume (Bryant, 2011; Lummaa, 2014).

those from the 1990s and early 2000s) emanate from the ethos of the developing individual human: Even though participants in EAE activities will understand better the interconnectedness of all things, and be awoken to respect the environment/nature, they would still remain improving individuals: the autonomous, ontologically separate human. Acknowledging conceptions of human subjectivity is however crucial for rethinking human-nature relations, as I will elaborate later in the chapter.

Furthermore, the anthropocentric stewardship position does not allow the conception of community to be widened to include nonhuman animal, vegetal and earth others. There are suggestions to widen the conception of the community beyond the human realm in EAE literature (e.g. Blandy & Hoffman, 1993), but the attempts that I have been able to find still maintain an anthropocentric framework. Bae's (2013) instructional resources about saving dolphins and whales (aimed at teaching students how to use art to educate others and stand up for a cause), seems to be the only direct take on nonhuman animals. Bae´s text supports animal rights and environmental protection but does not explore in depth the structures of Western human-animal relations. Typically, in my EAE-related visual memory the images of nonhuman animals, especially symbolic, endangered species or species that have a special cultural-historical relevance for a group of people (e.g. polar bears, elephants, tigers, and other large mammals), are most often placed in the same category as the rest of 'nature': to be protected and to be cared for.[36]

Human-vegetal relations seem to be missing, as well. The vegetation *is* there, in metaphors like "singing grass" (Birt et al., 1997) or "talking vines" (Gradle, 2008). But the approach still seems to be that vegetation as part of nature is an object of study. The intention is to learn *about* something (be it plants, rocks, spiders, or chickens), but not in a way that would question the centrality of the human position – even though the study would be done in embodied, sensory, imaginative, narrative ways.

To me, the 'humane' effort of the previous examples to protect and learn of the animal and plant world tell of a will to make a change in attitudes, but at the same time, they tell of an incapability to combat

anthropocentric and closely related speciesist[37] assumptions through the existing frameworks. Thus, the dividing lines between the categories of human/culture, and nature/nonhuman remain. On the whole, it seems that the humanist stewardship EAE frames might promote moves towards challenging the nature-culture divide, but do not quite make it.

One further topic exemplifying the 'less-anthropocentric' strand of EAE genealogy that I lastly want to point out relates to the discussions concerning responsible materiality. Despite the rising critical awareness of the unsustainable mechanisms of a throwaway consumption culture, operational cultures, especially in schools and other institutional educational contexts, might change slowly (see e.g. Saloranta, 2017 on the implementation of sustainable development education in Finnish schools). Ideas relating to making art from recycled materials or sorting waste as the responses of art education to sustainability challenges might still pop up in different occasions in general discussions of Finnish art education (Kuvista -Facebook group, n.d.). There is no doubt that responsible material practices are needed to reduce environmental loading and combat consumerist culture. But if these practices are framed as 'greening' solutions in their own right, they appear very problematic in this planetary situation.[38]

Becoming more connected and ecocentric?

The other strand of EAE that I focus on in this analysis seeks to promote more holistic/connected and ecocentric understandings as a direction away from destructive and dominating anthropocentric human-nature relations. I count under this strand conceptualisations that draw from Deep ecology, place-based, and phenomenological theories, and further,

[37] Speciesism is sometimes also called hierarchical anthropocentrism. Speciesism refers to discrimination on the grounds of belonging to a certain species (Westerlaken, 2018). The Western humanist tradition inherently separates humans from animals and ties individual human value to the human species (Kallio-Tavin, 2020a; Shapiro, 1990; Tuomivaara, 2015). Speciesism is closely intertwined with other Western dominant dualist assumptions. Furthermore, it promotes giving more value to nonhuman animal species that are useful for humans (e.g. as companion species) and appreciating more the species that share human-like characteristics (Root-Bernstein et al., 2013; Speciesism, n.d.).

[38] I see that the use of recycled materials and sorting waste in art classes might serve as first stages for education-related sustainability action, but it should be underlined that in their own right they do not serve as solutions and are not capable of generating the profound cultural changes needed in the current planetary emergency.

[36] Not long ago, I witnessed an art exhibition in my local library, where climate change concerns of children (and maybe their teacher?) were portrayed with a series of paintings presenting starving and concerned-looking polar bears on tiny ice floes.

from varying spiritual-holistic orientations emphasising the interconnectedness of human and nature.

These moves can be considered as radical breakaways from anthropocentric human-nature relations. Unfortunately, neither of these frameworks seem to be capable of offering safe routes beyond anthropocentrism and human-nature and nature-culture dualisms. I discuss in the following the limitations and challenges of this theoretical strand.

Towards a broadening ecological self-awareness through Deep ecology

Arne Naess's vision of the ecocentric Deep ecological philosophy with its emphasis on experiences of relationships has had an impact on many EAE conceptualisations over the years, as I discussed earlier in relation to the environmental ethical premises of EAE. Deep ecology has however been criticised for its internal contradictions. Even though Naess's (1989) ecosophical approach aims for holism and living in harmony with nature, it is based, according to Braidotti (2013), on a social constructivist dualistic method. "This means that it opposes the earth to industrialization, nature to culture, the environment to society and comes down firmly on the side of the natural order" (pp. 84-85), she clarifies. Deep ecology does offer a perspective critical of consumerism and individualism, but is also technophobic and reinstates the divide between the natural realm and the manufactured (ibid.).

What troubles me about Deep ecology is that it appears to be a project of developing the individual human self: a project of ecological self-realisation aiming at harmony and joy that is further expected to promote caring commitments towards both humans and nonhumans. Thus, the humanism-bound idea of an autonomous, self-fulfilling subjectivity looms behind the well-meaning intention of expanding the sense of self and learning to understand better the networks of ecological relationships. In addition, I am puzzled by the kind of vision of the life on the planet deep ecology embraces. The ideals of coexistence and nature as harmonious do not match with my conception of the state of the world today. As discussed in the introduction, blasted landscapes, circulation of toxins and drug ingredients, microplastic pollution, mass extinction of species, hazardous weather patterns, to name a few phenomena, do not appear to be a 'nature' that you would want to connect yourself to with joy and seeking for harmony. I agree with Braidotti (2013) and Malone (2017) who claim that deep ecology appears to be a potentially regressive,

romantic movement that humanises the environment and becomes "a well-meaning form of anthropomorphic normativity being applied to non-human planetary agents" (Braidotti, 2013, p. 85).

(Re)connecting -discourses

What is shared in EAE with humanism-bound place-based and phenomenological theories and with the varying spiritual-holistic orientations are the attempts to improve the human-nature relations by drawing humans closer to nature/place/their lived environments (whatever the favoured concept). Despite the differing theoretical frames and emphases, these EAE approaches agree that artistic practices based on embodied and sensory experiences in a place/natural world/local environment are beneficial for developing a better environmental awareness and sense of connectedness. These are further believed to generate awe, appreciation, responsible actions, and caring attachments. The special contribution of arts and artistic practices are often seen in the potential of art to reach the human emotions and to offer ways of forming new understanding through artistic activities.

The reconnecting discourse appears problematic for several reasons. Many of the problems might arise from a lack of critical thinking in the search for environmental sensitivity and restoring, empowering nature experiences. The key issue, however, is that the reconnecting discourse presents the human-nature relationship as an issue of distance or as a connection that is lost (Malone, 2015; Rautio, 2013a; Rautio et al., 2017). If proximity to nature is portrayed as a question of learning, or articulated in a way that suggests that it would be possible to be connected or disconnected from nature, the underlying implication supports the conception that humans are not a part of nature (Malone, 2015, 2016b; Rautio, 2013a; Rautio et al., 2017). Thus, the reconnecting discourse in EAE, especially in the approaches drawing from the Child in Nature movement, is in danger of reasserting the human-nature divide and the anthropocentric default – despite the contrary intentions.[39]

Furthermore, EAE approaches that seek to bring humans closer to nature might sustain conceptions of place that hold on to anthropocentric and universalising premises and are based on ideas of stability (Malone, 2016a). These approaches also typically embrace individual

[39] Malone (2016) also criticises the Child in Nature movement for idealising childhood as White, middle-class, male, and heterosexual, thus leaving the diversity of childhoods unacknowledged.

human-place/nature/environment relationships and human agency in forming these relationships.

Another challenge of this strand of EAE is that it might present the idea of nature as narrow and one-sided. Partly this relates to the previously mentioned Child in Nature movement: Nature is conceptualised as the 'the outdoors', the natural and not human-made (Malone, 2015). Thus, as Rautio et al. (2017) point out, especially children and young people growing up in urban environments and therefore lacking connections to 'nature' can appear to be victims or patients who need to be rescued and cured. However, it is not so easy to point out whether this kind of orientation has an impact on EAE practices. EAE conceptualisations have typically promoted attending to different kinds of environments – but the ethos of valuing natural environments above built ones still comes to the fore in some approaches, as noted previously (e.g. Tereso, 2012; van Boeckel, 2007, 2015, 2013; Vasko, 2016; Weir, 2016).

More importantly, the holistic-spiritual discourses supporting (re-)connecting with nature run the risk of idealising nature. jagodzinski (2013) attaches the spiritual-holistic orientations in art and art education to postmodern forms of Romanticism. Longing for a holistic harmony, balance and restoration is according to him typical of this kind of approach, as it would be possible to return to a lost time where mind and body were at one with nature (ibid.). This approach fuels one-sidedly ideas of the enchantment of nature as positive and magical. Thus, art-making in this discourse appears healing and unifying: "a perfect vehicle for recovering our lost sense of unity with Nature" (London, 2003, back cover). Expressions of this can be found in the EAE literature from comments stating that harmony, balance, and beauty are shared features of nature and art (Tereso, 2012; Weir, 2016). The idea of nature thus appears as a romantic space of antimodernity (Tsing, 2015, p. 5). EAE influenced by romantic spiritual-holism and seeking for reconnection might readily leave out the uncanniness, monstrous and destructive dimensions of nature.

jagodzinski (2013) speculates, for a reason, if the rising interest in spiritualism and holism are sprouting from the anxiety and melancholia that living in the midst of ecological crises arouses. Attempts to combat the negative impacts of an increasingly technologically mediated world and accelerating urbanisation (and further, dystopian fears of the future) might spin into technology-opposition and nurturing positive and harmonious nature experiences as a comforting remedy. This, in turn, is problematic because it easily smooths away the existing, historically

embedded, power relations and injustices, and generates visions of a pan-humanistic future (Braidotti, 2013).

Kopnina et al. (2018) argue that romanticising and idealising environmental educational strategies relating to nature appear as "moves to innocence", where "everything is connected" type of axioms are deployed, but their serious implications are dismissed. In this light, much of the reconnecting with nature discourse appears to be promoting an elitist perspective offering "therapeutic escape from the reputed ills of industrial civilization" (p. 3). It seems that the narratives idealising reconnecting are incapable of acknowledging the current state of the world as it is: increasingly hybridised, contaminated, and precarious.[40] Not all encounters with the natural world are exclusively restoring, healthy, and beautiful (Malone, 2016). Furthermore, it makes no sense to separate humans from other-than-humans, nature from culture, cities from wilderness, since hyperobject-like[41] (Morton, 2010, 2013) phenomena such as climate change, ocean acidification, and biodiversity loss affect all the living organisms on the planet (Duhn et al., 2017).

Lastly, I wish to note that no matter what the pedagogical strategy or theoretical frame is, EAE does not always turn out to be actualised in the form of transformative and effective pedagogical events as intended. EAE practices can materialise as lightweight fiddling for many reasons, be it the willingness to focus only on beautiful and positive experiences, structural limitations (limited/fragmented teaching hours, or separate, discontinuous projects), or lack of teacher's know-how. I know this sounds harsh, but based even on my own teaching experience, I see that the transformative potentials of EAE can be watered down to serve decorative functions or support creative self-expression narratives, or be limited to perception/observation exercises that are nonpolitical and neutral on the face of it. It might be tempting to draw back to exercises and practices that fit the given limits, make small adjustments and give the sense of action – but do not question the problematic structures and relations. Furthermore, the Finnish teaching profession has historically been characterised by ideals of neutrality and reservedness (Fornaciari

[40] As Elizabet Kolbert (2016) outlines, there is no untouched nature left on the planet.

[41] Morton (2013) calls "things that are massively distributed in time and space relative to humans" (p. 1) hyperobjects. Hyperobjects such as climate change and nuclear radiation are not fully graspable by human knowledge because "they defeat the traditional ideas of what a thing is in the first place" (back cover).

& Männistö, 2015; Räisänen, 2014), and this traditional societal role undoubtedly has an impact on art teachers who work in institutional educational contexts.

Conclusions of the mapping

According to the comprehensive mapping, the tradition of EAE offers a variety of propositions and strategies for bridging the gaps between human and nature, nature and culture, and human and nonhuman. EAE approaches have additionally contributed in many ways to the creation of environmental awareness and more sustainable lifestyles through, in, and with arts. However, the presumptions of the applied humanist frameworks are problematically caught within anthropocentrism and based on binary logics.

It would be appealing to say that in the current predicament, *all* pro-environmental and pro-sustainability initiatives are welcome and that attention should not be paid to pondering which approach is better than others. However, despite the good and important ambitions, enthusiasm and passion for making the world a better place, the guiding theoretical-philosophical groundings of EAE should be critically examined and thought through anew. Environmental protection, recycling, and other humanist stewardship discourses can contribute to making adjustments to existing societal structures and worldviews, but do not offer means for radically rethinking human subjectivity and relations in ways that question human exceptionalism. It seems, based on the mapping, that the ecocentric, holistic and spiritual responses are not capable of offering a theoretical base for EAE beyond the binary oppositions.

Further, the mapping highlighted that some EAE approaches run the risk of idealising and romanticising nature by only embracing the connection to nature as positive and restorative. The idealising orientation might also fall into the trap of considering human-nature relations as nonpolitical and separate from social justice issues, and thus issues of power and exclusion. This kind of conception of the relationship of human and nature appears inadequate and even problematically regressive and bifurcating, particularly with respect to the ecological crisis we are living through. On the whole, EAE (according to the mapping) goes some distance towards a critique of the nature/culture binary, but not far enough.

Through the mapping it becomes clear to me that new theoretical frames are needed for EAE that allow our relations with other beings/things to be reframed and reoriented and anthropocentric and binary assumptions to be challenged.

Posthumanism as a possible theoretical frame for EAE

The conclusions of the mapping appear to me as a call for an *ontological* reorientation of EAE. Ontology involves the study of the nature of being, but more importantly allows "the underlying beliefs about existence that shape out everyday relationships to ourselves, to others, and to the world" (Coole & Frost, 2010, p. 5) to be pointed out. What kinds of ontology would allow us to think beyond categorical and hierarchical binary divides, and particularly contest the exceptionalism of humans?

The limitations of the humanist views of the human and humanism-driven binary understanding of relations and difference have been criticised by several scholars. Some of them have already had an impact on the development of EAE. To me, the fast-growing posthumanist scholarship appears the most promising current alternative for offering theoretical groundings for future EAE. Posthumanism agitates a radical existential reorientation that, if followed all the way down the rabbit hole, has far-reaching implications for educational philosophy, conceptions of human-nature relations, and further, for arts and art education (both research and practice). Posthumanist ontologies refuse the categorical divides between human, nature, and culture, and throw into doubt conceptions of humans as "rational, self-aware, free and self-moving agents" (Coole & Frost, 2010, p. 8), as portrayed by Western modern philosophy. Most importantly, posthumanist theories "have the direct task of decentering the human" (Malone, 2015).

I consider a significant strength of posthumanist thinking with respect to EAE to be its commitment to reach beyond critical juxtapositions by adopting a creative, experimental approach (Braidotti, 2017a; Braidotti & Hlavajova, 2018). Posthumanism is driven forward by transdisciplinary endeavours that support the "parallelism of science, philosophy and the arts" (Braidotti & Hlavajova, 2018, p. 10). This opens fruitful possibilities for arts (and art education) to take part in "experimenting with new ways of thinking that exceed the determination of existing categories" (p. 11).

Posthumanist scholarship has during recent years evolved in a lively way. There are numerous potentially suitable theoretical threads and genealogical branches that might offer frames for reorienting EAE. This is why I first want to draw a general overview of posthumanism so the reader can grasp the outlines of the multifaceted field. Then, in the last section of the chapter, I turn my attention to introducing the features and challenges that the posthumanist ontological and epistemological reconfigurations have set in motion in educational philosophy and art education research.

What is posthumanism?

In contemporary academic and arts debate, the term 'posthuman' seems to encompass in an all-inclusive way the heterogeneous attempts and calls for redefining the notion of the human in the precarious 21st century. The generic use of the concept, however, leaves space for methodological and theoretical perplexity and misunderstandings (Ferrando, 2013). The term 'posthumanism' can be considered an umbrella term (Ferrando, 2013), a navigational tool (Braidotti, 2013), or a working title (Snaza & Weaver, 2015), connecting different movements and perspectives coming genealogically from a wide range of sources and academic disciplines.

The history and foundations of posthumanist thinking are rooted in the natural sciences and psychoanalysis of the late 19th century, the continental philosophy of the 20th century, the cybernetics of the 1940s, and the environmentalism of the 1970s (Braidotti, 2013, 2017a; Lummaa & Rojola, 2015). Since the 1990s, posthumanist thinking has undergone lively development and there are different interdisciplinary hubs in literature, cultural, new media, environmental, science, and technology studies, as well as in critical animal, feminist, queer, and postcolonial studies[42] (Braidotti, 2013; Braidotti & Hlavajova, 2018; Lummaa & Rojola, 2014). During the previous decade, the discussion has also spread into education and childhood studies to shake the foundations of Western education (Snaza & Weaver, 2015, p. 1). Some scholars even suggest talking of the Posthuman turn (Ferrando, 2013).

The posthumanisms can be comprehended "as a field of inquiry and experimentation that is triggered by the convergence of post-humanism on the one hand and post-anthropocentrism on the other" (Braidotti & Hlavajova, 2018, p. 1). These two main traditions come from different roots and do not follow from each other, but are now interacting in expanding posthuman scholarship (Braidotti, 2017a).

The first main root of posthumanism, **post-humanism**, focuses on critiquing the humanist universal ideal of the human, 'Man', and is literally 'post' to the legacy of humanism (Braidotti & Hlavajova, 2018). Even though humanism as the source of Western thought is not inherently negative, it is regulatory and creates a normative status for what humans should be. The Eurocentric and humanistic dialectics of self and the other function as binary logics and constitute power relationships (Braidotti, 2013). This means the notion of 'difference' is considered as inferior and negative in relation to the favoured. Reason is superior to emotion, the mind is superior to the body, and the same logic applies to dualistic pairs like male/female, White/Black, hetero/gay, civilised/savage, able/disabled, and active/passive (ibid.; Martusewicz et al., 2015). Thus, post-humanist critique focuses on the tradition of humanism as instrumental to practices of exclusion, discrimination, and violence (Braidotti, 2013; Braidotti & Hlavajova, 2018). Feminism, race, postcolonial studies, and other studies of differences and power have pointed out that in the Western humanist tradition only a specific type of human was (and is) considered proper: male, White, Western, heterosexual and physically able (Ferrando, 2014). The 'others' who are left out from being privileged as fully human fall under the category of the *nonhuman*. Critical markers that block access to 'full humanity' from sections of human populations include gender, sexual difference, race, ethnicity, class, education, health and able-bodiedness. Furthermore, the nonhuman includes vegetable, animal and earth species, and nowadays even technologically manufactured (human-made) things and gadgets (Braidotti & Hlavajova, 2018). The structural exclusion of the nonhuman and the inhumane, violent practices in social and geopolitical relations are analysed and concerns raised, and alternative responses are raised by post-humanist researchers and artists (ibid.).

Post-anthropocentrism, the other main root of posthumanist thought, criticises the human superiority and species hierarchy (Braidotti & Hlavajova, 2018). Besides deconstructing human exceptionalism and decentring the human species, post-anthropocentrism refuses categorical differences between human and other forms of life. This fundamental shift in perspective encourages advancing different materialist and process-oriented ontologies (ibid.). This

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[42] C. A. Taylor (2016) lists comprehensively what kind of theories, approaches, concepts and practices can be considered as posthumanist: animal studies, new material feminism, affect theory, process philosophy, assemblage theory, queer theory, speculative realism, thing theory, actor network theory, the nonhuman, the new empiricism, posthuman disability studies, object-oriented ontology, alien phenomenology, ecological relationality, and decolonial and indigenous theories (p. 6).

In some references that I use further in the research, new materialism is used as a key concept instead of posthumanism. In this research, I however approach new materialism as a specific branch within the posthumanist theoretical movement (Ferrando, 2013). New materialist theories typically foreground materiality (Bennett, 2010; Coole & Frost, 2010; Dolphijn & van der Tuin, 2012) and think "more-than-anthropocentrically" (Truman, 2019).

move also motivates the interrelations of nature-culture and human-nonhuman to be redefined.

Lummaa & Rojola (2015) consider posthumanisms as a reaction and response to the experience and growing awareness of how the grand Western humanistic-rationalistic project has both failed and succeeded over all expectations (see also Wolfe, 2010). The Western humanist tendency of prioritising the needs of the human race and elevating oneself above other beings has produced contradictory outcomes: high technology and well-being, as well as destruction and substantial problems (ibid.). Thus, in addition to critical thinking, posthumanisms address the complex and contradictory experiences of affective belonging that living in the fast-changing and precarious conditions (aligned with global capitalism) evoke.

It is, however, important to note that (most) posthumanist theories should not be considered a rejection of humanism. Rather, they point to the limitations of humanist thought and seek to move beyond/away from critical, opposing positions towards a future-ori-entation and new possibilities (Coole & Frost, 2010; Pedersen, 2010; Snaza & Weaver, 2015).[43] Ferrando (2013) argues that posthumanism "provides a suitable way of departure to think in relational and multilayered ways, expanding the focus to the non-human realm in post-dualistic, post-hierarchical modes, thus allowing one to envision post-human futures which will radically stretch the boundaries of human imagination" (p. 30).

On the whole, posthumanism has unfolded foremost as a Western intellectual project. Finding ways to theoretically gain a justified position for the present and the future while acknowledging the past remains a challenge for posthumanism. Flattening ontologies, such as in the Object Oriented Ontology (OOO) movement (as presented by philosophers such as Ian Bogost, Graham Harman, and Timothy Morton) might offer ways of thinking about the existence of beings/things radically differently,[44] but as Braidotti (2016) reminds us, even though we are in the planetary crisis together, this awareness should not obscure the power differentials that sustain the collective 'we',

[43] Pedersen (2010) notes: "The concept posthumanism does not only refer to yet another form of chronological progression or historical moment (i.e. the 'end of humanism', or what comes 'after humanism'), but addresses fundamental ontological and epistemological questions relating to the problematic project of defining an essential 'human nature'" (p. 242).

[44] Object-oriented ontology argues for flattening the ontological relations of objects as equal (Alaimo, 2014; Wilde, 2020). OOO metaphysics considers reality as nonhierarchical and irreducible: "Everything which exists does so on an equal footing" (Wilde, 2020).

us humans (p. 36). There is a risk that questions of power relations and politics will be obscured if posthumanisms are not intersected with decolonial,[45] feminist, race and other critiques (Alaimo, 2012, 2014; Braidotti & Hlavajova, 2018; Lindgren & Öhman, 2018; Truman, 2019; Åsberg, 2018). Furthermore, in order to prevent the posthu-manisms from continuing privileging Eurocentric traditions of critical thought, the contributions of marginalised non-divisive Indigenous knowledges should also be acknowledged and engaged with (Bignall, 2016; Somerville, 2013; Sundberg, 2014; Todd, 2016). As Snaza et al. (2014) remind us, it is necessary to remember that "Western humanism has achieved global dominance through relations of force, and there have been innumerable other ways of thinking about the beings that we 'are' and our relations with other beings – living or not" (p. 51). Ideas of ontological relationality have long been familiar to many non-Western cultures and epistemologies (e.g. Cajete, 2000; Kuokkanen, 2000; Todd, 2016).

To sum up, the posthumanisms
- share a common engagement with rethinking the normative humanist-bound notion of the human
- intersect with the anti-foundational insights of feminism and poststructuralism concerning the multiplicity of identity, the mobility of meaning, and the contestability of knowledge, supplementing those earlier insights by including nonhumans, things, and materialities (C. A. Taylor, 2016)
- enable taking the sociological realities and the more epistemic dimensions together, and thus taking as the starting point an assumption that natures and cultures form a continuum without binary thinking and clear borders (Braidotti & Hlavajova, 2018, p. 2)
- assume that "the human is always partially constituted by the nonhuman" (Braidotti & Hlavajova, 2018, p. 2)
- aim at interdisciplinary, postdisciplinary, transdisciplinary and antidisciplinary thinking between different fields of studies and disciplines (parallelism of science, philosophy, and the arts)
- encourage experimenting with new ways of thinking and conceptual creativity (Braidotti, 2013; Snaza et al., 2014)

[45] Decolonial here refers to "exposing the ontological violence authorized by Eurocentric epistemologies both in scholarship and everyday life" (Sundberg, 2014, p. 34).

Distinguishing from transhumanism

It is important to underline the difference between posthumanism and transhumanism since these two related terms are easily confused. Posthumanism and transhumanism share a conception of the human as a non-fixed and mutable condition, as well as an interest in technology, but differ in other perspectives (Ferrando, 2013).

According to Ferrando (2013, p. 27), posthumanism makes a radical onto-existential re-signification of the notion of the human, while transhumanism holds on to humanistic ideals of rationalism, progress, and technological optimism. Transhumanism is interested in enhancing cognitive, physical, and emotional dimensions of the human with the help of technology and science, to for example cure diseases, reduce suffering/pain and extend the human lifespan (Lummaa & Rojola, 2015; Naukkarinen, 2012). Ferrando (2013) calls this technology-driven human-centred development a form of 'ultra-humanism'. Mainstream discussions of robotics, prosthetic technologies, and neuroscience, as well as new-age visions of the future often follow transhumanistic ideals of human enhancement (Braidotti, 2013, p. 2).

Following transhumanist thought, the transformation of human beings might end in a condition in the future where humans cease to be human and become posthuman. Posthumanism, then again, already considers the contemporary condition to be posthuman.

From humanist to posthumanist thought in education

Questioning the Western humanist conception of the human as a separate category and challenging anthropocentric categories has also during recent years gained ground in educational research (e.g. Ceder, 2016; Kruger, 2016; Lenz Taguchi, 2009, 2011; Malone, Truong, & Gray, 2017; Snaza et al., 2014; Snaza & Weaver, 2015; C. A. Taylor & Hughes, 2016). Unsettling the established humanist terrain is however a challenging task that has no simple answers. Unpacking the humanist categories activates new conceptualisations and pedagogical visions – and brings along with it complex questions. Learning from the work already done, and acknowledging already recognised complexities allows the reorientation of EAE to be positioned as part of a larger emerging discussion.

Many scholars agree that an important entry point in the project of unlearning anthropocentrism is to make visible and diagnose how pervasive humanisms have been in structuring our thought and education (Lupinacci & Happel-Parkins, 2016; Snaza et al., 2014; Snaza & Weaver, 2015). Western humanist educational philosophy, practice, and research have indeed been projects of humans educating ('humanising') other humans to become better humans so that they become able to participate productively in human communities (Pedersen, 2010). The relevance of matter/materiality, nonhuman animals, and technology to learning has been considered instrumental, and their presence as passive and inert (Snaza et al., 2014).

Posthumanist educational thinking follows the radical and democratic pedagogical projects stemming from the 20th century in combatting authoritarian and oppressive education, and strives for social relations that are "not driven by exploitation, dehumanization, and symmetrical violence" (Snaza & Weaver, 2015, p. 7). Posthumanism however, calls for extending democratic thinking to include also nonhumans, other-than-humans and more-than-humans (Snaza et al., 2014) – the 'others' that feminism, poststructuralism, and postmodernism have traditionally excluded (A. Taylor, 2016).

Posthumanism questions the essential binary between the human and nonhuman, and thus challenges anthropocentrism with its categories (A. Taylor, 2016). This move is based on a fundamental shift in ontological presumptions about modes of being through which humans and nonhumans exist in the world, and epistemological presumptions of the kinds of forms of knowing that are considered valid (ibid.).

Posthumanist ontologies are based on an idea of relationality and processual becoming with others. This contests the humanist understanding of relationality, which assumes an autonomous, separate subjectivity associated with individual consciousness that enters relationships and is influenced by them. Much of posthumanist educational thought (e.g. Blyth & Meiring, 2018; Kruger, 2016; Malone, 2015, 2016; Murris, 2018; Rautio, 2013b; Somerville, 2017; Taguchi, 2011; C. A. Taylor, 2016) builds on the agential realism of the feminist and quantum physicist Karen Barad.[46] Barad (2003, 2007) suggests an intra-active relational ontology: reality is not composed of separate things, but phenomena are born out of constant intra-action. Rautio (2014) illustratively explains the difference between interaction and intra-action: "In interaction independent entities are viewed as taking turns in affecting each other, which implies that these entities are taken to each have an a priori independent existence. In intra-action, on the contrary, interdependent entities are taken to co-emerge through simultaneous activity: to come into being as of certain kind because of their encounter" (p. 462).

This enmeshment means, that there is no prior existence for the individual subject, but subjects emerge only through being in contact with others (intra-relating). Barad (2003) asserts that "'Humans' are neither pure cause nor pure effect but part of the world in its open-ended becoming" (p. 821). Barad's framework unfolds matter and being as active doing, as a process – not as a thing that exists in itself as a self-satisfied entity. Barad even suggests pulling together epistemology and ontology into onto-epistemology – the study of practices of knowing-in-being. We do not gain knowledge from an outsider position in relation to the world, but because we are of the world. There is no inherent difference between human and nonhuman, mind and body, subject and object (Barad, 2003, p. 829).

The onto-epistemological decentring of the human enables education to be rethought beyond anthropocentrism in ways that acknowledge how we are entangled with nonhumans – animals, machines and things – in our everyday lives as well in schools (Snaza et al., 2014). Hillevi Lenz Taguchi (2009, 2011) has been an inspiring example for me in showing how to put posthumanist theories to work in education. Lenz Taguchi introduces materiality as an important agency in the processes of learning. Her critique of social constructivist teaching and

learning strategies is that they do not take into account the creative and experimental learning "that incorporate body and material artefacts as a part of learning environments" (p. 36). Lenz Taguchi (2011) proposes a relational materialist approach. She underlines that thinking and learning are always encounters that take place between different actors: they emerge in networks where the human and nonhuman matter and organisms engage (intra-act) with each other. The relational materialist approach considers learning as a process that takes place outside the (separate and superior) human: it is a process of constant movement and transformation, where we continuously become something different in each new encounter (ibid.).

Posthumanist educational scholars stress that a posthumanist onto-epistemology means a profound shift in understanding ethics. Humanist ethics as "a set of rules imposed from the outside" (Blyth & Meiring, 2018, p. 3), as a philosophical discourse discussing the value of nature (Kronlid & Öhman, 2013), or as exclusive to the nonhuman (and thus speciesist and anthropocentric) (Kallio-Tavin, 2019) appear crucially limited.

Barad (interviewed in Dolphijn & van der Tuin, 2012) argues that because we gain knowledge through unfolding with/in the world, the world is always already an ethical matter (p. 69). When ethics is conceived as inseparable from ontology and epistemology, ethics becomes "about responsibility and accountability for the lively relationalities of becoming, the entangled materialisations of which we are part, including new configurations, new subjectivities, new possibilities" (Barad, 2007, p. 393). This means that posthumanist ethics displaces the morality of the human with an interspecies relationality that stems from the understanding that the human is already constituted of the nonhuman (C. A. Taylor, 2016). Posthumanist ethics is thus oriented towards generative and affirmative entanglements and becomings (Braidotti, 2013; C. A. Taylor, 2016; van Dooren & Rose, 2016).

Posthumanist notions of human subjectivity

The entangled[47] understanding of being also radically transforms the idea of human subjectivity. This is to me one of the main issues that activates new thought when considering the basic assumptions of EAE. Even though the ethos of most texts that I read to map EAE embraced the

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[46] Other philosophers whose work informs widely posthumanist educational thought are Gilles Deleuze & Félix Guattari, Donna Haraway, Jane Bennett, and Rosi Braidotti.

[47] "To be entangled is not simply to be intertwined with another as in the joining of two separate entities, but to lack an independent self-contained existence" (Barad, 2007, p. ix).

ideas of interdependence, belonging, and being connected, the conceptualisations are not capable of applying the idea of interconnectedness in the descriptions of human subjectivity.

When the humanist conception of human subjectivity as autonomous, self-determined, and separate is refused, subjectivity appears as a process of constantly becoming other through new relations (Kruger, 2016). The possibility of imagining beautiful interconnectedness (trying to pick nurturing, revitalising and balancing elements out of encounters with others) from a safe distance is gone. One's bodily self is enmeshed with the strange agencies of the material world (Alaimo, 2010), and the conception of subjectivity becomes entangled, intra-active, and transversal (de Miles & Kalin, 2018). The ontological relationality feeds the awareness that subjectivity is not an exclusive privilege of the human, and that the human subject is "an assemblage that includes nonhuman agents" (Braidotti, 2013, p. 82).

Drawing from critical, feminist, and postcolonial theories, Braidotti (2013) advocates a view of the critical posthuman subject "as a relational subject constituted in and by multiplicity" (p. 49). She further elaborates that this conception of subjectivity is complex and multilayered[48] but at the same time embodied, embedded, and functional (ibid.; Braidotti, 2017). Despite being non-unitary and internally differentiated, the subjectivity is located through a corporal, lived situation in the environment that it inhabits, and is thus accountable because it is "based on a strong sense of collectivity, relationality and hence community building" (Braidotti, 2013, p. 49).

What I consider informing for EAE in Braidotti's posthumanist understanding of subjectivity is the foregrounding of bodily capacities to enter relations with other kind of beings. This offers a starting point for exploring subjectivity in a manner that is receptive to emerging, unexpected possibilities: the subjectivity becomes part of the human-nature, nature-culture, and human-nonhuman continuums and starts from the body instead of universal abstract values (Braidotti, 2013; Kruger, 2016). Could EAE with a posthumanist reorientation be able to offer sites for experimenting and visualising "the subject as a transversal entity encompassing the human, our genetic neighbours the animals and the earth as a whole" (Braidotti, 2013, p. 82)? This kind of understanding of subjectivity would not mean becoming indifferent to humans, but

[48] According to Braidotti (2013), human subjectivity in its multiplicity is the effect of "flows of encounters, interactions, affectivity and desire" (p. 100), that we are not in charge of.

offers, according to Braidotti (2013) a new way of combining ethics with the well-being of an enlarged sense of community (p. 190).

Openings beyond humanist frames in research in art education

Lately, varying post-theories under different titles such as speculative realism, posthumanism and new materialism, are increasingly coming up in art education research. Hood and Kraehe (2017) have written an article on new materialism in art education, and a special issue of the *International Journal of Education Through Art* edited by de Miles and Kalin on speculative realisms in art and design education was published in 2018 (de Miles & Kalin, 2018). Hickey-Moody has combined socially engaged arts practices and affect pedagogy in her research and draws from new materialist theories (e.g. Hickey-Moody, 2016; Hickey-Moody & Page, 2015). Kallio-Tavin (2019, 2020a) has attended to exploring human-animal relations in contemporary art through posthumanism and critical animal studies. The above-mentioned present only a fraction of the lively blossoming that these theories are activating in art education.[49]

There are also some suggestions for opening the scope of human relationality beyond the dualistic and anthropocentric premises in recent texts I attach to EAE and have included in the literature mapping. In the field of art education, jagodzinski (2013) and Garoian (2012) have been among the first to use a posthumanist orientation to discuss the conception of artistic practice and pedagogy in art education in the age of ecological crises (Anthropocene). Both jagodzinski and Garoian lean in their approaches on Gilles Deleuze's and Félix Guattari's philosophy. jagodzinski (2013) calls for art educators to develop an ecology without nature (a phrase borrowed from Morton, 2010) by identifying and drawing from artists who work with the "avant-garde without authority" and harness "passive vitality" "where interactive attention is brought to the borders between public–private space, human–inhuman and non-human symbiosis and the duration of time" (p. 33). He further notes that art of this kind has the capacity to intervene and transform habitual modes of thinking and give expression to alternative becomings, thus promoting social change. With this comprehension, art materialises

[49] Art education scholars such as Hellman and Lind (2017), Keifer-Boyd, Knochel, Patton, and Sweeny (2018), and Schulte (2019) are also employing posthumanist theories in their research with varying topics of interest.

rather as an event by nature than as a commodifiable object to be sold or exhibited in a gallery.

Garoian (2012) offers a theoretical strategy to think and perform sustainability in art practice and pedagogy from a position that seeks to avoid the human-centred mind-set. Garoian claims that most often in the art classroom the topic of sustainability is addressed in terms of discipline-specific self-expression, and through art projects and activities that maintain isolated selves. He argues for an interspecies relational aesthetics (instead of Bourriaud's interhuman relational aesthetics) and believes that in "the betweenness of art positions multiple others as contiguous disjunctive entities whose differences and particularities can coexist and coextend one to and through the other" (p. 286). I read Garoian's article as an invitation to think with the concepts of Deleuze and Guattari, and to let them activate new thought. I can take with me for further exploration Garoian's suggestions that art education should encourage "trans-personal, trans-cultural, and trans-species alliances and relationships" (p. 286), and explore further how "human-centered understandings can be resisted, delayed, and conceded" (ibid.).

Suominen (2015), who is an advocate of eco-social justice and democracy, also attempts to stretch the idea of human subjectivity to become more fluid and open. She suggests the human self should be articulated as interrelational: "Perceiving one's self in relation to endlessly unfolding potentialities and possibilities is the platform for radical relationality and inter-connectivity" (p. 257). Suominen (2018) in her later writing elaborates radical relationality as an orientation that means willingness to alter one's self in encounters and relations with others. She draws from Ellsworth (2005) in visioning a holistic, embodied and relational sense of a learning self that is constantly in transition.

Laura Trafí-Prats (2017) touches upon overcoming nature-culture dualism and questioning human exceptionalism. Trafí-Prats outlines a compositionist visual art-based research to inform art education that is "concerned with processes of teaching and learning art in common worlds and through multispecies encounters" (p. 333). Her approach, which follows the philosophies of Bruno Latour and Donna Haraway appears as one possible entry point to posthumanist ontologies for EAE.

Latour's concept of the 'common world composition'[50] which Trafí-Prats employs appears as a particularly generative concept to explore further in this research.

The previous examples indicate that challenging anthropocentrism, the humanist conceptions of subjectivity, and nature-culture dualism are not novel topics in art education research. The suggestions of the above-mentioned scholars likewise offer openings and suggestions to interrogate further. However, they do not address the intersecting of anthropocentrism, nature/culture/nonhuman binaries, and conceptions of subjectivity in ways that would be applicable and frameable for EAE.

In this research, I aim to explore how a posthumanist ontological reorientation might enable decentring the human in EAE, and further, grounding EAE theoretically in ethical, nonbinary understandings of the human-nature-culture-nonhuman entanglement. Mapping EAE and familiarising myself with posthumanism as a philosophical-theoretical context allows me to amplify the preliminary questions (see page 28) to a form of a research question. I head forwards in the research by asking:

What can a posthumanist EAE do?

[50] Trafí-Prats (2017) explains that "compositionism means that humans live as parts of systems. These systems are not pre-existent but must be composed with discontinuous parts" (p. 326). She elaborates, "Common world compositions are not exceptional and separated from other entities in the world." (p. 327), and notes, that there are pedagogies in early childhood education and approaches in research on childhood that also draw from the concept of a common world composition.

3. An entangled methodology

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How does one conduct research on EAE with an onto-epistemology that does not perceive "the world in terms of self-subsistent entities or substances" (Pyyhtinen, 2016, p. 15) and gives primacy to relations and constant becoming? Suddenly, the customary research-related words such as data, methods, analysis and knowledge "don't work anymore because so many are grounded in the subject of humanism" (Guttorm et al., 2015, p. 15). If I want to keep the methodology in line with the posthumanist theoretical approach (St. Pierre, 2014), I need to learn new ways of thinking and doing research.

In order to develop a method to research EAE that uses a posthumanist onto-epistemological orientation, I lean on recent developments and experiments in post-qualitative inquiry (Andersen et al., 2017; Jackson & Mazzei, 2012; Koro-Ljungberg et al., 2017; Lather, 2013; Lather & St. Pierre, 2013; MacLure, 2013; Somerville, 2017; St. Pierre, 2014, 2018; St. Pierre et al., 2016). Some scholars prefer calling these ontologically nuanced approaches to research more-than-human (Springgay & Truman, 2018) or posthumanist educational (Ulmer, 2017) methodologies. The above-mentioned methodologies are fuelled by the "ontological turn" (St. Pierre, 2014) and often theoretically draw from Barad, Butler, Deleuze and Guattari (Gerrard, Rudolph, & Sriprakash, 2017). They seek to expand and criticise the binary oppositions and essentialist presumptions of humanist research such as separating "the knowing subject from the object of knowledge" (Hohti, 2016, p. 40), and the assumption of the central position of the human subject aspiring

to know the world and create meanings (Gerrard et al., 2017; MacLure, 2013).[51]

Post-qualitative inquiry is seen to offer an alternative to conventional humanist models of qualitative research methodology (Guttorm et al., 2015; Rousell, 2019). The methodological reconceptualisation has emerged particularly in the US context, where qualitative methodology in social sciences and educational research is being bent back to positivism and thus to standardised and instrumentalised research practices (Guttorm et al., 2015; Lather, 2013). The aim to produce "different knowledge and producing knowledge differently" (Lather, 2013, p. 635) sets the critique of procedural methods at the heart of post-qualitative inquiry (Guttorm et al., 2015; St. Pierre et al., 2016). Procedural methods with their constraining tie to clarity, predictability, and reductive explanation are poorly capable of engaging the materiality of social and cultural practices (MacLure, 2013).

In a post-qualitative methodological frame, I cannot concentrate on exploring separately a philosophical issue like the human-nature relation from the perspective of my individual experience and then later, with distance, reflect my experience with theories. I cannot lean on ideas like *interpretation* or *representation*. The prior word, interpretation, presupposes "a critical, intentional subject standing separate and outside of 'the data', digging behind or beyond or beneath it, to identify higher order meanings, themes or categories" (MacLure, 2013, p. 660). As for the latter word, representation, it problematically assumes that language can re-present the 'real' world (MacLure, 2013; St. Pierre, 2019; St. Pierre et al., 2016; Ulmer, 2017) and create "structure and stasis out of movement and proliferation" (MacLure, 2013, p. 659). Thus, a representationalist logic that relies on a two-world ontology is not compatible with post-qualitative inquiry (MacLure, 2013; St. Pierre, 2019).

Then what to do and how? Ulmer (2017) urges grabbing the research possibilities that emerge from the entangled, relational understanding of the world: "because we are always already interconnected with our environments, methodological thinking should respond in kind by fostering similar interconnections" (p. 834). Thus, with this orientation, the research is done *with* the world, and becomes an "interrogation of

[51] St. Pierre (2014) elaborates the relation of post-qualitative inquiry to more traditional qualitative methodologies: "I don't claim that the structure of humanist qualitative methodology is wrong or in error. I do argue, however, that its assumptions about the nature of inquiry are grounded in Enlightenment humanism's description of human being, of language, of the material, the empirical, the real, of knowledge, power, freedom, and so on and, therefore, are incommensurable with the descriptions of those concepts in the posts" (p. 5).

how everything *is* in the world" (Jackson & Mazzei, 2012, p. 726). There is no inherent separation between the knower ("the researcher") and the known ("the researched"), but rather they are "mutually implicated and constitutive" (Jackson & Mazzei, 2012, p. 731). Furthermore, the research is not representing the world or reflecting something that has already passed (Springgay & Truman, 2018). Rather it is about creating worlds, and is thus always partial.

Thus, the research is about being (becoming) always in the middle of things. The middle should not however be considered as "a zone between the beginning and the end" (Springgay & Truman, 2018, p. 87), but rather as immanent 'in-betweenness' (Andersen et al., 2017) and 'withness' (Koro-Ljungberg, Löytönen, & Wells, 2018; Pyyhtinen, 2016) that is complex, diverse, and constantly in movement (Barad, 2007). I am inspired by the way Springgay and Truman (2018) articulate research as inhabiting 'speculative middles'. To Springgay and Truman (2018), the speculative middle is a sort of a 'what if' that activates new thought. Things start to unfold from the process itself and cannot be known in advance. It is being 'in it', situated and responsive (ibid., p. 87). The speculative middle "shifts methods from a reporting on the world to a way of being in the world that is open to experimentation and is (in) tension" (Springgay & Truman, 2018, p. 87). Thus, methods become practices of being inside the research event and becoming entangled in relations, not for gathering data to be reflected on afterwards (ibid.).

Considering research as a speculative middle emphasises doing rather than meaning-making (Springgay & Truman, 2018, p. 87). Despite my agreement with Pacini-Ketchabaw, Taylor, and Blaise (2016) in finding it "much easier to theorize about decentering the human than to walk the talk" (p. 149), I cannot consider conducting only a theoretical, conceptual analysis of the reorientation of the philosophical-theoretical grounding of EAE. Instead, I am drawn to find creative ways of putting posthumanist concepts to the test. This is why I want to inhabit speculative middles carried out through an *experiment* in this research. With the idea of experiment, I lean on Andersen et al. (2017) who consider experiment as a way of approaching scientific questions and phenomena, following the thought of Deleuze: "Never interpret; experience, experiment" (Deleuze, 1995, p. 87, in Andersen et al., 2017). Within the frames of posthumanist relationality and connectivity, knowing is always in motion, and processual experimentation appears as primary, over the search for definite and fixed answers (Ulmer, 2017). The experiment can open possibilities of reorientation of thinking and make room for something different than the already normal and captured

modes of thought. Further, through experimentation, I want to challenge myself as an art educator-researcher-artist and expose my own thinking to becoming unsettled. I aspire to undertaking a research practice that is "emergent, experimental, and contingent" (St. Pierre et al., 2016, p. 105), and allows being in the middle of things as always becoming and incomplete.

Drawing from artistic thinking, and multispecies and walking methodologies

St. Pierre (2018) insists that the experimentation required in the post-qualitative methodologies cannot be "called forth by pre-existing, approved methodological processes, methods, and practices" (p. 604). In a sense, this calls me to experiment with something yet unknown and "reworking and transforming known methodologies" (C. A. Taylor, 2016, p. 3). In the following sections, I explain in more detail how artistic thinking, multispecies ethnographies, and walking methodologies have offered inspiration and ingredients for developing the approach to the experiment.

From phenomenological artistic thinking towards posthuman artistic thinking

Since I have my training in art education and arts, I approach the idea of using theories and concepts and experimenting with them with an artistic orientation. I see that artistic and arts-based research methodologies offer generative starting points for enacting posthumanist theories, since they foreground embodied and sensory ways of knowing (Tuovinen & Mäkikoskela, 2018). In the post-qualitative methodological context, the aim of the artistic orientation, however, is not to present research findings through arts-based methods[52] nor to produce art works/events

[52] Patricia Leavy (2017) describes arts-based research practices as methodological tools that can be used in some or all phases of research across all the disciplines in order to address the research question holistically. Some locate arts-based research within the qualitative research paradigm, some as a methodological paradigm of its own (ibid., p. 4). Finnish arts-based research in the field of art education shares certain elements with North American arts-based research tradition. Suominen and Kallio-Tavin (in Suominen Kallio-Tavin, & Hernández-Hernández, 2017) note, however, that it is considered important for Finnish arts-based research for artistry and art knowledge to be present at all stages of the research process (p. 108).
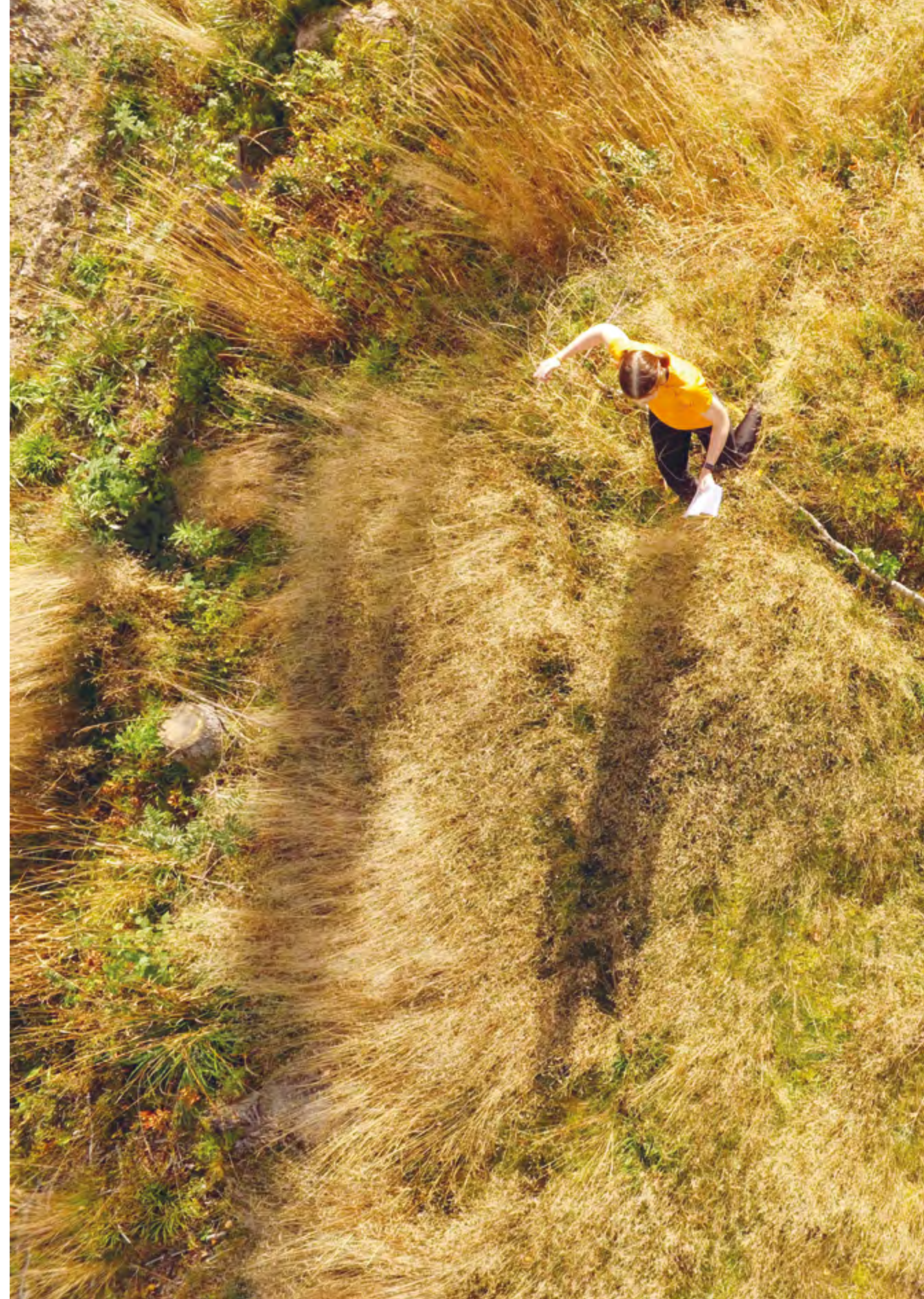
to be displayed in the context of the art world.[53] Instead, I am encouraged to approach artistic thinking and artistic practice as potential speculative middles, as research events themselves. Thus, the artistic approach has the possibility to generate research practices that provoke, problematise, and further, generate new modes of thinking-making-doing-knowing.

A familiar strategy to me would be to lean on *artistic thinking* in the experiment. By artistic thinking I refer to a specific way of thinking that has been theorised lately in Finnish art education and artistic research by the philosopher Juha Varto (Varto, 2008a, 2008b, 2017) and the artist-researchers Leena Valkeapää (2011, 2012b, 2012a) and Riikka Mäkikoskela (2015). Valkeapää has also used artistic thinking as a research method. She (2011, 2012a) has used artistic thinking to bridge her experience (as an artist) to the research context, and to fuel new thought and connections with its help.[54]

According to Varto (2008a, 2008b) a specific attunement that unfolds as attentiveness to responsiveness, sensoriality, and embodiment is characteristic of artistic thinking. This attunement further enables receptiveness and attention to what emerges (Varto, 2008b). Artistic thinking escapes tight definition but is described through the following features: it relies on experience, and is committed to constantly questioning the normalised habit and the obvious[55] (Varto, 2008b). Varto further notes, that artistic thinking calls for un-tracked, nonlinear, lateral ways of thinking-doing beyond expectations – it appears as a kind of indiscipline and being trained in following weird tracks (Varto, 2008b, 2017). This

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[53] In Finnish artistic research at the doctoral level, artistic production such as exhibitions or performances are typically included as part of the evaluated dissertation. The relations of artistic and arts-based research in Finland are not unambiguous. According to Varto (2017), artistic research is done in art universities and must be founded on excellent, professional artistic praxis. Arts-based research tends to be attached more often to art education research (Kallio, 2008, 2010; Suominen et al., 2017). Arts-based research is not necessarily interested in artistic matters per se, but usually has a wider research interest, a phenomenon within its eco-socio-cultural context (Suominen et al., 2017).

[54] Valkeapää moved to northwest Lapland and realised that the poems of Nils-Aslak Valkeapää explained to her the events in the reindeer-herding Sámi life she faced in her new living realm. In her doctoral dissertation, Valkeapää (2011) engaged in conversation with the poems of Nils-Aslak Valkeapää and her own experience. She started to explore themes that were repeating in the poems and her own experience of living in Arctic nature. By leaning on artistic thinking, she entered a series of dialogical conversations about specific themes that appeared as central in this context: wind, reindeer, fire, time, and human.

[55] I see connections with Varto's non-customary and lateral thinking and the Deleuze-Guattarian process of becoming-minoritarian: "thinking otherwise and away from norms and rigid power producing habits of thinking" (Deleuze & Guattari, 1987, pp. 272-291, in Lenz Taguchi, 2012).

curious, messy, nonlinear orientation appears useful for challenging habitual anthropocentric responses and binary thinking with respect to human-nature relations.

The responsiveness and attunement to ambivalence that I likewise attach to artistic thinking appear as further generative potentials: the goals and ways of proceeding are not predetermined (see also Mäkikoskela, 2015, p. 178). Rather, artistic thinking encourages movement that is by its nature like groping, feeling, and trying out. It invites exploring modes of being and coming to know that are not certain and fully comprehendible. I further conceive artistic thinking as thinking in action like Manning and Massumi (2014) propose when experimenting with combining artistic practice and philosophy. They underline the importance of allowing creative experiments where thinking and making intersect to self-organise and become open-ended and unrestrained.

Artistic thinking has previously been articulated in ways that are founded on phenomenological understandings. I recognise the friction that arises from bridging such views with posthumanism. Posthumanism shares with phenomenology the criticism of Cartesian mind-body dualism, human exceptionalism, and privileging of instrumental rationality (Toadvine, 2015). However, some consider these approaches to be incommensurable due to phenomenology's ties to subjectivity and intentionality (Neimanis, 2017, p. 32). The presupposition in relation to essentialism in phenomenological philosophy (Merleau-Ponty, 2006) likewise appears problematic with the posthumanist onto-epistemologies.

In attuning the conception of artistic thinking to meet with post-qualitative methodologies, I follow Astrida Neimanis (2017), who proposes the possibility of a posthuman phenomenology. She suggests cultivating the phenomenology as attunement, listening, and observation of the embodiment, but reconfigured in a way that decentres the human and disrupts the idea of a coherent, autonomous, and discrete bodily self.

Neimanis (2017) expresses posthuman embodiment as being watery: "as bodies of water we leak and seethe, our borders always vulnerable to rupture and renegotiation" (p. 4). Rethinking embodiment as intra-action between bodies, space, time, events, and things – in a constant process of intake, transformation, and exchange – is stimulating. Matter such as water or air is typically left outside the traditional Western understandings of human embodiment despite over half of human bodies consisting of water (the exact percentage varies in different kinds of bodies), and with every breath the body filters air in and out in order to stay alive. Neimanis (2017) suggests that paying attention to our literal

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implicatedness with planetary bodies of matter through posthuman phenomenology allows embodiment to be described and enacted both as clearly human, and more-than human, "operating simultaneously across different interpermeating registers, from the biological or chemical to the technological, social, political, and ethical" (p. 23).

Neimanis (2017) considers arts as a possible *amplifier* that might open access to the (watery, posthuman) dimensions and nuances of embodied experience that might be difficult otherwise to trace or notice (p. 55). I recognise a generative synergy here with artistic thinking. Artistic thinking might pave the way to becoming responsive and alert to the intricate web of relations and entanglements. Furthermore, it can promote acknowledging and residing in frictions and moments of conflict without trying to solve them, and being exposed to dissonances and intensions.

Mobilising multispecies ethnographies

To be able to find ways of experimenting with new ways of becoming attuned, to notice, and especially to make human-nonhuman relations visible and felt, I mobilise multispecies ethnographies as proposed by Common world[56] scholars (Lloro-Bidart, 2018; Nxumalo & Pacini-Ketchabaw, 2017; Pacini-Ketchabaw et al., 2016; A. Taylor & Pacini-Ketchabaw, 2015).

Multispecies ethnography is described as being an experimental and hybrid methodology that assumes that "human being and becoming and even sociality itself are entangled in complex, often asymmetrical, ways with the being and becoming of other species" (Pacini-Ketchabaw et al., 2016, p. 161). As a methodological approach, it allows a focus upon relationalities, interdependencies, and encounters (Pacini-Ketchabaw et al., 2016; Taylor & Pacini-Ketchabaw, 2015, see also Kirksey & Helmreich, 2010). Multispecies ethnographies have been used in animal-focused, humane, and interspecies educational contexts, as well as in research

[56] A. Taylor and Giugni (2012) describe Common worlds as "a conceptual framework developed to reconceptualize inclusion in early childhood communities. Common worlds take account of children's relations with all the others in their worlds – including the more-than human others" (p. 108). The common worlds frame draws from ecological and feminist posthumanist/new materialist theories – especially from Donna Haraway, Anna Tsing, Jane Bennett and Karen Barad – and indigenous non-divisive cosmologies. Common world researchers seek to establish richer and more complex understandings of relations and entanglement with nature/place/environments, materiality, and other species (About the Collective, n.d.). This also implies a call to respond to colonial environmental legacies and global injustices.

in childhood studies and environmental education (Lloro-Bidart, 2018). Even though in the common world framework scholars are typically concentrating on relations of children in the frame of early childhood education, I consider their multispecies ethnographical approach to also be stretchable to human-nature relations beyond childhood and children.

I consider useful for this research the way multispecies ethnographies encourage decentring the human by focusing on developing "more-than-cognitive modes of attention – to become attuned to the multifarious ways that human and nonhuman bodies are moved, disconcerted, and enlivened through their common world encounters" (A. Taylor & Pacini-Ketchabaw, 2015, p. 11). Common world scholars describe their multispecies ethnographies as intentions to evoke and provoke rather than to represent or explain events that are taking place (ibid.). They might aim at witnessing or responding creatively to encounters instead of sticking to observing them, and exploring the possibilities of learning with other species. It is also central to multispecies ethnographies in the common worlds frame to pay attention to the effects of asymmetries in multispecies interconnectedness (Nxumalo & Pacini-Ketchabaw, 2017, p. 1416).

I have been especially intrigued by the way Mindy Blaise (Pacini-Ketchabaw et al., 2016) is working out ways of being that allow her to pay attention to multispecies worlds and what they are telling her. Blaise seeks modes of perceiving and responding beyond conventional ways of watching, listening, and writing when engaging with the dogs of Hong Kong (p. 156). She is waiting to be invited into a relationship and learning how not to be in charge in research moments and more-than-human research relationships (p. 156). Multispecies ethnographies have likewise been employed in research projects focusing on the complexities of human(child) relations with, for example, earthworms, stick insects, raccoons, and kangaroos (Nxumalo & Pacini-Ketchabaw, 2017; Pacini-Ketchabaw et al., 2016).

On the whole, I consider that informing artistic thinking with a multispecies ethnographical orientation opens possibilities for drawing nearer to mutual multispecies entanglements and affects that are surprising, unexpected, and complex. Multispecies ethnographies likewise encourage a widening of the temporal orientation to the multispecies, material entanglements beyond the present moment (to the past and future), and also a consideration of the political and ethical implications the entanglements might bring (Pacini-Ketchabaw et al., 2016).

Leaning on walking methodologies

Walking- and movement-based methodologies attract me since they offer a possibility of engaging with material, multispecies entanglements in a kinaesthetic, rhythmic, haptic, affective, and material manner. Walking research foregrounds moving and sensing bodies in knowledge production (Springgay & Truman, 2017, 2018), which I consider essential for experimenting with posthumanist concepts and theories. Furthermore, walking-based research practices as well as interest in the use of walking in artistic practice are already familiar in art education (e.g. Cutcher, Rousell, & Cutter-Mackenzie, 2015; Feinberg, 2016; Keskitalo, 2015; Kortelainen, 1995; Miles & Libersat, 2016). Thus, I recognise a potential link to future EAE practices through walking arts and research methodologies.

I have also previously in my artistic and pedagogical practice drawn from movement-based practices such as walking that intersect with arts, pedagogies, and research.[57] Likewise, my long history as a martial art practitioner (also at the level of international competition in the Japanese budo sport *taido*) has oriented me towards movement-based thinking. My motivation to lean on movement-based modes of enquiry when experimenting with posthumanist theories appears in this sense as a continuation and extension of previous work.

Walking functions in phenomenologically oriented research as a way of "inhabiting place through the lived experience of movement" (Springgay & Truman, 2018, p. 4). Walking thus promotes situated participation and unfolds as a way of immersing oneself in the sensory experience of place (ibid.). I, however, seek to problematise the understanding of movement beyond directionality and ideas of static places, and the "individual and sensuous account of the body in space" (Springgay & Truman, 2017, p. 30). Despite post-qualitative methodologies (more-than human to Springgay & Truman) consider movement itself as absolute: as a "force and vibration in all matter" (Springgay & Truman, 2018 p. 6), I conceive walking-based research practices as a possibility of provoking "another connectivity, more contamination" (Jackson & Mazzei, 2012, p. 722) to the research experiment.

I see that the posthumanism-attuned approach to embodiment, inspired by Neimanis (2017), further allows stepping beyond the idea of bodies in relation only to their immediate surroundings, but also "within larger more-than-human networks and events" (Springgay & Truman, 2017, p. 35) when conducting a walking-based research experiment.

Situatedness of the research

Neimanis, Springgay, Truman and also the researchers working with multispecies ethnography – most of the methodological inspirations that I am leaning on – have an inherent feminist commitment towards the politics and ethics of their research. Springgay and Truman (2018) stress the accountability of posthumanist research for critical race, feminist, Indigenous, trans, queer, critical disability, and environmental humanities scholarship (p. 3, see also Tuck & McKenzie, 2015). In their own research, they are sensitively engaged particularly with issues of settler colonialism (p. 11). Multispecies ethnographers in their turn focus their attention on asymmetries in material human-nonhuman animal relations, and encourage "seeking to respond to the situated yet uneven entanglements and complicities" (Nxumalo & Pacini-Ketchabaw, 2017, p. 1415) in these relations, and to "stay with the challenges such responses might bring" (p. 1416). Lloro-Bidart (2018) focuses her own research on intersections of speciesism and ableism.

On the whole, the feminist, critical, posthumanist methodological commitment calls to respond to the situatedness of the research as well as its accountability to "interlocking forms of power, privilege, and oppression" (Hamilton & Neimanis, 2018, p. 512). This implies an understanding of all knowledges as situated[58] and thus intersectional and relational (Springgay & Truman, 2019). Where I experiment; what right I have to conduct the experiment; and whom my practice will impact: all of these matter, and I must consider whose conception of human I am trying to move beyond.

With respect to the geographical and socio-cultural situatedness of this research in the Finnish art education research context (Kallio-Tavin & Pullinen, 2015; Tavin & Hiltunen, 2017), I acknowledge that the processes

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[57] I have been inspired by Finnish walking artists Jussi Kivi and Timo Vartiainen (Keskitalo, 2006; Kivi, 2004), the 'slow walking' of dancer Kirsi Heimonen (Heimonen, 2016), and the running art/research of Kai Syng Tan (Tan, n.d.). I have also drawn from Lavery (2009), Edensor (2010), de Certeau (2013), Ingold and Vergunst (2008) and Solnit (2006), and further from walking as mapping and cartography in artistic practice (Evans, 2012; O'Rourke, 2013).

[58] Their take on situated knowledges is based on Haraway, who claims that all knowledge comes from positional perspectives, outside the duality of objectivity-relativism (Rogowska-Strangret, 2018). Haraway´s situated knowledges are to Springgay & Truman (2019) "a spatio-temporal understanding of intersectionality" (p. 9).

of colonialism and being colonised are in Finland historically structured in a different way than for example in the North American or Australian contexts. The Finnish land along with the peoples inhabiting it have been the subjects of colonialising powers and varying cultural invasions over the past hundreds of years from several directions: from the West (Sweden), from the East (Russia), from the South (Germany and Baltic countries), and some say that even from over the Atlantic in the form of American popular culture (Vadén, 2006b). The population of the present Finland originates from the intermingling and roving of varying ethnical and cultural influences and groups of people. However, the ethnic and/ or cultural minorities, such as the Indigenous Sámi people have also in Finland been (and still are) objects of cultural assimilation and other oppressive, marginalising actions (Kuokkanen, 2018). Finland has mainly retained an outsider position from addressing the aftermath of colonial legacies, unlike the previous colonialist empires, and therefore critical discussion with respect to colonialism or race is not yet a well-established practice in Finland (Kallio-Tavin & Tavin, 2018). However, I do not directly take part in colonialism-related discussion in this research, or focus on Sámi conceptions of human-nature relations.[59]

In Finland the cultural identity is still based strongly on notions of nation and nationality, and discussions on cultural diversity are relatively recent (Kallio-Tavin, 2015). As a White, able-bodied, middle-class art educator-researcher-artist (conducting research in a mostly White academic art education community), I am aware of the risk of normalising a privileged perspective in my practice. I however try to maintain sensitivity to difference, and draw from the idea of *queering* as a praxis. Hunt and Holmes (2015) view to queer as a verb that is "a deconstructive practice focused on challenging normative knowledges, identities, behaviors, and spaces thereby unsettling power relations and taken-for-granted assumptions" (p. 156). With respect to this research, I seek to queer and question privileged White, middle-class, nationalist, and ableist undertakings of human-nature relations – including my own.

Entangled thinking-doing-writing through orienteering

The idea of orienteering that I presented in the Introduction as a methodological metaphor takes slightly more concrete shape in the following chapters. The entangled thinking-doing-writing through orienteering movement is, however, still tentative. Experimentations are tested, abandoned, and further, revised. Because ideas, questions, doubts as well as disruptions are emerging and accumulating, some topics in the chapters are visited several times.

Informed by artistic thinking, multispecies ethnography, and walking methodologies, the post-qualitative/posthumanist/more-than-human methodological orientation is approached in this research by highlighting the following guidelines:

1. Maintaining openness to different modes of thought. I seek to attend to the embodied, sensory, material, more-than-verbal dimensions of knowing particularly through artistic thinking and a walking-based practice.
2. Promoting movement, encounters, and entanglement for agitating new kinds of nonbinary thinking. I both address this as a methodological principle and take it as a concrete, provocative approach to the experiment.
3. Thinking with others. I engage to opening myself up "to thinking collectively (with humans and more-than-humans)" (Pacini-Ketchabaw et al., 2016, p. 164). I spread the orientation beyond human in-betweenness to multispecies and material relations, as encouraged by Neimanis (2017) and multispecies ethnography. The idea of thinking with others has further implications for theories, concepts, and writing (Jackson & Mazzei, 2012).

I am ready to step to the forest. Are you with me?

4. Becoming-with the forest
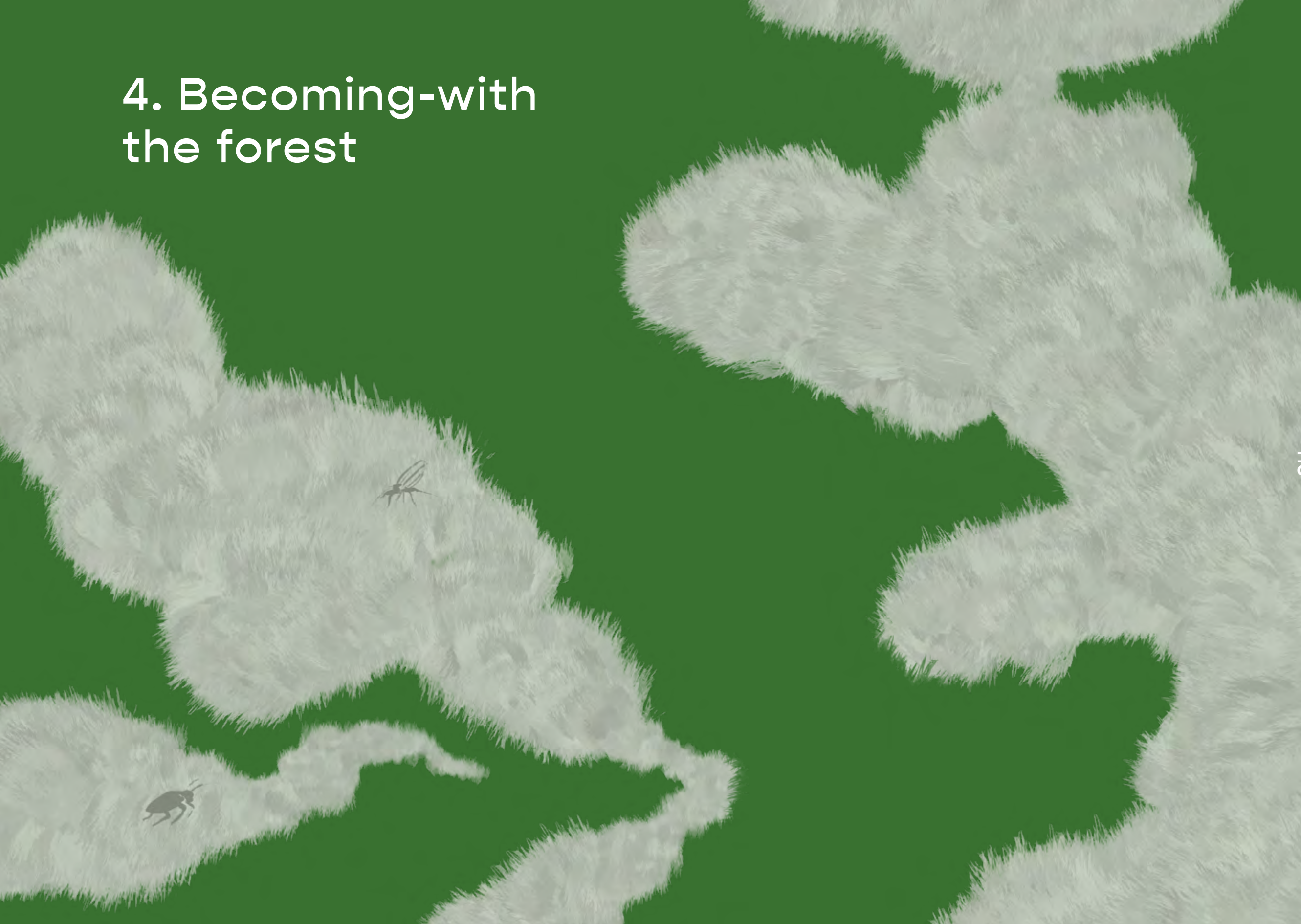
4. Becoming-with the forest

In this chapter, I put posthumanist theories to work in order to agitate new kinds of thinking to inform the further theoretical reorienting of EAE. Through an experiment called *becoming-with the forest*, I challenge myself to think with nonhuman others, and to decentre myself by paying attention to becoming-with in multispecies and material encounters.

In the beginning of the chapter, I explain the focus and the culture-specific situatedness of the experiment. I then introduce the embodied, movement-based and conceptual elements that are important for the experiment to work. I explain how orienteering is used as a propositional catalyst and elaborate the struggles in developing the experiment. I then tell visual-textual stories of various kinds of becoming-with the forest.

Focus on human-forest relations

Through and with the experiment I focus my attention to human-forest entanglement in the Southern Finnish context. I have chosen this focus since I consider human-forest relations to be a topic that is particularly relevant for EAE in my cultural-geographical sphere.

The forest has traditionally been considered as a base of Finnish culture (Pennanen, 1999), and the forest is often referred to as a metonym for the whole of nature (Johansson, 1999). Throughout known history peoples and tribes inhabiting the Finnish headland (the Southern part

of contemporary Finland) have relied for their livelihood and survival on forests. In general discussion, Finns still consider themselves 'forest people' (Iivanainen, 2001; Kovalainen & Seppo, 2006, 2009; Pennanen, 1999; Sepänmaa, Heikkilä-Palo, & Kaukio, 2003).[60] The forest and human-forest relations likewise have a special position in Finnish art (Johansson, 1999, 2005; Kivi, 2004), and thus also in EAE. Van Boeckel (2007), Huhmarniemi (2019), Humaloja (2016), and Mantere (1995) share lively example practices where forest-related cultural heritage and myths play a central role in EAE with children and young people.[61]

The Finnish forest relation changed radically after industrialization and urbanisation[62] (Pennanen, 1999). Nowadays the role of the forest to Finns seems to have become more entertaining and objectified: forests are perceived as sites for leisure activities and recreation (Paaskoski & Roiko-Jokela, 2018; Pennanen, 1999). However, contemporary Finns seem to have contradictory attitudes towards the forest: It might be appreciated as beautiful and precious, but at the same time it might be discussed in a resourcist manner as cubic metres of annual growth and considered as material for the forest industry (see also Iivanainen, 2001).

The idea of being 'forest people' likewise carries contradictory meanings. For some, the forest offers – if no longer physically – a mental shelter from the hectic pressures of urban lifestyles (Pennanen, 1999). For some, the Finnish forest relation is spiritual and/or mystical[63] (as described, for example, by Vadén, 2000, 2006). Then again, being 'forest people' might be discussed with a degrading tone when the Finnish national mentality is compared to cultures that are considered more civilised and cultivated (e.g. Middle and Southern Europe) (ibid.). A human coming from "the far end of the forest" ('umpimetsä' or 'pystymetsä') might be referred to

[60] An anecdote of the particularity of the Finnish forest relationship as a culturally appreciated phenomenon: a project called *Metsäsuhteita* (Forest relations) is aiming to establish the Finnish forest relationship in the UNESCO inventory of intangible cultural heritage (Lusto, 2019).

[61] My own early EAE practices with children in particular often dealt with forest-related folklore and cultural tradition: for example, beliefs relating to different forest animals with an animating and mythical orientation.

[62] In Finland the majority of the population still lived in rural environments and with livelihoods and everyday actions that were dependent on nature after WW2. Urbanization and migration to urban centres grew strongly in the mid-1960s and has continued since then.

[63] Nature/forest mysticism refers here to a belief that by going to nature/the forest and being 'in there' offers a spiritually attuned experience of being absorbed into a larger whole. (see also Malminiemi, 2017; Puurunen, 2019).

as someone who is backward, or as fallen behind the developed. As for younger generations who have grown up in urban surroundings, and for people who live in Finland and have an immigrant background, the forest might appear scary and unpleasant. I am aware that the generalisations that I present here can smooth away the variety of human-forest relations, but I want to point out that there is no uniform Finnish human-forest relation.

However, as I pointed out in Chapter 2, certain humanism-bound EAE approaches run the risk of idealising and romanticising nature. To my view, falling into romanticising and idealising approaches in the Finnish context is particularly easy because local forests (like all other natural environments) are commonly seen as beautiful, abundant and pure. Finland is actually statistically the most wooded land in Europe, with 73% forest cover of the land area (Kallio, 2018; Luke, n.d.). Another historical ground for the romanticised and idealising conceptions of Finnish forests can be traced to the national-romantic ethos of the visual arts and literature of the late 19th and early 20th centuries. The arts of the time were mobilised to contribute to building a Finnish national identity and sovereignty (Kivi, 2004; Mikkonen, 2018), and these deeply embedded views are still at play in Finnish visual culture (e.g. Rasinkangas, 2020) and the meanings attached to the forest.

One further detail that I want to mention with respect to the special characteristics of the Finnish human-forest relation is the idea of Everyman's right ('jokamiehenoikeudet'). Everyman's right is a legislative concept (similar to those in other Nordic countries) that allows public right of access for anyone to enjoy free of charge the natural environments and thus to, for example, hike, camp, pick berries, or go swimming, on privately owned land, too (Everyman's right in Finland, 2013). Although the right is tied to a responsibility to allow domestic privacy and avoid damage or disturbance, I can see that as a as a principle to bear in mind it promotes the vitality and diversity of the Finnish forest-related cultural heritage.

By forest I refer here geographically and ecologically to various forest types and ages mixed with wetland areas, streams, ponds, lakes, and rocky rises, which is the typical outlook of the forest in Mid-Uusimaa, where I live. On a larger scale, these forests belong to the coniferous forest belt (despite the most southern parts being in the coast zone). It is typical of these forests that the signs of the recent ice age that started

to retreat in Scandinavia about 13,000 years ago, often are clearly visible when examining the terrain with geographical and geological lenses. Geological formations such as smooth glaciated rocks and sand ridges and the division of sedimented soil types in different areas, tell of the major impacts of the ancient ice sheet, the power and agency of the melting water, and the slow postglacial rebound (Rikkinen, 1992). Furthermore, the round, stony belts found here and there on the hillsides – ancient shores – mark major changes in the sea level (postglacial marine phases) and the formation of the land area now known as Finland (Huurre, 1998). With the forest I include the other living nonhuman life-forms, such as plants, mushrooms, insects, birds, and mammals. The forest is not understood as a separate realm away from the culture, as I elaborate later.

Ingredients of the experiment

Orienteering as a propositional catalyst

Orienteering serves as a practice that I bend and queer[64] for research purposes. Basically, even though I write of orienteering and use orienteering, the research experiment is not about orienteering per se. I will explain more closely: You might see me running in varying forest terrains with a map and a compass.[65] I am dressed as the other orienteerers, and doing what is supposed to be done when orienteering.[66] But that is not the point here.

[64] Here I refer to queer as an orientation that unsettles and undoes the norms and questions taken-for-granted meanings (Springgay & Truman, 2018).

[65] Almost every week during the spring-summer-autumn season I participate in orienteering events (Keski-Uusimaa kuntorastit) in different locations in Mid-Uusimaa, South Finland, where four orienteering clubs organise open orienteering practices. The events are not competitions but there is a time tracking system and the results are displayed later on the event website. These weekly events gather very heterogeneous participants: children, families, beginners, active practitioners, seniors, youngsters, elite athletes, and there are courses of different lengths and difficulty levels to choose from.

[66] I try to navigate as fast as possible from point to point using a map and a compass in diverse and usually unfamiliar terrain. The map has a course with red circles indicating control points that are marked with white and orange markers on the terrain, and straight red lines linking the control points on the map.

Rather, orienteering motivates my movement and channels my orientation in ways that are generative for the research. When I orienteer, I am not wandering around in the forest guided by my habitual human-centred interests, moods or likings. If the subjective I, the 'self', was allowed to choose, I would probably gravitate to pleasant, walkable, appealing, and 'nice' directions, routes, and weathers. I would stick to my comfort zone. Orienteering instead takes me to varying sites/places/situations where I would not end up otherwise. I would probably in other occasions skirt or even avoid the forbidding, ugly, bland, unpleasant areas like thickets, stony slopes, marshes, windfalls, and clear cuts (not to mention going to the forest in less pleasing weather). However, orienteering does not materialise as an intentional maximisation of misery, as constant ploughing through ditches and puddles. Experiences of following enjoyable trail stretches, rock plateaus, or field edges intermingle with other material volumes, rhythms, and masses. It quite fairly makes the running human body encounter all kinds of materialities and agencies. So, in a sense, orienteering shifts the habitual comfort zone ideal to a contact zone.[67]

Orienteering functions for the experiment as a propositional catalyst.[68] Springgay and Truman (2018) claim that "propositions are different from research methods or a research design in that they are speculative and event oriented" (p. 83). In this sense, orienteering offers me a way of becoming entangled in relations that are open to a multiplicity of directions and ways of being. It enables situations where thinking with and becoming with nonhuman others is robust, tangible, and down-to-earth. However, there is nothing inherently posthuman in orienteering itself. Almost any other kind of human activity could be used in a similar way as a propositional catalyst to experiment with everyday material and multispecies entanglements with a non-anthropocentric orientation, be it painting, swimming, riding a bike, or, for example, composting.

I use orienteering to scramble my binary-seeking thinking and unlearn my anthropocentric practices of doing research. I am inspired by other researchers who have used darkness as a propositional catalyst. It is easy to relate to their immediate responses after being together in dark November forest: "It is hard to let go of the pressure to recognize, to give meaning and to define. And we don't wholly let go either – recognizing just alters its form" (Andersen et al., 2017, pp. 8-9) they say. Like darkness, orienteering provokes giving up control, invites having new experiences and making new meanings. The rate of movement the orienteering promotes is significant for the experiment: the attempt to proceed fast keeps the unfolding of the events and encounters on a constant edge of overflow. I am not able to maintain a cognitive sense of control by calculating, considering, anticipating, and selecting too much of the coming events when running in forest terrains.

Before continuing further, I want to note that I am aware that there is a certain tension with orienteering as a sport in the way I am using it. Orienteering, especially at the level of competitive sports, is human-centred (and ableist) and aims at a controlled human performance. The site, be it an urban built environment or forest, serves in that connection as a multiform arena for the performance. There are, however, several possible approaches to orienteering beyond competitive sport. In Finland, orienteering is seen as a basic skill that guarantees safety in moving outdoors whatever the context. Practising orienteering is also popular as fitness training, and most children learn the basics of orienteering at comprehensive school. Furthermore, I am aware of few artists who have incorporated the practice of orienteering into art events with a socially engaged and participatory orientation.[69]

Something essential for the experiment to work is the fact that I have attended to it with a long-term commitment for over several years. By

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67 Inspired by Haraway (2008) I stretch in this connection the concept of a contact zone to multispecies entanglements, beyond the original meaning by Mary Louise Pratt. Pratt (1991) pointed to (human) social spaces where different cultures meet, clash and inform each other – often in contexts with asymmetrical power relations.

68 It is also possible to attach the way I use orienteering with event scores. The idea of event scores originates from the international artist group Fluxus. Event scores are open(-ended), and leave space for chance and indeterminacy. Thus they function as activating and speculative (O'Rourke, 2013, p. 74; Springgay & Truman, 2018).

69 The Canadian artist Hannah Jickling, who practised orienteering (as a sport) in her youth, has developed projects that combine orienteering with art. One of her projects took place in Rauma, Finland, where she organised a performative urban orienteering event during her artistic residency in 2012 (Hannah Jickling. Merkittävät merkit, 2012). The artist Matt Prest created a participatory art event in an Australian suburban area in 2016, where the participants ran/orienteered through a neighbourhood. This event was called "The Warren Run", and as Springgay and Truman (2018) describe the concept of the event, the participants raced "through residents' private properties, inside houses, through backyards, and over the fences" (p. 72). The unusual way of using the area in the race was aimed at disrupting the everyday human routes in a typical suburban area by rupturing the bounds of private and public spaces.

going to the forest to orienteer repeatedly and regularly, I have tried to make space for becoming familiar with the variations of seasons, weather, lighting, temperature, forest types, and also the differences in my capabilities to respond and take notice. Things do not happen in one go. As Välimäki and Torvinen (2014) note, processing and experimenting with existential issues such as human-nature relations demand time and slow musing.

Becoming-with

A key concept that I am employing in the experiment is *becoming-with*. Donna Haraway (2008) uses this concept to explore human and nonhuman relationality. She states: "If we appreciate the foolishness of human exceptionalism, then we know that becoming is always becoming *with* – in a contact zone where the outcome, where who is in the world, is at stake" (Haraway, 2008, p. 244). Haraway illustrates this notion with a biological fact: there are plenty more non-human genes in the human microbiome than human genes (pp. 3-4). To Haraway, becoming-with is an ongoing embodied communication that is like a dance based on curiosity and respect for others (ibid.). It is not only about mutual partnership between species, but about being inextricably tied to multispecies others and about profound relationality with all their asymmetries, power relations, and inherited histories (ibid., Weldemariam, 2019). Furthermore, Haraway not only insists that we are constantly transforming and being transformed through our real-life, flesh and blood relations with other living beings (not all of them human); she also emphasises that "these mutual transformations are also part of a larger process whereby the world itself is transformed" (A. Taylor, 2017a, p. 1454).

Becoming-with calls for prioritising embodied, noncerebral ways of knowing as Wright (2014) suggests, and thus affective bodily capacities to act and to be acted upon.[70] I approach the idea of becoming-with as a possibility of attuning to materiality and generating new understanding about relationality. I am challenging the normalised (colonialising)

[70] As an example of how the concept of becoming-with can inform research, I offer Banerjee and Blaise (2013), who have employed becoming-with research practices in order to be able to make "room for the inter- and intra-actions between humans (us) and nonhumans (air)" (p. 5), and to let these encounters transform their understandings of postcoloniality in Hong Kong. The becoming-with practices with air allowed them to challenge their humanist orientation of the role of the researcher, and further, to be invited in relations that lead to "unexpected moments of instruction and insightfulness" (p. 5).

fixations with rationality, consciousness, and unitary subjectivity that prevent me from noticing "a multiplicity of becoming-withs in which we are immersed" (Wright, 2014, p. 279). I am experimenting with finding ways to pay attention to the nonhuman materiality of the forests and becoming-with beyond the dominating eyesight and the reason of the mind. I seek to foreground other senses – hapticality, smell, hearing, taste – in order to be able to grasp how human-forest entanglement feels in the body.[71]

There is a further practical feature related to orienteering that is conducive to being able to sense and pay attention to mutual embodied becoming-with. It relates to the permeability that the orienteering gear enables. The orienteering body is thinly covered against the varying weather conditions, since the aim is to move so fast that the body perspires and generates warmth. Thus, the orienteering body is not covered with insulating layers from the weather conditions and other materiality. Moreover, orienteering shoes are like tight socks with studs that allow moisture to get freely in and out. Orienteering in summer rain might feel like swimming in the forest, or crossing a damp marsh like ploughing through cold beach water with bare feet.

Thinking-with, writing-with the forest

Besides becoming-with the forest, the research experiment is also about finding ways of thinking-with and writing-with the forest. The encounters and events that take place *in* the forest are primary for experimenting with becoming- and thinking-with the forest, but the experimenting also spreads temporally to situations when my body is not physically in the forest. Writing-thinking in particular usually take place in my study, at my desk, by the laptop.

I have tried different arrangements to be able to bring the becoming-with, thinking-with, and writing-with together. I have written notes and journal texts right after the orienteering practice.[72] I have taken documentary photographs (sometimes while orienteering but most

[71] For example, hearing and smell are considered less voluntary and controllable compared to sight (Välimäki & Torvinen, 2014).

[72] Writing journal entries began in autumn 2015, and during the orienteering seasons in 2016 and 2017 I wrote 24 entries, 1-2 pages each. Later, I wrote entries irregularly.

often afterwards), and made other photos with a photographer to study further the emerging insights and phenomena of interest. These photos have for example related to examining how the moving human body appears in the midst of the varying organic forest materialities, and what kind of movement/responses the human-forest encounters generate (e.g. human-mud, human-thicket, human-moss entanglements). I have likewise wanted to re-enact certain situations that have given rise to insights or "glows" (MacLure, 2013) in order to be able to grope around the event beyond my sensory capabilities (e.g. what does the human body moving with the thicket look like from a distance). Further, there is a communicative intention entwined in the photographs: with the photos I aim at visualising and giving shape to entanglements that are difficult to verbalise and thus share with others.

I have also collected the orienteering maps. Through reading the journals and notes, and studying the photographs and maps I have been able to flash back to different encounters and sensations that have taken place in the forest. I have also concretely spread the journal entries, photos and maps around the study and written-with them.

Messy efforts

Before continuing further, I will briefly explain how the becoming-with the forest experiment took shape, the kinds of attempts I tried and the kinds of challenges I combatted on the way.

Something in orienteering pulled me in, but for a long time I felt incapable of grasping what, among all that took place, mattered research-wise. Trying to grasp the connections between orienteering-related experiences and research was like wandering around in a thicket, knowing that being in a mess *was* the thing, but lacking a focus to follow. I came up with senses of frustration and being lost and came close to giving up the whole thing.

During the first years of the experiment, I learned first of all a lot about orienteering itself, and to pay attention to my own sensations, experiences, and associations that emerged in the forest. While I wrote journal entries right after each practice, I realised that the phenomeno-logical orientation (for which I am trained) ran through all the ways I was able to articulate and communicate what took place in the forest. I found

myself manifesting my embodied, sensuous experience, and ended up stressing myself as the centre of events. I was excited and determined, and fumbled around "inventing research practices that do not yet exist" (Lather, 2013, p. 643).

Although I constantly strove to reorient my focus away from the perspective and meaning-making of an individual human to others, togetherness, and thinking-with others, my attempts seemed clumsy.[73] They still do. As Lather and St. Pierre (2013) note "We always bring tradition with us into the new, and it is very difficult to think outside our training, which, in spite of our best efforts, normalizes our thinking and doing" (p. 630). The human embodiment offers me an entry point to grasping multispecies and material entanglements, and focusing on embodied sensations makes it possible to grope for and describe at least certain dimensions of human-forest encounters and relationality. However, to some extent, I am not able to move beyond my human self and my human experiences. Relying on artistic thinking might open new intuitions, affects, insights, or sensations with respect to more-than-human connections, but still trip me up to realise the good old unitary-seeking subjectivity at work, impeding by all means possible the attempt to decentre.

Similar challenges hindered the taking of the photographs. The ways I wanted to use photographs as a part of the research experiment and they ways they communicated the human-forest relation were far from each other in the early stages. I seemed to end up in friction with the visual associations and stereotypes of how the forest, and a human body moving in a forest is typically portrayed in our cultural sphere. In the early photos I appeared as a sports athlete, documented while disappearing into the greenness of a conifer forest. Stepping back from (or moving *beyond*) the national-romantic, nature-mystical connotations as well as the sports imagery manifesting physical human prowess has taken years of forays. The photos later in this chapter share sections of the struggle-in-progress, as suggestions, events, and provocations for thinking-with.

Articulating the attempts to decentre human subject positions with an understandable language appeared especially problematic. I tried

[73] My first attempts to articulate and theorise human-forest encounters was published in a chapter in the book *Taidekasvatus ympäristöhuolen aikakaudella* (Ylirisku, 2016a).

to diminish the human presence in the writing and make space for togetherness by using parentheses around words that relate to my subjectivity (these are applied in visual-textual stories later in the chapter). Innovative visual-textual attempts to decentre myself from the text easily made the reading difficult –playing with italics, fonts, and paragraphs might generate new kinds of multiplicity in the text but might also make the communicative goal backfire. Despite being painfully aware of how central the 'I' remains in the experiment, I strive to write and think beyond myself through experimental textual layers.

<div align="right">

Like this.
A scent of artistic thinking – playing, imagining, fooling around.

</div>

Getting closer

I do not actually *know* how to acknowledge or think-with the nonhuman agencies in the forest in a way that really overrides my lead. My human agency seems to be tightly bound to a will for keeping a safe, controllable distance from other bodies. If I for example pause to touch the trees in the forest, and feel them with my eyes closed, the initiative and sense of control will remain mine. Therefore, I just rush my body into the forest. I offer my bodymind to be invited into relations with the materiality of the forest. We'll see what happens.

I run orienteering through spruce forests, birch groves, rocky plateaus, marshy lowlands, outdoor recreation routes, sides of cultivated fields, logging areas, thickets (I need to walk, climb, balance, jump, wade and stop to catch my breath every now and then). I go there while the terrain is brownish and watery after the winter, when the forest is turning green and blooming in the spring, when it is dusty, wet, sun-bathed, foggy, frosty, and the first snow is covering the ground. Season after season, again and again. Altogether nearly 1000 kilometres so far.

> *It is like a weekly mutual scratching event. Quite uneven, though. I go to the forest to be scratched and touched in many ways, and I mutually scratch back: stomp, leave marks and bend stretchy branches and stems. Our material bodies come across with different scales and temporalities.*

> *Oh no, the lichens will remember my footprints for years!*
> (Research journal, June 2019)

I realise that the experiment will possibly hurt. Basically, the vulnerability, softness, and delicacy of the human body becomes underlined. During the first years, my bodymind seems inexperienced in managing to move in the forest (and it *is* inexperienced). I am afraid of getting hit in my face and eyes by branches, twisting my ankle or stepping on a viper. It feels really difficult to try to concentrate on many things at the same time. Tackling all the details of orienteering takes effort and extra attention.

> *Where am I now? Do the location on the map and in the forest match? Where are the points in the terrain that I should meet next according to the map? Am I following the compass needle correctly? Where do I place the next safe foothold?*
> (Research journal, May 2016)

My bodymind becomes attuned to the climatic and weatherly conditions. When the forest is wet and rainy, at some point the skin on the hands and feet become watery, crease, and turn pale. Touching branches pours showers from the trees onto me. I can imagine my dripping wet body as a porous sponge, connected to the wider circulation of waters. Heat in its turn makes my body evaporate and perspire, and I soon run the risk of becoming dehydrated and exhausted. If the temperature is just above zero, I can see the vapour from my exhalation blend into the air humidity. The coldness makes my feet, thighs, and fingers become stiff and numb.

> *Hypothermia would have been ahead if a low-fatted and poorly furred mammal like me had continued wading in the cold rain a bit longer.*
> (Research journal, July 2017)

The material encounters leave marks that live on after I leave the forest. The pervasive, luscious odour of marsh tea stays in the clothing after crossing swampy areas. Small sticks, needles, and leaves stick to the hair, sweaty skin, and clothes. The shoes and legs get muddy and wet. Bloody cuts and bruises remind me of less tender encounters for several days. In the pollen season I am covered to the core with fine pollen powder. The same goes with the powdery dust that rises into the air as I stomp when the soil is parched. I sneeze and cough the dust away from my lungs and respiratory tracts afterwards for days.

I rub my body against the forest, breathe it, carry pieces of it with me. I try to allow the materiality of the forest to contaminate my body, and let it take part, influence, disturb, and reorient my (and our shared) thinking and becoming.

And then again the doubt.

Is this all still about just *me*? The me, the human *I*, the self (the damn habit),
trying to realise, feel, understand, grasp, relations that already are there?
Giving names and putting into words things
that do not match with language?

How to think-with the forest?
To whom (what kind of human-nonhuman configuration) should (I) turn here?
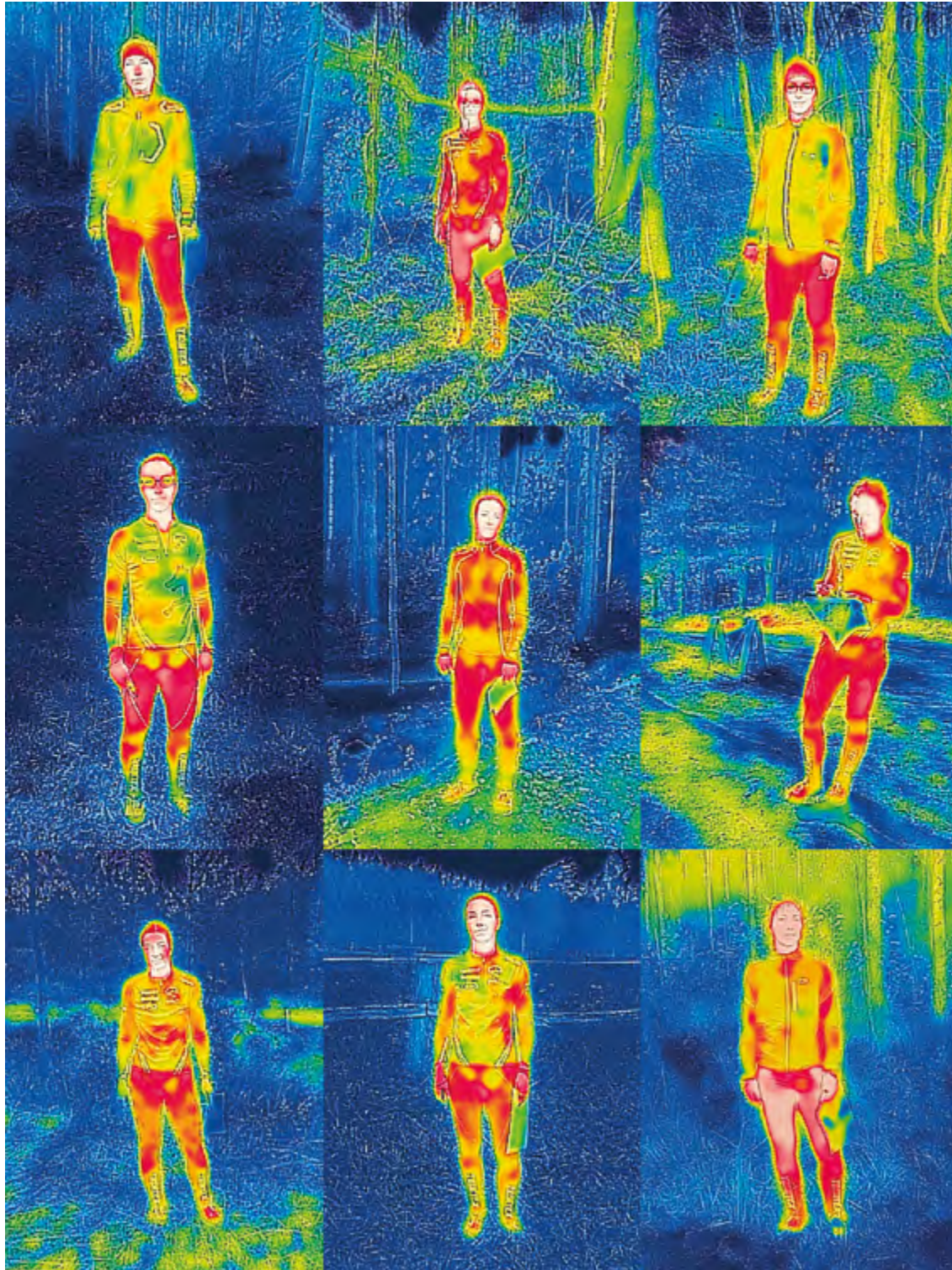Becoming- and thinking-with trees and other vegetation?
Or with nonhuman animals? Or with the land?
We are all material bodies. Bodies of water and some other stuff.
Should (I) just melt, decompose,
become imperceptible?

Visual experiments of becoming-with the forest: entanglement with wet, muddy, dusty materialities:

130

A collage of photos taken with a thermographic camera right after orienteering practice from a time period from spring to autumn in 2017. With this test I wanted to find out how the temperature of the warmed human body appears in relation to the temperatures of the other organic forest life. Does the warm-blooded human body glow as a warmer spot or blend into the temperatures of vegetation and land?

Next, I share stories of encounters and events that have recurred in the forest. I have chosen three different topics to focus on: *thicket entanglements*, *co-existing with nonhuman animals*, and *the intertwinement of nature and culture*. Each approach illuminates a certain kind of partial aspect of becoming-with the forest. These specific topics have been such that they have forced me to think, and they have provoked complex embodied responses and sensations with respect to the research focus.

Stories of becoming-with the forest

> Interconnectedness isn't snug and cozy. There is intimacy, as we shall see, but not predictable, warm fuzziness. (Morton, 2010, p. 31)

Yeah right, this is dirty, messy.
Realising interconnectedness most often feels
quite unpleasant and tricky.

Thicket entanglements

Orienteering as a propositional catalyst motivates stepping beyond the ready-made paths and routes. Often the straightest route to the next control point passes through variable terrain, and quite often through dense thickets.

Going through thickets seems silly at first. It appears so weird, that it arouses confused giggling (in me). Who would want to do anything this uncomfortable? The most absurd thing is that there are often other orienteerers doing the same. There are the sounds of snapping branches, scrambling, and rustling that are born out of the intra-action of the orienteering human bodies wriggling with the dense materiality of vegetal bodies.

fsss snnisps
crraacz swihhihiis .. snnaaap ouh frrrrrrts
fah ww i i i i i i p ...
mushmusth ... musz spläääääsh sts snamps
mosh frr mtss   mutss ntsss

When an elk or a moose, some other mammal of my size
is moving inside the thicket, is it as noisy?

(My) human body is just too large to pass.
If (I) try to push through,
(My) body gets slapped (on the face again, it hurts!),
arms and legs get scratched, the whole body
sprinkled with needles, sticks, leaves, cobwebs.
(My) skin, their skin, scratching against each other.

Squint the eyes!
We are a mishmash of branches, trunks and limbs.
What if (I) got smaller and more *fluid*?
Try to weave through?
Bow and dive carefully?

The woody bodies are sinewy and sharp
in a different way than mine.
They resist (my) momentary manipulating intentions.

Grope with the hands, protect the eyes.
Be cautious. You can't see far.

I stand at the booth where orienteering maps are sold and look at the A4 page that is taped to the side of the booth: "Lush terrain". I stare at the paper and wonder why someone wants to tell us exactly this. I soon find out about the lushness. The orienteering track is drawn straight through every possible greenish map symbol area, which means fierce wading through green jungle-like thickets. You lose your sense of direction and might miss the checkpoint by two metres without noticing anything. Floundering through the different kinds of thickets and bushes is agonising, violent pushing. There are all kinds of different vegetal bodies with various masses, textures, and rhythms. They seem nonresponsive to my attempts.
(Research journal, June 2016)

Well that was a struggling kind of becoming-with the forest.
Momentary cohabitation with intersecting motivations
provoked by the human will to push straight through.

Some might call the organic, green material excess mid-summer.
Does the generativity of summer spread to the human body
from the abundance of vegetal growth?

Using the roads or paths would be far more safe and pleasant.

Whenever human beings encounter plants, two or more worlds (and temporalities) intersect (Marder, 2013, p. 8).

The moving human body leaves behind shaky bushes of plant stems and dents that will probably disappear soon. (I) wonder if (my) passing human body makes the vegetation respond differently compared to the other mammals of about the same size that inhabit the forest. The deer's cloven hoofs at least do not stomp on the ground and break plants as widely as (my) human soles. The grass seeds stick to the body as equally as to any other body passing by. Maybe the elk flies are disappointed when (my) human body happens to be the one to jump onto instead of an elk. There is so much going on in the forest floor beyond (my) capability to sense.

The human sensory and communicative capacity is speedy, limited, and nonsynchronous with the vegetal spatial-temporal rhythms connected to light, temperature, and changes of seasons. The chemical, watery, communication of the plants, fungi, soil, and other critters remains strange, other, ungraspable to the diurnal mammal.

(I) imagine, imagine
how we are breathing together.
The metabolism of the thicket flows from (my) lungs,
all the way to the cell respiration
and back
again, and again.

What if (I) try to slow down and get my second wind?

Please, come back into the midst of lush vegetation
for a moment with (me)us.
Keep the eyes closed.
Just stand still for a moment.
Listen to the wind moving the leaves and branches.
Concentrate to feel how the air and other materialities feel in the skin.
Is your skin hair bristling?
You touch each other, are touched.
The porous human body is mashed among bodies, intentions,
taking part in events,
and flows of material movements.

There are also occasions where the lower parts of (my) upright body are absorbed in a vegetal realm beyond the sight. During the summer the forest floor might be in places covered with a sea of ferns or other dense vegetation in a thick mat. Trying to pass vegetal masses that reach to (my) armpits is slightly unappealing. Nettles burn even through the clothing when they hit (my) skin, thistles sting, and sudden stones or pits easily trip the feet.

The air is dense of intense odours: soil, plants, decay,
sweat-sticky synthetic fabric sports shirt.
We are inhaling and exhaling each other's airborne chemical compounds.

(I) can only hope that (my) movements make so much noise and shake the ground that the insects and other creatures inhabiting the vegetation are capable of getting out of the way. (I) realise that when crossing these sites, (my) body tenses, muscles tighten and (I) hold my breath in order to be ready for whatever comes up. Sight offers a sense of safety and time to prepare for what happens next.

A moment of becoming-with the moss.
Together we even out our temperatures.
We become cooler – we become warmer.
The moisture in the moss creeps into the shirt, to the skin.
Maybe some water bears (tardigrades) climb into the shirt, to the skin.

The intensity of the scent of the moss bed is surprising.
It does not find its way to the height of a nose of a standing human being
– one and a half metres above the ground.

Co-existing with nonhuman animals

There are marks of nonhuman mammals inhabiting the forests despite (me) rarely seeing them. They are probably more aware of (my) presence than (I) of theirs, and they make sure to keep a distance.[74] (I) every now and then notice their droppings, bite marks, footprints, paths, and sometimes even resting places while proceeding. Random encounters with large animals such as deer and elk are like solemn moments where time halts.

> (I) feel like the unwanted guest, from whom everyone escapes
> or freezes in panic in case of encountering them.

Then there are the nonhuman beings who consider a human body usable and interesting. A sweaty and heavily breathing human body is attractive to insects like mosquitoes, flies, horseflies, and elk flies. Then there are of course the ticks looking for a meal of blood.

> Now (I) am the one to consider
> these nonhuman others as unwanted guests.

During the first orienteering years (I) tried to avoid and minimise our coexistence. (I) covered (my)self with clothing and insect repellent. Slowly (I) have lowered my defences. Partly because (I) thought making a fuss about bugs was wimpy, partly because (I) got used to their presence, partly because (I) wanted to explore the sense of disgust they generated in (me), partly because becoming-with was the proposition.

As long as (I) keep on the move, the whining/buzzing cloud floats behind (me), but when (I) need to stop to check the map, they reach (me), swirl all over (me) and try to get to (my) skin. The pain of bites and stings is annoying and the expectation of soon-to-come hits disturbing.

Last week it was so pleasant in the forest. But now the first generation of mosquitoes has hatched. No problem as long as I roughly know where I am going. But when I get on top of a hill, I realise that the stone that I expected to be the check point is not the right one, and pause to study the map. In a second a swarm of mosquitoes lay into my body. They even get to my mouth, nose and

[74] The large local predator mammals such as bears and wolves have withdrawn to more remote forest areas and the likelihood of encountering larger nonhuman mammals relates mostly to cloven-hoofed animals.

eyes. It stings and hurts all over, and realising their presence makes me wave my hands and shake. Suddenly my body has become prey. I try to press myself into a tight squat to read the map so that there is not that much surface area in my body to be stung. I am so distracted that it is impossible to figure out my location in the map.
(Research journal, June 2019)

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> Hear them too?
> Even their whine is forbidding.

As Ginn, Beisel, and Barua (2016) note, multispecies togetherness might unfold as intentional withdrawal, disconnectedness, and detachment. Becoming-with insects is far from cuddly and cosy, unlike how becoming-with companion species such as dogs can feel. Becoming-with these insects who wish to eat from (me) is at its best from (my) side bearing their presence. Thinking of how important these insects are for food chains or for biodiversity does not change (my) affective response to stay away from them or slap them when (I) notice them on (my) skin.

These encounters appear reactive and violent on (my) part. The urge to defend one's body from the nonattractive, bloodthirsty, parasitising others promotes rivalry and clashes of intentions (some bodies want to keep the distance, others to capture it). Becoming prey questions the comforting illusion of a world that stays under control and is predictable (and these are just insects, not a crocodile, as in the case of Val Plumwood (1995))

> (I) do not want to share (my) body with you!
> You question (my) bodily integrity TOO MUCH!

> What if the insects were cute-looking?
> Nice, hairy creatures with big moist eyes and a begging sound?
> Would (I) then allow them to feed from (me)?

It seems so much more attractive to pay attention, empathy, and friendly-minded curiosity to, for example, the metallic dung beetles ('metsä-sittiäinen', *Geotrupes stercorosus*) on the forest paths. (I) get to choose the distance that feels safe for studying them, and can be assured by knowing that (I) am not dealing with a creature that wants to feed itself from (me) (at least while my body is alive) or could infect (me) with a disease.

Yet, the human will to take photographs
of human-elk fly encounters can change our becoming-with.
This time (I) looked for them in the forest
and greeted the first ones come across with enthusiasm.
They scurried on (my) shirt,
flew off looking for fur, interested in human hair.
For once, no attempts to shake or flee.

Tickling of small feet against the human skin, in the midst of hair
Too much swiftness, skittering to take photographs.
(I) tried to grab a few gently to move them from one place to another.
(I) accidentally squashed one badly (How can that be?
Usually they resist anything!).

The squashed elk fly posed calmly on (my) skin.
(I) got (my) shots.
But the clumsy human grip, attraction, curiosity
was fatal for her.

Chapter 4

Becoming-with the intertwinement of nature and culture

It seems like on another temporal layer present in becoming-with the forest would all the time be the actions and traces of human. Almost all the forests are somehow managed, cared, cultivated, and used. This is not graspable as acts of individual human persons, but as signs and traces of a ubiquitous system.
(Research journal, May 2019)

(I) feel devastated.
A very important forest (to me) – just next door to our home was felled.
The trunks are lying all over the ground and piles of
gathered branches creating newly born hills
in the landscape that has turned unrecognisable.
(I) wonder how the trees that are left standing are
sensing the sudden change.
The mammal bodymind tries to join the sparse pines for a moment.
Together (?) we reach towards wintery light.

(I) awoke at some point to wonder if the forests where the orienteering events take place are somehow more managed than other forests around here. While orienteering (I) come up regularly with new clear cuts[75] and logging areas. Areas of bushes and saplings covering cuttings a few years old are similarly a familiar terrain type. The trees in different areas of the forest are of the same age and the borders between different ages stand out. (I) ended up concluding that there did not seem to be any qualitative difference from other local forests. These seem to be the ordinary forests around here. In the European context, the Finnish forests certainly appear abundant. Compared to for example Central Europe, there is indeed green stuff all over if you look at Southern Finland from the air. But what kind of forests? According to the statistics, only 2-3 % of these forests are outside the use of the forest industry (Metsien suojelussa suuria alueellisia eroja, 2019). In this light, local forests appear mostly as immature tree fields. These are the expected normality, the 'other' than natural parks and nature reserve kind of protected forests that are typically portrayed in Finnish visual culture.

The fresh traces of industrial forestry feel nasty to try to pass. It is typical for clear cuts to have sharp branches, pits, a mishmash of tree stumps, and traces of harvesters all over the ground. It is materially awkward, spiky, and you easily get hurt. The same goes with thinning areas. It might be impossible to go through an area that is covered with a thick layer of felled wrist-thick tree trunks.[76] Besides, the fresh clear cuts look like destruction sites.

> Feelings of sadness, anger, disappointment, irritation in the air
> when passing through clear cuts.
> The overpowering smells of freshly cut trunks,
> branches, leaves, needles, jumbled soil:
> the smell of a fresh forest or chemical cries for help?

Through becoming-with experiments, the forests of South Finland have started to appear fragmented between the transportation networks, sub-urban housing areas, industrial estates, power lines, and agricultural

[75] After WW2 clear cutting has been (and still is) the most popular tree-harvesting method in Finland (Harmanen, 2018).

[76] These areas that have been recently logged are not however the only messed up sites in the forest. I have also encountered areas where storm winds or a jet stream have felled entire forest zones into impenetrable three-dimensional tangles.

landscapes. The presence of humans is pervasive in other ways, too. There are only rarely situations where the distant background noise of motorways and aeroplanes is absent. In the dark, the artificial lighting reflects in the urban and semi urban skies. While moving in the realm of built infrastructure, the noise and light appear normalised, almost unnoticeable. However, their presence stands out as intensive while moving in the forests.

(I) suppose (I) am somehow also becoming-with the inherited local human-forest histories.[77] (I) have read in local history books that

[77] Posthumanist conceptions of place underline the ontological entanglement of different bodies, materialities, and time (Malone, 2016a; Springgay & Truman, 2018).

humans have used these forests in many ways since the Middle Ages. In past centuries, the trees were mainly cut to be used as firewood and for making timber, plank boards, and stakes for building (Rantanen & Kuvaja, 1994). Cattle grazed in the forest during the summertime, and the forest was to some extent slashed and burned and used for tar burning (ibid.). According to the historians Rantanen and Kuvaja (1994), the monetary value of the local forest increased in the 18th century, and in many local villages almost all the valuable trees – meaning older, more than 200-year-old trees that were considered good for saw-timber – were felled. Much of the timber was taken to the construction site of the Suomenlinna fortress in front of Helsinki (ibid.). When reading the local history, the temporal perspective of the profound human dependence on the forests becomes comprehensible. Resourcist overuse and deforestation are not new phenomena.

The overgenerational timescale of local human forest management is however difficult to grasp and embody. Evidence of the former human-plant-animal-soil relations emerges as ghostly traces (Mathews, 2017), that (I) seem to be unskilled to read. They remain invisible and unimaginable unless (I) hear stories of them or invite a historian with (me) to the forest.

Sometimes while running in an older forest
(I) ponder if the previous loggers here
were Chinese migrant workers in 1916
– the very unlikely ones to end up here in the first place.
When Finland was still a grand duchy of Imperial Russia,
3000 Chinese migrant workers (some of them prisoners) were
brought here to log large areas of forests for the needs of
building fortifications around Helsinki
(Lassfolk-Feodoroff, 2017; Massinen, 2017).

More recent traces of human-forest histories become more easily noticed: former fields that the trees have taken over, ditched swamps and moss-covered sandpits. (I) might be startled by encounters with abandoned car wrecks, rusty buckets, or plastic litter. They pop up as out of place.

Out of place?
Is there a wrong place?
Is this just again (my) stubborn habit of separating natural and
cultural materialities into different realms?
The manufactured, weather-beaten, broken, half decomposed
human-made things in the middle of the forest.
Would (I) be similarly startled by an encounter with
an undesired and uninvited plant in the middle of
an urban asphalt-covered parking lot?
Weed things.

The forests around housing areas are pierced with traces of entertainment and hobby use: cross-country cycling and enduro tracks, frisbee golf lanes, recreation routes, dog walking and hiking paths, hut-building sites, you name it. Human animals appear as a consuming force in the forest floor. The impacts of individual bodies doing their recreation things (or whatever) polishes and wears down new routes, like huge ant paths, to the ground. The tempo and scale of these changes appear however different from the radical and massive traces of machine-made earth-moving work. Huge amounts of soil, rocks, and vegetal bodies might change location just like that, overnight. All those mined, crushed, pushed land-bound materialities are for a moment distracted from continuing their slow and active doing: wearing, weathering, percolating, melting, freezing, stratifying.

Despite the distinguishable dominance of human influence, it appears as if the processes of vitality, generativity, becoming disturbed, contaminated and diminished will blend into each other in the forest. The sprouting, growth, flourishing, encroachment, decline, decaying, disappearance – both human and nonhuman-generated entangle with

each other (I have *read* similar points many times, but embodying the entanglement still makes the realisation different).

Occupyings, retakings/reclaimings, tacklings.
Moments of parallel hybrid coexistence.
Intentional impacts and deeds
with neglect, distraction, benefit, chance.

Becoming-with the forest
unfolding as unexpected potentials of cohabitation and flourishing
in betweens of
cultivation, organisation, capitalisation,
deterioration and vitality,
living and dying.

Much of the processual interminglings would remain unrecognised and unnoticed to (my) human senses if (I) would not orienteer in the same areas almost yearly (and in any case, most probably still remains unnoticeable). Over the years 'we' become familiar, we know the general shapes and doings of each other. The terrain maybe knows what kind of tracks and routes attract the running human body. The human bodymind remembers the nonhuman material variations in certain forest areas: where the negotiations of touch and possibilities of passing by are especially tricky, and where implementing running movement is effortless.

Becoming-with these forests ruptures the assumption of the abundance of old forests in South Finland. The governmental energy and climate strategies (aligned with the economic interest of the forest industries) have promoted the use of bioenergy and encouraged a significant increase in the amount of logging during recent decades (Kauppinen, 2019).[78] Thus, passing through the tree-lines that frame roads, fields, and housing areas (as if they were curtains to other, wooded worlds) increasingly generates the sensation that the forests here are mostly pockets and leftovers squeezed in between other human land use types – instead of being extensive and unbroken. The emerging, embodied realisation relates partly to the erosion of the (idyllic) fantasies in relation to the quality

[78] Finnish forests are at the moment logged in record numbers: over twenty million cubic metres more yearly than 10 years ago (Kauppinen, 2019). Kauppinen (2019) demonstrates the statistics by explaining that for example in 2017, an area the size of a football pitch was being clear-cut every other minute, in all 140,000 hectares.

of the forest. The ability to recognise forests of different ages and types and the impacts of human forest management has over the years of the experiment started to spread beyond biological classifications. The sense of entanglement of human and nonhuman agencies in formations that appear materially as forests is maybe slowly becoming graspable.

I still cannot stop thinking of the Chinese loggers:
the oddities of the rumours
in small countryside villages
these workers left behind.

How are all the 'dancers' redone through the patterns enacted (Haraway, 2008, p. 25)? For the vegetal bodies, the human body passing by is probably just a fleeting moment, a temporal glimpse. Usually these momentary intra-actions in the forest do not leave much mark: some smells, imprints, broken branches, cobwebs, and tangled ant paths. Some tiny nonhuman animals are fed, some maybe get squashed, and bigger ones possibly fly off or jump away, frightened. The human body might get bruised and messed up by the entanglement with organic nonhuman materialities.

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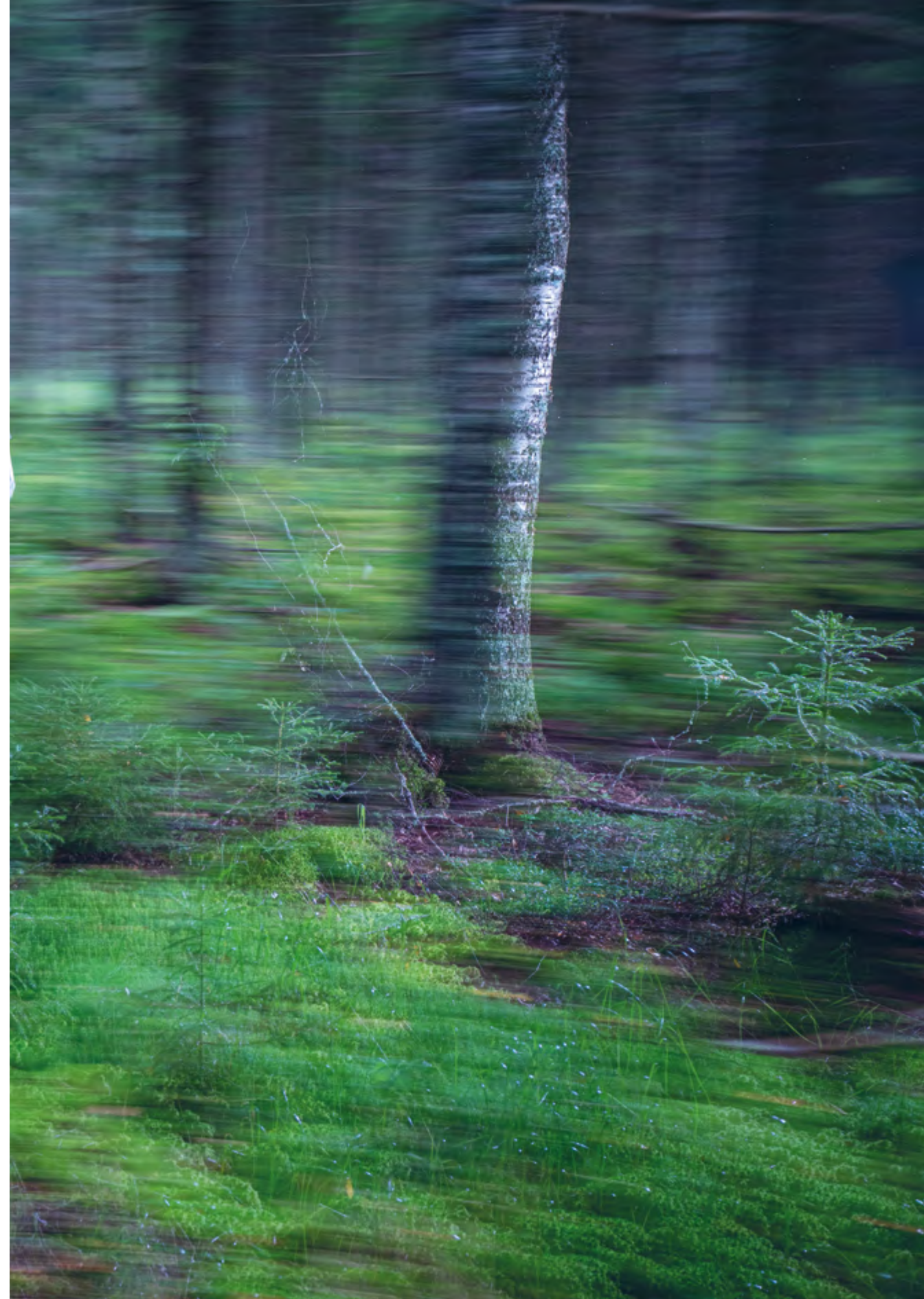
Note to self:
During the corona crisis,
this same gear could serve in
the daily life of social contacts.

(I) have relentlessly accustomed (myself) to difficult,
even nonpleasant encounters.
Promoted moments of becoming exposed to multispecies,
material webs of relations.

But constant orientation towards porosity and
becoming-with is also tiresome.
What if (I) tried to isolate the human body from the nonhuman forest bodies - completely?
What would that kind of experiment bring out?

(I) wobble around with a map in protective gear and heavy boots.
It is impossible to run.
The gear makes it difficult to hear anything.
Breathing becomes hard.
(I) sound like Darth Vader.

Trying to manage inside the cold, clammy gear uplifts a sense of anxiety.
Experimenting with this idea for a second time is definitely unnecessary
(unless for some reason radioactive rain fell in the forest).

Chapter 4   Becoming-with the forest

5. What does becoming-with the forest set in motion?

5. What does becoming-with the forest set in motion?

In this chapter, I theorise three threads emerging from the becoming-with the forest experiment with posthumanist scholars. Through these threads I attend to

- The difficulties and possibilities for challenging anthropocentrism.
- The potentials of reconfiguring a shared sense of the world through vulnerability and precarity.
- What focusing on complexities and tensions in human-nature, nature-culture, and human-nonhuman relations might mobilise.

These particular threads are chosen due to their inherent connectedness to the central challenges that unfolded through the mapping of EAE.

I will allow the layered writing style from the previous chapter to continue to spread into this chapter. The speculative, orienteering thinking has certain excess, pauses, and runners that this kind of writing nurtures.

Challenging anthropocentrism

The becoming-with the forest experiment has increased my awareness of how mechanisms of anthropocentrism work and how persistent they are. One recognisable feature surfaced especially from the thicket entanglements and other events where touching and becoming touched are central. The I, the self, prefers to make sure that the unfolding of events remains in the scale of the pleasant, smooth, and predictable.

This tendency can partly be explained through self-protection: playing it safe means on most occasions a better chance of remaining uninjured. Like any other organism, my bodymind is concerned with being able to maintain coherence and the capacity to act (Ruddick, 2017). However, in this connection, attempts to keep a physical distance and anticipate the unfolding of events seem to point to the attraction of being in control (Tsing, 2015) and at least partly reserved. In a very practical sense, it is *nice* to be aware of your location, to be able to choose a pleasant route, and not to be painfully hit in the face by branches.

Could it be that the inclination to prioritise the controllable, convenient and foreseeable dimensions of material and multispecies encounters are, to a certain extent, human-specific features that should not be questioned? Kopnina, Washington, Taylor, and Piccolo (2018) argue that it is quite legitimate to be concerned with taking care of the safety and well-being of one's own body and members of the same species. A certain level of anthropocentrism thus appears necessary and unavoidable. I consider Rautio's (2013a) suggestion in this connection to be enlightening: she advises separating anthropocentrism as a default from hierarchical anthropocentrism instead of guiding people categorically away from anthropocentrism. As a default, humans experience and communicate in certain ways due to their biophysical conditions (ibid.). Human bio-physics sets limitations and orients the ways we perceive other kinds of life-forms. For example, as diurnal mammals, we most easily notice the kinds of nonhumans whose spatial-temporal rhythms are compatible with our own (Santaoja, 2015). Furthermore, nonhumans who communicate mainly through, for example, pheromones remain unacknowledged by a visually attuned species (ibid.).

Rautio (2013a) points out that neglecting the consequences of default anthropocentrism or "applying it as a basis for value statements" (p. 450) turns anthropocentrism hierarchical, and thus generates problematic assumptions of human exceptionalism and speciesism. She considers recognising default anthropocentrism as a stepping stone for learning to pay attention to everyday life as the coexistence of species and animate materiality (ibid.). Rautio's view of the importance of familiarising oneself with the default anthropocentrism convinces me that EAE practices might play a role in learning to pay attention to habitual anthropocentric responses (the comfort zone) in multispecies and material relations.

However, while experimenting, it was not clear to me how anthropocentrism as a default and the problematic mechanisms of hierarchical

anthropocentrism are entangled. Is default anthropocentrism feeding the hierarchical, or is the hierarchical enforced mainly through culturally embedded values and meanings? Is it possible to recognise and unlearn features in species-specific ways of sensing, responding, and communicating that are conducive to supporting hierarchical anthropocentrism? These questions call for further research.

Possibilities for reaching beyond anthropocentrism and binary divides

In the experiment, the inclination to keep a physical, controllable distance from nonhuman forest bodies seems to impede acknowledging and paying attention to new kinds of relations. In other words: preferring relations that are expected to be pleasing and bearable seems to shut out the motivation and curiosity to explore encounters that have the potential to unfold as unpleasant, awkward, and confusing. For example, the encounters with flying insects in the forest could have remained as undesired, uninteresting disturbances that were not worth exploring if the posthumanist artistic thinking had not provoked me to question the habitual rejection and sense of annoyance (with histories of painful bites, swellings and itches). The posthumanist artistic thinking encouraged me to head towards more contamination, more encounters, and more entanglement, and to pay attention to the unfolding of these human-insect relations.

Becoming-with the forest is all about getting tangled in relations, but my bodymind apparently needs to be persuaded, appropriately invited, and lured to get beyond the anthropocentric reserve. It has taken time to get used to awkward encounters and feeling comfortable enough to lower the defences when being surrounded by unfamiliar and possibly threatening materiality/things/beings. I first needed to get accustomed with running around in forests, getting dirty and wet, and gaining basic orienteering skills, before I was able to pay attention to what was taking place beyond the surface level of events and beyond myself. I agree with Taylor (2017), who underlines the difficulty of the decentring of the human: challenging the embedded habits of dividing exceptional humans from nature and acknowledging the agency of nonhuman others is hard work. It means taking risks and radically questioning the safe, controlled order. "Thinking with the more-than-human is not something that we

can just set our minds to and do. It is a practice that requires a dedicated apprenticeship – a close attunement to what is already going on in the world beyond the human" (p. 1455). The intention to stay in control that is basically built into the rule game of orienteering is a paradox that I deliberately challenged. Despite orienteering as a propositional catalyst offers diverse, often unforeseeable potentials for human-nonhuman encounters and becoming-with, attuning to acknowledging them requires practice – and might still go wrong due to the attempt to stay in control over the unfolding of events.

The experiment intentionally minimises (for the part of my bodymind) possibilities of keeping a distance. Getting physically closer to nonhuman bodies seems to intensify varying responses and impacts. I have taken notice that over time my bodymind has started to orient itself particularly to becoming-with the vegetal forest materialities in a grappling-like affair. I do not refer to grappling as a harsh struggle with the intention to defeat the companions. Instead it is more like getting to know the oncoming others by grasping them physically and letting them do the same. I have tried different ways of coming close and grasping the materialities, while being careful to not injure them. I seek to balance between being on the one hand not too daring and careless, and on the other hand not too reserved and cautious. The previous has materialised as twisted ankles, scratches, scrapes, bruises, tears in the clothing (once it took a month before a piece of stick that had struck my ankle worked its way out from beneath the skin through becoming infected), and as torn branches, broken trunks and ripped moss tufts. The latter might have left me detached and unmoved in my anthropocentric default (and the nonhuman materiality undisturbed). The ways in which the varying agencies are woven together and encounter each other are however constantly changing – like a "dance of relating" as Haraway (2008, p. 25) would put it. Attempts to lean on kinaesthetic, affective,[79] haptic dimensions of bodily knowing – senses of pain, balance, vibration, and temperature – seem to offer some sort of an interface to becoming more aware and attentive to embodied entanglements with different forest materialities and agencies. Altogether, getting used to being touched has appeared in the experiment as an important entry point to disturbing the habitual anthropocentric responses in human-nonhuman encounters.

Sitä ei voi ylittää,
sitä ei voi alittaa.
Täytyy mennä läpi!

You can't fly over it,
You can't go below it.
You have to go through it!

You are it, huumaaan!
Trouble, cheat, lure, dwell in it.

The experiment encourages exploring further how artistic, embodied practices could be employed to make visible the anthropocentric habits, and further, for reaching beyond habitual, existing connections. I see that the developing of such practices (and further research) could be inspired by the Common world scholars,[80] who have developed strategies for decentring the human and thinking with the more-than-human (Nxumalo & Pacini-Ketchabaw, 2017; A. Taylor, 2017; A. Taylor & Pacini-Ketchabaw, 2019; Weldemariam, 2019): Common world scholars state that resisting foundational anthropocentric and binary divides is much about "staying with the trouble" (Haraway, 2008) by following resiliently the complex implications that start to emerge when the human is decentred. At some level it is impossible for a Western human subject to be entirely able to step outside the categorical divides that structure Western thought (A. Taylor, 2013). There is a multilayered call for simultaneously unlearning old habits of thought and learning new ways of paying attention to how we both affect the world and are affected by it. Common world scholars call the capability of acknowledging more-than-human agency, thinking with others, and paying attention to the mutual affects of human-nonhuman relations as *learning to be affected* (Nxumalo & Pacini-Ketchabaw, 2017; Pacini-Ketchabaw et al., 2016; A. Taylor, 2017; A. Taylor & Blaise, 2014). The idea of learning to be affected strongly resonates with the responses, insights, and thinking that the becoming-with the forest experiment has activated. Taylor and Blaise (2014) elaborate that learning to be affected involves "paying fresh attention to the way in which our bodies are moved, disconcerted, affected and enlivened" (p. 385) by the entanglements in the common worlds. They

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[79] An affect can be described as an embodied sensation "resulting from the body's connection with other bodies and materiality" (Hellman & Lind, 2017, p. 214).

[80] Common world scholars, with their focus on childhood studies and early childhood education, also want to challenge developmental views of childhood as a vulnerable, passive stage of life, and assumptions of the innate affinity of children with nature (Malone, 2015, 2016b; A. Taylor, 2017).

further note that there is always more going on than we are capable of noticing and understanding, and that we might be able to access "more-than-rational apprehensions of the ways in which the world acts on us and affects us" (ibid.) by paying attention to disconcerting interferences beyond our intentional actions.

A further thread that the request to "staying with the trouble" (Haraway, 2008) by Common world scholars spurs in my thinking concerns the nature of such endeavours. Despite the amount of practice, the attempts to increase openness to cracks, holes, and leakages in the habitual (separate) categories and anthropocentrism often unfold in the experiment as fumbling. I might catch myself anthropomorphising (Root-Bernstein, Douglas, Smith, & Veríssimo, 2013) the nonhuman others in our encounters: identifying our similarities or imagining how familiar (human- or mammal-like) characteristics we might share. Since in human-nonhuman encounters I often lack conscious strategies for thinking-with, it is easy to lean on the (anthropocentric) ones that are familiar already. Thus, groping towards the others with an empathetic effort might unfold as benevolent endeavour that, at its best, embraces relations between different individually existing beings. This kind of attachment allows the idea of the subject to be extended to nonhuman others, but fails to undo the very idea of the subject.[81]

As I noted earlier, it seems that getting accustomed to paying attention first to one's own responses and embodied sensations has opened up further possibilities for noticing and paying attention to the agencies of nonhuman others and our mutual entanglement. Learning to be affected in the becoming-with the forest thus unfolds as very slow and erratic. Common world scholars note that grasping ways of sensing differently and attuning to multispecies relations unfolds as a risky business. The outcomes of being affected and affecting others cannot be predicted. Pacini-Ketchabaw et al. (2016) aptly state: "One of the decentring aspects of learning to be affected through paying close attention to our embodied multispecies relations is that we cannot presume to control the myriad ways in which we are and will be affected by these worldly relations" (p. 161).

[81] Ruddick (2017) points to the problematics if affective relations with humans and selected nonhuman animals are considered as singular alliances between individuals. She claims that scholars who emphasise equity with other beings or new multispecies alliances/attachments do not go far enough in undoing the humanist theory of the subject.

The need for new concepts for thinking differently

The experiment likewise brought to the surface the need for new concepts and new articulations when experimenting with posthumanist conceptions of entangled becoming-with others. The articulation of human-nature relations is crucial for EAE. Metaphors such as reconnecting with nature, drawing close to nature, or revitalising the connection to nature, as discussed in Chapter 2, do not enable the human to be decentred or the continuous production of dividing lines between humans and nature/nonhuman/matter to be contested.

Rautio (2013a) argues that instead of concentrating on attempts to connect or reconnect humans more organically to nature, we should instead focus on ways in which we already are nature. Rautio (2013a) claims that being in the world is not only about humans forming and developing relations, but instead more a case of realising that "the relation is always already there, and as much influenced by behavior and existence of other co-existing species as it is by our intentional or unintentional actions" (p. 448). We are one species among others, and continually creating conditions for each other's existence. Rautio recommends that (environmental) education should treat humans fundamentally as already being nature and concentrate on abilities to recognise and challenge existing connections with the nonhuman world and finding new ones.

Malone (2015) brings forward the idea that the posthumanist decentring of the human enables a shared sense of the world to be reconfigured, and thus the idea of a community becomes emphasised – both in educational philosophy and pedagogical practices. When humans are no longer considered the only agentic subjects, agency and subjectivity spread more widely, and humans are embedded in an ecological community without being exceptional. To Malone, "redefining one's sense of attachment and connection to a shared world" (p. 7) unfolds as "multiple ecologies of belonging" (p. 7).

I see that the suggestions of Rautio and Malone enable human place and agency in the world, to be rethought, particularly in educational (including EAE) discourses focusing on human-nature relations. I as an art educator-artist-researcher consider valuable in their suggestions the way they bring forth the value of the everyday: ordinary everyday encounters and entanglements. I find their trust in the generative powers of mundane, everyday relations a convincing alternative to the promotion of human-centric narratives calling for saving the planet (see also A. Taylor, 2017).

Think of the everyday.
How your life is entangled with bacteria, yeast, composted soil,
urban nonhuman animals, companion species,
(zoonotic coronaviruses,)
glass, steel, concrete, plastic, cotton,
books, cutlery, electronic devices.

Rearticulating embodiment

With respect to reorienting EAE, the experiment made me ponder the generativity of alternative concepts for embodiment. Embodiment as a word easily associates with humanist understandings of the human body as a bounded entity in itself (Springgay & Truman, 2017). Maybe giving up familiar concepts could assist in tuning in to the idea of the body as porous. Stacy Alaimo (2010) considers human bodies as open-ended systems that cannot be disentangled from their wider environments and networks, and conceptualises human embodiment as *trans-corpore-ality*. Alaimo describes the human body as "always inter-meshed with the more-than-human world" (p. 2), and highlights the constant inter-changing and inter(intra)connecting movement across "human bodies, nonhuman creatures, ecological systems, chemical agents, and other actors" (p. 2)– even in unpredictable and unwanted ways. Trans-corpo-reality as a concept underlines that the human body is radically open to its surroundings, and never static (ibid.). The trans theories, which Springgay and Truman (2017) also employ, appear to have potential for disturbing the notion of an embodied, coherent self. Neimanis (2017) in turn, whose approach to posthuman corporeality has informed my methodological thinking with respect to communicating embodied experience, has chosen to retain using the word embodiment. Neimanis, however, clearly articulates her approach to posthuman bodies as "fundamentally part of the natural world and not separate from or privileged to it" (2017, back cover).

Thus, if EAE supported via humanist frameworks[82] promotes multisensory observations, openness to sense perceptions, and embodied presence, posthumanist EAE could reorient similar practices by aiming to disturb the illusion of a body with self-contained borders and the impression of the centrality of human agency in forming relationships. Furthermore, the conceptual reorientation should encourage exploring

[82] These were previously aligned typically with phenomenological and place-based frames.

coexistence and becoming-with others beyond individual human experience and meaning-making.

Reconfiguring a shared sense of the world through vulnerability and precarity

The three stories of becoming-with the forest each somehow bring to the fore vulnerabilities. Recognising vulnerability often unfolds as a sense of physical limitation, pain, and suffering in journal entries. In the thicket, the softness and delicacy of the human body in encounters with wooded bodies comes to the fore in the form of susceptibility to being damaged and punctured. Passing though clear cuts[83] (or wind-felled tree trunks) likewise highlights the vulnerability of the human body to the sharpness and hardness of the woody stems lying on the ground.

While moving around in/with the forest, it is possible to notice how the vegetal bodies are susceptible to storm winds, snow loads, and frost. The tree saplings in the thickets are vulnerable to being eaten by foraging elk. Elk, human, and vegetable bodies, in turn, are vulnerable to parasitic creatures that seek to prosper through our bodies (fungi, insects, pathogens). Orienteering human feet might mash delicate plant populations. Even from the most distinguishable and visible surface layer, the forest appears as a mesh of intersecting vulnerabilities and susceptibilities.

In some stories, the vulnerabilities unfold as pronouncedly asymmetrical. In human-insect encounters, the human body ends up as prey, and responses with violence, killing, and fleeing. On a larger scale, both temporally and spatially, the all-encompassing impact of human forest management and land use (deforestation) situates the organic forest life and land to a very asymmetrical vulnerable relation with the human.

One way to respond to the recognition of vulnerabilities (particularly human) would be to consider them as a negative – as something related to weakness and threat and thus a risk to life. This kind of approach further encourages bonding the vulnerability of human race with the planet that

[83] Furthermore, the orienteering-catalysed physical entanglement with the materialities of the forest (beyond the readymade paths) makes me think how much human-made environmental management seems to suppress human vulnerability.

is likewise becoming increasingly vulnerable (Braidotti, 2013). Vulnerability as a negative bond does emphasise the interdependence of all living organisms, but might unfold as reactive and mobilise narratives of both human and nonhuman "in the face of common threats" (p. 50). Braidotti (2013) further points out that vulnerability as a negative response falsely creates an assumption that all humans are equally vulnerable to environmental threats.

The idea of vulnerability can however be approached as more complex: as both life-diminishing and as a generative condition of life. Vulnerability as a condition of life appears productive for rethinking ecological coexistence beyond the narratives of human mastery and domination (Pacini-Ketchabaw, A. Taylor, & Blaise, 2016; A. Taylor, 2017; A. Taylor & Pacini-Ketchabaw, 2015). I find further inspiration for thinking along this thread from the writings of the anthropologist Anna Lowenhaupt Tsing (2015). Tsing (2015) writes of disturbance-based ecologies that emerge and take form where "many species sometimes live together without either harmony or conquest" (p. 5). She describes precarity as a typical feature of disturbance-based ecologies. "Precarity is the condition of being vulnerable to others. Unpredictable encounters transform us; we are not in control, even of ourselves" (p. 20). This kind of precarity is not only limiting and frightening, she continues. It unfolds as vagueness and indeterminacy that makes new kinds of lives possible: lives that do not become visible and noticed as long as assumptions of linearity and progress define the ways in which meaningful lives are conceived (ibid.).

Although Tsing focuses on exploring the precarious livelihoods and environments around matsutake mushrooms ('tuoksuvalmuska', *Tricholoma matsutake*) in her research, her ideas on precarity help me in rethinking the concept of nature. They point to the unfolding possibilities of hybrid coexistence that are created in the enmeshment of agencies of human, vegetal, nonhuman animal and earth others. To me the ongoing corona pandemic manifests the precarious nature of becoming-with by highlighting the emergent and unexpected ways in which multispecies encounters change worlds. We also become-with and are companions with organisms that we consider uninteresting, worthless, even harmful (Ginn et al., 2014). Curiosity beyond progress and benefit narratives further enables us to notice worlds of indeterminate relations and affects. Relations and nonhuman agencies that appear as futile with an anthropocentric human attention might teach us to widen our limited understandings of how we create conditions for each other's lives (Tsing, 2015).

What does becoming-with the forest set in motion?

Attuning to these relations can likewise open possibilities for acknowledging the agential capacities of nonhuman others.

The experiment spurs my thinking with respect to the complexity of the vulnerability. On one hand, I am learning to pay attention to the vitality of organic forest life that starts to fill human-generated gaps and traces in the forest. Pioneer species prosper in clear cuts. Lichens, moss, sprouting bushes and grass start growing and take over the newly disturbed surfaces. Despite the asymmetric relations and randomness, human-nonhuman encounters can be beneficial and nourishing for (some) nonhumans. On the other hand, familiarising oneself with scientific knowledge with respect to the accelerating deforestation and the alarming loss of biodiversity and species extinction rate in Finland (as well as elsewhere) (Hanski, 2016; Kauppinen, 2019) brings a grim tone to rejoicing about the vitality of forest materiality.

Likewise, the weird converging of vulnerability with the affirmative and favourable dimensions of the becoming-with experiment has disturbed my thinking. How can the human responses to becoming-with the forest emerge both as fragile, powerless, and susceptible, *and* amazing, vitalising, and gratifying? This has encouraged me to speculate whether vulnerability could be used for rethinking subjectivities in further EAE theorising and practice. Tracing how this insight unfolded through the experiment, I realise that at first vulnerability appeared as a not-so-desired, even negative, dimension of encounters with the forest materialities. However, the material entanglements and encounters likewise provoke joyful and pleasant sensations – and mixed affects as well. The wet grass in summer rain gently strokes my legs and the newly opened leaves caress my head when passing by. The mildly warm air in the forest in summer evenings might feel like a cherishing mass that invites the human body into its embrace. There are several kinds of inter-mingling (nonbinary) human-nonhuman touches in the forest: tickling, clumping, grasping, chilling, revolting, retreating. As Braidotti (2013) underlines, subjectivities start from the body, located in lived situations. While being tangled in a thicket, with a thicket, subjectivity as the effect of encounters, interactions and affectivity (ibid.) become thinkable. The thicket is a good provocateur: there is no chance of holding a comfortable distance or intact bodily borders, or fostering illusions of sovereign subjectivity.

Could we learn to become less uncomfortable with vulnerability through posthumanist EAE? The way Green and Ginn (2016) discuss vulnerability appear motivational in this connection:

Seeking to put ourselves at risk can be a productive ethical practice. We might learn to accept the risks more, to loosen the hegemonic idea of a self-certain subject to whom an outsider arrives to disrupt. Instead, encountering awkward nonhumans pushes us to recognise our corporeal vulnerability to the other (p. 157).

> I almost hear the whining of mosquitoes and
> buzzing of horse flies when I read this passage.
> The insect-others coming from the outside to disrupt.

Foregrounding ethics

Thinking through vulnerability and precarity opens vistas for imagining nature-cultures beyond dualistic divides and clean categories in EAE. Navigating the emerging, messy terrain, however, challenges EAE to foreground ethics. As noted earlier, advancing social justice, diversity and democracy in human communities through art education (including EAE) already has a strong tradition (Anttila & Suominen, 2019; Ballen-gee-Morris & Stuhr, 2001; Buffington et al., 2015; Campana, 2011; Darts, 2004, 2006; Gude, 2009; Jung, 2015; Kallio-Tavin, 2015; Lai, 2012; Lee, 2013; Rekow, 2012; Rhoades, 2012; Räsänen, 2015; Shin, 2011; Suominen, 2018; Suominen & Pusa, 2018; Tavin, 2003; Tavin & Hausman, 2004; Ulbricht, 2005). I see that this offers a strong frame for studying how vulnerability is unevenly distributed in human communities (Braidotti, 2013). However, taking into account the critical theories addressing the oppression and struggles around colonialism, race, gender, class, sexuality, and ability, and intersecting them with posthumanism calls for ethical responses that are relational, accountable and situated – and extended beyond the human (Springgay & Truman, 2018; A. Taylor & Pacini-Ketchabaw, 2015, 2019; C. A. Taylor, 2016).

Becoming-with nonhuman others in the experiment has unfolded in the form of an enmeshment of curiosity, intentional and unintentional a/effects, indifference, withdrawal, and asymmetrical negotiations. The awkward multispecies encounters in particular have pushed me to realise that considerations on how to live well with others appear context-specific and shifting. It has been disturbing to address the thought that "vulnerability, violence, and death are part of on-going, generative engagements with nonhuman others" (Ginn et al., 2014, p. 121) – despite 'good', responsible human intentions. What would it change in educational ethics, if the unwanted dimensions of human-nonhuman relations were not repressed, ignored or tried to be solved as negative

problems? If becoming-with others is already a matter inseparable from ethics (Barad, 2007), it is not enough to focus only on becoming more sensitive to and aware of multispecies relations with the expectation that the relations will only be agreeable and affirmative. Attending to the implications of the relationality, even to the complex and difficult dimensions, counts.

Posthumanist scholars suggest reorienting the humanist idea of responsibility towards *response-ability* (e.g. Barad in Dolphijn & van der Tuin, 2012; Haraway, 2016; Springgay & Truman, 2018; Trafí-Prats, 2017; Weldemariam, 2019). Response-ability materialises as one's sensitivity and ability to respond to the multitude of encounters and entanglements in everyday practices (Truman, 2019; Weldemariam, 2019). Thom van Dooren and Deborah Bird Rose (2016) describe response-ability in a following way: "there is no singular 'responsible' course of action; there is only the constantly shifting capacity to respond to another. What counts as good, perhaps ethical, response is always context specific and relational." (p. 90). They likewise articulate that response-ability "is about developing the openness and the sensitivities necessary to be curious, to understand and respond in ways that are never perfect, never innocent, never final, and yet always required" (van Dooren & Rose, 2016, p. 90). Pacini-Ketchabaw et al. (2016) in turn attach response-ability to the idea of learning to be affected: they state that we "cannot decentre the human without learning to be affected by the world that we also affect" (p. 158). To them, ethics arise from the entangled bodily encounters where it is possible to viscerally experience the capacities of non-human others "to act and affect us, even as we act and affect them" (p. 158).[84]

It seems that the emerging of posthumanist ethics highlights the importance of being able to attune to one's own body and other bodies, instead of just "studying the world through the safety of detached mental processes" (Pacini-Ketchabaw et al., 2016, p. 158). As I see it, EAE tapping into the embodied and sensory ways of thinking-doing that are typical of artistic practice (Anttila, 2017; Tuovinen & Mäkikoskela, 2018) can mobilise new possibilities for response-abilities in multispecies and material relations.

[84] Alaimo (2010), who underlines material trans-corporeality, also states that ethical considerations and practices must arise from the even uncomfortable and perplexing understanding "where the 'human' is always already part of an active, often unpredictable, material world" (p. 17).

Notice what kind of parts you play in interspecies and material relations.
Realise how you affect others and how others affect you.

But
how to find perseverance for grappling with the difficult
response-abilities where vulnerabilities, flourishing,
survival and suffering circulate?

It is uneasy and difficult,
but still it must be done.
Ethical does not mean pleasant.

Unsettling innocent notions of care

Maybe part of the reorientation of ethics of posthumanist EAE should be focused on critical embodied engagement with concepts and narratives that carry forward simplistic, innocent assumptions of ethical attachments. I find it important to unsettle the notion of *care* as part of further ethical reorientation of EAE. Attending to awkward and unwanted human-nonhuman encounters through the experiment forced me to question my capability of responding to encounters with nonhumans with respect and care. The insect-human encounters appeared as clearly something else than positive and affirming coming together from my side.

The mosquitoes, horse flies, elk flies, flies, ticks …
from whom my body would prefer some distance and disinterestedness.

It suddenly appears weird, hypocritical
to build insect hotels in the yard,
plant meadow flowers for butterflies with kids,
and tell them that loving and caring for everybody is important
– no matter how radically different they are.
While on other occasions slapping and killing insects
that want to feed themselves from your body.

Likewise, the articulation of human forest management as 'care' (in Finnish 'metsänhoito') unfolded through the embodied engagement with clear cuts and other forest materialities as highly contradictory.

I paid attention while mapping EAE that care was portrayed in some EAE conceptualisations as an ethical justification such as "the need for

us to care for the earth" (Randazzo & Lajevic, 2013, p. 39), or as an aim to "care for the natural world" (Bertling, 2013). These examples can be considered the undertow of stewardship ethics, where caring resonates with anthropocentric highlighting of the human as a superior steward. By pointing to these examples, I do not want to underrate the importance of care as an ethical obligation (Puig de la Bellacasa, 2010) and as omnipresent practical labour that makes living possible (de la Bellacasa, 2017, p. 5). Instead, I want to point out that by attuning to posthumanist entangled ontologies, the concept of care unfolds as ambiguous and complex and should be addressed as such. Care as a notion is often understood as good and beneficial, and thus innocent (Hohti & Tammi, 2019). However, conflating care only with positive feelings, affection, and attachment (Murphy, 2015) appears insufficient for identifying and describing the affective and non-innocent human-nonhuman encounters and connections where care, love, manipulation, and control intermingle (see also Kallio-Tavin, 2020).[85]

Taylor and Pacini-Ketchabaw (2015) propose a possibility for decentring the human in ethics through thinking of the agential caring capacities of the small, unnoticeable, and awkward others, such as subterranean worlds of worms and ants (p. 9). While (stewardship) humanist ethics might promote caring selectively about some nonhuman animals that are 'useful' for humans, that are 'big like us' (A. Taylor & Pacini-Ketchabaw, 2015), or might be easy to relate to due to their 'cuddly charisma'[86] (Santaoja, 2015), focusing on the smaller life-forms might allow us to grasp how "our human lives are totally dependent on the lives of other, much smaller, often overlooked, and sometimes invisible creatures" (A. Taylor & Pacini-Ketchabaw, 2015, p. 9). Inspired by Myra Hird's micro-ontologies, Taylor and Pacini-Ketchabaw underline that giving up the idea of the human as the default extender of ethical care makes space for comprehending how we are beholden and sustained by a vast number of tiny life-forms that, for example, make our bodies functional, and fertilise the soil from which we are able to grow our food (ibid.). Drawing attention to nonhuman forms of care might offer previously unattended topic areas to study in EAE: the mushroom rhizomes beneath the forest floor, composting, yeast, or gut flora.

[85] Focusing on the topic of care in posthumanist EAE further opens potential connections with postcolonial and indigenous feminist commitments of the notion of care and studying how "the exercise of power operates through care in many divergent ways" (Murphy, 2015, p. 710).

[86] Santaoja (2015) refers to research claiming that humans favour nonhuman animal species that share features with human children and have recognisable faces (p. 4).

Care as emotional attachment, means of sustaining and protecting, concern and cautiousness, trouble, worry (Murphy, 2015).

How do these different meanings of care overlap in the complexities of the ecological crises we are living through?

Focusing on complexities and tensions in human-nature, nature-culture, and human-nonhuman relations

At large, the becoming-with the forest experiment stimulates immediate, fleeting encounters and world-making that is situated and local. Much of the embodied, affective becomings and configurations remain weakly recognised and nonverbal. However, the most striking feature of the multitude of fluctuating thoughts, responses, feelings, and imaginings that running around in/with the forests activate is their inconsistency. Despite the critical thinking, the (possibly) increasing awareness and familiarising with posthumanist theories, the instant responses to human-forest entanglements might still be romanticising and idealising. I sometimes recognise fleeting senses of nostalgia and yearning for 'real' and 'proper' forests in my responses. Sometimes a momentary light event in a sandpit that I am passing through strikes me with wonder. The touch of wet, lush bog pond encompassing the human feet might feel simultaneously disgusting and attracting. Then again, when for example crossing on foot large areas where industrial forestry has recently radically altered the landscape, my bodymind is often engulfed with melancholia, annoyance, and sense of loss. I might end up ruminating on what kind of creatures are gone for good, and what happens with carbon release and intake in this specific disturbed area. Occasionally I might bubble with joy from the fresh spring greenness of the forest and the scent of verdant lilies of the valley.

I find it difficult to accept and take seriously the moments of longing while also thinking critically about the problematics unfolding from romanticising and idealising nature, as if the idea of a forest as a vitalising safe haven is carved all the way to my bones. The senses of grief and annoyance are more understandable. There is no hiding the

emotional difficulty unfolding from the realisation that the forests of Southern Finland are far more disturbed and fragmented than I dared to expect.

> There is something tragic in giving up forest-related illusions,
> hopes, and wishes.
> But hey, what did I even expect?
> The privilege of hideouts or
> innocent 'breaks' from the ecological crisis
> in distant Finland?

To me, the regressive, emotional responses that get activated through the experiment tell of the tangled, resisting character of becoming unsettled. Despite the motivation to challenge the thinking-making-doing, perhaps letting go of the known and familiar activates uncertainty where worry and dark visions of the current predicament gain ground. Perhaps the inconsistencies with thinking-reading-writing and emotional-embodied-affective responses have likewise something to do with the psychological burden that increasing awareness of the alarming ecological changes can arouse (Pihkala, 2019a).[87]

These speculations are activating a fragmented, emerging thought that concerns the reorientation of the future EAE. The posthumanist onto-epistemologies motivate EAE to explore and experiment with new kinds of thinking, and thus generate movement, leakages, and porousness in categories that have previously been considered as distinct and separate. Nevertheless, attending to the complex, inconsistent responses and dissonances when the habitual categories start to leak appears likewise as significant. Instead of trying to solve or smoothen complexities, could EAE focus deliberately on making the contradictions, tensions, and inconsistencies visible and tangible?

The inclination to focus particularly on complexities and tensions is partly inspired by the post-qualitative methodological orientation where agitations, tensions, and frictions are considered to be generative forces (Springgay & Truman, 2018). Thus, attending to and inhabiting frictions appears productive for new kinds of thinking to emerge, and for

[87] I follow with interest the emerging discussion over the 'ecological grief' that natural scientists are articulating (e.g. Vince, 2020). The expectations set for scientists of different fields to address environmental and ecological issues as only rationalisable objects of research appears to me problematic. In Finland, attention has recently been paid to teachers' difficult environmental/ecological/climate-related emotions (Pihkala, 2019a, 2019b).

promoting pedagogical situations that would enable learning with others and being in the middle of events. Pacini-Ketchabaw et al. (2016) also pay attention to the productivity of friction: They agree that friction produces movement, action, and effect, and that paying attention to friction allows relationships to be seen as transformative (p. 164). They further note that "friction encompasses problems, dangers and risks. Yet, friction also opens up to transformation. Being, thinking and doing through friction helps us avoid our tendency to separate, to know, to generalize" (p. 164).

Although the above-mentioned scholars discuss the relevance of complexities, tensions, and friction in the context of research practices, I find that the same orientation interlinks fluently with arts and art education. Arts (as well as art education) have a long tradition of thinking-making-doing 'differently' and questioning the obvious and normalised (Varto, 2008b, 2008a). The 'differently' is in some occasions linked to the politics of critical artistic practice as an activist strategy for disrupting dominant hegemonies (Mouffe, 2007, 2008). Furthermore, more intimate, indirect ways of considering artistic practice in itself as a way of resisting Western cultural dominance have come up in recent Finnish discussions on the possible roles of arts in this time (Laininen & Workgroup, 2018). I see that the critical emphasis of EAE (see Chapter 2) particularly draws from these disruptive and resisting dimensions of artistic practice that align with critical pedagogies. Thus, inhabiting frictions, tensions, and complexities and focusing on attending to the unfolding responses in their multiplicity appear as possible strategies for bridging arts and learning in posthumanist EAE.

Queering nature ideals

Attuning to the hybrid, complex, entangled human-nonhuman-materialities of everyday life unravels the idea of nature as pure and 'out there'. With this orientation, co-existing with others in an ecological community becomes a matter of physical and embodied relationships and experiences that are often messy, tricky, and uncomfortable (A. Taylor, 2017). Especially in areas where there are migrating species and human-influenced environmental degradation, urbanisation, and deforestation are intense, interspecies coexistence can be challenging and difficult (ibid).

The posthumanist conceptions of nature(s) and 'being nature' (Rautio, 2013a) might be challenging to digest without working on nature-related (cultural) ideals. Experimenting with becoming-with the forest has encouraged me to ponder whether attending to the complex

nature-related cultural discourses could serve as a stepping stone to unpacking the separateness of the categories of nature and culture. The experiment brought up that grasping the enmeshment of nature and culture through an embodied practice unfolds as partly inspiring and opens new modes of thinking, but at the same time it highlighted that provoking forest-nature related ideals and wishes arouses discomfort. I realised that despite the critical orientation and theoretical groundwork, the deeply embedded cultural conceptions of nature I carry along with me seem to be resilient.

> The heavenly, lovely lake sceneries,
> light phenomena in the summer evening sky,
> I hate-love how dear you are.

As noted in the previous chapter, Finnish cultural identity is historically closely related to nature (especially surviving in the midst of harsh nature), and narratives supporting the image of harmonious and respectful relations with nature still influence the nature-relation discourses, outdoor and recreation culture, as well as visual culture imagery related to nature. It appears to me that the 'strong nature relationship' tradition is cherished like a national glory (Korhonen, 2019; Saikku, 2020; The forest relationship in Finland, n.d.). As a Finn, I find it easy to relate to the nostalgic elevation of the value of childhood nature experiences: swimming in the lakes, skiing, picking berries, and sitting by the campfire. However, Iivanainen (2001) and Mantere (1995b) were already remarking on the limitedness of "lovely nature" kind of sunshine-filled ideals (Mantere, 1995b) and the tendency to invest in positive nature experiences (Iivanainen, 2001) in EAE (to them arts-based environmental education) and other environment-related educational contexts. As also discussed in Chapter 2, the idealising and romanticising of nature promotes one-sided illusions of nature as positive, beautiful, and idyllic. Adding more mud, rain, or darkness to environmental pedagogies might enable portraying nature as more diverse, but will not in itself challenge the idea of nature as separated from culture (and the human). In all, there seem to be several dimensions waiting to be unpacked with respect to the idea of nature – before even getting to the decentring of the human.

A further issue that likewise calls for attention if the nature ideals are challenged, is the politicality of these ideals. In the Nordic welfare states it is (still) possible to sustain comfortable, positive, and empowering nature relationship narratives. Neimanis, Åsberg, and Hedrén (2015)

argue that in places like Sweden (and probably also in the neighbouring Finland) the upper and middle-class public may still be well-protected from the negative consequences of climate change and other environmental challenges. This is why I suggest that the complex task of EAE in this geopolitical location is to ask difficult questions with respect to the "seductiveness of the innocent position" (Kopnina et al., 2018, p. 2). Are we ready to confront privilege, exclusiveness, elitism, and apoliticality in Finnish nature-related conceptions? I see that without critically analysing the mesh of nature-related ideals and discourses – the elevating narratives of Finnish national identity, the political rhetoric of sustainable development, the management approaches of the forest industry, nature protection talks, and promises of nature as a source of recreation, well-being and beauty – EAE might fall back to reinstating problematic stewardship approaches with an unquestioned neutralising of human-nature relations. I see that attending to the nature/forest-related visual culture offers fruitful entries to this analysis. What kind of relations and ideals are promoted in commercial imagery, country brand marketing, non-fiction, and nature documentaries?

> How to inhabit the friction of
> learning to give up idealised images of nature
> as idyllic remedy?

How, then, to unsettle the nature ideals in a productive way, without suppressing their complexity and underestimating their potential relevance to the sense of basic security? Sometimes the becoming-with the forest experiment activated humoristic and satirical ideas that could be realised in the context of art. These ideas sprout from the will to disturb the common (middle-class) discourse of how 'nature' should be enjoyed for its well-being benefits and how it should be considered as a site of taking pleasure, relaxation, and refreshment. Images of performances and ideas of photos or video clips pop up. I might play with ideas of placing picnic parties to enjoy their refreshments in pleasant and beautiful 'nature', in totally inappropriate weather and in weird places – in the middle of clear cuts, back yards of industrial estates or scrappy bushes. I don't see that instructive or underlining artistic strategies are capable of mobilising movement with respect to complex, sedimented nature ideals. Maybe queering (as a verb) could offer ways of disturbing the stereotypical, privileged, nationalist narratives of a close relationship with nature.

Maybe queering could likewise offer ways of encountering and negotiating entangled encounters with hybrid natures, beyond binary thinking and human exceptionalism. In the experiment, physically grappling with, being grappled with by the forest materialities and staying with unsettling human-nonhuman encounters allowed the awkward, tense and unprepossessing (human) responses and coming together to be made more approachable. Getting more accustomed to the touch of the nonhuman creatures and materialities through the repetitive experiment helped in identifying that embodied touch might have disturbed something normative. Maybe artistic practices could enable making the strangeness, the queerness of the human-nature-culture-nonhuman encounters and the disorientation they potentially arouse more approachable.

Hey, would you join me for
a workshop "Grappling with thickets"?
Not too many theoretical texts to read for an introduction, I promise.
We'll warm up and then head to the embodied practice.
I'm sure we'll come up with ways of sharing out experiences on
more-than-human thinking-with
through artistic means if you consider it meaningful.

Making environmental crises tangible

The becoming-with the forest experiment likewise set in motion new questions relating to the tangibility of the environmental crisis. Here, in the Southern Finnish forests where the experiment took place, the comprehension of the presence and scale of ecological emergencies appear often inconsistent with the wider global situation. Is the beautiful, sunny spring afternoon in a blooming forest really part of a world in peril? The emergencies and serious declines or rises still mostly appear intangible and abstract. The alarming news of large wildfires, extreme heatwaves, drought and polluted air, dissolution of permafrost, and animals dying in plastic waste emanate from 'somewhere else'. I am not able to notice or sense how many microplastics and environmental toxins circulate in our material bodies, or how nonhuman animal and plant species are slowly migrating due to the changing climate.

The disparity between chaos-like, catastrophic events such as hurricanes, floods or fires and subtle, slow changes and disappearances (Kauppinen, 2019) that are difficult to perceive appears striking. Likewise, the messages of natural scientists (e.g. IPCC, 2018; UN Convention on

Biological Diversity, 2020), the embodied everyday experience, and the stereotypical nature-related narratives appear conflicting. The winters might be bad (without snow), rainfall and temperatures irregular, some seasonal changes late or early: nothing that in its own right would radically motivate questioning the position of the human and trust in the sufficiency of the technological solutions to solving the problems at hand. How does one navigate this disparity in EAE?

As in the case of realising vulnerabilities, I see that the ways in which environmental crises with their intangibility and imminence are framed is significant. Wandering around in complex and tensed terrains might end up drifting into a trap of negativity: bemoaning the situation (as exploited and lost), rolling around in nostalgic longing, and becoming embittered with the human species. Likewise, flirting with collapse narratives[88] might feed the sense "that the world is on the brink of collapse" (Somerville, 2017, p. 397), which can arouse anxiety, despair, guilt, apathy, and rejection. These kinds of responses can be challenging to turn into ethics and productive action.

> Is dreaming/imagining of a rich and diverse forest
> at this time both
> a radical form of imagining futures
> and a fanciful escape from reality?

I see that the geopolitically privileged location of Finland and other Nordic welfare countries maintain the mismatches of the known-sensed and global-local as continuous challenges for attempts (art pedagogical and others) to come to grips with living on a disturbed planet. Thus, despite the framing, the intangibility of environmental crises waits to be addressed.

I join with several scholars in paying attention to the problem of intangibility of environmental crises (e.g. Davis & Turpin, 2015b; Ellsworth & Kruse, 2012; Neimanis et al., 2015; Rainio, 2019). Neimanis et al. (2015) elaborate the issue of scale:

All bodies have their own temporality and spatial extension, and humans, particularly those embedded in Western cosmologies, organize their dominant imaginaries, practices, and politics around a human-scaled existence. As such, humans can find it difficult to relate to environmental issues that are predominantly sensible at other scales—the long duration of climate change, the extended time lags between causes and observable effects of toxification processes, the microscopic size of plastic particulate pollution in water bodies, the invisibility of environmental concerns such as the low-level but ubiquitous toxins … (p. 73)

Neimanis et al. (2015) conclude that the difficulty of grasping the environmental issues and their effects leads to a sense of alienation (ibid.). Another problem that Davis and Turpin (2015a) raise is that the humans tend to adapt quickly to new conditions and protect themselves with varying survival strategies and technologies, so it is not easy to register new perceptual and sensorial realities in the first place (p. 12).

Expectations and hopes are pointed towards the arts with respect to tackling the intangibility. Galafassi et al. (2018)[89] point out that many artists are already framing their engagement with environmental crisis through the ability of arts "to provide an accessible channel to connect with phenomena that are unpredictable, often difficult to comprehend and seem remote in time and space" (p. 75). To be more precise, the artistic practices studied in their research are aiming "to create a new intellectual and emotional awareness" (p. 74) of environmental crisis, "to visualize planetary change and shift perceptions" (ibid.), and "to help people engage with climate change on a deeper and personal level" (ibid.). These aims can be considered relevant for both arts and their education, but inspired by the experiment and posthumanist scholars, I however turn my attention to pondering how to agitate arts (and EAE) to move "beyond raising awareness and entering the terrain of interdisciplinarity and knowledge co-creation" (p. 71). I am interested to reach even beyond interdisciplinary collaboration and invite transdisciplinary and postdisciplinary[90] modes of thinking-making-doing. I imagine collaboration in research, in arts and in pedagogies …

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88 There is already a wide genre in popular culture drawing from dystopian visions of a future after humanity or the possible forms of post-apocalyptic cultures. *The Hunger Games*, *Blade Runner*, *Mad Max*, *The Matrix*, *Battle Angel Alita*, *Planet of the Apes*, *Handmaid's Tale* and *The Road* present a few examples from literature and movies of this genre. These fictions feed the darkest of prospects of how the carrying capacity of life-supporting systems will radically collapse due to ecocatastrophe, war, disease, monsters, impact events, or other reasons.

89 The research by Galafassi et al. (2018) discusses the context of climate change. In this research, environmental crises are considered to be a wider network of interrelating crises, climate change being one.

90 Neimanis et al. (2015) refer to postdisciplinary research as "scholarly inquiry that can move across and between disciplines and publics, and that can engage the values-oriented, imaginative and affective dimensions of environmental issues rather than only the scientifically 'factual' ones" (p. 79).

… where "art, science and technology converge in artistic practices" (Berger, Mäki-Reinikka, O'Reilly, & Sederholm, 2020b, p. 12)

… where "art/science collaborations could change the ways both artists and scientists think and work, and the questions they ask" (Myers, 2017, p. 105)

… and collaboration as "transdisciplinary meeting ground and a laboratory for culturing new approaches, methods, theories and desires in relation to significant environmental matters" (Neimanis et al., 2015, p. 86)

… collaboration with jackdaws, art teachers,
children and backyards …

… with grannies, geraniums, neighbours,
traditional garden plants, soil, cameras …

… with orienteerers, thickets, artistic strategies,
geomorphologies, robotic engineers …

… families, frogs, ponds, mosquito larvae,
science activists …

The becoming-with the forest experiment unfolds as generous for provoking forward tensions and complexities. One further tension that has left questions open which I lastly want to briefly mention relates to joy, pleasure, and satisfaction. I would not have returned again and again to the forest to continue experimenting if the practice had felt ultimately unpleasant and terrible. Maybe the affective sensations of joy that I have come to realise relate to *potentia*, the vitality and affirmative energy of life that constitutes the desire to endure (Braidotti, 2013; C. A. Taylor, 2016). However, joyful affective sensations and gaining pleasure from the running around in/with the varying hybrid forest when blended with an awareness of (descending) environmental crises (that are somehow present but mostly beyond sensing) generate an uncanny mixture of worry and enjoyment.

Should the everyday moments when becoming-with nonhuman others appear pleasant …

I think of yesterday evening when the air was gently warm,
the evening sunlight percolated through the trees, and birds were playing
on the grass while I was sitting on the backyard.

… be framed as privileged, luxurious occasions that are tied to complex other dimensions?

The fresh memory of the preceded long months that "normally"
should have been winter, but now unfolded as
dark, windy, rainy, hostile eternity.

The cutting down of nearby forests
in order to prevent an insect labelled as a pest
(engraver beetle, *Ips typographus*, or someone else)
from spreading more widely to surrounding monocultural forests.

Witnessing thrown-away cardboard coffee cups,
ice-cream sticks, paper hand towels alongside the road,
reminding of the wider global flows of forest-related products.

Thinking of Finnish forest politics, continuing increase of human land use,
mining claims (for battery metals),
and how the mines are not close to the capital area of Finland.
But they are there, in more remote areas – out of sight
as outsourced deforestation in the Global South
in relation to the production of palm oil, soy, corn, wheat,
and other cheap food substances
(and other stuff).

Ummm, the flesh of my human body is nourished partly
by Indonesian deforestation.
Disturbing.

6. Speculating on posthumanist EAE

6. Speculating on posthumanist EAE

Where are we now?

I feel like I am standing in an unfamiliar forest with a partly drawn map that is mostly incomprehensible and ambiguous – some insights marked as notes here and there, some warnings, some questions, some separate words scattered around the map. So many have contributed to the creation of the markings – art education scholars, posthumanist/new materialist philosophers, posthumanist educational scholars, myself, similarly the forest with its thickets, vegetation, insects, mud, weather conditions, and other things.

I will briefly go through how I got here. The looming planetary predicament with accelerating ecological changes called me to consider whether the environmental tradition in art education is capable of offering adequate responses and strategies to meet the contemporary challenges (in art education). I mapped the existing EAE conceptualisations by drawing from a wide array of texts of art pedagogies connected with environmental, ecological, and sustainability-related topics. Through the mapping, EAE appears as a study of human-nature and nature-culture relationships with an art pedagogical orientation that foregrounds embodied and sensory ways of knowing, focuses on engagement and communality, and promotes critical thinking combined with creative actions for making change. However, despite having several insightful approaches, most of the EAE conceptualisations are problematically tied through their philosophical-theoretical groundings within binary logics and anthropocentric presumptions. Thus, they run the risk of sustaining dualistic categories between humans and nature,

driving presumptions of individual and separate selves, and, further, underpinning tendencies to idealise and romanticise nature.

The need for an ontological reorientation of EAE motivated me to turn my attention to posthumanism as an alternative. Posthumanism proposes onto-epistemologies that allow humanist conceptions of separate and individual subjectivity to be problematised, and can provide a fruitful frame for reorienting EAE towards decentring the human and unpacking human exceptionalism.

I challenged myself to explore further what emerges out of experimenting with posthumanist theories. Drawing from artistic thinking, multispecies ethnographies, and walking methodologies, I developed an entangled thinking-writing-doing practice for the experiment.

The experiment provoked me to explore thicket entanglements, coexistence with nonhuman animals, and the intertwinement of nature and culture in/with local forests.

I then theorised and discussed the topics and insights that the experiment mobilised with posthumanist scholars. These discussions covered the difficulties and possibilities of challenging anthropocentrism, the potentiality of reconfiguring a shared sense of the world through vulnerability, and the generativity of attending to the complexities, tensions, and friction. Likewise, the importance of foregrounding ethics and reorienting the notion of responsibility to response-abilities was activated by the experiment.

Insights that emerged through orienteering in these terrains has made me draw distinct marks on the bizarre orienteering map. By challenging myself again to entangled thinking-writing-doing with the forest, the map marks, and theories, I now aim at speculating what these marks can activate for/in EAE. I am trying out different propositions and groping for emerging configurations. In doing this, I try to keep in mind a few pieces of advice: speculating should aim *beyond* criticality (Bryant, Srnicek, & Harman, 2011) and be experimental and even transgressive (Braidotti, 2013, p. 104).

Now, I just stand here. How do I continue orienteering with this map?

> The feet with their orienteering shoes are wet again
> from ploughing through the ditched pine swamp.

What can posthumanist EAE do?

It is time to return to the research question: What can posthumanist EAE do? Basically, the onto-epistemological shift from humanist frames towards posthumanist notions of entanglement and processual becoming calls for reconfiguring all the dimensions of EAE: what kinds of conceptions of human subjectivity and embodiment are promoted, how the relations and interdependencies are articulated, what kinds of pedagogies are promoted, and furthermore, what kinds of conceptions of art and artistic practice are advanced. In other words, it is necessary to reorient the philosophical presumptions of what it is to be human as entangled and emerging with others.

> What can the reorienting do to me, to us?
> What can it do to the field of art education?
> What can it do to EAE practices?

How are the posthumanist theories explored in this research mattering[91] to art education? Theoretical concepts and suggestions of posthumanist scholars from different fields offer inspiration for thinking further about how to decentre the human and bridge the divides between human/nature and nature/culture in EAE. I am aware that reconfiguring EAE with a posthumanist onto-epistemological approach can take several differing routes. In this research I have particularly drawn from the suggestions of Common world scholars, and theorists such as Donna Haraway, Rosi Braidotti, Astrida Neimanis, and Anna Tsing.

The focus of this research foregrounds EAE as a potential space for exploring existential aspects of living: troubling habitual understandings of relations, and the notion of the human and human relations with nature, technology, materials, nonhuman/more-than-human. I agree with Suominen and Pusa (2018) in considering the hybrid discourse of art education and art as capable of creating a special platform for critical learning (p. 23).

Although attending to difference and diversity in human relations and the promotion of equality, democracy and social justice are not new topics in art education (Anttila & Suominen, 2019; Ballengee-Morris & Stuhr, 2001; Buffington et al., 2015; Campana, 2011; Darts, 2006; Efland, Freedman, & Stuhr, 1998; Gude, 2009; Jung, 2015; Kallio-Tavin, 2015;

[91] The idea of mattering by Barad (2007) highlights the agential capacities of matter. In posthumanism/new materially oriented research, the mattering unfolds as an entanglement of mattering and (discursive) meaning (de Miles & Kalin, 2018; Hohti, 2016).

Lai, 2012; Lee, 2013; Rekow, 2012; Rhoades, 2012; Räsänen, 2015; Shin, 2011; Suominen & Pusa, 2018; Tavin & Ballengee Morris, 2013; Tavin & Hausman, 2004; Ulbricht, 2005), the posthumanist relational ontology challenges us to extend the attunement to difference and diversity beyond the human. We are already engaged with the world in its constant becoming (Barad, 2007). Thus, there is a need to develop theories and strategies that allow complexity to be added to the Western thinking paradigm that keeps to the dialectics of self and other (Braidotti, 2013; Braidotti in Dolphijn & van der Tuin, 2012). If the human is already internally differentiated and constituted partially by the nonhuman (Braidotti & Hlavajova, 2018), cultivating an attitude of tolerating difference or becoming more familiar with difference will not be enough. How should one live with the fact that we are in principle intertwined in divergence and diversity?

Navigating posthumanist EAE

While the posthumanist onto-epistemologies resist fixed definitions and universalism, I see that some guiding implications of the onto-episte-mological reorientation are necessary to keep in mind for navigating a future posthumanist EAE. When considering being as emerging from intra-action, ontology, epistemology, and ethics are inseparable (Barad in Dolphijn & van der Tuin, 2012, p. 69). Questions of ethics and justice are thus "always already threaded through the very fabric of the world" (ibid.). Hence, paying extra attention in posthumanist EAE to discussing the problematics of universalising moral claims appears as an important move for decentring the human in ethics. Commitment to respect and compassionate action might offer ethical starting points (Haraway, 2008), but should nevertheless be pushed further towards "staying with the trouble" (Haraway, 2016). Attending to the asymmetrical vulnerabilities in the everyday material and multispecies entanglements challenges EAE to keep asking how both human and nonhuman flourishing is possible "in the face of incommensurable differences, confronting losses, and uncertain ecological futures" (Nxumalo & Pacini-Ketchabaw, 2017, p. 1415). As discussed earlier in the research, the ethics of response-ability emerge from "responsibility and accountability for the lively relational-ities of becoming, of which we are a part" (Barad in Dolphijn & van der Tuin, 2012, p. 69), and foreground abilities to respond. Thinking through vulnerability and precarity, as discussed in the previous chapter, opens up one possible thread for EAE to explore further how to learn to listen to the response of the other and become responsive to the other, "who is not

entirely separate from what we call the self" (Barad in Dolphijn & van der Tuin, 2012, p. 69).

When considering possible strategies for decentring the human through/with EAE, it is also important to remember the call to remain ethically situated and accountable to structural injustice with respect to race, gender, class, sexuality, and ability (Truman, 2019). Furthermore, as Todd (2016) and Sundberg (2014) remark, the excitement around posthumanist ontologies runs the risk of becoming another form of colonialism by privileging Euro-Western White thinkers and mistaking the nature-culture split as universal. Identifying "the coordinates of one's location" (Sundberg, 2014, p. 39) by analysing one's epistemological and ontological assumptions and how they have been naturalised and rooted through "geopolitical and institutional power relations/practices" (ibid.) cannot be dismissed.[92] One should likewise bear in mind that research and pedagogical relationships add another complex layer to ethical considerations. These relations are likewise asymmetrical and include the potential for violence (see also Kallio-Tavin, 2013).

As I pointed out in the mapping of EAE, the endeavours of employing humanist conceptions of subjectivity with the environmental thinking that underlines interconnectedness and interdependence appear to be a problematic combination. The unquestioning of individual, autonomous subjectivity thus keeps the idea of mutual reciprocity on a symbolic and metaphorical level. This is why I suggest focusing specifically on understandings and articulations of human subjectivity when considering the philosophical-theoretical groundings of future EAE. Posthumanist conceptions of human subjectivity as embodied (Braidotti, 2013; Malone, 2015), collective (A. Taylor, 2017), relational (Braidotti, 2013), and always unstable, complex, and emerging (Braidotti, 2013; C. A. Taylor, 2016) should permeate throughout EAE thinking and practices.

To me, the above-mentioned issues function as a kind of compass that enables continuous reorientation and questioning of the assumptions that appear obvious when orienteering in the messy nodes of encounters and lively materialities.

Attending to unlearning

Taylor (2017) notes that posthumanist onto-epistemologies call (particularly for those well-schooled in humanist, human exceptionalist thinking) for a multilayered challenge of simultaneously "unlearning old habits of thought" (p. 1455) and learning new modes of collective thinking-making-doing (ibid.). These old habits of thought include an entire onto-epistemology: the ways we come to know and understand what it means to be in the world.

I see that particularly with respect to humanism-driven human exceptionalism and binary logics posthumanism activates art pedagogical practices that are driven by disruptive verbs. As suggested by posthumanist educational scholars, these disruptive verbs encourage:

"Disrupting anthropocentric views" (Malone, 2016, p. 1)
"Troubling ontologies" (Duhn et al., 2017)
Disrupting "the Cartesian divide between human and animals by challenging the simplistic dichotomies of animal-human, nature-culture, and object subject" (Malone, 2015, p. 9)
Challenging "education's individualistic and human-centric understandings of knowledge production" (C. A. Taylor, 2017, p. 1451)
And to "to intervene in, and disturb, this hegemonic worldview" (Neimanis, 2017, p. 21)

Challenging, troubling, disrupting, resisting, interrupting, intervening, disturbing, contaminating, unsettling

Part of the unlearning might be directed to critically analysing the structuring of anthropocentrism as human exceptionalism, as well as attending to the functioning of the hierarchised dualisms and centric thinking, and the ways in which they have rooted to frame the valuing of difference in Western modern cultures (Martusewicz et al., 2015).[93] I see that studying these cultural structures and their intertwinement with power and oppression could be studied in EAE particularly by focusing on the arts, visual culture, and other forms of cultural production.

I will make sure to pay attention in my further EAE teaching and research to introducing the limitations of stewardship pedagogies and traditional environmentalism. Furthermore, particularly in the Finnish context, analysing romanticising and idealising human-nature

[92] Based on my experience of EAE, these dimensions might easily be left aside if the EAE orientation is building on the idea of being on a 'good and important cause', and when the promotion of a closer human-nature relation is considered as a desired solution to disconnectedness from nature (e.g. van Boeckel, 2007, 2009).

[93] The practices and strategies of critical visual culture art education offer entry points to analysing the expressions and implications of the categorical separatedness of e.g. nature and culture, human and animal.

relation narratives and stereotypes calls for attention. I think EAE might mobilise unlearning the innocent apoliticality of Finnish nature ideals and discussing the privilege, political/economic interests, and cultural/historical influences embedded in conceptions of human-nature relations.

Experimenting with new modes of thinking-making-doing

Posthumanism also encourages EAE to thinking-making-doing that generates something new: new kinds of relations, subjectivities, response-abilities, and thinking with others in ecological communities. It calls for making, unmaking, and remaking, and further, allowing to become made, unmade, remade. This is a creative strategical orientation where the propositions of posthumanist theorists and posthumanist educational scholars might spark EAE to craft "new configurations, new subjectivities, new possibilities" (Barad, 2007, p. 393).

> Experimenting, reorienting, speculating, imagining, bonding, witnessing, creating new alliances, collaborating

'Being nature' (Rautio, 2014) appears as a fruitful conceptual opening that provides access to noticing and paying attention to intra-action. Likewise, the concept of learning to be affected as used by Common world scholars (see page 112) appears as a potential concept that could assists in focusing on noticing and acknowledging more-than human agencies and becomings, in particularly multispecies relations, in EAE.

Neimanis et al. (2015) underline imagination as salient for shifting understandings. They state that, like social imaginaries, environmental imaginaries function as "sites of negotiation that can orient material action and interaction" (p. 81). They claim that the environmental imaginary significantly impacts how we respond to environmental crises, and propose considering imagining as a practice of "worlding" (Haraway, 2008, 2016), making worlds together. The proposition of Neimanis et al. (2015) inspires speculating on whether posthumanist EAE could serve as a site for worlding diverse environmental imaginaries. Arts and artistic practices are already considered generative for creating new imaginaries and imagining alternative possibilities (Bertling, 2013; Davis & Turpin, 2015b; Galafassi et al., 2018). The idea of imagining as a worlding practice, however, enables reorienting EAE away from the notions of the imagination as the creative capacity of an individual human towards imaginings that might unfold from collective thinking with others and material, embodied entanglements.[94] Imagining as worlding can be explored and experimented on with familiar events and nodes of everyday life, not necessarily in the realm of the art world. Neimanis et al. (2015) also further propose exploring environmental imaginaries "within non-Western cultures and in pre, post- or non-capitalist contexts" (p. 82).

Queering as a generative force

The disruptive and generative verbs as possible stimulations for posthumanist EAE do not exclude each other. They both are needed to be in the middle of things. As discussed in the previous chapter, attending to complexity, tension, and friction has generative potential. EAE might allow provoking these tensions and ruptures to surface without reducing their complexities, and attending to the movement they set in motion.

Posthumanist EAE might thus encourage stirring up, putting in motion what is sedimented, while "embracing the generativity of discomfort, critique and non-innocence" (Murphy, 2015).[95] As I see it, this kind of (feminist) engagement with unsettling and troubling enables romanticising and idealising notions of nature and human-nature relations to be disrupted. Moreover, the purposeful unsettling and troubling of anthropocentrism and binary thinking can promote the acknowledgement of relations that are already there (and the noticing of new ones), with all their messiness, vulnerabilities, asymmetries, and non-innocence. To my thoughts, this kind of speculation on art education as a site of troubling and unsettling does not go far from the 'core' of art education. As Varto (2014) asserts, art education can be considered a space in otherwise quite structured societies that may use all the means, strategies and practices of arts to challenge anything that seems to have become rigid, have found their place and been turned into an unquestioned truth (p. 25).

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[94] Truman (2019) also underlines the materiality of language and thought. The concepts and words describing them as well as understanding something have material affects and create worlds.

[95] I am here drawing from the thinking of Murphy (2015), who focuses on unsettling notions of care. There is a firm commitment to postcolonial and indigenous feminist commitment in her work, which she attaches to Haraway's call to staying with the trouble.

Then how does one mobilise this kind of engagement in/through posthumanist EAE? Here the idea of queering as a verb appeals to me and begs further speculation. Queering as a verb was raised in the previous chapter as a possible strategy for unsettling nature ideals. Could queering be put to work more broadly as an art educational strategy with respect to unsettling anthropocentrism and the categorical divides between human-nature-culture-nonhuman? Queering has previously been deployed by art education scholars mainly to trouble the binary categories of gender and sexuality (Greteman, 2017; Suominen & Pusa, 2018). Taylor and Blaise (2014), however, offer an inspiring proposition of thinking about anthropocentrism as another pervasive form of normativity, as *anthroponormativity* (p. 377), which could as well be troubled through queering. They find that playful, humoristic, subtly subverting artistic strategies are potentially conducive to learning being affected, and to recognising the inherent queerness of nature (Barad, 2012; Hird, 2004) that binary, anthropocentric thinking is incapable of grasping. I find particularly encouraging for EAE in the theorising of Taylor and Blaise (2014) that they highlight the importance of knowing the world beyond the intellectual attempts that are tied to rational meaning-making and attempts to control things by making sense of them. Although this dimension of knowing is also important, the specific characteristics of artistic ways of knowing as open-ended, non-foreclosing and more-than-rational (Galafassi et al., 2018) appear particularly relevant in this context.

> Welcome posthumanist EAE
> to making things strange, odd, weird
> (as they already are)
> through curious, playful, experimental, flirting, satirising,
> intervening, stupid, celebrating, twisting artistic strategies,
> and artistic thinking.

Reorienting art pedagogies

Posthumanist educational theories are genealogically rooted in pedagogical theories that are mostly already familiar to EAE. There is thus much to take along, for example, from critical, feminist, and place-based pedagogies when extending the pedagogical thinking in EAE beyond the humanist frames. As discussed throughout the research, the

ontological reorientation has exhaustive implications: the pedagogical thinking that guides for example socially engaged, community-oriented and place-based EAE are challenged to decentre the human by considering the nonhuman, more-than-human, and material agencies and their entanglement with human lives.[96] Likewise, EAE, which has emphasised environmental awareness and ecological literacy, is provoked to attend to intersectionality and politics in human-nature relations.

Rethinking learning

Posthumanist onto-epistemologies call for reorienting educational philosophy, such as how we think of learning (which in turn relates to teaching). As discussed in Chapter 2, the mainstream social constructivist notions of learning prioritise human meaning-making (and emphasise cognitive thinking and language), and consider the human as the centre of the learning event (Lenz Taguchi, 2011). Furthermore, socio-constructivist theories are promoting understanding of the process of learning as linear, developing cumulatively towards cognitive complexity and abstraction (p. 41).

Rearticulating learning as nonlinear processes that take place outside the individual human (Lenz Taguchi, 2011) appears significant for EAE that seeks to decentre the human. Lenz Taguchi proposes considering learning and thinking as encounters that take place "in between heterogeneous actors, rather than being something localised inside a human superior mind separated and located above the material world and other organisms" (p. 46). The decentring of the human thus turns the orientation in learning events beyond the social (human) realm towards spaces, materialities, nonhuman agencies, light, air, sounds, and their rhizomatic entanglements. Approaching learning as "uncertain events of encounters between human and nonhuman bodies" (Hellman & Lind, 2017, p. 219) opens up new possibilities for articulating and taking notice of what kinds of potentials of learning can emerge in these entanglements. The temporal orientation of learning also changes: instead of understanding learning as improvement of the individual for the future, the focus turns to the present moment and a richer understanding of the connections that are already there (Rautio, 2013a).

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[96] Reorienting critical and place-based pedagogies through posthumanism is already taking place in posthumanist educational research (e.g. Malone, 2016a; McKenzie & Bieler, 2016).

Scholars employing the Common world[97] frame emphasise learning as learning *with* others[98] (Pacini-Ketchabaw et al., 2016; A. Taylor, 2017; A. Taylor & Pacini-Ketchabaw, 2015; Trafí-Prats, 2017). Taylor (2017) elaborates their approach as a persistent commitment to "remaining open to what it might mean to learn collectively with the more-than-human world rather than about it" (p. 1499). Learning with others appears an inviting possibility for reorienting the idea of learning. Learning-with is about world-making and engagement, rather than comprehending learning as adopting objects of teaching or representing issues from a distance (see also Murris, 2018).

While posthumanism reorients the idea of learning, it also challenges the idea of the human as the only possible teacher. As Rautio (2013a) notes, those who teach us by inviting, guiding, supporting, and steering can also be other than human beings. While experimenting with becoming-with the forest, I often played with the idea that the nonhuman forest was my teacher, teaching my human bodymind to collaborate through different kinds of touches, slaps, clashes, cuts, and scrapes. Malone (2015) likewise ponders in her research how in child-grub encounters, the grub becomes the teacher and has an influence on how their co-existing unfolds. However, while extending the idea of teaching beyond the human appears revolutionary in pedagogical thinking, it is worth acknowledging that in non-Western Indigenous knowledges, the land is often considered to be a teacher (Bell, 2020; Davis & Todd, 2017; Styres, 2011).

Embodiment as entangled and haptic

Embodied and sensory ways of knowing and learning are already highlighted in EAE. The humanism-bound notions related to advancing embodied and sensory awareness and sensitivity in EAE are, according to the mapping, typically framed as the promotion of a sense of belonging, or connecting humans more deeply to nature/place/environment. The conceptions of embodiment in these approaches unfold in the form of an individual and sensuous body in space (Springgay & Truman, 2017).

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[97] Common world scholars focus on early childhood education, but as I also commented with respect to the multispecies ethnographies they employ, I find their approach to be stretchable beyond childhood.

[98] Common world scholars typically focus on human-nonhuman animal relations in their research. The art education scholars Hood and Kraehe (2017) also employ the idea of learning-with, and frame the focus to things, by following the idea of 'thing power' by Bennett (2010).

Posthumanism likewise foregrounds embodiment, but with different motives. Attunement towards posthumanist notions of embodiment promotes the understanding that our lives are unfolding from everyday material entanglements with humans and nonhumans/more-than-humans. Grasping this ontological reorientation might offer a site of embodied learning in itself. As Bennett (2010) points out, recognising the agencies of nonhuman materialities calls for developing proficiency in perceiving "nonhuman forces operating outside and inside the human body" (p. xiv). The experience of human embodiment likewise offers entry points to tracing how bodies are in relation to larger more-than-human networks and events beyond their immediate environments (Neimanis, 2017; Springgay & Truman, 2017).

The posthumanist understanding of subjectivity that foregrounds bodily capacities to enter relations with other kinds of beings (Braidotti, 2013) is significant to posthumanist EAE. Focusing on the embodied ways of knowing thus enables attuning to the entangled networks of varying agencies and learning to become affected, as the Common world scholars would say. In human-nonhuman animal entanglements, according to Taylor and Pacini-Ketchabaw (2015), learning how to respond and respect can happen only in embodied moments of encounter – even in minor and trivial ones (p. 21). The ethics of posthumanist EAE thus arise from entangled bodily encounters and response-abilities.

Hapticality, particularly touching, appears as central in the becoming-with the forest experiment for challenging anthropocentrism and noticing/creating new kind of relations. Springgay and Truman (2017) also see hapticality as substantive to shifting embodied knowing towards more complex and enfolded engagement. They explain hapticality as an embodied spatial perception that "reflects the space's tactile qualities, such as pressure, weight, temperature and texture" (p. 34). Hapticality can also be described as affective, and it sometimes organises around "kinesthetic experience such as muscles, joints, and tendons which give a sense of weight, stretching, and angles" (ibid.) as one moves. Springgay and Truman state that hapticality enfleshes us affectively within an animate world (ibid., p. 34) by adding porosity between bodies and places (ibid., p. 38). The thinking arising from the experiment suggests exploring further in coming research how embodied artistic practices where hapticality and touch are central might promote new capabilities to respond to and notice more nuances and multiplicity in multispecies encounters.

Posthumanist art and artistic practices as sites of learning

The posthuman 'turn' has indeed shaken the arts as well, and it seems that dealing with the issues that are considered central for posthumanisms is highly topical for many contemporary artists and artistic practices. It even appears to me that artists have been in the vanguard of testing and experimenting with posthumanist thinking. The enmeshment of humans with technology is drawing attention from many artists, often those leaning towards transhumanist interests. Artists who are inspired by critical, ecological, and feminist strands of posthumanisms that are closer to the theoretical frame of this research might study, for example, the cultural border between humans and animals, multispecies coexistence, the idea of nature on a damaged planet, or distributed material agencies. They might also attempt to decentre the human in the artistic process, question speciesism and human supremacy, imagine dystopian/affirmative futures, create post-fossil forms of cultural production and collectivity (and artistic practice), and so forth. The scope of topics is multifaceted, and artistic strategies are often experimental, building collaborations between arts and sciences.[99]

Although there is much to learn from the practices of artists and the artistic strategies with which they are experimenting, I have chosen to focus my attention in this research more on posthumanist philosophies

[99] I am aware that the field of posthumanism-triggered arts is continuously expanding. I want to list here a few artists/groups, whose practice has been influential on my thinking: Patricia Piccinini's art works are internationally well-known examples of posthumanist art that are dissolving the border between human and animal and playing with genetically hybrid bodies. Finland-based contemporary visual artists whose artistic practice I relate to posthumanism include the photographer Perttu Saksa, the performance artist Anette Arlander, the visual artist Tuula Närhinen, the visual artist Terike Haapoja and writer Laura Gustafsson with their Museum of Nonhumanity project, the visual artists Kalle Hamm and Dzamil Kamanger with their plant-related works, the artist duo Nabbteeri with their study of multispecies co-existence, and the artistic group IC-98 with their focus on ecological issues and long temporal processes of nature, time, and culture. I also attach artists such as Alma Heikkilä and Antti Majava, whose artistic practice is bound up with the awareness of ecological crisis, climate change, and mass extinction, and members of the Mustarinda Association with their project of reaching towards a post-fossil culture, to the domain of contemporary art that is driven by posthumanism.

Performing artists in Finland have been especially active in recent years, making performances that deal with human-nature relations in the era of ecological crises (e.g. Viirus-teatteri: Den Andra Naturen; Rakkaudesta working group: Rakkaudesta: Sanasto tuleville vuosikymmenille; Anu Koskinen: Tältä planeetalta; Ilja Lehtinen & Tuomas Rinta-Panttila: Elinvoima). As for live art, the Other Spaces collective has excelled in developing exercises for studying nonhuman forms of experience and being, and increasing understanding of interspecies relations (Other Spaces in a Nutshell, n.d.). There was also an experimental pilot MA programme at Uniarts Helsinki's Theatre Academy in 2016-2019 dedicated to twinning ecology and contemporary performance.

and posthumanist educational theories so as to be able to reorient the theoretical-philosophical groundings of EAE. Nonetheless, I see that contemporary art offers a rich site for learning (Kallio-Tavin, 2020a) which posthumanist EAE should tap into.

Art education is not, however, building only on experiencing, discussing and analysing art. Art education is also about artistic and critical thinking, perceiving, and learning through, in, and with artistic practices (Pohjakallio et al., 2015). What kind of artistic practices and strategies thus appear relevant for posthumanist EAE?

As Garoian (2012) and jagodzinski (2013) underline, processual, collaborative, and event-based artistic practices[100] allow shared agencies and multiple emerging meanings/matterings to be supported. It likewise matters for posthumanist EAE to disturb the persistent emphasis of human mastery and superior agency in artistic practice. Instead of considering artistic skill as human mastery over materials (be it paint, charcoal, wood, metal, the human body or whatever), how would focusing on the materiality as a teacher or as a collaborator change the orientation?

Trafí-Prats (2017) reminds us that artistic practice and arts should not be segregated as disconnected islands from other life, but should be included among other, heterogeneous ways of knowing and practices of learning. According to her, posthumanist educational theories invite pedagogical spaces, "where open-ended, iterative, exploratory processes that allow deviations, elaborations, and material play interact with facts and fiction" (Trafí-Prats, 2017, p. 333 rephrasing Haraway, 2016). Maybe the contribution of arts and artistic practice in these pedagogies lies in promoting disequilibrium and indeterminacy as spaces of transformative potentiality (Garoian, 2014; Trafí-Prats, 2017). To posthumanist EAE this would imply drawing from practices of art-making where heterogeneous forms of knowing come together (Trafí-Prats, 2017), and human mean-ing-making works on the edge of the unknown and uncertainty.

The endeavour to weave arts more intricately into societal and educational practices also extends to the compartmentalisation of scholarly disciplines. As discussed in the previous chapter, post-humanism motivates experimental inter- and transdisciplinary collabo-ration at the intersections of art, science, and society in both research and pedagogies. Promoting the collaboration between different fields offers

[100] The view of Garoian and jagodzinski does not go far from the descriptions of the strategies of contemporary artistic practice as experimental, performative, open-ended, collective, and processual (Foster, 2017; Garoian, 2012; Jokela et al., 2015b; Sederholm, 2006).

stimulating openings towards unpacking the conventional discipline boundaries (e.g. Berger et al., 2020; Kirksey, 2014), and creating new roles for arts (and potentially EAE).

The speculations on the potential contributions of posthumanist arts for learning call me to pause lastly to consider more thoroughly how arts and the professional expertise of an art educator might matter to posthumanist environmental education. I have taken note that events that posthumanist environmental educational researchers discuss and research practices they employ often include elements that are familiar to artistic practices and enquiry. Making photos, poems, performances, drawing, painting, telling stories, and other embodied material practices are common in the research that I have become acquainted with (e.g. Malone, 2015; Malone et al., 2017; Nxumalo & Pacini-Ketchabaw, 2017; Somerville, 2013; Weldemariam, 2019). While posthumanist EAE and environmental education might share much in common in employing creative, playful, experimental practices to break with anthropocentric and human exceptionalist modes of thought, I see that art educators may be more flexible and open-minded in their doings than experts in education and educational research. Arts typically engage with the imagination and exploratory material practices, and explore the uncertain and unknown in their modes of production (e.g. Anttila, 2011; Hannula, Suoranta, & Vadén, 2014; Rouhiainen, 2011; Tuovinen & Mäkikoskela, 2018). Thus, art educators can be considered to hold specific expertise in navigating complex, open-ended, and creative processes due to their experience in artistic thinking-making-doing and cultural awareness. They are likewise skilled in cultivating embodied, sensory, and affective ways of knowing and modes of attention and communicating that are relevant for disrupting anthropocentric views and learning to become affected. Furthermore, they are capable of employing even the provocative and disturbing dimensions of artistic thinking-mak-ing-doing in pedagogically generative and ethical ways.

Acknowledging the slowness and difficulty of changing worldviews

Onto-epistemological reorientation calls for unlearning deeply embedded worldviews. Posthumanist educational scholars and posthumanist theorist agree that challenging deep-seated cultural, psychological and enacted dichotomies such as culture and nature, and confronting human exceptionalism is difficult (Duhn et al., 2017; Kopnina, Sitka-Sage, et al., 2018; A. Taylor, 2017). Engaging with this kind

of massive and profound challenge is likely to create turbulences and resistance (Duhn et al., 2017, p. 1359), because it radically questions the safe, controlled order (A. Taylor, 2017, p. 1455).

Decentring the human or unpacking the familiar divides are not things to be theoretically adopted during a course or a workshop, but instead call for persistent commitment. Taylor (2017) aptly remarks: "Changing the entrenched habits of modern western humanist thought … requires persistence, vigilance and a preparedness to take risks. … It requires us to continually interrogate what it means to be human, to resituate humans firmly within the environment, and to resituate the environment within the ethical domain" (p. 1450, see also Hamilton & Neimanis, 2018). To me, engagement with posthumanist onto-episte-mology appears as a challenge that necessitates readiness to become changed and to question one's own thinking-making-doing. It further seems to necessitate bearing open-endedness, uncontrollability, and dissonances.

Accepting the slowness of change might offer means for addressing the scale of the unlearning and relearning. The attitude of dedicated apprenticeship unfolded as productive in the becoming-with the forest experiment. During a long period of time and through repetitive practice I became accustomed to engaging with and attuning to the forest's materialities and agencies in ways that would have been unthinkable at the beginning. I might encourage others to also commit themselves to slow and messy research methodologies, or to imagine establishing an art collective or an art-sci research group to experiment with similar research strategies. It is however difficult to imagine similar temporally long possibilities for posthumanist EAE practices, particularly in insti-tutional educational contexts. Fortunately, posthumanist EAE does not have to be grandiose, big, and heroic, or seek final solutions. Attuning to immediate, everyday entanglements, and the ethics arising from them matters. Moreover, we are not alone with the task of "learning to live and die well with each other in a thick present" (Haraway, 2016, p. 1). We should join forces.

Where am I now?

Am I again back in the same spot from where I left
in the beginning of the chapter?
Is this the same pined swamp or some other?
Did I(we) come up with something?

7. For now

7. For now

There are no neat conclusions ahead. The aim of the research is not to suggest new pedagogical frames for others to implement. Instead, the outcome of the research *is* that it motivates further rethinking, challenging, and experimenting – in ways that are always partial, becoming, and situated somewhere. This research offers one tested suggestion of a theoretical-philosophical reorientation for EAE by focusing especially on anthropocentrism with its implications for human subjectivity, and human-nature relations. I am widening the manifold tradition of EAE through posthumanist theories, and paving the way for exploring further the possibilities and potentials that posthumanism opens for EAE. The research offers openings, suggestions, and threads forward rather than answers.

When I look now at the map marks that are created through mapping EAE and through the entangled thinking-making-doing, the idea of posthumanist EAE as world-making, worlding, appears as the most significant generative potentiality. Posthumanist EAE is not "making an imagined future safe, of stopping something from happening that looms in the future, of clearing away the present and the past in order to make futures for coming generations" (Haraway, 2016, p. 1). Instead, posthumanist EAE emerges as a site, as a space, for queering the normalised stories/worldviews and imagining, telling, and experimenting with new, alternative ones. It further encourages engagement with the difficult, complex conversations and ethical dilemmas that start to unfold from the frictions and tensions that arise from the unsettling and troubling of the normalised narratives.

I am here using the world 'stories' for a particular reason. Haraway and Common world scholars whose theorising has been influential on this research highlight the importance of the kinds of stories we tell (Haraway, 2016; Hohti & Tammi, 2019; Malone, 2015). Since thinking-making-doing is material, weaving new stories creates new worlds. Stories might be open and multiple, troubling, and weird. They might stem from listening to the nonhuman world, and from paying attention to multispecies encounters, without clear beginnings, ends, or final solutions. Stories have "continuations, interruptions and reformulations – just the kind of survivable stories we could use these days" (Hohti & Tammi, 2019, phrasing Haraway). Stories are not just told verbally or take written forms. Stories can also be told through everyday practices, experimental and performative events, through visual images, and through diverse artistic practices.

The previous chapters offer varying suggestions of what might be considered as possible aims for posthumanist EAE. It might enable adding complexity to the stories where humans simply save, protect, care, destroy, or ignore, and unsettling stewardship narratives. Posthumanist EAE might likewise promote turning the attention away from cynicism, defeatism, fear and anxiety-driven discourses towards learning how to coexist with multiple others in ways that would enable more affirmative, more liveable, relations. It might be aimed at making diverse human-nonhuman relations and their vulnerabilities noticeable and graspable through varying artistic thinking-making-doing practices. Posthumanist EAE might also be something totally different. No matter what kind of topics posthumanist EAE might inhabit, I see that cultivating ambiguity, playfulness, and unexpectedness are important for queering and troubling normative anthropocentric and binary understandings.

What was left out, for others, for another time

I have not in this research attended to the sustainability education-related discourse, despite the fact that institutional educational strategies in Finland are increasingly adopting the UNESCO's Agenda 2030-related Education for Sustainable Development Goals (UNESCO, 2017). While I see that international policy documents are necessary and important for implementing changes in educational cultures as well as promoting the creation of more sustainable cultures, thinking through development

goals is not workable for ontologically oriented critical research.[101] I see that EAE *can* advance the kinds of competencies that are considered central for advancing sustainable development. Through EAE it is fully possible to learn systems, anticipatory and critical thinking, to understand norms and values, to learn to collaborate with others, and to increase self-awareness (UNESCO, 2017, p. 10).[102] To my thinking, adopting the frame of the policy documents however entails a risk of reducing arts and art education to tools and instruments to serve pre-appointed goals in relation to sustainability education. However, I see that continuing the discussion of the possible position and relevance of EAE with respect to various forms of environmental and sustainability education appears significant for the developing of EAE. The debate might allow what EAE actually can do to be articulated anew, and the limiting stereotypical views that might still consider the value of art as mere illustration or as therapeutic self-expression that allows one to get in touch with one's emotions to be combatted.

To me, the time also appears ripe for developing new forms of collaboration between disciplinary borders in this context. For example, EAE might potentially play a significant role in the recently developed Finnish comprehensive pedagogical framework for climate education (an emerging subfield of environmental and sustainability education) (Cantell, Tolppanen, & Aarnio-Linnanvuori, 2019; Tolppanen, Aarnio-Linnanvuori, Cantell, & Lehtonen, 2017). To my conception, EAE practices can offer sites for studying values, subjectivities, and relations which is a significant existential dimension in sustainability education-related pedagogies such as the above-mentioned (see also Sterling, 2010; Wals, 2015; Wals & Lenglet, 2016). Likewise, artistic and applied arts-based methods are being welcomed in recent Finnish interdisciplinary environment-related research as generative for addressing climate change-related difficult emotions and eco-anxiety (Pihkala, 2017a, 2017b, 2019a).

I am aware that the scope of this research is wide and attends to research and theories in many fields. Much has been also framed out. The area of human relations with nonorganic, manmade materialities

[101] Attending to the philosophical and environmental ethical grounding of these goals and discussing their limitations and anthropocentric presuppositions would be a topic in itself for posthumanist EAE.

[102] Nonetheless, policy documents that authenticate the usefulness of art education (see e.g. UNESCO, 2006) with respect to learning sustainability competences are important for validating the relevance of art education in political decision-making.

and technology has been left out from the scope of this research despite the entanglement of humans and technologies being a central interest in posthumanist research. Furthermore, I have not attended to rethinking the material dimensions of artistic practice through a posthumanist lens. The agencies and flows of materials/matter and their entanglements with human and other bodies in art education are already being studied elsewhere in art education research (e.g. de Miles & Kalin, 2018; Hood & Kraehe, 2017). One area of interest that was briefly attended in the becoming-with the forest stories, however appeals to me to the extent that I would like to focus my attention to it in further research: human-vegetal relations. Further collaboration and artistic thinking-writing-doing with plants, fungi, and mushrooms awaits (hopefully) in the future.

Because of the focus on the philosophical-theoretical groundings of EAE, considering the more practical implications of the reorientation of EAE has been left aside. The special characteristics of varying art education and EAE contexts, as well as issues relating to the diversity of participants in EAE activities, such as age, are not discussed in the research. One might take note that early childhood education research and childhood studies play a considerable role in the employed posthumanist theoretical literature, despite the fact that in the research particular attention is not paid to the art education of children. The reason for leaning on research in these fields is that there is already a lively branch of emerging posthumanist educational research in them. As mentioned earlier in the footnotes, I see drawing from the pedagogical theorising in the childhood contexts as offering concepts and suggestions that are useful for EAE – regardless of the age of the participants. I have however kept the art teacher education context in my mind while conducting the research. The future art educators I teach at the moment will be employed in very various fields, increasingly outside the school realm. As far as I can see, the art educational philosophies and theoretical frames they adopt and experiment with are central to the further reorienting of EAE.

About the mapping

As early as in the early stage of the research, it became evident that a conventional literature review of art education approaches with a particular environmental, ecological, and sustainability emphasis would not be sufficient. As I mention in Chapter 2, the diversity of approaches

and topic areas was beyond grasping, and existing reviews appeared partial. I soon found out that mapping the emergence of the tradition of EAE could have been a whole research topic in itself. However, only through an extensive mapping of EAE literature did it become possible to perceive the main emphasis areas and features of the philosophical-theoretical groundings.

Despite some unique conceptualisations and approaches from the extensive literature being left with little attention, I feel that the mapping succeeds in offering an impression of the characteristics of EAE and the ways in which the different premises and emphasis areas are networked together. My understanding of the engagements, situations, and research contexts of international EAE conceptualisations in particular might have been limited, thus the conclusions drawn from the Finnish perspective partially unbalanced. Although I carefully went through art education journals and other research, the choice to use the key words 'environmental', 'ecology', and 'sustainability' maybe left gaps in the scope of the mapped EAE literature.

I have become increasingly aware of the Whiteness of the mapped EAE literature. This probably tells of the dominant Whiteness of the field of art education research in general. For example, I did not find EAE research by Indigenous scholars, based on Indigenous knowledges for the mapping done in 2018. Fortunately, some scholars were informed by Indigenous epistemologies or studying them. The need for more diverse views is apparent, despite this being beyond the sphere of influence of this research.

About the entangled methodology and becoming-with the forest experiment

When I started the research, posthumanism still appeared marginal in many fields, including art education. However, during recent years it has become increasingly mainstream. The problem with assembling the theoretical and methodological frame of the research has been that new publications, research projects, and artworks under the posthumanist umbrella pop up like mushrooms in the rain. It seems that most relevant methodological and theoretical sources for this research have been published within the past few years, and keeping up with the exponentially widening research has been particularly challenging.

The research experiment has been messy in many ways. I wanted to draw methodological influences from fields beyond my own, and this pushed me to inhabit a blurry position where the possibility to lean on a certain disciplinary-specific expertise has been limited. Furthermore, dwelling in/with the complexities and entanglements diverted the thinking-with onto side-tracks and extensive speculations. However, I did not want to frame the experiment within, for example, human-animal or human-vegetal relations in advance, but remained open to what kind of entanglements and thinking might emerge. I have decided to share the moments of confused hesitation and ambivalence with the reader. The entangled thinking-making-doing through/with orienteering is like that: you are following weak insights, affective intensities, and glows (MacLure, 2013), not knowing beforehand what will come up. You might realise at times that you have no idea where you even are (or with whom), or that you have ended up returning to the same spot that you just passed. On the other hand, maybe the clearly articulated posthumanist theories and concepts have diverted me to pay attention to certain kinds of features in encounters, and leave more complex dimensions unattended. However, without the theories and concepts as my compass, I would have lost my sense of direction completely while experimenting. All in all, it has been an element of the research that the risk (and maybe fear) of getting lost and a sense of being in the middle of a thicket have been constantly present. I am aware that as a reading experience this can feel exhausting – despite the tone stemming from a purposely chosen research method.

While thinking-writing-doing I have often been dissatisfied with my incapability to move beyond my human experience and meaning-making, and annoyed by the difficulty of staying open to ambiguous material entanglements. I have, however, felt reassured by a comment by Anna Tsing that I came upon in an article by Pacini-Ketchabaw et al. (2016): they raise that Tsing does not consider being human (which is inescapable) in research with the more-than-human as a limiting factor. According to them, being human is the starting point for entering into more-than-human relations (p. 152). Pacini-Ketchabaw et al. (2016) further underline the importance of being present in the research work you are doing as a part of the interconnected multispecies, material worlds being explored (p. 152). I attach this advice to the suggestion of Rautio (2013a) to consider default anthropocentrism as a base for seeking ways of grasping multispecies and material coexistence, and acknowledging new relations. Troubling the exceptionality of the human and the unitary human subjectivity might go overboard from time to time. This is why it was necessary to go to the forest with theories that have reminded me that the point is not to collapse categories "entirely into each other but to bring to attention to the porousness of what has been viewed as distinct boundaries and distinct entities" (Malone, 2015, p. 7).

I have come to think that the becoming-with the forest experiment might have activated even more transgressive thinking if I had had other artists or scholars from different fields to collaborate with in the experiment. In a sense, the posthumanist theories have been my collaborators, but discussing, sharing, and challenging the emerging insights would have been helpful. Attempts to think-with nonhuman others foregrounds uncertainty and transient affective responses, as well as my limitedness to even notice nonhuman communicativeness.

I see that experimental, layered, and poetic ways of writing offer possibilities for decentring the human in the research text and other writing. Using parentheses in the becoming-with the forest stories has been one foray into diminishing the centrality of the human presence in the text. I further developed a layered writing style to add multiplicity and embodied responses to the thinking with others. With this, I likewise wanted to underline that the thinking-with others is more-than-rational and intimate. Writing in my native tongue would have enabled even more experimental and poetic use of language. I recognise a certain limitedness in my use of English that holds me back into more conventional ways of writing.

Working with photographs as well as writing in the experiment first grew up as a kind of side track, an excessive runner of the thinking-writing-doing. The photos however unfolded as relevant for mobilising artistic thinking and offered another point of access to attuning to the human-forest encounters beyond the sensory capacities of the thinking-making-doing human bodymind. For example, studying from the photos the affective responses in my face while being slapped by branches in a thicket has enabled me to realise dimensions in becoming vulnerable that were beyond my grasp within the experience of moving in/with the thicket. The photos have likewise served in reattuning (and returning) to certain encounters and events that fleetingly took place in the forest, but remained as unaccountable intensities or weird details in the journal entries. On some occasions I tried to grope towards weak insights and emergent thinking through performative acts that were photographed. In practice, my photographer partner was generous to take the photographs where I am in view. These photos are a result of a collaboration that has been guided by my research interest and image ideas.

In many photos a (White, female, capable) human body in the forest appears to be a central element. I however particularly wanted to study through the photos the relationality of human and forest bodies and materialities: how the different materialities respond to encounters, come together, withdraw, negotiate, and confront one another. However, the theme of a human body in a forest in an image is loaded with connotations and immediately appears as part of a certain aesthetic tradition of Finnish visual art and visual culture. I have come to realise that human-nature aesthetics is yet another cultural tradition that calls to be unsettled. I have been struggling to develop a visual style that would allow breaking away from both the sports imagery (running bodies in environments) and the romanticised, idealised human in nature imagery. The visual outlook of the photographs evolved throughout the years of practice, but in the earlier photos my human bodymind still seems to be foregrounded and the forest materialities appear as a background – despite the intentions. There is work to be continued in this sector. Because of the literary nature of the doctoral dissertation, I have so far worked with still images, but in the future I will move more into moving image and sound to study further the multispecies and material entanglements in forests.

Lastly, I want to underline that the becoming-with the forest experiment functioned only as a research experiment; as a speculative middle for thinking-writing-doing with multiple others. Neither the experiment nor the idea of using orienteering as a propositional catalyst should be considered as an example of a posthumanist EAE practice. Pedagogical considerations were not foregrounded in the experiment, and as I noted earlier, there is nothing inherently posthuman in orienteering itself. I have quite often actually been amused by the realisation of the middle-classy adventurousness offered by the orienteering events that I typically participate in: it is quite bearable to plough through wet/cold/muddy/frozen forests and get yourself totally wet and exhausted when there is a cosy car with a fossil-fuelled warm heart waiting in the parking space, and later a shower at home. A physically demanding, rough and intensive practice has however been workable and inviting for an art educator-researcher-artist who also has a background in martial arts. Employing similar provocative and injury-risky practices would be reckless in many (art) pedagogical contexts.

I warmly encourage developing context- and situation-specific practices for posthumanist EAE. Based on the research experiment, I have found recurring, movement-based, embodied artistic practices

that foreground hapticality to be particularly suitable for activating new, more-than-rational modes for exploring and unsettling nature-culture-nonhuman relations. I might in my further teaching draw from the guidelines that I have used for becoming-with the forest experiment (see Chapter 3). There are, however, numerous other possibilities for creating practices, methods, and techniques for experimenting with decentring the human by attuning to becoming-with in multispecies and material encounters.

Furthermore, the idea of using propositional catalysts or event scores[103] appeals to me when speculating on what posthumanist EAE practices might look like. If the becoming-with the forest experiment was offered to me as an event score, how mad would that have looked:

> Orienteer in your local forests for 1000 kilometres and
> attune yourself to the unfolding
> multispecies and material encounters.
> Attend to what emerges.

[103] As already explained in a footnote in Chapter 5, the idea of event scores originates with the international artist group Fluxus. Event scores are open(-ended), and leave space for chance and indeterminacy. Thus they function as activating and speculative (O'Rourke, 2013, p. 74; Springgay & Truman, 2018).

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Next week, again.

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York, R. A. (2014). *Re-connecting with nature: Transformative environmental education through the arts* (Doctoral dissertation). Toronto, ON: University of Toronto.

Åsberg, C. (2018). Feminist posthumanities in the Anthropocene: Forays into the postnatural. *Journal of Posthuman Studies*, *1*(2), 185–204. https://doi.org/10.5325/jpoststud.1.2.0185

Appendix

List of the literature used in the mapping of EAE

Anderson 2000
Anderson & Suominen Guyas 2012
Bae, 2013
Bequette 2007
Bequette 2014
Bertling 2013
Birt, Krug & Sheridan 1997
Blandy 2011
Blandy, Congdon & Krug 1998
Blandy & Fenn 2012
Blandy & Hoffman 1993
van Boeckel 2007
van Boeckel 2009
van Boeckel 2013 (doctoral dissertation)
van Boeckel 2015
Cornelius, Sherow & Carpenter, 2010
Coutts & Jokela 2008 (book)
De Sousa Vianna & De Aragao 2012
Erzen 2005
Finley 2011
Foster 2017
Garoian 1998
Garoian 2012
Gradle 2007
Gradle 2008
Graham 2007a
Graham 2007b
Hansen 2009
Hartikainen 2013 (book chapter)
Hasio & Crane 2014
Hicks & King 2007
Hicks 2012
Hiltunen 2016 (book chapter)
Hiltunen 2009 (doctoral dissertation)
Hollis 1997
Huhmarniemi 2012
Huhmarniemi 2016 (doctoral dissertation)

Huhmarniemi 2019 (book chapter)

Humaloja 2016 (educational resource)

Häggström 2020

Härkönen 2019

Iivanainen 2001

Illeris 2012

Illeris 2015 (book chapter)

Inwood 2008

Inwood 2010

Inwood & Taylor 2012

jagodzinski 2007

jagodzinski 2013a

jagodzinski 2013b

Jokela 1995 (book chapter)

Jokela 2016 (book chapter)

Jokela & Hiltunen 2014 (book chapter)

Jokela, Hiltunen & Härkönen 2015 (book chapter)

Jokela, Hiltunen & Härkönen 2015

Jónsdóttir 2015

Jónsdóttir 2017 (doctoral dissertation)

Lai & Ball 2002

Lankford 1997

Lindblad 1995 (book chapter)

Macdonald & Jónsdóttir 2014 (book chapter)

Mantere 1992 (book chapter)

Mantere 1993 (book chapter)

Mantere 1993

Mantere 1994

Mantere 1995 (book)

Mantere 1995 (book chapter)

Mantere 2004

Mehto 2002

Naperud 1997

Pohjakallio 2010

Pohjakallio 2008 (book chapter)

Pohjakallio 2016 (book chapter)

Randazzo & Lajevic 2013

Reisberg 2008

Rekow 2012

Räsänen 1990

Slivka 2012

Song 2012

Stankiewicz & Krug 1997

Stout 2007

Stöckell 2016 (book chapter)

Suominen 2015a (book chapter)

Suominen 2015b (book chapter)

Suominen 2016 (book)

Suominen 2016 (book chapter)

Suominen 2018 (book chapter)

Taylor 1997

Tereso 2012

Ulbricht 1998

Valkeapää 2011 (doctoral dissertation)

Vasko 2016

Vira 2004 (book chapter)

Weir 2016

York 2014 (doctoral dissertation)

In total:
64 journal articles, commentaries, editorials, etc.
17 book chapters
6 doctoral dissertations
3 books

List of images

The images from Chapter 4 onwards: Henrika Ylirisku, photo:
Pasi Ylirisku (if not marked differently). The year of the photo is
marked in the list.

Whole page images from the forest experiment (2016-2020).
Photos: Henrika & Pasi Ylirisku

Creating new stories of shared worlds beyond human mastery

There is a diverse tradition in art education for advancing environmental, ecological and sustainability-related topics. But are the existing conceptualisations and approaches to environmental art education sufficient in this time of ecological crises?

This dissertation examines the theoretical-philosophical groundings of environmental art education and discusses the limitations that arise from its ties to Western dualistic thinking that maintain the separateness of human and nature, and furthermore, reasserts human exceptionalism.

Conventional conceptions of human-nature relations are disturbed in the research drawing on posthumanist theories. An experiment mobilised through orienteering in the Finnish forests activates imaginings towards a posthumanist environmental art education. The research proposes generative potentials in art educational strategies for queering normative human-nature relations and acknowledging more-than-human agencies. It further encourages future environmental art education to focus on complex material and multispecies entanglements and attend to their ethics and politics.

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