

Biljana C. Fredriksen
and **Per Ingvar Haukeland** (Eds.)

CRAFTING RELATIONSHIPS WITH NATURE THROUGH CREATIVE PRACTICES



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1. Crafting in a more-than-human world

Per Ingvar Haukeland and Biljana C. Fredriksen

Abstract This introductory chapter aspires to sketch a map of diverse views and perspectives that are at play, as the authors of this book set out to explore crafting relationships with nature through creative practices. Crafting in a more-than-human world demands explorations of new ways to communicate. The chapter suggests reimagining a language older than words and studying how it plays out when humans and other-than-humans communicate in co-crafting processes. The chapter gives a short outline of how the authors do just that and in so doing create new horizons for understanding that can contribute to a nature-friendly future.

Keywords co-crafting | other-than-human | creative practices | attunement | art education

Tired of all that come with words,
words but no language
I flee to the snow-covered island.
Wildness has no words.
Unwritten pages laid out in all directions!
I come across a track of deer-hooves in the snow.
Language but no words.

Tomas Tranströmer, Swedish poet¹

1 Tomas Tranströmer was a Nobel Prize winner in literature. The poem is from the book *The Deleted Worlds*, 2006 (translated by Robin Robertson). Enitharmon Press, p. 28. Translated here by P. I. Haukeland.

A LANGUAGE OLDER THAN WORDS

There is a language older than words, as Derrick Jensen (2004) puts it, deeply engrained in our very flesh and bones. He elaborates: “it is the language of bodies, of body on body, wind on snow, rain on trees, wave on stone. It is the language of dream, gesture, symbol, memory. We have forgotten this language. We do not even remember that it exists” (Jensen, 2004, p. 2). Yet, it is there, this language that reconnects us to the land through a sensuous reciprocity with what the philosopher and cultural ecologist David Abram (1996) calls the “more-than-human world”. Abram reminds us of what has always been there but is so often forgotten, that “we are human only in contact, and conviviality, with what is not human” (1996, p. 16). This book is about revisiting and relearning this language older than words through crafting with the others in the more-than-human world. We use this phrase, as Abram did, for the extension of the human to the more-than-human world, which includes the human, and the phrase “other-than-human” when we address those others we craft with besides humans.

We invite the reader to actively listen, while reading, to the co-crafting bodies who engage in creative practices of reciprocity and resonance, of what the anthropologist Tim Ingold (2015) refers to as “correspondence”. Correspondence is a form of “response-ability” (Haraway, 2016), i.e., our ability to respond to each other, to answer each other’s calls. Such process of corresponding and co-crafting can be described as a process of “intraplay” (Richards & Haukeland, 2020), drawing on Karen Barad’s concept of “intra-action”. In intraplay, bodies are not only co-attending and co-responding to each other, but co-forming and co-rendering meaning. Intraplay is a process of negotiating meaning (Fredriksen, 2011). In other words, the bodies are so entangled in the co-crafting process that it is hard to distinguish between them, whether one is co-crafting with trees, cats, and dogs, or stones, wind, and water, or even artificial and digital devices. The very material we co-craft with comes “alive” during the process and takes part in the co-crafting of relationships where entangled other-than-human bodies engage in creative processes. The correspondence unfolds through a language older than words that these other-than-humans have never forgotten. The process of crafting takes place with these other bodies, as many examples of such crafting-with show in the recently published book *Expanding environmental awareness in education through the arts: Crafting-with the environment* (Fredriksen & Groth, 2022). The book you are reading now is showing even more examples of a similar kind; however, *Crafting relationships with nature through creative practices* is to a larger extent anchored in Nordic perspectives and educational examples from the countries in Northern Europe.

Indigenous peoples are akin to the language without words. Reciprocities with their “ancestral ground” and animated land play out from within a community of all beings. According to Hætta (2002), the Sami (indigenous people of northern Europe) ways of knowing and crafting (duodji) enliven the things they make, like a drum, clothes, or shelters. Just as stories and gods are situated in their enchanted land, mythical images are also inherited in the things they craft. Prayers and offerings can make things come to life too. Animistic cultures do not consider materials as dead but rather as alive, with their own personalities; they are living beings we can correspond with, whether a tree, wind, or a stone (Harvey, 2017). Some of the authors in this book are inspired by the indigenous reciprocities with others in nature.

In modern cultures, however, it is common to think of “nature” as something “out there”, separate from the human realm. Our modern forms of transforming materials from nature are mechanized and standardized in ways that force materials into predetermined forms, like putting brownie dough into standardized cups. There is no place for reciprocity when machines deprive direct contact between the human and the material – in modern forestry, for instance, a tree can be cut down with no physical constraint, no touch or other reminders of the time or energy the growth of the tree had demanded (Vetlesen, 2015). Handcrafting skills are also marginalized in the modern societies, yet, the hand-born knowledge has not been lost. Many craftsmen, artists, and others engage in traditional craft and speak to the materials, as we shall see, and the separation from nature is under scrutiny and subject to challenge. The authors of this book promise to the readers to reawaken their connections and entanglements with the more-than-human world. Through their work, explorations, and experiments they all seek to find ways to create deeper relationships with the more-than-human world, either their own or their students’.

Our modern rational mind asks whether we really need to relearn this language older than words. Have we not, through modernity and progress, come to control our environment so that we do not need to listen to it anymore? The answer is given through the worsening climate crisis, extreme weather patterns, the loss of species, desertification, deforestation, and forced migration. The General Secretary of the United Nations, Antonio Guterres, has called out a “code red” for the planet (United Nations, 2021). To consider human’s nature dependencies as obsolete has led us into a dead-end quest to control nature. We are now brutally awakened from such illusions. The Nobel Peace Prize winner Al Gore says in the film *An Inconvenient Truth* from 2006 that unless we are able to cope and adapt to the situation in more nature-friendly ways, we may destroy the living conditions on Earth.

We hope that it is not too late to become nature-friendly, but not everyone agrees. The founder of the Gaia-teory, James Lovelock, claims in his book *Revenge of Gaia* (2006) that it is too late to change the tide of climate change. However, we all agree that time is of the essence. We need urgently to find ways to relearn the language of reciprocity with our planet in order to sustain Life.

Our rational minds convince us that we can control aspects of our lives; thus, we have never been, and can never be, in control of Life. We have always been dependent on the elements of the Earth: water, minerals and plants, air and non-human animals. Control is a form of mastering the situation that we do not possess, regardless of how “modern” we are. As a response to Latour’s (1993) thesis “We have never been modern”, we have never been only “purely human”, untouched by our environments; we have always been entangled with other-than-humans, which for Donna Haraway (2016) includes cyborgs and machines.

We, as editors and authors of this book, share the rest of the authors’ quest to leave the narrow human-centred (anthropocentric) worldview behind us once and for all, but not by diminishing the human. We rather seek toward rewilding the human (Bekoff & Louv, 2014). The following chapters show several possible paths that deeply challenge our view on theories, methods, languages, images, and words. The main challenge, after all, is to put into words what is beyond words. Embodied experience of co-crafting must help words to form ... with some help from a kite, a stone, or a cat... The Norwegian poet Hans Børli addresses the challenges in the poem *Writing Poetry* (2004, p. 151):

Not at all: it’s not *difficult* to write poetry –
 it’s impossible.
 Otherwise, do you think I’d have kept at it
 for over 40 years?
 Try, just try
 to put wings on a stone, try
 to follow the track of a bird
 in the air.

To put in words what is older than words is like following the track of a bird in the air: difficult but not impossible if we train and experiment with ways of doing so. Nothing is completely impossible, said Arne Naess. He, the Norwegian philosopher and founder of the deep ecology movement, was asked how difficult it might be to shift perspectives or make the invisible visible (Haukeland with Naess, 2008), while Xavi Bou tried to capture the invisible. This innovative and creative Spanish photographer did what Børli called for, tracing the tracks of birds in the air. Taking

many photos per second he carefully crafts the paths of birds with the sky as a canvas, creating wonderful artworks he calls “ornithographies”.



Figure 1.1: Xavi Bou, captured birds' flying movement. Source: xavibou.com (By permission)

We hope that this book can help all of us to see more than we usually see, like Bou helped us to see beyond the capacity of an ordinary eye. We aspire to motivate the readers to pursue similar explorations in co-crafting their own relationships with other-than-humans. Thus, we are aware that our efforts are hindered and limited by a number of inconsistencies and obstacles, some of which are assigned to written words. We may write with an other-than-human, but the words we use are still from within a human world. As much as we want to be inclusive, this exclusion is something we cannot avoid since this language (signs on paper or a screen) is already excluding non-humans. We can never fully escape this fact, but we do not need to be trapped in it. It was, indeed, the dichotomy between humans and nature that troubled David Abram and led him to speak of the “more-than-human world”. This does not point to a separate category, as some may think, but rather enlightens, or “enliven” (Weber, 2019), how the human world is integral to the more-than-human world as humans are to nature. Our words shape our thinking and shape the worlds we are able to imagine – thus we can never escape them; our thinking is tied with concepts we use, and our thinking is always thinking-with (Haraway, 2016). When we act upon our incorporated ways of separative thinking – when we are in reality integral to nature – we create a world that is less attuned to the reciprocities of life, and we may do more harm than good to sustain life on our planet.

In the age of the Anthropocene, human beings have changed the face of the Earth and affected all beings across the globe. Narrowly, anthropocentrism not only places humans in the centre of experience but considers all other-than-humans as instruments for human purposes. All of the authors of this book challenge such narrow anthropocentrism in one way or another. Even though each of us sees the world from our own eyes, we understand that not everything revolves around us, and we are curious what the world would look like (or sound, smell, taste like) from alternative points of view. What might emerge from welcoming winds, trees, or digital devices into the crafting process?

To craft is to shape, to transform something, and this can be done in many different ways and with different mindsets. The term “crafts” is in everyday language associated with hands-on activities of making things in a playful manner as children often do and is addressed in a number of instruction and hobby books about breadmaking, shell painting, or origami folding. On the other hand, craft can be associated with art, but unlike fine art, which is exclusive, craft is inclusive and “can be seen to take the role of the successful underdog, which provides refuge and voice” (Niedderer Townsend, 2013, p. 4).

The concept and practice of craft is a part of the Norwegian school subject Art & Craft – or should it be translated from Norwegian in plural form – Art & Crafts – because this subject includes many different materials, techniques, and forms of crafting? The chapter authors of this book use slightly different designations: Art & Craft, Art & Crafts, and Arts & Crafts. One of the reasons for such individual translation preferences might derive from the fact that the word craft in Norwegian – “håndverk” – is the same in singular and plural. Another translation challenge is that the concepts of *art* and *craft* have different meanings and applications in Norwegian and in English. For instance, when plural form *arts* is used in research (as in *arts-based research*) it usually addresses more than visual art; that is, it includes dance, music, theatre, and other art forms. Consequently, singular form *art* refers to visual art, as it is the case with the content of the school subject A&C that exists side by side the subjects where other art forms are in focus, for instance, music.

The school subject Craft (Sløyd) was an independent school subject in Norwegian schools until 1960. In Sweden, it still is. In the Nordic countries, the word *craft* can be translated as *sløyd*, and the concept of *sløyd* has strong cultural connotations and an international reputation. In a historical document from the Vračevšnica Monastery in Serbia, we found a letter from Nääs in Sweden written by one of the founders of teacher education in Serbia; he was one of the many international students that attended summer school at the famous “Slöjdseminarium” in Nääs at the end of the 1800s to learn the specific methodology and didactics

from the European experts. Sløyd/Slöjd/Sloyd is much more than hobby crafting. It has a long tradition as a valued area of education, which is still highly regarded by primary school students, as Johansson's (2009) research shows. However, the same research also shows that the students' parents do not consider sløyd to be as important as other school subjects.

Craft is a growing research field, related to art, design, embodied learning, and making disciplines, among others, that is increasingly spreading and being approached from diverse perspectives. It is a crossroad for diverse interdisciplinary perspectives and a "host of seemingly contradictory practices, views and approaches" (Niedderer & Townsend, 2013, p. 4). The chapters of this book show examples of possible approaches to crafting, which seek to provide an expanded understanding of craft as a relational, collaborative endeavour that welcomes the voices of the materials, things, and more-than-human agency. These examples are educational and highly relevant for the practice of Art & Craft teaching, as well as in other educational contexts – and in the processes of personal transformation in general, both within educational contexts and out of schools as well as out-of-doors. We, the authors of this book, believe in the power of co-crafting, similarly to how Kristina Niedderer, Professor of Design at Manchester Metropolitan University, and Katherine Townsend, Professor in Fashion and Textile Practice at Nottingham School of Art & Design, believe in the power of craft itself:

the voice of craft will not be absorbed or vanish, because by its very nature it will renew itself through its grass-roots movements, which have always existed because they are based on the very desire of human nature "to make" as an act of taking a stance and changing the world (Joas 1992: 172). (Niedderer & Townsend, 2013, p. 4)

The process of crafting demands will, skill, and attention. The social anthropologist Tim Ingold (2013) speaks of the difference between "hylomorphic" and "haptic" ways of making that we can also apply to the concept of crafting. "Hylomorphic" crafting would be equivalent to *crafting through thinking*; this is when a craftmaker has an idea that is imposed on the material, the form, i.e., a one-way process: "hylo" means "matter", and "morphe" is form. "Haptic" crafting is an equivalent to *thinking through crafting*; this is when the form co-evolves between the craftmaker and the material through attuning to each other. "Haptic" means "grasp, touch", which is an embodied and sensuous two-way process. In this book, a craftmaker is not necessarily a human but could be a beaver that crafts a dam with logs, a bird that crafts a nest with thorny twigs (see Aure & Fredriksen, 2022), a river crafting

a gorge through the ground. They too reciprocate and respond to each other, often in fascinating, skilful, and creative ways.



Figure 1.2: A creative bird noticed similarities between a nest of materials and a skein of wires. Photo: Srdjan Jerinić

The negotiations that take place during a process of co-crafting can unfold in diverse ways, between different forces and levels of considering each other's will and choices. We can identify various relationships between those who craft. A first way of co-crafting is to be found in traditional crafting, where the human is the pro-active part and the other-than-human, let us say wood, is a re-active one. Even though the craftsperson is attentive to the wood, the process is largely driven by the human. Thus, traditional and indigenous craftmakers are well aware of the wood's significant part in the process. Three of the chapters in this book focus particularly on the roles of wood and trees in crafting and meaning negotiation. A second way of co-crafting is when the roles of the human and the other-than-human participant are blurred, such as writing with a cat or forming with the wind that chapters of this book so nicely exemplify. A third way of co-crafting unfolds without any humans whatsoever – the co-crafting takes place between a bird and the twigs, animal hair, or wires she finds appropriate for her construction.

In the second and third option, the assumed human predominance is reduced, the power differences are flattened out, following what Latour (2017) calls a flat ontology (Harman, 2019), claiming that whatever can play a role can be called an “actor”. Consequently, whatever can form things can be called a craftmaker. If we further expand this thought beyond birds, beavers, and other craftmaking animals to actors that are not born but themselves are elements and force, like water, wind, or rocks, it becomes more evident how powerless and vulnerable we humans can be when these crafting forces oppose our existential needs, for instance through extreme weather conditions.

Materials have always played an important role in the process of crafting. Craftspeople know that the process of crafting and its outcomes depend on materials’ hardness, viscosity, density, volume, strength, elasticity, weight, plasticity, and so on – qualities that Gibson (1979) in his theory of ecological perception calls “affordances”. What a specific material can afford, in James Gibson’s sense, depends not only on the material itself but on the way it is perceived – a person’s sensitivities, abilities, and will to listen to the material. It could be said that craftspeople exercise “a mild” form of anthropocentrism toward their materials and tools (Fredriksen & Sørum, 2021), because they often are able to, and willing to, listen to the materials they are crafting with (see Fredriksen & Kuhn, this volume). Vennatrø and Høgseth (2021) make a related point that craft extends from the human to more-than-human ontologies. However, the process of co-crafting also depends on the physical strengths of the craftmakers, and their knowledge about specific techniques, acquired through the individuals’ experiences and sometimes transmitted through generations.

Transforming something, crafting, is often a result of creativity: an ability to respond in novel ways. According to the philosopher Spinoza, creative abilities are inherent aspects of all things in nature. Spinoza refers to this creative force in nature as “*natura naturans*” and to that which is created as “*natura naturata*”, which are natural forces that create and re-create themselves through forming and transforming (Naess & Haukeland, 2003). Consequently, crafting nature is crafting oneself (Haukeland & Sæterhaug, 2020), which includes not only human selves.

Crafting is not just about transformations visible from the outside: physical transformations of material into new forms, shapes, colours, compositions, or even chemical structures. It is a process of both inner and outer transformations – a transforming lump of clay in one’s hands urges the inner transformations of the person attached to those hands (Dewey, 1934/2005). Crafting is a reciprocal process, and even more so in co-crafting with other-than-humans. It is by no means a one-way process but takes place in-between those involved and has the power to transform all of them – us. The process of negotiating physical forces between

human and other-than-humans can lead to mutual transformations through the reorganization of thoughts, understandings, experiences, senses, emotions, and so on (Dewey, 1934/2005). The authors of this book anticipate opening doors to the more-than-human participation in the co-crafting processes, which are also the processes of becoming together.

When material qualities are viewed from a more contemporary perspective of new materialism, the recognition of materials' role in interaction with human and other-than-human animals becomes even more significant. Here, materials are not considered as passive participants, but actors that both interact and intra-act in the process of crafting – their agency is acknowledged (Barad 2007). In such a view, matter and materials have their own will. They challenge the crafting process and are active contributors that influence what will be crafted. The materials' power can also be seen as resistance to human ignorance. The promotion of earth-based materials is a form of activism that acknowledges the power of matter and geological forces (geo-politics) (Grosz et al., 2017). This might sound peculiar at first, but not if we consider how important soil, air, water, fire, minerals, and other elements of our planet are for human survival. The concept of crafting in this book refers to diverse forms of physical processes of material transformation, that at the same time are self-transforming processes through the reconsideration of our relations with the environments.

WAYFARING JOURNEYS OF BECOMING

As editors, we want to take you, the reader, on wayfaring journeys along some less-travelled paths that the chapter authors have taken in their academic territories. The authors approach these journeys not with fixed maps but with an openness, curiosity, and wonder as to what emerges along the way. We, the editors, Biljana and Per Ingvar, have had our own journeys of becoming that brought us to the same crossroads. We haven't known each other for a long time but have found similarities in our overlapping interests and life stories. Each of us is inspired by our own unique entanglement and coexistence with others in the more-than-human world.

I, Biljana, am a professor of Art & Craft education at the University of South-Eastern Norway and a researcher with specific interest in hand crafting. My studies of young children's explorative, creative play with materials, such as clay or wood (Fredriksen, 2011), made me notice the power of materials' qualities, affordances, and eventually agencies. The young children taught me how to attune better to my physical surroundings and helped me to gradually develop awareness of the intricate and sublime connections among matter, objects, humans, and other

animals. A bit further in my process of human becoming – or biosocial becoming (Ingold & Palsson, 2013) – I became attentive to the similarities between myself and my fellow species, the similarities that I have always sensed but did not have words to describe. My project to bring goats, pigs, hens, and other animals to pre-schools in 2005 (see Fredriksen, 2005, 2008) gained new meanings many years later – I started to acquire understanding through the interspecies language without words, and this worked retrospectively. When my horse also challenged me to listen to her differently (Fredriksen, 2019, 2020) this growing ecological awareness (Morton, 2018) demanded a shift in my lifestyle. With my husband, two horses, and a donkey, I moved to a rural farm where a herd of alpacas joined us, as well as deer, foxes, and elk that come to feed on our fields. Being a farmer-academic has its challenges, but there are particularly the challenges and dilemmas I am facing in my everyday life that also give me even greater respect and humbleness towards the soil, the trees, the water, and my fellow animals (see Miller & Fredriksen, 2022; Fredriksen & Scarborough, forthcoming).

I, Per Ingvar, am a professor in ecophilosophy and ecopedagogy in the outdoor life studies programme at the University of South-Eastern Norway. As a child, playing in the forest around Kongsberg where I grew up, I lived with other kids in an enchanted world where all things speak. We had learned from indigenous people, like the Sami and the Native Americans, that we should give our thanks for the gifts we were given. This led me to many personal encounters with other-than-humans. After finishing a master's degree in ecophilosophy and education at the University of Oregon, I returned to Norway and started a collaboration with the Norwegian philosopher Arne Naess and became more active in the deep ecology movement. Our collaboration led to co-writing of the books *Livsfilosofi* (1998), translated into English in 2003 as *Life's philosophy*, and *Dyp Glede: Inn i dypøkologien* (Deep joy: Into deep ecology) in 2008. In 2006, I co-founded the Alliance for Wild Ethics with David Abram (the initiator), Stephan Harding, and Per Espen Stoknes. The alliance seeks to alert us to the sensuous reciprocity in the more-than-human world. This engagement has inspired me into dialogue with indigenous and traditional cultures to explore my own sense of indigeneity connected to place-in-time responsiveness. I find everywhere remnants of traditional cultures that can teach lessons in sustainability and nature-friendly living that I seek to combine with certain modern developments. In academia, I find that art and crafts, including poetry and storytelling, are ways to open doors to new horizons of reciprocity. Also, our two dogs, Arja and Mira, and all the other-than-human neighbours that we share our neighbourhood of all beings with at the foothills of Lifjell mountain in Telemark, Norway. They have all helped me relearn the language older than words. Most recently, as I will present in the last

chapter, I explore an eco-animism in co-crafting with other-than-humans, which makes us move with awe, respect, and humility in relationship to those others we depend on.

One of the inspiring signs the two of us encountered at the crossroads was pointing into indigenous territories, the indigenous people's ways of learning with the land and being aware of the interdependences embedded in their forms of living. Some of our academic colleagues may find our pursuits archaic, outdated, and backwards, but we do not see it as such. We see an urgent need to reconnect with the land, to learn with the land, and to acknowledge diversity of approaches, theoretical positions, and sources of inspiration that can support such a reconnection with the more-than-human world. This openness is not unscientific or unmodern, as we shall see, nor does that experience and practice mean less theory and reflection. Academia's divisions between humanities, social sciences, and natural sciences do not help. The direction academia has been moving is to separate itself from the world of experience, perception, and participation with other-than-humans. This leads only to a dead-end and does not help in the urgent times in which we live. There is no way back, but there is no way forward on the same track either; we agree with the philosopher Bruno Latour (2017), who says that we need to take a side-step where we draw on the best from the past, across the disciplines of knowledge, including indigenous ways of knowing, with the best of the future. We need to bridge the presumed gaps between academic disciplines in a more-than-human world.

The authors of the chapters contribute to a movement that we see is taking place not only in the Art & Craft education and research but elsewhere in academia. It is a movement that takes academics out-of-doors, into the lived world of experience and interaction with other things and beings in nature that we can craft a relationship with. A new enlightenment is on the horizon, one that is not simply of the rational mind but of the mind-body entanglements in what Tim Ingold (2011) calls a "meshwork" in nature. A revival of interest in the more-than-human world has been growing in academia over the last couple of decades, often under the heading of the "posthumanist turn", including flag-bearers like Rosa Braidotti (2013), Karen Barad (2007), and to some extent Donna Haraway (2003, 2017). There is also a growing interest in ecocriticism, animal studies, and anti-anthropocentric methods. The writings of Arne Naess that opposed the narrow anthropocentric worldview by shifting perspectives to the other, decades ago, are also picked up again. This legacy from Arne Naess, whose life-centred thoughts were in many ways ahead of his time, has motivated us as editors of this volume. The ecophilosophical impulses from the Nordic countries can be related to the important role nature has played in the lives of people. Life was harsh for those sharing

the land, but it gave a connectedness to others in nature that we still find today. Many children still play in the outdoors, perhaps more so than in other parts of the world that have more crowded cities and less peaceful conditions. The outdoor life (friluftsliv) plays an important part of the Nordic model (Gurholt Pedersen & Haukeland, 2019), and ecological awareness is probably already implemented in this model. As Morton (2018) claims, we are already ecological, but just not aware of it. One of the aims of this book is to bridge the blurry concept of sustainability to the attunement to the more-than-human world through crafting.

BRIDGING SUSTAINABILITY AND ATTUNEMENT

To speak of a way forward as contributions to “sustainable development” may be a stretch for many, since the concepts of “sustainability” and “development” may, in fact, contradict each other: to sustain and to develop. We often expect developments to be something positive, some kind of progress, but changes are not always for the better. We need to critically scrutinize the nature of change in sustainable development.

A recent report from the European Commission (2022, p. 2) suggests that education for environmental sustainability needs to move to deeper forms of transformative change: “Given the urgency of the climate and biodiversity crises, it is time for a step change and to move beyond isolated initiatives to deep and systemic change in education and training.” The role of education is to prepare new generations for the future; however, education itself contributes to the maintenance of present dualisms between human and non-human life forms. The task of preparing for the future is therefore much more difficult than anticipated (Pedersen, 2010), both because of the dualisms, assumptions that knowledge can be objective, and because of the ignorance of care for other-than-humans which indeed “is so vital to the fabric of life ...” (Bellacasa, 2017, p. 8). It is only through care for other species that we are able to reduce our human power. It is only compassion that can stop our ignorance of non-human species, matter, and forces of nature (Bekoff, 2013). The kind of change in education should be a form of evolution, not as the survival of the fittest, but rather as a co-evolutionary view that one’s survival does not threaten another’s but mutually supports one another. If there is one aspect of Darwin’s ideas that we find inspiring, it is exactly this notion of all living beings belonging to the same tree of life.

Sustainability education demands new values, where efficiency is substituted by slow learning and an education of attention and attunement to the more-than-human world. Creative practices demand continual attention to other-than-humans, be it materials or tools. The process itself also demands continual

re-examination of the conditions and qualities of those we co-craft with. We consider education through creative practice as a potential arena for sustaining development with a higher level of self-criticism. The practice is a form of action where we have to make choices, while we constantly negotiate with other actors during the ever-changing relational processes. Creative practices call for increased attention and attunement, awareness and response-ability, to those we relate to. It is through this process that relationships are co-crafted with nature – relationships characterised by attunement, enlivenment, care, awe, and thankfulness.

Human activities have influenced structures of most of the materials on the planet – water, air, soil – and irreversibly changed the entire face of the Earth. The effects of the human-centred treatment of our planet have led to a diagnosis: the geological epoch named Anthropocene. The term is today commonly used by geologists, climatologists, and stratigraphers (Gan et al., 2017), as well as researchers, educators, and artists in this volume. It is no longer questionable what marks modern human ways of living leave on the surface of the Earth. We (humans) are not in an exceptional, outstanding position with regards to further global geological and climate developments; we are together with all other beings – pulling them with us into the abyss we have been digging. What we try with this book is not to unfold a map of the transforming territories (including abysses and other disasters) before us. We rather intend to provide sets of tools, skills, and ways that can help in the process of mapmaking, as well as in the process of discovering what can still be done in order to endure and withstand unwanted developments on our planet. These processes have to be approached with humbleness, openness, and care. We need to honour those who have carried the ways of the land, the ways of connectedness, respect, and gratitude, before us. We need to learn from indigenous cultures to find our own sense of “indigeneity”, our own *nature-cultures*, and to bring the notion of sustainability down from abstract models to the experienced and entangled world of attunement.

DIFFERENT CHAPTERS, DIFFERENT JOURNEYS

Crafting relationships with nature has demanded holistic efforts from the authors of this book, including their growing awareness and efforts to communicate with, without, and in between words. The different chapters, hence, are different journeys of crafting such relationships. It is a collection of moments where humans (teachers, students, artists, educators) unleashed their senses and allowed themselves to be touched by trees, winds, rocks, and other things. These crafting processes that are captured, documented, and presented in the chapters uncover some of the challenges of becoming more attentive to that which is integral to

ourselves. The chapters make visible the kinds of movements, transformations, and becomings that can find place when heads, hearts, and hands – and the entire body-minds (Dewey, 1934/2005) – are connected to ecological others. The chapters exemplify what ecological awareness might be, how it can develop, and why we (humans) are impelled to listen better to, and care more for, our environments, however challenging that might be.

Every author's journey into this complex landscape of becoming in the more-than-human world has been unique, not only because Ulla travelled with a kayak, Kari with a kite, and Martin with a chisel, but also because their travelling was facilitated by different theoretical perspectives, sources of inspiration, and other-than-human companions. The chapters present segments of the journeys that in many cases are still continuing.

The second chapter, titled "Teaching, learning, tuning: Towards eco-centric aesthetic learning processes in craft education", is written by Helene Illeris and Kirstine Riis. The chapter addresses Norwegian Art & Crafts education and suggests that the traditional way of dealing with materials – as dead, inert – needs a renewal. The authors question the anthropocentric and consumerist worldview that is about to cause the collapse of life on planet Earth. Through narrative fiction they present examples of how Art & Craft educators can facilitate deeper and more eco-centric forms of learning in primary school. Their intention is to challenge the current understanding of "aesthetic learning process" as located inside the human mind and body and exemplify how learning in craft education can become a collective endeavour where non-human forms of existence are included. One of the questions they discuss is: how can we imagine the transition from human-centred to eco-centric views on aesthetic learning process in crafting?

In the third chapter, "A heartbeat of an old oak: The emergence of embodied experiential metaphors as signs of human compassion with trees", written by Tollef Thorsnes and Biljana C. Fredriksen, one can read about an art performance where participants were invited to draw the annual rings of an old oak trunk, which had been sliced and crosscut. The participants' reflection notes uncovered examples of experiential embodied metaphors that compared, equated, and equalized human lives with the lives of trees. The participants' metaphorical expressions marked their growing ecological awareness. The chapter suggests that artistic engagements (such as drawing) with natural materials (like wood) and non-human species (such as trees) hold the capacity for the development of human humbleness, awe, compassion, and respect for nature.

The fourth chapter, "The original room – in the making as a tool for understanding", written by Gertrud Olsson, presents an educational project carried out during the course "Materiality in the Experienced Space" at the University of

Gothenburg in Sweden. Inspired by historical literature, students built huts with hand tools, such as hammers, chisels, and saws. No machines or digital devices were used during the process. The project was intended to help the students gain an understanding of the connection between themselves, nature, materials, and climate conditions. The importance of first-hand experience was emphasised in this chapter, as the process of using bare hands invited haptic sensory experiences, as well as other senses in the process of listening to the branches' will, feeling the structure of the bark, and the softness of the moss.

The fifth chapter, "Crafting with nature: Rock paintings as Art of relations in embodied relational learning", written by Ulla Valovesi and Biljana C. Fredriksen, explores rock painting sites at Salmijärvi in Vihti in southern Finland. It describes the first author's multisensory experiences that emerged through her close encounters with a specific rock painting site, and by doing so invites the readers to dwell on connections in the more-than-human world at that rock painting site. Shapes and images of rock painting sites, developed through millions of years of natural geological and hydrological processes, have been recognised and co-crafted by the ancestors of the Sami people as powerful spiritual sites where different worlds meet. The chapter opens up access to a holistic worldview which, similar to Sami and other indigenous cultures, considers humans to be intrinsically connected to the natural and spiritual world. Such a worldview challenges dichotomies between mind and body, and human and nature. The chapter suggests that rock painting sites can facilitate inter-generational forms of embodied and deep relational learning that can support the establishment of closer relationships within the natural environments that humans are a part of.

The sixth chapter, "Why is it hard to listen to a rock? Questioning geophilia, geopower, and material agency in sculpting Larvikite", written by Biljana C. Fredriksen and Martin Kuhn, is based on conversations between the two authors with a focus on Martin's experiences of sculpting in a specific stone called Larvikite, that is found around the city of Larvik in southern Norway. Addressing the question "Why is it so hard to listen to a rock?" through a post-humanist theoretical framework, the chapter discusses the sculptor's experiences of listening to Larvikite in order to uncover how acknowledgement of a rock's agency depends on human acceptance, willingness, and ability to listen. The chapter suggests that one of the largest obstacles to hearing what materials of the Earth are trying to communicate lies in the deeply established anthropocentric values that hinder one from intra-acting and crafting-with rocks. Challenging assumptions of human predominance over matter can remind us of human fragility in relation of the power of geological forces – geopower.

The seventh chapter, “Wind as a crafting agent: Learning from a slow engagement with time, place, and nature”, is written by Alison Clark, who opens the text with the following question: how do you begin to engage with a new place? Staying in one place can enable slow practices that make it possible to play with the landscape in a slow manner that contrasts with the contemporary rush for fast results in society and in education (Ball, 2016; Rosa, 2019). Attention to pace and rhythm also draws attention to urgent issues regarding relationships with nature and with each other. The author’s playful engagement as an artist in collaborations with the wind in Orkney in the UK became an improvisational discussion and collaboration between herself, the wind, cloth tape, and marram grass. This and other forms of collaboration become the springboard for reflections about slow pedagogy (Clark, 2020; Clark, forthcoming) and how it can connect humans, time, nature, and places.

The eighth chapter, “The wind-kite-me – an explorative essay about kite flying and crafting with nature”, written by Kari Carlsen, takes up the art of kite building and the act of kite flying. In this chapter, the concepts of crafting and making with nature are examined through the author’s own constructing and flying experiences with kites. The text is based on a post-human and neo-materialist understanding, expanding into an intimate correspondence with the materials, the crafting, the place, the kite, and the wind. The text also questions the significance of the “self” in such a context where the boundaries between the individual human being and the surrounding nature both are blurred and intensified.

The ninth chapter, “Writing companions – cat-writing as a pedagogy of messy interspecies entanglements”, written by Aino-Kaisa Koistinen, examines what it would mean to take the ethical implications of human-cat relations seriously in the practice of writing and knowledge production – or cat-writing. The chapter joins Donna Haraway’s feminist philosophy and selected discussions of animal ethics together with creative writing, namely, poetry. The cat-writing is presented not only as producing meanings with the cat, but also as a set of material entanglements constructed while writing/living/thinking/feeling with a companion animal (see also Haraway, 2003, p. 5). This chapter exemplifies how cat-writing not only entails a process of thinking with a cat but is also a material process of writing with a feline companion.

In the tenth chapter, “‘You really are a thing!’: Queering relations with the more-than-human world”, Henrika Ylirisku and Tomi Slotte Dufva discuss human entanglement with digital devices. This chapter challenges assumptions that maintain human centredness and binary understandings of nature and culture, and human and non-human. The authors combine digital devices and haptic materials in order to illustrate the idea of queering as a praxis. They focus on the experiential

dimension of being entangled: the ways of grasping what they call “the enmeshment of human and nonhuman”. The chapter uncovers the process of co-crafting the device through a speculative artistic experiment and reflects on the experiences that emerged from interacting with it.

In the final chapter, “All things speak! Eco-animism in co-crafting with other-than-humans in outdoor life (*friluftsliv*)”, Per Ingvar Haukeland proposes an eco-animism in co-crafting with other-than-humans, which draws inspiration from the other chapters in the book and from personal experiences in the field of outdoor life (*friluftsliv*) studies. In this approach, the word “eco” serves as a tool for crafting place-responsive ways of connecting with the flow of life in nature, culture, community, and self in a more-than-human lifeworld. The chapter builds empirically on drawing closer to nature, the making of a pair of skis and co-crafting movement in the outdoors. It presents an eco-animism that is inspired by deep ecology, ecofeminism, and indigenous and animistic ways of learning with other-than-humans.

OPEN RENDERINGS FOR NEW HORIZONS

We find ourselves in the specific time and place in the universe, with as many troubling questions as stars in the night sky. If you are looking for clear, precise answers, you will probably not find them in the chapters of this book, but you might recognise something familiar, something inspiring, like when you notice a familiar star formation breaking through the darkness and calling for your attention. The narratives, concepts, and practices presented in this book are open for ongoing interpretations, like when shapes of the clouds for a moment remind you of something familiar and in the next moment change into something new.

Even though we seek insights that can open up new horizons, our questions might be more important than answers, and the process of questioning, wondering, not taking anything for granted of the most importance. Most of the authors describe their own experiences of co-crafting with nature – their journeys are educational both for them and for the readers. These authors might act in the roles of artists, or teachers, or both, as for instance in an a/r/tographic approach when roles of an artist, a researcher, and a teacher merge. It is an approach in which one “pursues an ongoing inquiry committed to continuously asking questions [and where] knowledge is always in a state of becoming” (Irwin, 2008, p. 2). The answers and concepts created are not definite but might become stepping stones for further inquiry, or what Irwin calls “performative concepts of possibility” (2008, p. 4). However, we have not entered the territory as a “tabula rasa”, so we need to be mindful of how the baggage we are carrying with us, the baggage of thinking,

language, and culture, influences our paths (Haukeland, 2020). We cannot avoid this baggage, but we should be aware of when the baggage helps us and when it hinders us.

We need to be critical in our approach, but not allow the criticism to develop into an academic scepticism or ignorance of what we find strange or do not yet understand. According to Naess, we need to be sceptical but open to what new experiences reveal – to develop “pyrrhonic skepticism” (Haukeland with Naess, 2008). We have to watch our steps, to move carefully and attentively as we co-craft with others. We should keep exercising our attunement to those human others and other-than-humans that come our way and help us open or close doors to further inquiry. We hope you too, the reader, are open to challenging your critical thinking and scepticism, ready to open your baggage and check what you are bringing with you on this journey. Certain paths lie beneath your feet. Other will be shaped by the soles of your shoes. When the horizons are open, there are so many possibilities, and there is so much to learn.

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2. Teaching, learning, tuning: Towards eco-centric aesthetic learning processes in craft education

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Abstract In this chapter we discuss how human-centric views on aesthetic learning processes (ALPs) can be changed to eco-centric approaches. Through the construction of three narratives from an imagined wood crafting workshop in school we explore how ALPs can unfold when crafting is understood as a continuous process of transformation that involves both human and non-human agents. Theoretically we adopt a conception of learning as a living phenomenon and of aesthetics as a mode of tuning. To conclude we summarize our findings by proposing three dimensions of eco-centric ALPs: subjectivation, togetherness, and environment.

Keywords craft education | aesthetic learning processes | eco-centric | sustainability | environment

INTRODUCTION

Tobias received the assignment the previous week from Sofie, his Art and Crafts teacher. She asked each pupil to construct a chair from pieces of wood found in the local environment and with cut-offs supplied by the local carpenter. Tobias walks around in his garden looking for some pieces of wood he can use. Again and again his eyes are caught by a tree stump lying in the grass. A couple of months ago his mother cut down the birch tree standing outside his bedroom window, and after some weeks he and his father dug up the stump, cutting off many of the roots spreading in the soil. Now the stump is lying upside down with the remains of its roots sticking up in the air. It looks like a small troll. When he lifts the stump he feels its weight and the surface in his hand. When it comes close to his face he senses the smell of the soil

and feels the humidity surrounding the wooden surface. The tree stump almost seems to have a life of its own. Would it be possible to make a chair with this wooden piece?

The situation narrated above is the beginning of an imagined explorative journey together with three different research partners: “Tobias”, a 14-year-old school boy; “Sofie”, a young Norwegian Art and Crafts teacher; and the “Stump”, the remaining part of an old birch tree, once standing in Tobias’s garden. Throughout this chapter we collaborate with Tobias, Sofie, and the tree stump in a performative research study that aims to explore how aesthetic learning processes related to crafting might unfold when experienced by three different performative agents: the teacher, the pupil, and the material.

Our point of departure is a common research interest in how the burning issues of environmental sustainability and ecological awareness can be introduced into Norwegian Art and Crafts education,¹ not only as yet another “add-on” to the traditional teaching of knowledge and skills but also as a transformative force, able to make us question the anthropocentric and consumerist worldview that is about to cause the collapse of life on planet Earth (Näumann et al., 2020; Vetlesen & Willig, 2018). In accordance with many other Scandinavian researchers (e.g., Fredriksen, 2020; Fredriksen & Sørnum, 2021; Groth & Fredriksen, 2022; Klungland, 2021; Maapalo & Østern, 2018; Waterhouse, 2021), our overall interest is thus directed at introducing different ways of thinking, perceiving, and learning *with* crafting. Thus, crafting is understood as a continuous process of transformation that involves both human and non-human agents.

Aesthetic learning processes (ALPs)

Our theoretical partner in the study is the concept of *aesthetic learning processes* (ALPs). Since the 1990s ALPs have been considered a key approach to learning in Scandinavian Art and Crafts education (Austring & Sørensen, 2006; By et al., 2020; Lindstrand & Selander, 2009). The concept was introduced as part of a paradigm shift where the child-centred pedagogy of the 1960s and 1970s was substituted by research-based approaches inspired by critical theories of cognition and learning

1 In Norway visual art education and craft education are combined in one subject called Art and Crafts. The authors of this chapter are educational researchers in both art and crafts, but in this chapter we have chosen to focus only on the “crafts part” of Art and Crafts. We thus refer to “Art and Crafts” when we write specifically about the Norwegian school subject, to “crafts education” as a general term referring to teaching all forms of handicraft, and to “wood crafting” when referring to the specific example that we are elaborating on.

(Illeris, 2012, 2022). Of particular importance to crafts education was the redefinition of the aesthetic experience from an open and playful approach to creativity to a specific form of cognition that could be expressed through “form-producing activities” (Hohr & Pedersen, 1996).

In the present study we want to challenge the current understanding of ALPs as processes that are located inside the human mind and body, while doing “form-producing activities” such as creating objects out of wooden materials. Following a number of other studies in embodied learning (e.g., Fredriksen, 2020; Østern et al., 2021), we want to see what happens if we consider learning in crafts education as a collective endeavour by including non-human forms of existence, such as surroundings, tools, and materials, as partners in these activities. How can we imagine the transition from human-centred to eco-centric views on ALPs in crafting? What consequences will it have for our understanding of ALPs if the focus is changed from being uniquely on human learning? Could the introduction of a less anthropocentric view on ALPs in crafting be a way of working with sustainable development in the Art and Crafts classroom? In other words, how could the conception of ALPs in crafting be developed in order to meet contemporary needs for a more eco-centric worldview?

A performative research approach

In order to explore what a transition from an anthropocentric to an eco-centric approach to ALPs could look like in everyday crafts education, we adopt a performative research approach (Haseman, 2006; Østern & Knudsen, 2019). This means that instead of exploring our research question analytically from a distance, we try to engage with it from within, by using our experiences as teachers and artists to create narratives about wood crafting in an Art and Crafts classroom. Through this approach, we allow ourselves to intertwine theoretical knowledge, practical experience, and imagination in order to explore what eco-centric ALPs might look like in the classroom. Following St. Pierre (2018) we thus consider “think-writing” as a form of empirical inquiry, where imagination is considered to be as “real” as observation and where “data” is constructed in order to function as a “partner” during the writing process (Ellingson & Sotirin, 2020).

To be able to stay as close as possible to our experiences with ALPs in everyday practices, we have thus constructed three narratives about a wood crafting workshop in a Norwegian school. The narratives are based both on our own experiences as teachers and teacher trainers and on our previous research relating to learning and education in Art and Crafts (e.g., Illeris, 2012, 2017, 2020; Näuman et al., 2020; Riis, 2016). In the construction of our narrative we use “Tobias”,

“Sofie”, and the “Stump” as our imagined research partners. In fact, Tobias, Sofie, and the Stump are not new partners to us. They first appeared when, on the initiative of Art and Crafts teacher Ragnhild Näumann, we wrote a book together about sustainability education in Art and Crafts directed at researchers, teachers, and student teachers (Näumann et al., 2020). During the writing process, we used our imagined research partners to personalise both our experiences as teachers and our experiences of working with recovered and recycled materials. With help from our partners we have been able to externalise and ground the relations between human beings (pupils, teachers) and more-than-human agents (materials, tools, surroundings) framed in a school setting and to explore the potential of these relations for the development of ecological awareness as part of sustainability education in learning with and through crafting.

Structure of the text

The text is divided into two parts. In the first part, we present three narratives of the same wood crafting workshop in order to reflect on three different perceptions of ALPs:

- 1) *Teaching*, where we use the voice of Sofie to look at how aesthetic learning processes and sustainable development can be taught through an assignment on wood crafting.
- 2) *Learning*, where we follow Tobias’s process of developing knowledge in and with his processes of crafting.
- 3) *Tuning*, where we go deeper into the role of the Stump, both as a partner in the crafting process and as an independent form of being that can be met in aesthetic processes of reciprocal “tuning”.

The three narratives can be considered as three stages of transition on the journey from a mainly anthropocentric view on ALPs towards a more inclusive and eco-centric approach. In fact, in our analyses we adopt three different theoretical perspectives. In the first narrative, we look at wood crafting in relation to education for sustainable development (ESD), as this theme appears in the Norwegian curriculum for Art and Crafts. In the second, we focus on the learning process through a dialogical approach inspired by the Swedish philosopher Bengt Molander (2015). In the third narrative, we take a further step towards an eco-centric approach by imagining how the Stump might partake in the process, adopting a speculative realist view developed by the British philosopher Timothy Morton (2013, 2017, 2018).

In the second part of the chapter, we unite and elaborate on the three narratives by relating them to three dimensions of eco-centric ALPs:

- 1) *Subjectivation*, where we discuss how subjectivity comes into being through ongoing relational processes between human and more-than-human forms of being.
- 2) *Togetherness*, where we argue that eco-centric ALPs entail a process of remaining together over time.
- 3) *Environment*, where we expand our view to include the surroundings in processes of mutual ecological awareness.

In conclusion, we argue how *crafting-with* more-than-human forms of being can contribute to the development of eco-centric perspectives on ALPs, where ecological awareness is encouraged through crafting.

PART I: THREE NARRATIVES ON SUSTAINABILITY EDUCATION THROUGH WOOD CRAFTING – TEACHING, LEARNING, AND TUNING

Teaching

Sofie: *I wanted to give the pupils experiences with woodwork that were not limited to the production of a predefined object and of training predefined skills with the use of predefined tools. Instead, it was important for me to initiate an aesthetic learning process where the pupils could explore the possibilities of wooden materials more freely. I thought that creating a chair would be appropriate, because, when you think more about it, “a chair” can be so many different things. When I decided that I would ask the pupils to use recycled materials, I immediately began to see new possibilities in the branches lying on the ground, and I began to consider how spending time in nature searching for materials could actually be an important part of Art and Crafts education. Instead of making an exhibition with the chairs at school, I wanted to invite a perspective on the process of making new relations to the materials as never ending. So I challenged the students to bring the chair back to the places where the wooden materials came from in order to experience how the transformed materials interacted with their “place of origin”.*

In this narrative our imagined partner, the Art and Crafts teacher, Sofie, tells us how she wants to give her pupils experiences with wood crafting that take into consideration the sensory aspects of working with a natural material with its own unique qualities. She also wants the pupils to see how the use of found and recycled wood brings up different challenges than those when using pre-cut wooden boards. Her idea is to introduce ways of getting closer to the materials as a path to sustainability education in Art and Crafts.

As her didactic point of departure Sofie uses the knowledge of ALPs that is familiar to her from her time as a student teacher back in the early 2000s. She plans for a process that will take the pupils through an ALP where learners “[...] transform their impressions of the world to aesthetic expressions of form allowing them to reflect and communicate about themselves and the world” (Austring & Sørensen, 2006, p. 107).² Furthermore, she is aware that the notion of “aesthetic processes” also plays a central role in the new Norwegian national Art and Crafts curriculum for primary and lower secondary school. Here ALPs are introduced as a way for pupils to “have experience with what has not yet come into being, and as a basis for participation in the development of culture and society” (Norwegian Directorate for Education and Training, 2019, p. 2). She integrates the overall intention of the curriculum to interweave aesthetic experience, practical making processes, and critical reflections about art, design, materials, and the role of the producer and consumer (Lutnæs & Fallingen, 2017).

As her second point of departure, Sofie also wants to integrate the transdisciplinary theme “sustainable development” into the workshop. Like many other teachers, Sofie has striven to find entry points to teach sustainable development in ways that go beyond the recycling of used materials. Although she would like to introduce deeper ways of relating to the environment from a non-consumerist and ecologically integrated position, this has been difficult to enact in practice (Lutnæs & Fallingen, 2017; Näumann et al., 2020). In fact, when she reads the curriculum text about sustainable development in Art and Crafts, she sees how it points in two different directions. On the one hand, it emphasises the need for art and design in order to find technical solutions to environmental problems. On the other hand, it states that the pupils should learn to “explore more sustainable ways of living for the future” and that the pupils should “increase their consciousness about the influence that nature has on humans and how human ways of living influence nature and the climate” (Norwegian Directorate for Education and Training, 2019, p. 3).

2 All translations from Scandinavian languages are by the authors.

Sofie's solution is to plan a workshop that will allow the pupils to have time to explore the production of a chair as an aesthetic experience in itself and thus to delve into their own relationship to the material much longer than usual. Intuitively she feels the need to break with the models and ideas of linear processes directed at predefined goals that she was taught as a student teacher. Instead she develops an assignment where aesthetic learning would be connected to sustainability education, not only because of the use of found materials but also through the whole creative process. First, through the experience of searching for the wooden material. Then, through the working process, where the pupils would achieve a deeper understanding of the sustainable qualities of the wood. Finally, through a collective reflection, not only about their experiences and results but also about how to relate to the world in ways that are non-consumerist and sustainable.

While the curriculum text promotes a human-centred view on Art and Crafts understood as a way to improve human abilities, skills, knowledge production, and living conditions, Sofie begins to imagine a view on learning that takes the material into consideration as an active partner, an agent with its own "will and wishes" (Fredriksen & Sørum, 2021). In this way Sofie's assignment constitutes a first step from an anthropocentric to an eco-centric approach to ALPs in crafts education.

Learning

Tobias: When I took the tree stump from my garden, I already had an idea of how to make the chair. In school I began to sketch, and Sofie helped me to find out which techniques I could use for the construction. However, when I started the crafting process, it was as if the material wanted me to do something different from what I drew in my sketch. Sofie kept saying that I had to listen to the wood. Actually, I found that working with the knife, saw, and planer helped me to understand the responses of the material. Through the tools I asked the materials to tell me what I could do, but it was also like the answers I got almost always turned into a new question. Like, okay, I adjust the use of the tool to make it move more gently towards the wood and not splinter, but how then do I take away enough of the top surface so that the dirt from where it was found would not be visible? Or, like okay, you won't balance as a leg when you are this long, but how long do you want to be then?

It took me eight weeks and a lot of work to finish the chair. In the end I was really happy with it. Throughout the process, me and my tree stump-chair have created some kind of a friendship. It felt like the chair was taking

care of me and made a unique and artful support for my body when I sit on it. I also feel that somehow I have taken care of the old tree from my garden and I care about the chair. From playing together in the garden we have invited each other into a new kind of friendship.

In this narrative, the voice of Tobias tells us about the complexity of creative processes “in the making”. Because of the open, explorative approach, learning unfolds slowly through the processes of working together with the Stump and the different tools. In fact, the knowledge that he is acquiring does not appear as a “learning outcome” but rather comes into being as a *living phenomenon*, taking place as an inseparable part of the process as a whole. When the Swedish philosopher Bengt Molander states that “(...) knowledge does not have a beginning or an end. It has always already begun” (2015, p. 85), he develops a view that challenges a linear perspective on ALPs. Using the concept of *dialogue* as a model for the overarching dynamic of ALP, *tensions* to characterise what makes dynamics and movements in the dialogue, and *attentiveness* to keep these dynamics in balance and in motion (Molander, 2015; Riis, 2016) helps us to emphasise the dynamic nature of ALPs. Illustrated by the voice of Tobias, we see how the living conditions are inherent in these multifaceted concepts: dialogue is both questions and answers and what is living in between; tension is not either pole and counter pole, but the dynamic in between; and attentiveness is about focus, but at the same time keeps a holistic perspective in mind (Riis, 2016).

Even if Molander’s theory has human-centred origins (Fredriksen & Sørum, 2021, p. 159), it allows us to think further and include interrelatedness between all forms of existence when understanding embodied learning as arising in direct relation to human interaction with materialities (Maapalo & Østern, 2018, p. 383). As mutual processes including “I” and “we”, ALPs as a form of dialogue “consolidate a community of understanding” (Molander, 2015, p. 108). When we turn towards an eco-centric perspective on learning, this community is not predominantly human, but is influenced by more-than-human forms of existence. Fredriksen supports this approach, stating that:

Acknowledging the connectedness between an individual and her/his physical, social and ecological others is the first step towards applying a holistic view to understand the concept of learning. (2020, p. 2)

When shifting focus from what goes on *inside* Tobias when he *uses* materials to *express* himself and *produce* a chair towards *mutual influences*, it broadens the community of understanding of ALPs to include what we usually define as “surroundings”, “materials”, “tools”, “techniques”, etc. Dialogue happens through relationships

and reciprocal attention between all forms of existence. Tobias's craftsmanship and his imagination of the intended form continually develop through dynamics and interrelations between both the affordances and properties of the wood, of the tools, and of his embodied experiences. Thus, the concept of *crafting-with* materials in complex dialogues can nourish interconnectedness between human and more-than-human forms of existence (Groth & Fredriksen, 2022).

Molander emphasises the importance of learning by doing *and attending* for the learner to be able to keep different alternatives alive at the same time and to still "provide *direction*, to *lead us onward* in the best way" (2015, p. 293). Without continually attending to the response from the wood, Tobias would lose the overall insight of the process, and negotiation between him and the Stump would not be possible. The attentive learner possesses an integral readiness, openness, and situatedness to be able to act according to what answers arise, and thus to keep the dynamics in the dialogue (Molander, 2015, p. 160). In the dialogue between Tobias, his tools, and his wooden partner, Tobias's former woodwork experiences interplay with what he imagines will be the answer to his action and the responses from the Stump. This interplay enables them to move on – together.

Understanding knowledge as a living phenomenon offers a perspective on ALPs where living and life-giving conditions are focused as a complex whole. In a rather radical sense, this provides an opportunity to associate education with ecology and the nature of ecosystems with ecological equilibrium. In addition, shifting the perspective on ALPs from inside Tobias towards Tobias and the Stump inspires new perspectives on human-environment relations, advocating equal relations between human and more-than-human forms of existence and, in this way, for ALPs to become a path towards ecological awareness (Illeris, 2020, 2022).

Tuning

The Stump: *A change of temperature. I sense touch. I expand. Humidity evaporates slowly through my surface. I shrink. The space around me changes rapidly. Light, dark, warm, dry, noisy, silent. No worms, no insects. Sharp edges. Uncomfortable habitat. Touch of skin. Weightless pleasure. I expand towards skin. I meet pulse. Touch of hard. Resistance. Insistence. Moving together and transforming. Becoming form. Becoming material. Disappearing and reappearing. Smaller, smoother, warmer, lighter, brighter. Learning to balance upside down on my branches, bearing weight that warms my polished surface.*

To try to give voice to the Stump is to try to give voice to the unknown. At least since the Enlightenment a common assumption has been that the ideas of animism and anthropomorphism could be connected to those who were not – and could not be – enlightened by reason, for example, a child talking “with an inanimate stuffed animal as if it was not only an actual lifeform but also conscious” (Morton, 2017, p. 15). However, if we as educators and students want to enable and practice closer connections between human and non-human forms of being, we need to find ways of imagining things, environments, etc., as forms of existence in their own right. As in all kinds of transformation of existing modes of thinking and doing, imagination plays a key role when we try to expand our focus on learning from being just a human endeavour to being an endeavour that involves all forms of being present in the situation.

For Tobias it became increasingly important to spend time with the Stump in order to *tune* himself to how its sensuous qualities meet his hands, eyes, nose, ears, and skin, exploring how his human body responded to “the body”³ of the Stump. When crafting, his entire attention was thus on how the Stump responded to his actions. Impression, expression, and reflection become inseparable, because all of these learning modes are embedded and intertwined in the living process of knowing. Instead of a focus on production or dialogue, the main focus was on ecological awareness understood as attuning to the temporal and spatial “formats” of the wood. According to the British philosopher Timothy Morton,

realising that there are lots of different temporality formats is basically what ecological awareness is. It’s equivalent to acknowledging in a deep way the existence of beings that aren’t you with whom you coexist. Once you’ve done that, you can’t un-acknowledge it. There’s no going back. (2018, p. 128)

In Morton’s view, aesthetics is understood not as to a human mode of sensuous cognition but rather as a relationship, *a mode of connecting*. Instead of an experience, which is something humans have, he talks about a reciprocal awareness between modes of existence. Looking at aesthetics as *event*, Morton enables a profound recognition of our *not* being able to understand everything in the world we are a part of. He puts it this way:

3 We are aware of the paradox that we use more-than-human beings as “resources” for our purpose of this text and also attribute to them intentionalities and qualities they do not themselves determine.

Aesthetic events are not limited to interactions between humans or between humans and painted canvases or between humans and sentences in dramas. They happen when a saw bites into a fresh piece of plywood. They happen when a worm oozes out of some wet soil. They happen when a massive object emits gravity waves. (Morton, 2013, pp. 19–20)

Thus, eco-centric understandings of ALPs move educational perspectives towards rhizomatic approaches, a *crafting-with* unique more-than-human forms of being, who, besides acting as partners in learning processes, also have a life entirely of their own. By going beyond the idea of aesthetic learning as a living dialogue as presented in the section above, Morton expands further with the idea that aesthetics are what happens when two objects intentionally or unintentionally reach out towards each other, causing an independent third object, “the relationship”, to come into being (2013, p. 23). The reciprocal attention between objects happens through *tuning*, meaning that objects reach out to each other and link to each other’s phenomenological qualities, while still maintaining their uniqueness.

In relation to ALPs this means that ecological awareness is not limited to human cognition, embodiment, or social interaction, but also has to do with ecological coexistence among “objects”, including all forms of existence from insects to planets and from ideas to pincushions. In Tobias’s process, ecological awareness emerges when he lets go of his preconceived ideas of man-made wooden objects, for example, an industrially produced chair, and starts to tune into the wood as a living object in itself. When the wood meets Tobias’s hands it gets warmer and it is covered in light. One could imagine how the “breathing” of the Stump is slightly altered by the touch of the hand and that, on a microscopic level, wood-cells and human skin-cells are exchanged, cells that in their turn are composed of autonomous forms of being, such as water, minerals, and DNA. When Tobias then begins to alter the form of the wood, metal tools, such as knives, saws, and planners, change the quality of the attunement into something less dwelling and more interfering, a risky and potentially violent relationship, which, according to Morton (2013, p. 23), can be understood as an object in itself.

By reconceptualising ALPs through Morton’s theories, the understanding of ALPs as a form of dialogue is enlarged by sustained attention towards crafting as a collaborative endeavour of attention-awareness-attunement-inter/intra-action-and finally, separation. This means that new objects (the relationship, the learning, the chair) can now begin a life of “their own” like also “the new Tobias” (Tobias who knows how to work together with wood) can begin a life “of his own”. While Tobias and the Stump are interrelated in the event, each of them also maintains their uniqueness and thus their estrangement from each other.

PART 2: TOWARDS ECO-CENTRIC AESTHETIC LEARNING PROCESSES IN CRAFT EDUCATION: *SUBJECTIVATION, TOGETHERNESS, AND ENVIRONMENT*

Through our narratives and analyses we have demonstrated some possible ways to challenge the anthropocentrism of prevailing views on ALPs and of supporting eco-centric approaches. In order to give the reader a more concrete idea of how eco-centric approaches to ALPs can be enacted, we will conclude by introducing three dimensions to which these can be related. Inspired by Felix Guattari and his *Three ecologies* (2004), where three ecological “registers” are defined as “the mental”, “the social”, and “the environmental”, and applying these as three “lenses” as by Illeris (2017) and further adapted as “forms of learning” by Näumann et al. (2020), we call these dimensions *subjectivation*, *togetherness*, and *environment*.

Subjectivation

In eco-centric ALPs, the focus is not restricted to human learners and the development of their creativity, skills, or knowledge understood as something that happens *inside* them. Instead, subjectivity comes into being through ongoing relational processes of subjectivation, where the human learner engages in continuous dialogue with other forms of being: for example, “tools”, “materials”, “classrooms”, and “classmates”.

From this perspective, processes of subjectivation can be understood as an existential process of engagement, where the self-reflective “I” gives place for the affective forces of bodies that meet both in smooth processes of flow and rhythm and sometimes in uncomfortable processes of resistance, impediment, and non-comprehension. When Tobias struggles, he develops his persistency, but also sensibility, empathy, and respect towards his “partners”. Thus, inspired by theories of ALPs as a form of dialogue, subjectivation is a process not of developing an identity as a producer/maker and consumer but of becoming an attentive and exploring partner, capable of including “you” and “we” in dialogues between forms of existence through crafting knowledge together.

In educational situations with Art and Crafts, attentive and exploring partnerships like the one Tobias establishes with the Stump challenges a result-oriented focus on the production of objects and pictures. Instead, the focus on collaboration emphasises an explorative approach, where the entire process of finding, elaborating, and creating new forms of existence (e.g., a chair) is understood as a dialogue of different “voices” – human voices, tool voices, wooden voices, etc. In this way, ALPs will lead to a living and embodied form of knowledge in which the “result”

will not be “a product” in the strict material sense but rather a situation, an event, a more precious and unique way of existing in the world, based on awareness and respect for both humans and non-humans involved.

Togetherhness

In eco-centric ALPs, subjectivation and togetherhness are closely connected. In fact, one could argue that one is never alone, but is always in innumerable relationships to something or someone else. Our human bodies, for example, are hosts for, and dependent on, millions of other organisms. In an interview by Jimenez de Cisneros (2016), Morton uses the expression “the symbiotic real” to describe how humans as part of the world are also dependent on “a sort of fragile, contingent, uneasy relationship in which it’s impossible to determine which entity is the top entity”.

In Art and Crafts education, togetherhness takes place when we intentionally engage with something that we perceive as “other”. It can be another human, an animal, a plant, a material, a tool, or a thing. Tobias is crafting *with* the wood and *with* the tools, meaning that he is in a complex relationship where different forces meet through physical engagement. The wood is disposing itself, opening towards the tool, meeting the saw, responding to Tobias’s hand. In certain moments Tobias experiences that the Stump has “a will of its own” and that he has to attune to the wood to follow its more-than-human qualities.

To Molander (2009, p. 242), ALPs are related to deep dimensions of learning: “to learn awarenesses through others”. Fredriksen (2020, p. 4) takes the argument further by stating that genuine learning “demands true connectedness, dwelling, exploring, time and emotional engagement, and is everything but efficient or instrumental”. Following this line of thought, togetherhness in ALPs is about spending time together with other beings, and about *staying* together, also when this entails remaining in uncomfortable and challenging situations (Illeris, 2020). In eco-centric approaches to crafting, togetherhness is enacted in tensions of collaboration and resistance, withdrawal and interdependency, where the encounters with others and otherness continuously redirect everybody involved towards processes of attention and situatedness.

Environment

Our environment is often referred to as a kind of background for our human existence. We talk about it as if it were something passive, a surrounding or a “scene”. A space which is abstract, uniform and empty, where the air, the weather, the landscape, and all the invisible particles are just “conditions” to be overcome

(Paulsen et al., 2022). In the Anthropocene era the crises following human exceptionalism have forced us to reconceptualise “environment” as a very active force, influencing our lives in unforeseen ways. Consequently, we begin to understand how humans are not separate from the environment and that the environment is not around us, but *with* us as a partner in all of our activities, large and small.

In schools, ALPs have often been connected to “neutral” educational environments, such as classrooms or workshops. These are rooms, which are similar in all schools throughout Western countries, with specialised features that support the learning processes taking place inside the human mind and body and in social/human relations. They physically separate the learning environment from the outdoor environment. Instead of facilitating interrelations, this kind of environment maintains distinctions between the students and everyday life as it takes place outside the school.

In eco-centric approaches, what we usually refer to as the environment has to be reconsidered as an equal partner in ALPs, meaning that in crafting processes the role of the place is as important as that of materials, tools, ideas, pictures, etc. In the imagined process of Tobias and his classmates, the experience of collecting wood in the forest, the garden, and the skip at the construction site is as important as the process of crafting with the tools and wooden pieces inside the workshop of the school. In addition, the experience of interacting with the chair by taking it back to the places where the original material was found is also a part of the learning process. Instead of marking the end of the process with a product exhibition at school, the students are challenged to also attune to the chairs, the surroundings, themselves, and the ecological coexistence that joins them. Thus, the students experience how relations between the materials from the forest, themselves, their actions, the chair, and this gathering of a whole form a multidimensional learning space. Further, Tobias, the tree stump, the chair, his room, and the garden continually connect in new forms, creating new spaces, stories, and ways of being in the world.

When understanding ALPs as a process of developing ecological awareness, Tobias and children in general do not learn *about* but *experience how* all forms of existence are inseparably connected to environment and depend on mutual intertwining.

CLOSING REMARKS – ECO-CENTRIC APPROACH TO AESTHETIC LEARNING PROCESSES

Our journey towards a reconceptualisation of ALPs as eco-centric is based on the argument that knowledge is not limited to human cognition, embodiment, or

social interaction, but includes ecological coexistence among human and more-than-human forms of being. As a form of knowledge, eco-centric ALPs can be considered as a living phenomenon that aims to intensify ecological awareness that includes all phases of crafting: from choosing a theme, selecting and finding the material, dialogue and negotiations between the partners, and creating a working environment, to the ecological coexistence with the “product”. Thus, a precondition for eco-centric ALPs is to take time to connect, collaborate, and learn in interrelation with our ecological conditions, challenges, and opportunities.

Crafting-with more-than-human forms of beings and an understanding of equal relations between human and more-than-human forms of existence challenge the everyday conceptions inherent in craft education in Scandinavian schools. By experimenting with eco-centric approaches, we hope to contribute to the ongoing exploration of how education can be understood as a constant intertwining between equally important forms of existence. In this way, we hope to become a part of the growing body of *research-with* crafting, by renewing the concept of ALPs in crafts education, also beyond the Scandinavian realm.

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3. A heartbeat of an old oak: The emergence of embodied experiential metaphors as signs of human compassion with trees

Tollef Thorsnes and Biljana C. Fredriksen

Abstract The chapter presents participants' experiences from the art performance "Archaeological trunk splitt" where they were asked to draw the annual rings of an old oak. Their notes consist of "experiential embodied metaphors" that indicate their deep personal engagement. The authors propose that a process of art-making can expand the social-linguistic understanding of metaphors and that engagement with natural materials and non-human species holds the capacity for the development of human humbleness, awe, compassion, and respect for nature.

Keywords drawing | art performance | experiential embodied metaphors | human-wood relationship | respect for nature

INTRODUCTION

A touch of wood is like a warm handshake that doesn't want to let go.
The smell oozes its way back to the long-forgotten memories.
The sounds of sneaking time:
whispering with wind, squeaking with a storm, cracking with a thunder.
Slowly counting years
while drawing lines in its own flesh
circling around and around
in an infinite circle of life.
Giving and taking and giving...

We have always been fascinated by trees, those that share the air with us today and those that have lived before and stored traces from the past in their fibres.

As a sculptor, I, Tollef, the first author of this text, have been working with wood for over 30 years, digging into it, carving and slicing it, and discovering the histories hidden under the bark, under the thick layers of soil and mud. When I work with very old, almost carbonated wood that has been lying in mud for thousands of years, I can sense a connection to the past inhabitants of our planet. And sometimes, when the wood in my hands has been processed by earlier generations, its consistency, texture, and smell can connect me to the lives of these people and the places where they harvested the trees and utilized the wood. In Norway, wood has for centuries been the main building material for houses, roads, bridges, and much more.

In 2021, the city of Tønsberg, the oldest Norwegian city, originally built in wood, celebrated its 1150th anniversary. As a part of the celebration, an art, research, and educational project called “ArtClimateRoad” was organized. Twelve smaller projects were conducted under the umbrella of the same project, each of them aiming to trigger the participants’ awareness and curiosity about nature and history, climate change, mass migration, and dignity. I, Tollef, was responsible for one of the projects, called “Archaeological trunk splitt,” to which I contributed three installations and performances in Tønsberg city and at the University of South-Eastern Norway. My students, as well as other people, were invited to take part in the performances that were a form of collaborative art event in the city and in a university classroom. The main content of one such performance was exploring “the anatomy of wood”, where the participants explored wood trunks, split and cut across fibres, as a kind of archaeological revelation. As a part of the performance, the audience members were invited to choose a crayon and follow one annual ring by drawing it on a transparent piece of paper which had been placed over the wood section. This apparently simple act of following lines initiated many interesting lines of thought. The collaborative process of “drawing oneself” into the joint visual expression of the life of the particular tree urged reflections, that were written down immediately after the drawing event. These reflections constitute the foundation of this text.

The second author, Biljana, did not take part in the performances, but joined Tollef before the process of analysing the participants’ notes. Both of us teach the subject of Art & Craft at the same university, and our interests complement one another: Tollef is an artist and practitioner-researcher; Biljana is a researcher within the field of creative practice and experiential learning. Tollef is a sculptural and performative artist; Biljana is an ecologically aware craftsperson and farmer. In this chapter the two of us meet around the themes of embodied experience, multimodality, metaphor, ecological awareness, and transformational power of the process of representation. From the notes collected from 45 participants, we

have for this chapter made a selection of the most relevant utterances in order to answer the following question: *Which kinds of metaphorical, compassionate connections between the lives of humans and trees emerged from participants' multimodal experiences of drawing the inner lines of an old oak?*

During the process of analysis, we selected the students' metaphorical, compassionate expressions that addressed connections between the annual rings they were drawing and their own lives. Through such metaphors, the students expressed what mattered for them and uncovered their processes of connecting to trees and to other non-human beings.

THE CONTEXTS AND APPROACH

The art installation and the corresponding drawing performance "Archaeological trunk split" took place at three different sites and with three groups of participants: 1) in Tønsberg city, where random people participated (we will use the reference "Tønsberg" for data from this group); 2) at the university's art gallery, where Art & Craft students participated (we will refer to data from this group as "Gallery"); and 3) at the university's wood laboratory, where Norwegian language master's students participated (our reference for this group will be "Wood laboratory"). When the participants were asked to contribute by drawing annual rings, they were also asked to pay attention to their experience of time and space, and materiality and texture, and to write reflection notes immediately after the drawing activity.

In all of the three performances, the participants were asked to choose a pencil in a desired colour and to trace one annual ring with it on a large sheet of transparent paper. However, two of the groups were exposed to a more extensive performance: "The Anatomy Lesson of Dr Tollef Thorsnes". The playful title refers to Rembrandt's famous painting *The Anatomy Lesson of Dr Nicolaes Tulp*. Rembrandt's painting places a human being in the focus, whereas "The Anatomy Lesson of Dr Tollef Thorsnes" focuses on a tree. This is how one of the students described the activities they participated in (Gallery):

A transparent paper was placed on the top of the wooden boards so that one could see the annual rings through the paper. (...) We had to choose a color ourselves, and which year ring we wanted to draw. At the end of the lines, we wrote our names (...) The way the tree was opened and we got to see the interior, was similar to how Dr. Nicolaes Tulp showed human anatomy to the other doctors. Dr. Tollef Thorsnes did the same for us with the tree as Dr. Nicolaes Tulp did.



Figure 3.1: A participant drawing the inner life of an old oak with a self-selected coloured pencil.



Figures 3.2 and 3.3: Participants in the Wood laboratory cooperating with drawing from each side of the old oak.

The three different physical contexts can be understood in the terms of the situational and cultural context, which together constitutes what Halliday calls the social context (Halliday, 1978). Besides the differences in the physical contexts, the participants also had different backgrounds and predispositions to engage in

the activity of drawing: some of them were Art & Craft students (the first and the second site) and some were Norwegian language master's students (site three). In this qualitative approach, we are trying to externalise, interpret, and understand which meaningful insights were formed and perceived during the particular drawing task. We are thinking in the terms of social context (Halliday, 1978) or "a frame of action" (Kress, 2010, p. 133). The term "frame of action" stands for a specific environment (space and time) in which a realisation of meaning takes place (Kress, 2010, p. 133). Applying the merging roles of an artist, teacher, and researcher, as in *a/r/tography* (Irwin et al., 2018), gave me (Tollef) an opportunity to be active myself and take on a participatory role in the creative practice that is being investigated.

The art performance was a manifold event and could be assigned diverse adjectives: collaborative, multisensorial, multimodal, interdisciplinary, educational, etc. As an artist/teacher, I, Tollef, facilitated the contexts, expressed through the art installation, presented the installation verbally, and invited participants to take part in it. My roles and ideas (both artistic and pedagogical) influenced how the event unfolded. A teacher's interests, ideas, abilities, and agendas always influence what their students are able to learn; however, one can never know exactly what will be learned (Eisner, 2002). I hoped that the participants' multimodal experiences of drawing the inner lines of an old oak would lead to some kinds of connection between themselves and the tree whose lines they were drawing.

As teachers of Art & Craft, we consider embodied experience to be foundational for knowing (Davidson, 2004), or at least "the best kind of knowing" (Gibson, 1979, p. 263). It is through engagement with arts that we can "capture and embody meanings that bridge thought and feeling" (Smith, 1982, p. 299). "It is the particular, and not the general (...) [one] must grasp in order to transcend the cultural stereotypes and narrowed conceptions" (Røed, 2021, p. 107). Deep insights are products of concrete experience.

Through their participation in the art performance, the partakers could engage their embodied modes of knowing (Bresler, 2004). Such modes of knowing are private; thus, they could be shared with others. The notes they wrote are the main source of our data – the notes make the drawing experiences accessible to us. When we reviewed the notes, we realised that many of the participants expressed themselves metaphorically and referred to their embodied experiences. We were surprised and enchanted by the poetic language and sensitivities that the notes conveyed. During the process of analysing, we became particularly interested in metaphorical expressions that were closely connected to the participants' embodied experiences with the wood/trees. Such metaphors have earlier been referred to

as “embodied experiential metaphors” (see Thorsnes, 2021). This concept will be further elaborated on in the following section of this chapter.

THEORY

Multimodality and the sense of touch

The field of multimodality studies, originally developed from social linguistics, deals with diverse modes of communication. The extended concept of “language” includes nonverbal modes or knowing, and the qualities of physical objects and materials are considered significant for the process of meaning making (Kress & Jewitt, 2003). As Art & Craft teachers, we have always been aware of the significance of our students’ visual and tactile experiences for their process of meaning making/learning.

Touch is the most subjective sense, “deeply personal and impossible to reduce and share with others, as one can do with sight and hearing” (Stenslie, 2010, p. 80). The skin “is the oldest and the most sensitive of our organs, our first medium of communication” (Pallasma, 2012, p. 12). Through touch, one can perceive different textural parameters, such as *liquidity*, *viscosity*, *temperature*, *relief*, *density*, *rigidity*, *heterogeneity*, *regularity*, and *roughness* (Van Leeuwen, 2016); however, tactile experiences demand immediate physical closeness.

The main intention of the performance “Archaeological trunk split” was to facilitate contexts where the participants could experience close encounters with wood and develop closer relationships with trees. One can learn about trees and nature from books and lectures, but the development of a caring relationship demands embodied experience. According to a holistic understanding of nature, as for instance practiced by the Sami, the indigenous people of northern Europe, nature can become visible to us only when we are in immediate interaction with its elements (Nergård, 2019). The concepts – *to touch*, *to move*, and *to affect* – are also metaphorically connected to embodied experiences of care and compassion (Lakoff & Johnson, 1999).

How something is experienced is not, however, only the result of the senses, but also of the emotional engagement, cognitive, and other abilities of the perceiving organism (Dewey, 1934/2005). The same can be said about the process of drawing or other forms of represented: the most remarkable visual expression came from deep engagements and compassion from the motives that are being portrayed (Fredriksen, 2008). Close encounters with concrete physical objects or living organisms that are being drawn facilitate the opportunity to touch and be touched – touched both concretely and metaphorically. In our busy, modern life, such experiences can become “oases” for thought and emotional processes

(Røed, 2021). Encounters with *natural materials* are particularly compelling in this context: “Natural materials – stone, brick and wood – allow our vision to penetrate their surfaces and enable us to be convinced of the veracity of matter” (Pallasma, 2012, p. 34). Wood is one such natural material that can be experienced visually, but extraordinary opportunities for new discoveries open up when wood is smelt, sensed with fingertips, and explored tacitly under its surface. Cutting and slicing wood provides insight into the interior and offers explorations of the inner life and functions of an organism. The tree’s annual rings, twigs, cracks, and damaged wood have diverse potential meanings, and different modalities complement one another:

Vision reveals what the touch already knows. We could think of the sense of touch as the unconscious of vision. Our eyes stroke distant surfaces, contours and edges, and the unconscious tactile sensation determines the agreeableness or unpleasantness of the experience. The distant and the near are experienced with the same intensity, and they merge into one coherent experience. (Pallasma, 2012, p. 46)

Touching wood with bare hands and pencil tips are less substantial interventions into the wood’s interior than reshaping it with sculpturing tools. Still, the surface encounters with pre-cut wood that the participant of the performance could experience facilitated opportunities for new forms of relationship.

Embodied experiential metaphor

This chapter builds on three main premisses: 1) that multisensorial embodied experience is central for learning/meaning making; 2) that emotional engagement that accompanies such embodied experiences makes the experiences meaningful; and 3) that new insights that emerge in such embodied, emotionally loaded experiences can be expressed through metaphorical language.

The concept of “embodied experiential metaphor” stands for verbal metaphors that are based on individuals’ embodied experience. “Embodied experiential metaphors” are created when words, usually used to describe humans’ experiences, are applied to non-humans or materials (Thorsnes, 2021). An example of such a metaphor can, for instance, be when someone applies the word *stubborn* in order to describe wood’s resistance to a human hand that is trying to reshape it. The adjective “stubborn” here becomes such a metaphor. Another example, from the parameter of liquidity, is the metaphor “dryness” that may connote ageing (Van Leeuwen, 2016). From the position of social linguistics, Van Leeuwen describes

how common experiences among people can be a foundation for metaphors, as for instance how metaphors of softness and hardness can be applied to other contexts: “Softness may be weak and submissive or sensitive and accommodating. Hardness may be strong, stable and durable, or unforgiving and harsh” (Van Leeuwen, 2016, p. 115). Metaphors can, according to Van Leeuwen (2016), have potential for “global communication”:

... the basis of at least some of (...) metaphors, namely those that are based on physical experiences shared by all humans, can, at least in principle, be universally understood – an important thought for communicators engaged in global communication. (p. 109)

At the same time as we acknowledge that many experiences can be similar among different people, in this chapter we understand experience as individual achievements, deriving from interactions of a unique organism and their environment. Metaphors derive from what is the most meaningful for each individual in the moment of representation. We are here suggesting that “embodied experiential metaphors” depend on deep engagements between humans and materials, such as artists and craftspeople can develop through their close and caring relationships with materials. By suggesting that “embodied experiential metaphors” might have been common for artists and craftspeople, we propose that theoretical perspectives from social linguistics can be expanded with perspectives from the arts (Thorsnes, 2021).

Metaphors are a matter of thought and reason (Efland, 2004) and are closely tied to the individual’s experiences, emotional engagement, and many other aspects. A Norwegian art-critic, Kjetil Røed (2019), proposes that the quality of an experience depends on moral attitudes and actions that are brought to the context of the experience. Røed (2019) refers to Aristotle when he introduces the concept of *aesthetic virtues*, with 11 different virtues: *attention, judgement, withdrawal, curiosity, recognition, hope, cooperation, crafts, double-vision, love, and solidarity*. These aesthetic virtues seemed to be embedded in the metaphorical expressions we discovered during the analysing of the participants’ notes. The “embodied experiential metaphors” that the participants of the art performance included in their notes seemed to emerge during the process of drawing and writing. These metaphors illuminate connections between the students’ sensory experiences and their thinking processes (Efland, 2004). Their fresh, newly established metaphors are traces of “thoughts in transition” (Fredriksen, 2011; Parsons, 2007). We therefore propose that freshly embodied experiential metaphors are able to tell us about the participants’ processes of negotiation of

meaning (Fredriksen, 2011) – how their new understandings emerged or evolved during the process of drawing.

Parsons (2007) presents metaphors as complex networks of wires that, like electricity wires, connect experiences and words and transport meanings. A newly established metaphor can be understood as “a thought in transition; it oscillates through the network of wires, moving to and from with diverse experiences, searching to create new meanings in order to adopt the newest experiences” (Fredriksen, 2011, p. 191). New meanings are *negotiated* through a personal process of searching, connecting, associating, expressing, etc. (Fredriksen, 2011). The “universality” of metaphors that Van Leeuwen (2016) mentions when he writes about global communication could be assigned to the human nature: the biological predispositions of our bodies to sense, to feel, to think. However, some of these predispositions – “embodied competences” – are shared across animal species (Fredriksen, 2020), and some are also shared with non-animal species, as for instance with trees that share our abilities to digest, breathe, grow, age, and die. Life and death are inevitable for every individual on the planet that shares the same water and air, sun and darkness.

Drawing process as a vehicle for ecological awareness

Drawing is a form of visual representation, which is, according to Kress & Van Leeuwen (2006, p. 7),

a process in which the makers of signs, whether child or adult, seek to make a representation of some object or entity, whether physical or semiotic, and in which *their interest in the object, at the point of making the representation, is a complex one (...) forced by the specific context in which the signmaker produces the sign.*

The art performance presented in this chapter did not require any drawing skills from the participants: they were supposed to follow a line which was visible and touchable through transparent paper. This kind of drawing did not require much cognitive engagement or problem solving skills, but it demanded their time, attention, and presence. Thus, these three demands are interrelated: “Attention demands time for dwelling and a will to engage; without them many precious moments pass unnoticed, and their abundance gets lost forever” (Fredriksen, 2016a, p. 106). When one devotes time to drawing, sensing, dwelling, and feeling, the drawing activity can surprise them with overflow of meaning. The lines that have been drawn have capacity to capture and convey “more about life, death and

our common vulnerability than doctors, therapists, philosophers or researchers can” (Røed, 2021, p. 68). Each stem section of a tree is capable of telling stories about its good and bad years, new branches sprouting, other branches broken, eaten by parasites, healed by the sun. An interior of a tree can also tell us about changes of climate. That trees and wood carry with them potential meaning is acknowledged in many cultures, and trees are given a central position in many religions.

Lowenfeld and Brittain (1976) claimed that children’s drawings are not only expressions for what they had understood about their world and themselves, but also vehicles in the process of their cognitive growth. Crafting with natural materials facilitates diverse opportunities for the development of ecological awareness (MacEachren, 2004). Becoming ecologically aware is a process of realising that one is already a part of “the nature” (Morton, 2018). Moving away from a human-centred and towards an eco-centred approach in education is also a movement toward more sustainable life on Earth for all animals, including humans (Morton, 2018). Awareness of the nuanced qualities of natural materials makes one recognise one’s own connection to the environment (Dissanayake, 2000). Such awareness can lead to the development of emotional connections and respectful and caring attitudes towards nature (Fredriksen, 2011). We were surprised by the extent of reflections and personal transformations that took place during such a simple activity of drawing annual rings.

The development of ecological awareness can hopefully lead to increased responsibility for the natural world. The European Commission’s recommendation on learning for environmental sustainability suggested “giving students hands-on opportunities to observe and care for nature” (European Commission, 2022, p. 11). Motivating students to be more caring and compassionate towards other species plays a central role in this case. The performance “[p]rovide[d] learners (...) with opportunities to understand, engage with and value the natural world and its biodiversity, create a sense of curiosity and wonder and learn to act for sustainability, individually and collectively” (European Commission, 2022, p. 11); thus, the last part of this quote – learning to act for sustainability, individually and collectively – is a formidable achievement that will demand many more similar contexts. Still, the lines drawn point in the desired direction.

ANALYSIS AND THE RESULTS

Analysing the students’ notes with the following research question on our minds – “Which kinds of metaphorical, compassionate connections between lives of humans and wood emerged from students’ experiences of drawing annual rings?”

– made us aware of how important the contexts were both for the drawing activity and for the understanding that emerged. We start this section with a selection of students' own reflections that address the facilitation of the drawing activities. Here, we chose the utterances that particularly address the significance of the teacher/artist's choice of multimodal forms of communication – the multiple modalities. Secondly, we present two sets of answers to our question about metaphorical connections between the tree and oneself: the one related to development and growth and the other related to life and death.

During the process of interpretation, we have become aware of how the process of drawing and reflecting raised the participants' ecological awareness. In their notes, they sometimes addressed this explicitly, and other times their personal transformation is implicitly embodied and presented by their metaphors. The issue of how the drawing activity supported (or initiated) the participants' ecological awareness is the main theme of the last sections. Here, the participants apply a kind of equalization between themselves and the tree when writing about growth and development. They further show compassion and respect for trees and sometimes express their discoveries of mutual dependence between species within the shared ecological unity.

The frames of action

The contexts of the performance were essential for the emergence of compassionate connections between the participants and the wood/trees. Planning the performance and facilitating it provided specific "frames of action" (Kress, 2010). Instead of a long presentation of all of the choices taken by the teacher/artist (Tollef) regarding the place, time, modalities, verbal information, and so on, we will here present the participants' experiences of these choices. Which qualities of the contexts do they mention in their notes? Some of the students remarked on the significance of my, Tollef's, "dressing up" for the role play I was performing as a part of my performative teaching:

Then Tollef put on his hat, a black and worn hat with a small brim, to mark a transition between his roles of a teacher and of an artist. When he also put on his green jacket, he suddenly reminded me (...) of an explorer who had seen the world the rest of us had only heard about in fairy tales. But Tollef did not travel the world. He traveled inward, inside trees. In there, he learned something about the world that the rest of us still have no access to. Then he read a poem about how he experienced a tree through his senses. This set us in a specific mood, so to speak. (Wood laboratory, student #1)

The symbolic hat signified a change in the imaginary contexts, but the use of the hat also created a playful atmosphere. Besides my (Tollef's) physical posture, and what I was wearing and saying, the arrangement of elements in the physical space also seemed to influence the participants' experiences. One of the students described how his own body posture had impact on his meaning negotiation during the drawing process:

The installation was made quite low, at knee height, so that you had to kneel down to perform the drawing task. It was a kind of ritual, you had to be attentive in order to see the lines of the tree, and you had to concentrate and be present in the moment. (Gallery, student #1)

The posture itself had impact on this student's attention and his physical and mental presence. The same student describes kneeling down for the tree as a gesture of respect: "Kneeling down is a humble act! It could symbolize showing respect for nature, taking better care of it" (Gallery, student #1). The act of moving closer, bending over the wood, and constraining one's own body in order to see the line one intended to draw initiated reflections about relations between the two bodies (of a human and a tree). The tree could not move. It was therefore the human that had to constrain their own body in order to meet the tree.

When the contact between the human and the wood was established – when their distance was reduced so that the sense of touch could be applied – new forms of communication could start. The following student (Wood laboratory, student #1) gave the tree the ability to speak to them, thus not through verbal language but through responses to their touch: "The tree spoke to me through temperature and hardness." And the student listened to the story the tree was telling them through their close tactile encounters as they followed one annual ring:

The lines in the tree talked to me and told me a story about a lived life. Which kinds of relationship the tree had been exposed to and which growing conditions it has had were some of the things the tree told me about. (Wood laboratory, student #1)

This student describes the visual modality of the lines in the wood as meaningful for them and assigns the wood the ability to speak and tell stories as if the wood was alive. For another student, the wood was even making choices for them: "I followed the lines of the tree without lifting the pencil. It felt good not to have to make so many decisions myself, good that the tree decided for me" (Wood laboratory,

student #7). In these quotes, the students seemed to be already deeply engaged in their communication with the wood; however, the opportunities for such rich conversations were facilitated by my, Tollef's, considerate choices of which trees to display, how to cut or slice them, and which part of them would be the most effective for the art performance.

Many of the students mentioned the need to be attentive and apply their senses in the process of drawing. One student (Gallery, student #4) wrote that they had to constrain their senses in order to follow the line: "A very interesting experience I had when I could not see the line I was trying to follow was that I could breathe deeply and feel the line by touch". The same student struggled to sense the line by touch, which in the next turn made them better aware of the tool – a coloured pencil, itself made of wood – and how it played an important role in the drawing process: "I sensed how the pencil sat in the groove in the wood, and I could follow the line more intuitively" (Gallery, student #4). My, Tollef's, choice of coloured pencils as tools was not random. I also decided that the participants of each performance should draw on the same large sheet of paper and by doing so create a collaborative expression. The participants' awareness that others would be able to see their lines affected some of them in their choices of colours and lines that would represent each of them in the co-created drawing.

The colours represent us, and an annual ring can represent a part of our lives. It can be straight, bumpy, with cracks or ruffles, as one has encountered barriers and broken them, things that have been difficult or easy. (Tønsberg, participant #3)

Metaphorical connection about life transitions

Some of the students expressed their surprise that a simple act of following the lines could affect them so profoundly: "It was surprising how engaged I became in this [activity], and how many thoughts and emotions emerged from it" (Wood laboratory, student #7). Their emotional engagement, together with imagination, had powerful impact on their experiences. The process of touching and attentively following the lines in the wood was a way of getting to know this specific tree: "When one has followed a line or a ring in a tree, one has become acquainted with its life story and fate. It is astonishing to think that each and every annual ring has once been the newest and the utmost" (Wood laboratory, student #5).



Figure 3.4: Students and Tollef cooperating in the gallery, exploring the inner life of an old oak.

One student (Wood laboratory, student #1) speaks of the “personality” of the particular tree and how the lines they were following could represent changing circumstances during this tree’s lifespan, from a growing seed to the stroke of a storm that knocked it out of the ground. This student (Wood laboratory, student #1) reads the annual rings as if they were a written testimony about this particular tree. They suggest that the annual rings can “represent the tree’s many phases and personalities. With personalities, I mean how it looked like and how it grew in different phases [of its life].” The process of drawing seemed to lead to some kind of intimate connection between this student and the tree, as if they met on a “personal” level, sharing each other’s life stories. In this student’s case, the sum of all annual rings was telling a complete story; however, another student (Gallery, student #6) imagined that each of the rings was a different person. “Sometimes the lines/humans get close one to another, sometimes they even touch”, they wrote. Each line was a representation of or a metaphor for one human life. This association was possibly initiated by the fact that each of the students chose *one* line to draw with different colours.

Student #2 at Wood laboratory made quick connections between the annual rings in the longitudinal cut and a visual representation of human life. While following the lines they became aware of the nuanced changes of the line quality. They not only reflected about the life of the tree they were drawing but initiated reflections on a more general level – how a life should be: “I think that life should not be flat (...) like a straight line of a heart rate monitor that has stopped beating. No, I have to make sure that the red line [I am using] mimics life itself, with its ups and downs” (Wood laboratory, student #2). The red colour that this student had chosen for their drawing seemed to highlight the seriousness of the drawing task. The red line they were drawing became a metaphor for a pulsing heartbeat – if the line flattened out the heartbeat would stop. Both the shape of the line and its colour influenced the evolving thoughts. The new meanings seemed to emerge through this metaphorical connection as “thoughts in transition” (Parsons, 2017). Another student (Gallery, student #3) connected the shape of the line with the ups and downs in their own life, paying particular attention to the surprises that the students experienced as signs of how “...unpredictable and unique the journey of a human life is”. Both of these embodied experiential metaphors (connecting the line to a heartbeat and to the journey of life) expressed the students’ awareness of the similarities between humans and trees and realisation about shared fragility between individuals of different species. “Both aging and death are something that affects individuals, physical bodies, you and me ...” (Røed, 2021, p. 257). And this applies to both humans and trees.

One student (Wood laboratory, student #3) connected their tactile experience of changes in the wood’s hardness as somehow related to their own position in life: between being a student and becoming a school teacher:

When we were told to choose an annual ring that could represent ourselves, I started to dwell if I felt young or old. I noticed that the heartwood differed from the rest of the wood. That was what I had in mind when I chose my annual ring. Today is the last lecture of my entire education; my role of a student is coming to an end. The student life where you can feel young, are young, will feel different from being a teacher in a classroom ... where I will also feel very young, maybe even younger than I am as a student. Still, it will probably be expected from me to be mature and responsible, a steady adult. Therefore, [in the performance] I chose to follow the annual ring that was between the heartwood and the other wood. (Wood laboratory, student #3)

We find this student's comparison between stages in their own life and the lines in the wood very captivating. The transition between stages in one's own life is one of the themes addressed in the notes from different participants. Some of them were very thoughtful during the choice of coloured pencil for their drawing. For them, the colours had powerful meanings; they assigned all kinds of associations to colours and metaphorically connected the colours to their lives. One of the students (Wood laboratory, student #6) wrote:

I chose the light green colour because it symbolizes something childish. I still feel very young and I still do things that might be considered childish. The bright colour can also symbolize hope and a bright future that I hope is waiting for me. The annual ring I chose to colour was also in the newer part of the tree and crossing some of the core. The reason it crosses the older core, I think, is because I stand by a crossroad [in my life] where I go from being a child, or a young girl, to becoming an adult. My desire to stay young, among other things, comes from the fact that it is scary to step into adulthood. That I will eventually grow old and remember that life does not last forever.

We find it curious how this student makes interpretations of the lines in the wood, as if they were formed to mirror her life events: "The reason it crosses the older core...". She and the tree somehow merge in a similar manner as described by Røed (2021, p. 179): "The relationship between man and nature creates a starting point for thinking carefully about our connections to the elements of nature and the cycle [of life] we are part of".

The journey of life

Some of the students described the lines they were drawing as if these lines somehow demanded something from them, required what they could draw or not. "I felt that it was important to follow the lines of the tree and I thought about the paths my life could take. I realized that I could not follow one of the young lines, but that I had to get to the core" (Wood laboratory, student # 7). The annual rings and the wood itself started to interfere with this student's choices.

For another student (Gallery, student #2), the process of attentive and prolonged engagement with the line they were drawing made them notice details in the longitudinal section of the old oak: the thickness of the annual rings varied, and those close to the middle (to the heart of the tree) were more difficult to follow; "there was a kind of chaos". Still, each of the rings "managed" to come out of the chaos and continue its journey. For this student (Gallery, student #2) the shape of the

annual ring they were drawing became a metaphor for mastery: “despite the chaos in the middle of the old oak disc, all of the annual rings always managed to get over to the other side.” This thought was immediately connected to their own experiences of mastering something and gave them hope that they will also succeed in whatever their goal was. Later in the note they point out: “I personally find it difficult to accept small mistakes and things that I don’t find completely ‘perfect.’” Following one line and trusting themselves that the line will find its way “to the other side” gave this student self-confidence: it “... gave me a calming feeling and opened my eyes for all the beauty that might be created by chaos and wavy roads in life”. (Gallery, student #2)

The expression “wavy roads in life” is, no doubt, a metaphor for human life, particularly because the activity of travelling is a better fit for humans than for trees. Still, this student builds further metaphors on this journey metaphor, where travelling, developing, and physical growth into a stronger individual also becomes a metaphor for mental growth. This student also addresses the need for being guided during their journey of growth:

Just as this tree has needed every single one of the annual rings to grow big and strong, we also need more than just the right paths and guidelines to be able to grow. (Gallery, student #2)

This student seemed to discover how “different stages of nature correspond to phases in human life development”, and this new understanding made it easier to understand their own place in the world (Røed, 2021, p. 174). Another student (Wood laboratory, student #4) goes further and not only lets the wood provide the guidelines but lets it lead their hand:

I followed the lines of the tree without lifting the pencil. It felt good not to have to make so many decisions myself, that the tree made the decisions for me. There are not many times in my life that I did not make my own decisions myself.

Was this a sign of trust? A way of assigning agency to the wood?

Compassionate connections

While we were reading the participants’ notes, we were becoming aware of their emotional engagement and metaphoric connections with the wood/trees; thus, they rarely expressed this explicitly. Instead, they applied embodied experiential metaphors. The metaphors shaped through their personal experiences

initiated philosophical reflections about their own positions in the world. One participant wrote: “I felt a kind of symbiosis with wood and nature” (Tønsberg, student #2). The fact that the participants were actually *feeling* this symbiosis tells us that the intimate meeting with the wood truly affected them. For some of the participants the process of metaphorically connecting with “the nature” led to critical thinking and questioning the relationship between culture and nature in society:

The ideals of antiquity and individualization processes in society have in many ways shaped our modern, individualistic society. But, simply said, it is perhaps the nature that has all the answers, and that is what we should admire. (Gallery, student #4)

Some participants were concerned with what they personally gained from the activity: “The wooden disc had a calming effect on me; it was large, stable, and old. Symbolized something durable and stable” (Gallery, student #6). The same student also described how the drawing activity challenged them to think and feel differently:

Drawing and signing [the drawing] made me experience awe, for nature and history. (...) I became aware that nature is there all the time, independent of me, and that nature is stable, at least the tree had grown steadily year after year. (...) I felt awe for nature, and how it carries me. (Gallery, student #6)

Another student (Gallery, student #5) explained how their attention was pulled toward comparing themselves and the wood, how they could *see themselves* in the wood. This student empathically connected with the line and the wood they were drawing and started to “read” their own life into the lines. The following quote tells us that when they were reading the wood, they were also reading the signs of human activities that have affected the tree’s growth:

When drawing an annual ring it is important to be concentrated and present. One must draw actively and see where the line leads, and be in one with nature. We can see ourselves again in everything around us, such as in the tree. Every annual ring (...) has been affected by everything around the tree. (Gallery, student #5)

Yet another student (Gallery, student #3) described how their process of taking “ownership of an annual ring” urged them to “look into oneself and reflect on one’s own life and one’s actions.” This process of metaphorically connecting their

life to the tree's life has further led to the development of the sense of compassion and responsibility: "By having to take ownership of a part of the tree, one must also take responsibility for his/her own actions that can affect nature" (Gallery, student #3). What this student describes is at the core of ecological responsibility that can be related to the feeling of empathy and compassion for non-human species. Compassion is a powerful emotion – some of the students expressed their surprise that it could emerge from a drawing activity. One student was surprised how the process of paying attention to details and investing time in staying with a piece of wood could "create a kind of bond between man and nature" (Gallery, student #3).

The participants' reflections about their own relation to the natural world sometimes led to realisations that they themselves *are* a part of this natural world. This is how one of the students expressed her new insight – she started with a metaphoric connection between the annual ring and her life, and then her thoughts flew far, before she returned to the original context – her physical and mental presence:

I interpret the choice of the annual ring as my line, as my life, and I'm a part of something much bigger. It gives me a sense of belonging. (...) My life and my actions affect the climate and everything around me, and I started to understand that I must be present, here and now. (Gallery, student #8)

She told herself that she *must* be present. She must act upon her new insights. She must reconsider her values and her ways of acting upon the environments.

THE EMERGENCE OF ECOLOGICAL AWARENESS THROUGH DRAWING

The process of drawing, sensing the wood, searching for an annual ring, following it by the pencil, as well as the process of writing the notes, was a multi-modal event where different modalities "merge[d] into one coherent experience" (Pallasma, 2012, p. 46). It is impossible to say if the new insights emerged from the drawing or from the writing. Even though embodied tacit knowledge is difficult to convey linguistically (Jarvis, 2002), the process of writing seemed to make the participants aware of the tacit knowledge that would otherwise remain silent. In reading and interpreting the students' notes, our own experiences (gathered during the years of teaching and practising Art & Craft) helped us to empathically connect with the participants' experiences. We found the notes written by the students in Wood laboratory – the students that did not have

any background in Art & Craft – the most interesting; these students had no idea that a drawing activity could become so meaningful for them. On the other hand, the students who participated at the Gallery performance were Art & Craft students with experience from complex creative activities. One student from this group (Gallery, student #2) expressed her amazement how much can be achieved through such a *simple* drawing activity. This student used the verb “healing” to describe her experience of personal transformation that took place during the drawing process: “The fact that something as simple as a piece of wood, a piece of paper and a pencil can open your eyes to heal thoughts that hold you back, I think is the best with art” (Gallery, student #2). Another student spoke of meditation: “drawing the inner life of the old oak became a type of meditation” (Tønsberg, student #1).

The activity of drawing seemed to be parallel with the participants’ processes of engaging and reflecting. The development of lines that transformed the paper seemed to be parallel to the participants’ inner transformations – the two processes were connected and mutually dependant, one urging the other (Dewey, 1934/2005). A shape or a line that grows on paper adds something visible to the world. This visual representation temporarily stabilizes ideas and thoughts (Fredriksen, 2018), so that the process of meaning making can be reconstructed, can be made public, and can lead to further reflections and personal transformations (Eisner, 1990). The act of drawing was an “educational” activity that could teach how attention, patience, and personal efforts pay off not in terms of money but in terms of personal value: learning to learn (Fredriksen, 2016b); learning to be affected; and learning to affect.

Drawing is usually understood as the making of a two-dimensional representation; however, the form of drawing applied in the performance was more than that. Even though the lines that resulted from the drawing were two-dimensional representations, it was *the process* of touching, kneeling, sensing, smelling, and listening to the wood that constituted the multimodal performance. Different modalities complement one another and “merge into one coherent experience” (Pallasma, 2012, p. 46). It is therefore difficult (and probably unnecessary) to distinguish which sides of an experience led to a specific embodied experiential metaphor. Some metaphors might be connected to the participants’ experiences through touch, others more to their visual experiences. However, the most precise conceptualizations find place through the skin, emotional engagement, and spontaneous reactions (Røed, 2021). The sense of touch is more trustworthy than the visual sense, at least in the contemporary world we live in where visual elements often are volatile, seductive, and not to be trusted (Pallasma, 2012, p. 36). The participants’ insights seemed to emerge during the process of moving

their hands across the wood surface. This was a loving touch and an act of care and compassion.

These long and slow processes of dwelling, “healing”, or “meditation” provided the oases for the emotional processes (Røed, 2021). When the embodied experiential metaphors that emerged from the performance were shared in the notes, they could enable the participant to recognise their own feelings and make their thoughts and feelings accessible to us (Eisner, 2008, p. 8).

The closeness between the participants and the wood/tree made them become acquainted on an inter-subjective plan. Some of the participants described how powerfully the act of kneeling before the wood affected them. The specific emotions and thoughts were the result of the posture of their bodies.

The power differences assumed to exist between human and non-human were suddenly wiped away, as with an eraser. The relations between the human and the tree became me-and-you. The wood with its rings and the human with a wooden pencil in their hand suddenly seemed equal – at least as long as the performance lasted. Many of the participants connected their own lives with the life of the tree. Their embodied experiential metaphors connected a number of phenomena and qualities that intersect human and botanical creatures.

The concept of anthropomorphism derides the application of words reserved for humans to describe objects, animals, or other non-human bodies (Rautio, 2017). In this case, where the participants connected their lives to the wood/tree, we suggest that these embodied experiential metaphors derive from their awareness that humans and trees indeed *are* in many ways alike. The predispositions of the human body that are shared with more-than-humans (abilities to digest, breathe, grow, age, and die, as mentioned earlier) (Fredriksen, 2020) invite empathic connections across species’ boundaries. Nature is not something “out there”; one is a part of nature, and nature a part of oneself. This realisation might be illustrated by the following list of the themes we found in the participants’ notes:

- changing life conditions and unpredictability of life
- challenges, decision making, and mastery
- personalities and relationships
- responsibility and fate
- uniqueness of life
- phases of life
- awe and trust
- ups and downs
- chaos and beauty

presence and attention
growth, aging and death
depending on each other ...

And, with Bekoff's (2013) words: "Ignoring nature no more".



Figure 3.5: One of the results from the interaction with wood texture, drawing in the inner life of an old oak.

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4. The original room – in the making as a tool for understanding

Gertrud Olsson

Abstract The chapter presents part of the course *Materiality in the Experienced Space* at HDK-Valand Campus Steneby, University of Gothenburg. It shows how students' practical work with building huts, inspired by the concept of "the original room" addressed in the historical literature, which was part of their syllabus, led to a closer relationship with nature. Constructions with hammers, chisels, and saws led to the experience of pleasure in making, urged them to use their senses, triggered their awareness, and motivated them to establish more horizontal understanding between human and non-human.

Keywords making as a tool for understanding | the original room | crafting with nature | senses | horizontal perspective | pleasure

INTRODUCTION

The context of this study is the course *Materiality in the Experienced Space* (15 credit points) at the Academy of Art and Design Campus Steneby (HDK-Valand), University of Gothenburg in Sweden. It was a free-standing course that ran half time during the autumn semesters. The course dealt with relations between humans, non-humans, and space, focusing on the perception and the analysis of spatial qualities. This chapter attempts to highlight the value of making as a tool for understanding (in this case of nature). In the act of understanding, a horizontal perspective was applied with the purpose to level out differences between humans and non-humans in the woods. In the context of making and experimentation, it was important for the students to become more aware of the significance of the role of the senses. The senses are a determining factor of the understanding of space and consequently valuable in the fields of architecture, design, craft, and art. However, the senses often play a hidden role in the process of learning.

The course was mostly web-based, but the students had four two-day workshops at Campus Steneby. The workshop days were divided into four specific themes: *the original room* (Figures 4.1–4.6), *perception*, *space analysis*, and *light*. The first theme, *the original room*, is the foundation of the chapter. The concept of the original room can be traced back to the ancient times and related to as the story of the creation of the first building structures.

In the first meeting of the course, the students' task was to build a hut or a shelter on a scale of 1:1 in the woods of Dals Långed, in the area of Långbron in Bengtsfors's rural district. The owners of the forest, architect Emma Hedlund and her father, had generously offered the students to select working spots and build huts in their woods. Solely from the nature's resources, the task for the students was to build a spatial enclosure only using materials from nature and only working with hand tools such as a hammer, chisel, and saw. The working process included weaving with thin branches and twigs, moss cladding, and finding out construction joints. The limitations are described in the group assignment for the students working in pairs:

In your group you will have a spot allotted in the Långed woods. Take in the place from all your senses. Take notes and describe your experiences. Pace the place out. Start from the three concepts *original*, *spatial proportions* and *protection*, and decide definitions of the words in relation to your idea. Define what a room can become due to limits, materials, materiality, light, transparency, compactness, height, width etcetera. Be observant of your associations. You are going to create a room or structure from your own definitions and the idea of an alternative housing. It is up to the group to decide the room's usefulness and for whom it can be, thus the narratives around. Do relate to the course literature. Be active!

METHODS OF TEACHING

As the responsible teacher on the course (and its initiator), my intention with giving the students the assignment was to facilitate opportunities where they could learn from their experiences – learn from the process of making, which is like “to be taught by the world” (Ingold, 2013, p. 7). On the educational frontline, the British anthropologist Tim Ingold (b. 1948)¹ stresses the importance of making in his book *Making* (2013). For the sake of understanding the essence of

¹ Since historical contexts play a significant role in this project, I will be mentioning years of birth and death of the authors I am referring to.

a basket, it is not enough to read about it; one needs to make the basket oneself. First after this act, the student would be able to obtain a greater breadth of knowledge of what a basket actually is. Being a craft person or not, insights will inevitably come in the process of using one's bare hands. Sensory experiences, in this case *haptics*, will help one to "see". In the similar manner, I wanted my students to work in line with nature: listening to the branches' will and feeling the structure of the bark and the softness of the moss. Since the students came from different university disciplines such as fine art, photography, design, and landscape architecture, some of them were more used to this form of learning than others.

Following the method of the American author and political activist Helen Keller (1880–1968), the course opened up the idea of "listening to the trees" (Keller, 1904, p. 70). Keller was deaf-blind from a young age and paid attention to the untrodden way "where the hand is supreme" (Keller, 1904, p. 4). She built up a corporeal intelligence and achieved everything through the haptic system. Helen Keller's hand, so to say, "saw" the world. She describes how her fingers moved around the house, and by touching object after object she formed an idea of the entire house (chapter "The Seeing Hand", 1904). In her mind, every object was associated in her mind with tactile qualities. Following Helen Keller, the students examined nature by touch and the whole spectrum of senses. From a sensitive way of seeing, they discovered previously unknown relations and a correspondence between themselves and non-humans. This helped them embrace knowledge about living beings such as insects, worms, and small animals under the ground, which are usually invisible to us. Bigger animals, from squirrels to elk, were not physically present in front of our eyes, but they had left traces of their lives in the woods.

A basis of the method used in the course and as the research principle was to read the literature from different time periods that questioned the subject of nature. In my teaching as a senior lecturer in Theory and History at Campus Steneby, I always read and discuss historical texts with my students. Instead of only relating to contemporary "-isms", which in turn relates to historical references, I want the students to read the original sources. My reason is that the student should interpret the message of a certain book not (only) from later authors' points of view, but instead from the originator's. Understanding contexts and conditions over time – the long historical duration – gives the students pioneering perspectives to work from. Historical perspectives are a way to understand the contemporary time. During the ancient period era, philosophers described the original room, i.e., the development of creating a building structure. The same theme was revived in the middle of the 19th century due to the beginning of archaeological excavations of

ancient remains and the interest in the evolution of architecture (an example and milestone is Gottfried Semper's *Theory of Cladding*).²

Accordingly, from a historical perspective we discuss the circumstances of today, not least as regards nature and resources and the problematic insight that we nowadays work against the eco-system. The eco-system is, as we know, on the way to collapse and there is a loss of biodiversity. David Attenborough (b. 1926), the well-known English broadcaster, natural historian, and author, states that it is time to “rewild the world”, to take responsibility for nature, and thus the whole planet. On a smaller scale, in the present university course, we try to observe and listen to the nature that exists in the woods. What can we learn from a better understanding of the lives of plants and animals? How can we observe the hidden communication among trees, and roots, and life under the surface of the ground? This perspective is also in line with Tim Ingold, whose ideas have, together with Karen Barad's and Jane Bennett's, inspired this anthology, among others.³

THE THEORETICAL FOUNDATION OF THE COURSE

As mentioned, in this study we go back to antiquity. The original room can be described from Vitruvius's and Aristotle's perspectives. More than 2,000 years ago, the Roman architect Vitruvius (80/70BC–15BC) declared that architecture is an imitation of nature. As birds and bees built their nests, so too have humans constructed housing from natural materials. In Vitruvius's story of the creation, people in the woods started to build huts from green branches, to dig caves nearby a mountain, or imitated the swallows by taking small pieces of branches and clay for their buildings (Vitruvius, 50 BC/1914, pp. 38–41; Figure 4.1). Vitruvius shows his evolutionary idea of creation with the explanation that people gathered in front of the fire. This became a reason to stay in a specific place in the forest instead of moving around as nomads. Since they stayed in one place, people started to build their own houses to live in. Inspired by nature, they imitated wild animals, birds, and insects in their building constructions. People were quick to learn. Every day they showed the results of their buildings – they improved the standard from one

2 The 1850s view also includes a political statement, a sort of reaction to society and academic knowledge. That is also something to take into account and compare today. Among the texts, world classics can be mentioned, such as the Roman architect Vitruvius's *Ten Books of Architecture* from ca. 50 BC, the German architect Gottfried Semper's *The Four Elements of Architecture* (1851), and the American writer H. D. Thoreau's *Walden* (1854).

3 Tim Ingold refers to “the *interaction* between brains, bodies and objects in the world, or in the *correspondences* of material flows and sensory awareness” (as he in turn relates to Deleuze and Guattari) (Ingold, 2013, p. 98).

day to the next, as in a competition. Starting with poles and stakes in the ground, including forks, they put branches in the forks and tied them together with osiers, and after that they covered the walls with clay (Vitruvius, 50 BC/1914, pp. 38–41). In Vitruvius's story, the focus shifts from the world of animals to the doctrine of construction and place.



Figure 4.1: Nest of a swallow family, Albrunna, Öland. Photo by the author.

The Greek philosopher Aristotle (384 BC–322 BC) in turn combined the two Greek words *bios* (life) and *logos* (word or reason), giving the word *biology*. In the Swedish author Nina Burton's (b. 1946) reading of Aristotle, she finds a relationship between the construction of nature, and thus cosmos, and the structure of a house. The proportions between the components in nature are important and can be compared to the construction or architecture of a house. The Greek word for house, *oikos*, is the same as for *ecology* (Burton, 2000, pp. 8–9). Burton gives the example of the wasp nest as an ecological construction; paper-thin material in the form of a lantern and with the inside filled with hexagonal cells (Burton, 2000, pp. 63–64). We can learn about lightweight constructions from wasps, which we can then investigate on a human scale. The hive is built in hexagon-shaped forms as well. In the hive's six-cell walls, the weight is distributed equilaterally,

and thereby the shape involves minimal effort which is built with unsurpassed efficiency (Burton, 2000, p. 78). Honeycombs in turn follow a repeated structure that forms a unique order. By knowing and discussing the conditions of the insects' work, and relating it to Aristotle, certain contexts and perspectives were facilitated for the students' work with crafting and building.

THE BEAUTY OF NATURE RELATED TO FRACTALS AND MATHEMATICAL RELATIONS

Besides the wildlife of birds and animals, plants are also “a knowledge bank”. The students were asked to be attentive to trees, plants, mosses, and other species that were present in the woods at their sites. They were encouraged to explore the available natural resources and be inspired by their shapes, structures, textures, and other characteristics. Subtle patterns based on fractals that develop to infinity can be found on leaves, rocks, and entire landscapes. In 1975, the theory of *fractal geometry* was introduced by the Polish-French-American mathematician Benoit Mandelbrot (1924–2010) and further explained in the book *The Fractal Geometry of Nature* (1983). In *fractal geometry*, repeated irregular structures form a unique order, as can be seen for example in a cobweb, a structure constructed by small recurring parts. In an enormous variety of details in nature, similar shapes reappear in different sizes. We can find the self-repeating patterns in flowers, trees, clouds, and ferns, but also in mountains and coastlines. The human body is, indeed, constructed in a similar manner as a fern – the same fractal branches can be seen in both. The same applies to the brain and the visual centres, based on the same mathematical equation.

Another mathematical principle, based on nature and originating in antiquity, is the *Golden Section*. In architecture, this concept refers to the relationship between parts of a construction and the whole construction. The Golden Section is described as the law of beautiful proportions. According to this law, two quantities are said to be in the Golden Section: the ratio of the sum of the quantities to the larger quantity is equal to the ratio of the larger quantity to the smaller one (Cornell, 1985, p. 23). We can find these proportions in nature: in shells, leaves, flowers, pine cones, butterflies, dolphins, and for animals in the ram's horns and in the tail of a chameleon. Certain things are beautiful in themselves. An appropriate mix of elements and the proportions existing among them has been seen as the cornerstone of beauty and has also been related to the human body, as well as attributed to the harmony between the body and soul.

Vitruvius describes humans striving to seek beauty through proportions and mathematical relations in his *Ten Books of Architecture*. The same theme was

discussed by the group of students. Could we achieve beauty in the proportions of the huts? How should the different parts of the hut relate to each other? For Vitruvius, the built-up structure should ultimately reflect the cosmos. Thus, in antiquity, beauty was independent of human will and observation. The view of beauty held by the ancients meant that beauty can be expressed in a timeless way via proportions and mathematical relations. The discussions with the students led to a proposal that such beauty is what we find in nature. According to Aristotle, nature follows its general environment by shaping complex organisms. All elements have their place, but their existence is ultimately a matter of cooperation. Such cooperation can be compared to the sun, the moon, and the stars and their relationship in the cosmos. In antiquity, cosmos was described as the Universe (in the field of astronomy), containing heavenly bodies such as the sun, the moon, and both wandering and fixed stars. In classical philosophy the cosmos is the opposite of chaos, and it is thus the orderly system.

THE REDISCOVERY IN THE 19TH CENTURY OF THE ORIGINAL ROOM

In the middle of the 19th century, the German architect Gottfried Semper (1803–1879) presented a theory where the development of architecture is based on textiles. According to his *theory of cladding* (*Bekleidung* in German), the art of textiles is the origin of architecture and other applied arts. The very essence of architecture was camouflaged in textile art; the decorated wall has its origin in the hanging textiles that were the first space-dividing elements used inside a structure. The load-bearing wall eventually became a wall on which textiles were hung. Textiles and hanging fabrics, and a basic need to adorn, have been found to exist already in early cultures and in vernacular traditions. Starting in nature and the construction of the primitive hut, Semper describes the development:

The weaving of branches led easily to weaving bast into mats and covers and then to weaving with plant fiber and so forth. The oldest ornaments either derived from entwining or knotting materials or were easily produced on the potter's wheel with the finger on the soft clay. (1869/1989, p. 103)

A knot in a weave is the joint of a construction. Following Semper's idea, the students wove structures with branches and moss. The knot became the construction join between the roof and the wall. Semper reflects: "The knot is perhaps the oldest technical symbol and, as I have shown, the expression for the earliest cosmogonic ideas that arose among nations" (1989, p. 102). In his research on authentic and aesthetic values in architecture, the cosmic planetary and microcosmic realms

– minerals, plants, animals – were included and analysed from the idea of the Golden Section (Mallgrave in Semper, 2004, p. 18). According to Semper, the four basic elements that define the primeval building (inspired by Vitruvius) are the fireplace, the roof, the enclosure, and the mound. His theories can be seen in the context of the new and rapidly developing industrial world.

Another liberal thinker who critiqued the society and contemporary life model in the 19th century was the American writer H. D. Thoreau (1817–1962). With a profound interest in following life in nature, his writings pivot around natural history and ecology. In his book *Walden* (1854/1906), Thoreau describes his self-built hut and simple living in nature for more than two years in the Concord's woods in Massachusetts, New England. He carpentered the cottage himself and grew beans and other vegetables in the cottage garden. Walden is the pond where Thoreau made his observations while he was listening to birds and capturing what was happening below the surface of the water. This is how he described the reason for his move to the cottage:

I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. (Thoreau, 1854/1906, p. 68)

Throughout history, humans have had a longing for nature, a desire to be part of nature, and thus they have failed to understand that they have always belonged to it. Learning from non-human nature demands a horizontal view of more-than-humans and requires us to leave behind the usual hierarchical approach to nature as if it is something opposite from culture.

STUDENTS' REFLECTIONS ABOUT THEIR PROCESS OF MAKING, OCTOBER 2020

After this brief description of the theory and literature we used in the course, let's turn back to the students. They worked two-and-two with the assignment, whole days in concentrated "mood". Meals were eaten in the woods. A guest teacher with crafts skills, Joe Clark, helped with constructions and tools. After the students had chosen a place in the forest, they started to reflect on the construction and their way of working. They wrote reflection notes in order to record their working processes in nature. In the following excerpts from the students' text, they describe how the literature inspired their practical work:

In his “Ten books on architecture”, Vitruvius speaks about how human beings developed the concept of symmetry with the passing time, defining some rules for their dwellings. In the same way, we created the entrance tightening together two beams with an “A” shape in a symmetric way. Therefore, we conferred the entrance with a geometrical appearance that worked in contrast with the curvilinear back tree. *Stefano* (Figure 4.2)



Figure 4.2: During the construction of an A-form (*Stefano* and *Sanna*). Photo by the author.

Throughout the project, we tried to follow Thoreau’s advice on carefully managing one’s resources. For example, we took advantage of all parts of the tree when building. The trunks were used for construction and the branches were used to weave the shell of the hut. We also only used material that could be found at the site. *Sanna* (Figure 4.2)



Figure 4.3: Students in the making in the Långed woods (Erik, Leicy, and guest teacher Joe), October 2020. Photo by the author.

Our retreat-approach to the hut-assignment contrasted to the “life-essentials” way of Thoreau but still resonated with it in the sense of us playing with simplicity, for example in the way we framed a view with two simple strings between two trees. (...) It was kind of an exploration of the boundaries and “non-boundaries” of the room. *Erik* (Figures 4.3 and 4.5)

One of the students described his building technique and the idea of weaving with branches, when a new insight suddenly emerged when his practical work and theoretical understanding suddenly merged:

Eventually, we started to weave some branches to create a texture for our cladding, where the moss could sit on. The moss was a common material to find in the forest and was already present in the natural floor of the hut. This was the most inspiring moment for me, as I realized what Gottfried Semper meant when he stated that the textile was the very essence of

architecture. By weaving branches and creating knots, we were using the same methods of textile art but for an architectural purpose. As Myriam Blais argues in her paper when presenting Semper's theories, our moss acted as a dressing and, therefore, as a mask, a camouflage in the forest. *Stefano* (Figure 4.4)



Figure 4.4: Weaving and cladding moment (Sanna). Photo by the author.

This student reflects on his work by referring to Semper's Theory of Cladding as well as Myriam Blais's paper "Cladding and Representation: Between Scenography and Tectonics" (1996). Weaving as a method demands that we work with our hands, using their touch and rhythmic movements. The careful construction of partitions while weaving with moss requires us to be in the very moment, with all senses. This is an act of contemplation. The moss has been transferred from the rock wall to become an interwoven structure of a roof or a wall, a protecting material for humans and non-humans, at the same time with the prospect to continue to grow and flourish.



Figure 4.5: Different levels of the hut (Erik). Photo by the author.

DISCUSSION DURING A REVISIT OF THE CONSTRUCTION SITE

In December 2020 we returned to the woods and reflected on the ageing process of the huts as a whole. We were paying attention to what happened to the branches, moss, and other used materials. We walked around in the rough terrain (there are no paths), felt height differences, and saw different views. The Dalsland canal was glimpsed from far above Moss and blueberry smelt fresh. Spruces and pines stretched high. The silence was palpable. There were no visible animals, not even a bird. We lined up around the huts, watched and took it in, felt the atmosphere. The questions we discussed in the group of the students were the following: What has happened with the huts during the autumn months? Have the huts become more a part of nature, or is it still obvious that they are constructions made by humans? What about the solidarity between human and non-human? Reflecting on the interaction between nature and human: how do you look upon this relationship? Might the human-nature relationships affect the human relationship to the environment? Are you now able to hear the voice of the materials in nature, as a new awareness from “listening to the trees” (Helen Keller)? A student from the first year of the course in 2019 (who took part and finished the course this year) addressed the durability of the huts’ construction:

I was surprised how stable and well-kept last year's cabin has been standing. Even the leaves in the roof, fully brown half decomposing/dried out, but still doing their job shading from the sun. Still clearly visible the hut stands out in its surroundings, made with little integration/or taking over by nature. Turning its big eye to the beautiful view towards the valley and the water. A highly effective hut sheltering the human from nature. *Mikaela*

Although the constructions were conducted only in two days, the huts have managed to resist different weather conditions for three months. The huts were supposed to become a part of the natural environment, a part less natural than a tree or a rock, but still woven into the nature without human intention to intrude, with human humbleness and desire to listen and hear. Another student from this year reflected about her hut, and the different parts of it, and showed enthusiasm for its well-being:

I was delighted that our hut was still standing, intact and even the curtain still hanging and being green. When entering behind the curtain you could still see and feel the human touch to this place. Nature sorted, ordered and replaced by human hands, according to human minds and need. Even though we have not been here since we built it, nature has not yet taken over. *Leicy* (Figure 4.6)



Figure 4.6: Reflection on a sitting structure in birch (Leicy). Photo by the author.

As the huts slowly turn into nature, the non-human world cooperates invisibly. In the act of reflecting, the silence and the time we just stayed together, being, waiting, not rushing but relaxing, our senses could remind us ...

There is a thoughtfulness to the nature element, a kind of respect for this nature space that has developed through our interaction. We humans pause on this place, in this space. We stand silently side by side and take in the surrounding. We listen, we breath, we close our eyes to enhance our other senses. We let our thoughts wander and we let ourselves feel this place. (...) So maybe, we do need each other, like light and shadow, we grow together. *Leicy*

Also, it is remarkable how touched we were at the moment we saw the huts again, how we existed with nature, and were in nature, at one with nature: to sense the air in the lungs, the moisture on the skin, the scents around us, the damp in the moss, the uncertainty about the slipperiness of the stones. We were together dwelling in the moment – as a holistic community. The discussion of Semper's idea of cladding, to start the building from the knot, is related to the construction and a sustainable way of building:

One reflection of mine was how this year's lodges had been taking nature and the surrounding forest in to a higher extent. I found it beautiful how the moss clothing had been integrating on the wooden skeleton of its closest neighbor. And how the other hut with the nature view through the "window", creating a contemplating distance between man and nature. *Mikaela*

The revisiting of the huts initiated many discussions about the relationships between humans and nature, mentioning both the interdependence between humans and non-human nature, and human's power over nature. Mikaela addresses human coexistence with nature in her final note:

A final reflection on the nature-human relationship is the quality of exploitation, deep rooted in modern man's nature. I believe if humans had experienced a greater dependency and connection to nature, and not be colored by past generations of arrogant separation from it, that we could have had a bigger chance of coexistence. *Mikaela*

Thus, Mikaela points out the "arrogant separation" as a result of the human-centred thinking where humans are "stronger" than nature. I consider her reflection about the coexistence as a result of her thinking that developed during the course,

as an understanding during the embodied process making. It's easier to become aware of what nature actually is when one is working in the forest. This includes of course the non-human world inhabited in the woods. The students' new understanding of nature, how they learned to listen to the environment in nature, has been appreciated in their further study, the next step in the course. Relating to nature became natural and obvious in the rest of the course.

SOME FINAL REFLECTIONS AND INSPIRATION FOR FURTHER TEACHING

The presented course intended to broaden the students' understanding of the process of making/crafting with the actual materials from nature. The materials can be the woods you are in, the pine twig you weave a screen with, or a string that will create a room shape in the room. The materials influenced the process of making. Bodily knowledge is thus based on an implicit understanding of the materials the students work with. Tacit knowledge, in turn, is a sort of intelligence that students have gained via their experience, both in previous investigations and now in this ongoing work. However, reading before the practical work had an impact on the students' new understanding. Through the process of writing down their reflections, they managed to capture both technical and more subtle know-how, insights, and experiences from the literature discussed. From my point of view, I can see the wide spectrum from the literature to students' own written reflections to them obtaining further understanding by crafting with their own hands (Ingold, 2013) and their own experiments with hut constructions. From a didactic perspective, the balance between theory and practice, as well as outdoor and indoor workshops, facilitated a valuable holistic approach that included not only humans but also non-humans in the process of making huts.

In the woods, the activity of crafting was present. Vitruvius (50 BC/1914) taught us to be aware of the way birds and other animals build their nests. In doing so, he emphasised how important it is to be sensitive to materials in the environment and be openminded to the craftsmanship of non-humans. One has to listen to the non-human world under the surface of moss, water, or the tree bark. From Gottfried Semper's idea of the original knot in the weave as the joint of construction, boughs, twigs, and moss became the "new" textile threads and thus the very essence of architecture. Further, the human body became a yardstick when trying out proportions for the huts, in the search for beauty, described by Semper (2004), thus the aesthetic harmony between the body and soul. In the following indoor workshops, we continued using the human body as a measurement. Here again the students used a weaving material, a textile wire thread, and their own body to understand scale and limitation (Figure 4.7).



Figure 4.7: Creating a room in the room with only one material (Stefano).
Photo by the author.

To craft with bare hands in the woods showed the students that they belonged to nature. Instead of (only) admiring the magnificent view and scenery, they took part in nature. Our actions had a direct impact on the site. Thoreau's concept of pleasure was taken up by Sanna's reflection below. In her view, the sensitivity to nature and more-than-humans was the most important tool in achieving such pleasure:

Thoreau talked about the “pleasure of construction” and the pleasure of building something with one's bare hands. He compared it to birds building their nests, instinctively knowing how to do and singing while doing so. I agree with Thoreau, thinking it was a lovely feeling being part of building the hut. I also believe that using our hands throughout the process helped us make more intuitive decisions in the design of the hut. *Sanna*

For Thoreau (1854/1906), his longing to return to nature was a reaction to contemporary society and the political and economic system. For us today, we have to deal with the collapsing eco-system and devastating loss of biodiversity. The student group tried to be observant to the hidden communication among trees, and roots, and life under the surface of the ground. This is a first step in trying to acknowledge the destruction of our natural environment.



Figure 4.8: How to understand a room in the room without sight? (Anna). Photo by the author.



Figure 4.9: Indoor investigations of nature (Mikaela). Photo by the author.

In addition, with great interest, the students studied patterns, textures, and ornaments in nature, colours that changed over time, felt the materiality under the soles of their feet, palpated the hardness and softness of bark and lingonberry. The students observed how the pattern in a leaf was repeated in the construction of a tree. To see self-repeating patterns in moss, in clouds, is to come closer to the antique idea of the cosmos, a holistic view of today. These close narrow studies were a valuable result for the course to continue with in new studies and investigations of the *Materiality of the Experienced Space* modules (Figure 4.8.).

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5. Crafting with nature: Rock paintings as Art of relations in embodied relational learning

Ulla Valovesi and Biljana C. Fredriksen

Abstract This chapter explores the affordances present at Salmijärvi rock art site in Finland and the human experience of them in local Sami and Finnish cultural context. Rock paintings are intriguingly intertwined with land- and soundscape developed through geological and hydrological processes over millions of years. The anthropo- and zoomorphic features of rock and the exceptional echo facilitate perceiving more-than-human people that inhabit the rock and initiate a process of connection and co-crafting. As part of a wider array of cultural practice with drumming, dancing, and offering, they contribute to the practices in Art of relations and intergenerational embodied relational learning. This relational view challenges dichotomic ontologies and explores ways out of environmental crises toward sustainable futures.

Keywords rock art | sacred sites | embodied learning | cognitive landscape | immersive soundscape | relational states



Figure 5.1: Salmijärvi rock art site in Vihti, in southern Finland.

INTRODUCTION

This journey begins from a place – as any journey does: I leave home and drive hours along motorways, turn onto small country roads, hardly larger than tractor tracks in the forest. I park the car, take my skis or a kayak from the roof of my car, and continue along a path several kilometres by walking, skiing, or paddling through a lake to remote nature sites. This creates a transition rite of its own from urbanity to wilderness, to the nature sanctuaries of the Sami and, partly, the Finnish stone age ancestors: the rock painting sites.

A high, steep cliff rises awesomely straight from the water. Its reddish colour is partly natural and partly painted with a mixture of red ochre, grease, blood, or eggs (Kivikäs, 1995, pp. 22–23; Lahelma, 2008, p. 18). Nearly all 140 rock painting sites in Finland are placed by the water, right above the water level, and towards the sun. Most of the paintings depict elks, anthropomorphs, and boats, but there are also other mammals, birds, snakes, fish, handprints, and geometric signs. Many patches seem to be rubbed rather than painted on the cliff.

The paintings are often quite simple, consisting of an elk or a few, some anthropomorphic lines, boats, and unrecognisable patches of red colour. Often, it's rather the impressive features of the place which make the experience of a rock art site exceptional: the forms of rock, soundscape, reflections on the water surface, and the rays of the sun playing on the cliff. The geological and hydrological processes have crafted the rock for millions of years, creating rock art sites as some masterpieces of art crafted by the processes of nature.

In this chapter we explore rock paintings, their landscape, and soundscape at Salmijärvi rock art site in Vihti, in southern Finland (Figure 5.1). Salmijärvi offers a window to ponder about the set of affordances (Gibson 1979) present across the wider field of 140 rock art sites and the human response to them in the light of Sami and Finnish folklore and ethnographic sources. This exploration starts from a place as an open process where the affordances present provide the emerging patterns and differentiation in the context of two local cultures. Methodologically, we combine the emic approach with a reflection on the ways of understanding the landscape in Sami and, to some extent, in Finnish cultures, and combine this with the etic approach of outside, academic practices of comparison and analyse. This kind of situated knowledge formation process corresponds with indigenous and also Sami understandings of the environment as cultural and cognitive landscape (Helander-Renvall, 2010; Magga, 2013; Näkkäläjärvi & Kauppala, 2017).

We consider the embodied experience of seeing, hearing, tasting, moving, and feeling at the site as an important part of building a relationship with the place. This experience, the specific qualities of the landscape, and past acts of transformation together all create a place for embodied relational learning. In

the framework of relational epistemology and ontology (see, e.g., Helander-Renvall, 2010; Kovach, 2021; Smith, 2021; Virtanen et al., 2021), they contribute to the building of a relationship and communication between the human and more-than-human worlds.

It is Ulla, the first author of this text, who has been wearing out her shoes, scratching the skis, and scraping the kayak on her way to the rock painting sites. It is her voice that seeks to echo the experiences provided by rock art sites and to reflect on them in the local cultural contexts. The second author, Biljana, is a “passenger” in this text, sensing the direction of its movement and helping to navigate according to an imagined compass of this anthology. From her side view, with no previous knowledge whatsoever about rock painting sites, the passenger seat provides excellent conditions for the initial exercising of “pyrrhonic skepticism” (Haukeland & Naess, 2008), which is, as mentioned in the first chapter, criticism with openness to what new experiences might reveal. This journey has challenged Biljana’s lack of awareness of the Sami peoples’ and their ancestors’ holistic spiritual connections with sacred places and inspired her humbleness and admiration. Hopefully, this chapter might also influence the reader in a similar manner.

ROCK ART AND SAMI NATURE SHRINES, THE *SIEIDI*

Many rock painting sites have been relatively well dated in Finland by the shore displacement methods to a period between 7000–3000 BP (Jussila, 1999, pp. 113–133; Lahelma, 2008, pp. 33–35; 2012, p. 17; Poutiainen & Lahelma, 2004, pp. 59–80; Seitsonen, 2005, pp. 6–7). The archaeological findings connect them with the Comb Ceramic culture that arrived in Finland from the east and south-east approximately at the same time. The earlier Mesolithic culture – that did not make rock paintings or pottery – apparently merged later with the Comb Ceramic culture, and they both contributed to what is presently known as the Sami and, to some extent, the Finns as well. Albeit it is the Sami culture that shares more continuities with the ancient rock painters: their livelihoods have been very similar in terms of gathering, fishing, and hunting while the Finns have relied more on cattle raising and agriculture. However, in some Sami areas outside Finland the rock art tradition continued until the Middle Ages (see, e.g., Mulik & Bayliss-Smith, 2006, pp. 36–37, 50–51; Shumkin, 2000, p. 225; Simonsen, 2000, pp. 47–48), while rock painting seems to have ceased in the areas of the emerging Finns. Today, there are still thousands of rock carvings and paintings in present-day Sami areas, for example, in Alta in Norway and in the Kola Peninsula in Russia. They form some of the largest rock art sites in Europe.

Rock painting sites correspond in many ways to Sami sacred nature shrines, called *sieidi*. They have similar peculiar features that often resemble human or

animal forms. The most respected *sieidi* have been called *Gedgge olmuš*, which means a Stone-person. A specific name for this type of *sieidi* signifies the importance of this feature in the culture. Archaeological evidence shows the offering of food at both rock art and *sieidi* sites, which tells us about similar sacrificial use and the animation of both places (Äikäs, 2015; Lahelma, 2008, pp. 130–134). Rock painting and *sieidi* sites also share a similar soundscape with exceptional echoes (Lassfolk & Rainio, in press; Rainio et al., 2017; Valovesi, 2020; Valovesi & Rainio, 2022). Furthermore, Sami drums have been decorated with similar images to those on rock art (Lahelma, 2008, pp. 58–59, 123–125; Luho, 1971; Pentikäinen & Miettinen, 2006, pp. 75–82).

But there are also some differences between the *sieidi* and rock painting sites. The most notable is that red ochre has only been used at rock painting sites (for the possible use of a plant-based paint, see Kailamäki, 2022), whereas the *sieidi* have been smeared with grease and blood. Another difference is that the *sieidi* are to be found in different types of landscapes that have supported the purpose of the specific *sieidi*. The fish *sieidi*, for instance, help with fishing, and they are placed by the water in a similar manner as rock painting sites. Other types of *sieidi* can be found in mountains and forests, and they may help with the proliferation of reindeer, herding, or finding game. However, some *sieidi* have been so powerful that they could help in several ways like fishing, hunting, and reindeer herding (Paulaharju, 1962, pp. 138–139; 1932, p. 12).

THE MORE-THAN-HUMAN WORLD AT SALMIJÄRVI ROCK ART SITE

This specific journey takes me to Salmijärvi in Vihti in southern Finland. I have been there several times but this time I am skiing to the site on a late winter day in March. I am skirting around cracks and pools of water. The glittering ice predicts the imminent arrival of spring. A wide cliff face, stretching several hundred metres along the shore, falls straight to the water – or rather to the ice now – and its steep, reddish rock is visible from a distance. Snow is melting above the cliff, and the water is dripping down in small streams. The drops make a jingling sound on their way down the rock. The cliff responds to the sound with reverberation, and, suddenly, I'm amidst of the spring concert of falling water drops.

You can listen to the concert of reverberating water drops in the following link (Figure 5.2): <https://youtu.be/AsTgb-5r4Jo>. The water drops accompany the sound of my sliding skis as I continue towards north along the cliff, tempted to occasionally hum on the way. On the northern part of the somewhat concave red cliff face, the rock responds to my humming with a wonderful echo. I realise I'm right in front of the rock paintings now. My humming grows into singing



Figure 5.2: The concert of falling water drops at Vihti rock art site.

with an echo that is reflected over the cliff where another echo responds to it as a chorus, creating an astonishing songscape of co-singing with the cliff. Singing feels like an appropriate way to greet the cliff. I sense a growing connection created by the co-singing that deepens into an immersive soundscape, and I feel accepted by the site.

Curiously, I ski closer. As my gaze slides over the cliff, my eye catches a face of a handsome man with a prominent nose and a beard, formed by deep cracks on the cliff (Figures 5.3a and 5.3b). Another crack forms a more feminine face stretching over the rock surface to join the male profile. These two faces share a common eye of a big, roundish notch in the rock. What a wonderful play of nature! But could it be a coincidence that the pupil of the shared eye is red?

On the right side of the deep crack a brownish red elk is painted going to the right (see also Luukkonen, 2023, Vihti; Parkkinen & Wetterstrand, 2013, pp. 54–55). It has two ears and a muzzle painted over a long impression in the rock. There is an almond-shaped fissure in the rock that forms both the body for the elk and the right eye for the feminine face (Figures 5.4a and 5.4b). Can it be a coincidence that the pupil of this other eye is red as well? There is plenty of natural rosy, red colour on the cliff, also around the eyes, but both pupils have a slightly different shade of red – the same brownish red as the painted elk.

On the right side of the feminine face there is a hare-like form in the rock: it has two long ears made by long impressions with a curvy, red line on the lower part of

the other which makes a muzzle, and it has a notch for an eye. There is an animal-like rock painting with a roundish body on its cheek. The hare is one of the primeval animals that have been living in Finland ever since the ice sheet retreated, and its bones have been found in the fauna of the earliest dwelling sites (Ukkonen & Mannermaa, 2017, p. 60). In the Ural Mountains, from where the rock art tradition, apparently, came to Finland, the hare also has an important role in the mythology: the supreme goddess Kaltaś, the Golden Woman, of all the Ob-Ugrian in the Ural Mountains, is said to make her animal appearance in the form of the hare and the geese.



Figures 5.3a (left) and 5.3b (right): On the left a male profile with a beard, formed by the cracks in the rock, and in the middle a feminine face with a painted, red mouth. The faces share a common eye with a red pupil. On the right a hare formed by the impressions in the rock. Outline drawing Valovesi.

Kaltaś is believed to have breathed the soul into the first human being and is considered important both for the creation of the world and for the regeneration of life. She also endows people with luck in hunting and fishing. Kaltaś is said to appear in a human form as a beautiful young lady. The hare has also been one of the three main totem animals, along with the elk and the bear, of the Ugrian people (Gemuev, 2008, pp. 27–28; Sagalaev, 2008, pp. 79–80; Sokolova, 2008, p. 88). In Finland, Metsän emuu, the Mother of the forest, who endows luck in hunting, has also been called the Golden Woman, and part of the first hare has been given as an offering to her (Haavio, 1967, pp. 40–41; Harva, 2019, pp. 354–357).

The most visible rock painting with brighter red colour is on the lower part of the feminine face. A closer look reveals a water bird with a long neck (see also Lahelma, 2008, p. 276), probably a loon, an ancient bird that is still common in the area (Figure 5.5). The head and the body are formed by protrusions in the rock, the beak by thin fissures, and the eye by a notch. There is maybe a nestling or two on its back.



Figures 5.4a (left) and 5.4b (right): An almond-shaped fissure in the rock forms both the body for the painted elk and the right eye with a red pupil for the feminine face. Outline drawing Valovesi.

The tiny features of the nestlings are supported by micro details in the rock. On the other side of the crack there may be still another loon, marked with faint red paint.



Figures 5.5a (left) and 5.5b (right): A long-necked water bird, probably a loon, is painted swimming over a crack, carrying maybe nestlings on its back. A faintly visible other loon is swimming on the right side of the crack.

The paint is following a curvy, bird-like fissure in the rock. Intriguingly, the oval body of the bright red loon provides a red mouth – as if painted with lipstick – for the feminine face, contributing to its femaleness. The head above offers a nose. A third coincidence, perhaps, in the play of nature and the human touch? Or someone else has noticed this marvellous love story on the rock before me – and acknowledged it with paint?

The bright red loon is swimming over a crack to the left, with an open beak as if swallowing or carrying something, possibly a fish or an egg? There is plenty of good space for painting on the cliff, so the placing seems intentional. Cracks are in the folklore of both the Sami and the Finns connected to the sites of the *noaidi*, the Sami shaman, and *noita*, the wise person or magician of the Finns. The word crack, *lovi*, has a deep metaphoric connotation as a portal to the other world. To fall into a trance is *langeta loveen*, literally, to fall into a crack in Finnish. And *lovinoita*, the shaman of the crack, could enter the other world through a crack (Ganander, 1984; Haavio, 1967, pp. 295–314; Siikala, 1999). The simple gesture of placing the painting over a crack evokes a metaphorical connotation of interaction with the other world.

The loon is a magical bird in Sami and Finnish myths. It can dive to the underworld, swim in the middle, and fly to the upper world, connecting them with each other. The equipment of the *noaidi* and *noita* could be preserved on a skin pouch made of a loon, and spells could be thwarted by using an arrow made of a loon beak. In old hunting spells the loon is also addressed as Metsän emuu. And in Estonian dialects, loon can mean a goose nestling as well (SES, 2023, *kuikka*) – the other embodiment of our Uralic Golden Woman. In old folk poems the loon has been connected with those water birds that participated in diving for the soil from the bottom of the sea. In other versions, the world was created from the eggs of a water bird (Kaski, 2019; Rheen, 1897; Turi, 2012). Our loon is a good candidate for both.

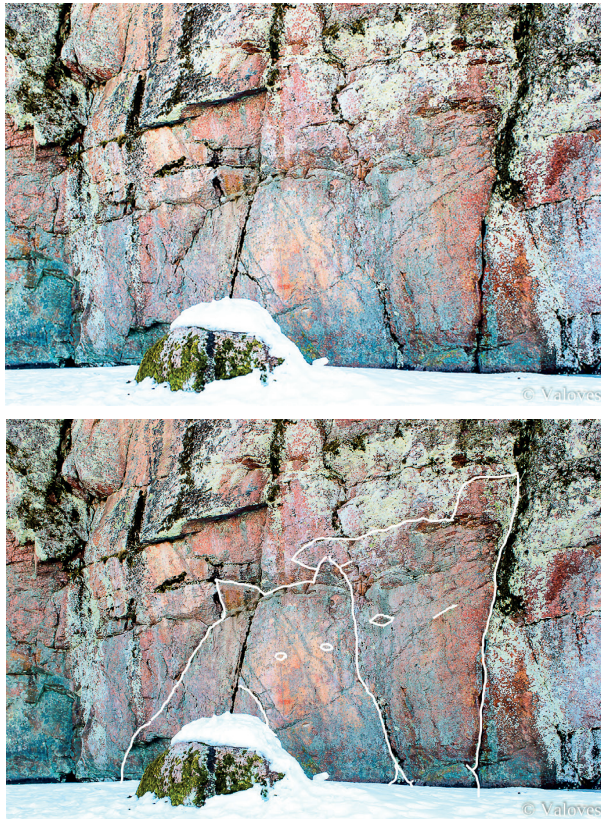
I retreat a few metres, and, suddenly, I realise that all the paintings are placed inside a big elk head formed by the cracks surrounding the light-coloured rock: it has two ears from the rock and two notches for eyes (Figures 5.6a and 5.6b). On the right side there is another elk head with two ears, eyes, and a tongue also formed by the rock, leaning towards the elk on the left. The elk has been one of the major providers of food in the contemporary economy. It's also the most common animal depicted in rock paintings. The elk and the (rein)deer, which are often interchangeable in language and folk poems, are central in Sami mythology with a connection to ancestor myths like Meandash, as the guardian animal of the *noaidi*, and as a central figure in many ceremonies (Ernits, 1999; Itkonen, 1984; SES, 2023, *hirvi*, *peura*; Lahelma, 2008).

In front of the paintings, there is a big boulder with a flat top that is piercing through the ice. It forms a perfect altar for the site. I lay a piece of a salmon sandwich on the top and pour some tea onto the ice. I enjoy the fish provided – albeit from other waters – and share it with the Stone-people, as it has been the custom.

I feel accepted by the site, and, hesitantly, I draw a drum from my backpack. I give it a try with some slow, soft beats, and the cliff responds with a powerful sound that invites me for a faster tempo. The sound grows into astonishing, vibrating echo between the drum and the cliff. The profile of the man seems to wake up: yes – he has become interested in what I'm doing and has his red eye fixed on me! The atmosphere is getting too intense ... and I have to stop drumming.

I'm ready to leave now and start retreating from the cliff. I stop for a last contemplation and to co-sing with the Stone-people as a farewell. Here, further away from the cliff, it's easy to hear that the echo of my singing responds directly from the painted cliff. And I realise that the paintings I've been looking at are also placed on a giant elk head that is formed by the cracks (Figures 5.7a and 5.7b). It has two big ears, closed eyes, and, possibly, a tongue. It's partly overlapping the two smaller elk heads like a mother standing behind the two calves in front. Together they look like an elk family engaged in drinking water from the lake. A perplexing point of conjunction of the rock and the human eye!

On the left side, leaning towards the giant elk, there is a giant human-like face. It has two eyes and a mouth from the cracks, a protrusion for a nose, and a big, red tongue sticking out. And then, while I'm singing, I see the Stone-person smiling at me. I slide away over the frozen lake, balancing on the membrane that separates and connects the tangential worlds.



Figures 5.6a (top) and 5.6b (bottom): The rock paintings are inside an elk head formed by the cracks in the rock. To the right, there is another elk head, also formed by the cracks. Outline drawing Valovesi.

THE ART OF RELATIONS

Rock paintings at Salmijärvi are closely intertwined with the details of rock surface: the faces formed by cracks with the eyes and the mouth marked by red paint; the loon swimming over the crack, with the protrusion for the body and the notch that shapes the eye; the elk with the almond-shaped body of the fissures, on its way over the impression. Clearly, the rock paintings are not placed on the rock wall as if it were *tabula rasa*, a plain canvas. Instead, rock paintings seem to avoid unbroken surfaces that would, from a modern point of view, provide a “perfect”, smooth background: fragmented natural forms evolve, grow into rock paintings placed over them. The paintings are crawling over natural cracks, protrusions, and impressions and beyond frames we imagine a painting should have. Maybe it’s the cracks – the openings to the otherworld – that are more significant than the paintings themselves? Cracks where the paintings rise from and disappear into as portals to the other world where the things are born from, where they return, and where the shamans travel to negotiate for the preconditions of life?

The painting also demarcates the convergence of the faces, the hare, and the elks in the rock, evolving into a greater narrative of the place. The loon and the elk are evidently painted, growing out from the details of the rock surface – but who is the artist? The paintings are intertwined with the sculpture-like shape of rock crafted during millions of years by the forces of nature: tectonic ruptures that have lifted the cliffs, volcanic eruptions, the ice smoothing the surface during the processes of moving in the Ice Age, water, wind, the sun, and frost remodelling it. The humans have been no more than modest participants in the celebration of these magnificent geological and hydrological processes that have created the art of the rock through a spectacular play of the universe.

This is not art for art’s sake resulting from an individual creative impulse, manifested on the wall of a rock gallery. Rather, it’s the co-crafting of human and more-than-human people world, with a whole community participating in the celebration of relations: painting, singing, drumming, dancing, and sharing food – as we can see portrayed in many rock paintings (Kivikäs, 2001, p. 150; 2009, p. 145; Miettinen & Willamo, 2007, pp. 126, 159; Valovesi, 2020), hear through the exceptional songscape, and know from the archaeological finds of offerings. These practices contribute to the experience of place in the process of situated knowledge formation. Through these embodied practices the community participates in negotiation and the active co-creation of a balanced way of life with the greater forces in the world. The themes of rock paintings and their placing in relation to the rock’s surface, combined with the multisensory affordances, point to an analogous understanding



Figures 5.7a (top) and 5.7b (bottom): An elk calf with rock paintings in the middle, a giant elk on the right, and a laughing human-like face on the left, all crafted by the features in the rock. Outline drawing Valovesi.

of the cognitive landscape to Sami *sieidi* sites. Yoiking (the Sami way of singing), drumming, dancing, and offering have been central ways to initiate a relationship with more-than-human world that is recognised at *sieidi* sites. These activities are also used to enter an altered, relational state of consciousness which is necessary for a Sami *noaidi* to travel between the different spheres of the world to negotiate for the sustainable way of life (Fellman, 1906, 1961; *Historia Norwegie*, 2006; Holmberg, 1915; Itkonen, 1946, 1984; Schefferus, 1963).

Rock paintings could possibly be called community art. However, the community here includes both humans and more-than-humans that together are co-crafting and celebrating their relationship. Or could the paintings be called “art in-situ” because it’s the place where the paintings arise from? Is this a form of environmental art – where nature is the main crafter – or ecological art with an ecological

unity of human and more-than-human co-crafting together? Whatever we call it, nothing is changed, only acknowledged and enhanced: the painter, the singer, or the dancer is not separated from the place but, on the contrary, is a part of it. There is no audience, only participants embracing the co-creation together with other beings, fully embedded in experiencing the place and relating to it. Maybe we could call this the “Art of relations” or the “Celebration of relations” in the wider framework of relational epistemology and ontology that the art contributes to?

EMBODIED RELATIONAL LEARNING

Rock painting sites seem to be carefully selected for their qualities in landscape and soundscape that initiate a process of connecting and communicating. They provide similar liminal, multisensory experiences which are described in the activities at *sieidi* sites that invite those present to engage through yoiking, drumming, and dancing. These activities contribute to sonic and kinetic driving which are known to aid altered, relational states of consciousness (Harner, 2013; Winkelman, 2000). Adrian Harris (2015) uses the term “deep body” to describe the vast part of cognition that exists between awareness and cognitive unconsciousness. Certain processes like being in the wilderness, drumming, or meditating can trigger the human mind to slide from the everyday consciousness into this deep body where the borders of the mind and the body, the self and the environment, dissolve, leading to an experience of a connection between the inner and outer world.

Many indigenous people have learned to use this deep body intentionally in processes of situated knowledge formation. Deep body is also a source of creativity and learning, where new ideas surface and ripen from an intuition to a realisation (Harris, 2015). These processes open another pathway to knowledge creation and learning. They differ from, or rather broaden the framework of, the embodied learning by consciously using deep body to access the knowledge situated there. Learning to use the resources in deep body by experiencing, relating, and acting out the discovered insights has been central in many indigenous cultures. At rock painting sites, the visual, audial, tactile, taste, and kinetic senses intertwine into a rich, multisensory experience of the place, facilitating a process of embodied learning (Anttila et al., 2017; Lakoff & Johnson, 1999).

The “states of relatedness”, as Nurit Bird-David (1999) calls them, create powerful experiences that have been guiding the worldview of many indigenous people. Linda Hogan (2015) talks about the re-cognition of our place in the whole of creation, with relationships and responsibilities as co-creators and participants within the whole of the living world. Relational states play a substantial role

in the process that could be called “Embodied relational learning”. This kind of learning embraces the relatedness not only among human-people but also across the species, the co-existing more-than-human world understood as living, conscious, and acting in both visible and invisible biological, geological, hydrological, cosmological, and other forces that participate in co-crafting the world we live in.

CRAFTING A RELATIONSHIP WITH NATURE

The human ability to experience places through the senses has probably not changed since the days the rock paintings were made: we can still see the paintings, hear the birds and water drops singing, smell the flowers, taste the berries, and feel movements. As Hein Bjartmann Bjerck (2012) has pointed out, we can still share similar experiences as the people who painted the cliffs, although our interpretations may differ from theirs. Our embodied experience at rock art sites may be one of the few things that we still have in common with them.

In Salmijärvi rock art site we can see how the landscape facilitates the perception of human and animal-like features on the rock, further animated by their participation in singing by the excellent echo. The placing of rock paintings in relation to the amazing geological and hydrological formations integrates them into greater narratives, culturally acknowledged by the human touch of red paint. It poses an intriguing question about how much the rock face and the painting were intertwined to mark the sites of access and communication with the more-than-human world. And what kind of narratives did they carry over from Uralic traditions to the new terrains with continuities in the narratives of the present-day Sami and Finns?

Painting has been just one expression of human multisensory creative potential that has contributed to the intergenerational experience and regeneration of myths, knowledge, and her-/histories through the affordances present at rock art sites. In a relational framework, rock paintings form one media to initiate and regenerate a relationship with more-than-human world. It contributes to the Art of relations and together with other media they participate in the co-crafting of the world in the greater Celebration of relations.

The landscape, soundscape, and rock art images point to a similar cognitive landscape as at Sami *sieidi* sites and to the similar use of a relational states with the process of situated knowledge formation. Relational states allow us to tap into the resources of the deeper body with the experience of unity between human and more-than-human world. They also provide a pathway for creativity and insights

to arise which have transformative power in intergenerational embodied relational learning.

This relational view builds on the worldview (ontology) that considers humans as just one of the participants in the co-creation of the world. It challenges our dichotomous categories of mind and body, and human and nature, as separated and urges us for a reconnection which has been lost in the process of modernizing – a reconnection that is desperately needed to ground our present path to the future.

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6. Why is it hard to listen to a rock? Questioning geophilia, geopower, and material agency in sculpting Larvikite

Biljana C. Fredriksen and Martin Kuhn

Abstract Based on the artist Martin Kuhn’s experiences of sculpting a rock called Larvikite, this chapter explores relationships of power, agency, and care, and tensions between the roles of an artist and of a craftsman. Pursuing the question “Why is it so hard to listen to a rock?” drew our attention to humans’ willingness to listen and their ecological awareness and recognition of the complex entanglements between humans and physical matter. The chapter challenges assumptions about human predominance over Earth’s materials and reminds us of human fragility when exposed to the power of geological forces – geopower.

Keywords geopower | rock sculpturing | Larvikite | material agency | geophilia

FACILITATING THE GROUND FOR CONVERSATIONS WITH ROCKS

Rock affection

A stone is not “just a stone”. When I (Biljana) was 12–13 years old, I had a stone as a companion. The stone was green and dark red and a perfect fit for my hand. It even had a smooth concave bed for my thumb to rest. I cannot recall if this part of Njo (as I called the stone) was so smooth when I found it. Could it have been polished and shaped by the grains of dust and moisture caught between my thumb and his body, as we for hundreds of days and nights “held hands”? Njo was my secret, devoted friend, always with me, either in my pocket or under my pillow, helping me to fall asleep. He was unique, not “just a stone” to me but probably to most of my peers. I remember how desperately I protected our secret – it would have been embarrassing if someone uncovered my love for a stone.

Today, I know that I am not the only one who has felt such kind of attraction. David Abram (2007) taught me about the eloquence of matter and stones' ability to astonish us and call for our attention. The concept of *geophilia* – the love of stone (Cohen, 2015) – has revealed that I am not alone, but a part of larger community of stone lovers.

German-Norwegian sculptor Martin Kuhn, who plays one of the main roles in this chapter, is also attracted to stones. In his case of *geophilia*, the force of attraction between him and a specific rock type called Larvikite has brought him from Germany to the Norwegian city of Larvik that the rock is named after. This chapter is written by the two of us; however, the narrator's voice is singular, Biljana's. The text is based on our conversations at Martin's outdoor studio at the Larvikite quarry in Larvik in southern Norway. With the eyes and ears of an Art & Craft teacher, I tried to understand relations between Martin and this iridescent rock in shades of black, blue, and green that has been fascinating him for decades. However, our conversation did not unfold in a linear manner. Larvikite rocks were silently taking part in the conversation in their own way. What was said and unspoken, imagined and thought, piqued curiosity and initiated emotional reactions. Certain moments in the intra-action appeared as obstacles, distracted our preunderstandings about teaching and crafting, and caused their diffractions. One such moment is presented in a short narrative: "To hear or not to hear?" The narrative, with associated discussions, aims to give a possible answer to the question: *Why is it so hard to listen to a rock?* Before we return to this question and the narrative, the readers should have a chance to become acquainted with Larvikite.

Introducing Larvikite

Larvikite is a unique magmatic rock, also called Emerald Pearl and Dark Labrador. It was formed in the Late Carboniferous/Early Permian period of our planet, at the time when most of the Scandinavian bedrock was already formed (Børresen et al., 2009). The areas that would later become northern Europe were still situated in the low latitudes just north of the Equator (Merdith et al., 2019). This was a time when southern Scandinavia suffered intense volcanic activity and the ground was ripped apart (Neumann et al., 2004). Several different types of magmatic rocks were formed here between 305 and 241 million years ago (Neumann et al., 2004). One of them was Larvikite, which is extraordinarily beautiful due to the variety of monzonite caught in it through the slow process of cooling, deep in the ground. This slow crystallisation allowed the minerals to form large crystals, sometimes even a few centimetres large, dominated by feldspar varieties (Børresen et al.,

2009). In Larvikite, the feldspar varieties are separated into micro-scale layers within the mineral crystals. This generates optical properties that frequently create a blue-green iridescence effect (see Figure 6.1), which has made the Norwegian Larvikite famous worldwide (Børresen et al., 2009).



Figure 6.1: Polished curved surface of Martin's sculpture. Photo: Fredriksen.

Over the millions of years since Larvikite was formed, different forces of nature have affected the ground above it and lifted it up to the surface. Even though Larvikite is a very hard and solid rock, when its surface was influenced by the movements of ice masses during the millions of years of the Ice Age, about 3–4 kilometres of it eroded away (Rohrman, 1994). Diverse physical and chemical weathering processes are slowly breaking down the glittering surface and replacing it with a rather dull spotted surface. However, the millions of years of erosion by rain can be restored by human hands: a few hours of sanding, rubbing, and polishing can bring back the glittering surface. Thus, human hands are capable of both repairing and destroying; when the hands are in control of powerful machines, they can swiftly dig, cut, and blast into pieces what has been untouched for millions of years.

Epistemology that welcomes rocks' agency

Older than any living organism on our planet, rocks have always been there for every more-than-human that has existed. Rock material has provided solid ground to stand on, caves to shelter from rain, cold, and predators, building materials, and much more. The first human tools as well as the first houses were made out of stone. Rocks have, indeed, constituted the foundations for cities and entire civilizations (Cohen, 2015). Rocks in their differing forms – pebbles on a beach, gravel on a road, or a stone to stumble over during a forest walk – have been such obvious parts of our lives that they have somehow become invisible in their integration. Rocks and the other elements of Earth have been taken for granted and most often left out of philosophical and political discussions (Grosz et al., 2017). However, with the rising awareness about climate change and other ecological issues, the elements of the Earth, the geological forces, and natural phenomenon are becoming more evident and difficult to ignore. In the human-centred thinking, we have been blind to the geological order, which is, nevertheless, “the most tangible and concrete condition for all forms of life” (Grosz et al., 2017, p. 132). Extreme weather conditions, floods, volcanic eruptions, and earthquakes constantly remind us that geological forces – “geopower” (Grosz et al., 2017) – are both preconditions for human life and life in general and, at the same time, potential threats to life as we know it.

Recognising the power of geological forces is part of the growing ecological awareness. It has been “proposed by geologists, climate chemists, and stratigraphers – scientists used to studying stones, rocks, sediments, and chemical cycles” – that the present geological epoch should be called the Anthropocene (Gan et al., 2017, p. 11). The name implies that human life leaves irreversible changes on our planet. These changes not only affect the surface of the planet but also transform the deeper layers in the Earth's crust. In this sense “humans have become a geological force” (Gan et al., 2017, p. 11), with the power to affect the entire global ecological system. With growing awareness of the human impact on the Earth, we are also becoming conscious of the fragility of the life on earth and of our own existence. The new insights urge us to rethink and question what it means to be a human today. Realising that our lives might depend more on other species, matter, and geological forces than they depend on us humans challenges the anthropocentric understanding that has developed over the last few centuries. The post-human onto-epistemology destabilises the established concepts of agency as reserved for humans. “To see life as coming from the earth and its forces – gravitational, magnetic, electrical, and so on – is perhaps the most powerful and direct way to destabilize our concepts of identity and agency” (Grosz et al., 2017, p. 132). Post-human

ecology, with its inclusion of more-than-humans and nonorganic matter (Nikolic, 2017), challenges the established anthropocentric understanding of chemical elements, minerals, metals, and rocks as “unliving” (Grosz et al., 2017, p. 132).

The anthropocentric idea that the world could be understood on only one scale – in particular, the human scale – is shaken by the concept of *ecological awareness* (Morton, 2018). Ecological awareness is about becoming aware of one’s own interdependence with the environment, that humans, other living organisms, and “dead” matter are all intrinsically connected. Ecological awareness is about “realizing that there are lots of different temporality formats (...) Once you’ve done that, you can’t un-acknowledge it. There’s no going back” (Morton, 2018, pp. 127–128). Other similar concepts emerge in parallel, urging critical thinking and the re-examination of our own values. The concept of “eco-aesthetics [for instance] is about yearning *for* the inhuman, the plant, the animal, the earth other” (Nikolic, 2017, p. 269). Viewing the world from a post-human perspective allows us to see rocks and other elements of the Earth as “riven by agents, acts and events” (Grosz et al., 2017, p. 132). In Barad’s (2007) performative ontology, matter is not inert or passive but is closely related to dynamics of materialisation (Nikolic, 2017). Such performative understanding of the world can contribute to a renewed understanding of rocks’ agency (Nikolic, 2017).

Haraway’s (2016, p. 34) term “thinking-with” refers to a kind of thinking that includes all possible players, agents, and actors, human or non-human, that are constantly influencing each other’s thinking and understanding (Groth & Fredriksen, 2022). Thinking-with is a form of ongoing negotiation: a process of continual gives-and-takes. Similarly, the process of crafting-with acknowledges the multiplicity of agents that constantly influence the process of give-and-take.

In the times when we (humans) have become a geological force, the least we owe rocks is to listen to them, to have “multiple conversations” with them (Gan et al., 2017, p. 11) and to take their perspectives, and geopower, seriously. The qualities of materials have always been important for artists and craftspeople, who long to transform them. Nevertheless, materials’ influence on the process of art-making and crafting has most often been overlooked (Jones, 2020). It is when one stops considering materials to be “neutral” that one starts to notice how they intra-act, effect, and affect the process of making (Jones, 2020, p. 457).

Creating a diffractive narrative

Archaeological excavations reveal diverse rock objects that have been transformed, used, and moved by humans thousands of years ago. Stone axes or arrow tips can tell us about the significance of stone objects for human survival, but some objects

remain mysterious and difficult for us to understand. For instance, there is uncertainty and doubt about Stonehenge and the carved stone balls found in Scotland (Jones, 2020); what roles and functions did these objects have in their contemporary societies, and were they considered “works of art”?



Figure 6.2: Stonehenge-inspired outdoor studio. Photo: Martin Kuhn.

Definitions of art practice appear “slippery” in relation to archaeology (Jones, 2020), but also in relation to the practice of crafting. The intention of this text was not to discuss relations between art and craft in general; nevertheless, conversations with Martin called my attention to the differences between his roles as an artist and a craftsman. Sennett (2009, p. 123) suggests that the amount of time spent on creating something could help us to distinguish between what is art and what is craft: “The elapse of time proved one way to separate craft and art: craft practice is stretched out, art of the original sort is a more immediate event”. I suppose that Sennett had a particular type of artistic practice on his mind when he described art as a product of immediate events; yet his quotation has inspired me to think of the elapse of time in itself. Time is essential for attunement with someone or something. Time to dwell is often crucial for depth of experience (Bresler, 2006). “[B]y slowing down, we are more fully engaged with the aesthetics of place, of experience” (Cutcher & Irwin, 2017), of materials. When the question about the different roles of an artist and a craftsman imposed itself during Martin’s and my

conversation, it was related to time, depth of experience, attunement to Larvikite's and, eventually, the rocks' agency.



Figure 6.3: Martin in his studio. Photo: Fredriksen.

When I visited Martin in his quarry (see Figures 6.2, 6.3, and 6.4), I did not observe him during the process of chiselling Larvikite, but I could see traces of his activities captured in the rock placed in the middle of his studio. My understanding of what was going on between him and the rock was therefore based on what I could see, hear, smell, and touch, and what Martin told me. It was not necessarily what was said that was most critical for the development of our conversation. The micro-breaks between the words were as significant, as well as the softness, colour, and intensity of the voices. Rather than reconstructing our conversation here, I will present the most significant issue that emerged in the moment of “fractured expectation” – of “diffraction”. Diffraction is a term that describes the changing of angle, banding, diffracting from the original image, thought, or understanding, so that unexpected, new understandings can emerge (Barad, 2007). Such moments where thoughts, words, or actions take off in unexpected directions can be uncomfortable or embarrassing, but staying with them, rather than escaping them, can lead to renewed insights. Moments of diffraction can indeed prevent us from falling “into the trap of recognition and re-presentation” (Moxnes & Osgood, 2019, p. 8).

Telling stories of what is experientially observed can display moments of more-than-human care (Puig de la Bellacasa, 2017). My story is about Martin's care for Larvikite, but I am not capable of telling Larvikite's story. I can try to imagine how it would feel to be a Larvikite rock, but I am aware of my short-sightedness, due to the limitations of my human body. Even though both my body and Larvikite are made of matter – that is where “human being and thinghood overlap” (Bennett, 2004, p. 349) – it is still quite impossible to imagine how it would feel to be a rock. An anthropocentric and anthropomorphic bias is eminent in our (human) use of “narrative logic to make sense of both ourselves and our environment” (Raipola, 2019, p. 263).



Figure 6.4: Martin's sculptures at the quarry. Photo: Fredriksen.

UNCOVERING CONFLICTING ROLES AND DESIRES

Noticing a silenced voice – the narrative

Martin and I met in his outdoor Stonehenge-inspired studio on a cold winter day in January 2021. The large overhanging rock of his studio could have protected us from rain, but not from the freezing minus-15 degrees. Between us stood a Larvikite cube approximately 70 cm tall with a drawing incised on its top surface.

I could see that some of the cube edges had been removed and guessed that the carving work had begun. As Martin and I talked, my sight frequently rested on the Larvikite block, and at some point, it joined the conversation. I nodded toward the block:

This is exactly how I instruct my students to start carving a three-dimensional form in a solid material, a piece of wood, for instance. I ask them to envision the contours of the shape they intend to carve, and then remove everything outside that shape.

Martin looked at me surprised: “Really?! Why would you do that?” he asked.

His response shocked me: Why would he be disgusted by my teaching routine that seemed to resemble exactly what he was doing with his Larvikite block? I had already noticed that Martin and the cubic rock appeared very formal in their encounters, but it was first now that I sensed how uncomfortable the rock seemed, how constrained it was by the pencil lines on its surface, as if it was forced to obey something much weaker than itself.

“This is a sculpture I am crafting for another artist. I am translating his drawings into the rock. When I am crafting my own sculptures, I do it quite differently,” he said.

“How do you do it then?” I asked.

“When I get rocks from the quarry, I place them along the road between the quarry, the studio, and my house, where I walk every day. And when I pass the rocks, I speak to them: ‘Have you decided yet what you would like to become?’ Most of the times they say that they are not ready, and I let them be. But sometimes one of them gets eager to be transformed. Then we together search for something that already is inside its rock body.”

While Martin was talking, I understood that he was trying to articulate his process of crafting-with the Larvikite rock (see Figure 6.5). He was struggling to express verbally what such a crafting process could entail, thus movements of his arms made many of his words redundant. While his hand caressed an imaginary surface of Larvikite, and his eyes reflected the invisible sparkles of a polished surface, I could see the romance unfolding in my mind’s eye: geophilia – mutual love of stone.



Figure 6.5: Martin reshaping a rock. Photo: Fredriksen.

To hear or not to hear – discussing the narrative

Looking back at the conversation, I am becoming better aware of the role the Larvikite block played in it. Apparently voiceless, with its shape, textures, and marks on its surface, the rock was telling a story about the process of crafting it was exposed to. The block's appearance reminded me of my past experiences from carving similar materials, which further led to assumptions about Martin's technique – possibly too quick and insensitive assumptions. It was not my intention to be judgemental but to draw parallels between his technique and the technique I used to teach to my students. Still, my comment made him uncomfortable. There was a moment of awkward silence. Martin seemed to experience my assumptions as provocation. From a closer look at the moment where our conversation cracked – diffracted – I can understand that Martin's reaction did not emerge because my interpretations of the rock were wrong. He was possibly surprised that the rock revealed its secret. It was hard for Martin to listen to the rock, not because he was not able to but because, in

this case, he was not allowed to. He was transforming a rock according to a pre-designed drawing from another artist, and this was not how he *wanted* to treat Larvikite rocks.

When I initially introduced the leading question for this chapter, “Why is it so hard to listen to a rock?”, I was aware that “why-questions” usually have more answers than one is able to imagine. There are so many reasons *why* things unfold as they do (Stake, 2010). Whether it is possible to listen to a rock depends more on the listener than on the rock, and on so many external influencing factors that one has little control over or no awareness of. Listening to a rock might be restricted by one’s ability and will to imagine a rock as a conversation partner. It might be limited by cultural values and understandings. These limitations apply minimally to Martin’s encounters with Larvikite. With his artist’s imagination that owns “a licence to fly” (Eisner, 2002) and boldness to challenge conventional anthropocentric values, his ability to listen to Larvikite was not restricted by himself. He was, indeed, troubled that he sometimes was paid to turn a blind eye to a rock and to ignore its voice.

Martin’s true relationship with Larvikite became palpable when he spoke with joy and respect about his daily conversations with Larvikite rocks, leftovers from the quarry, waiting to be transformed by Martin-the-artist (see Figure 6.6). The tenderness that characterised his role as an artist was not always welcomed in his craftsmanship. His occupation embodied the conflicting roles of an autonomous artist, on the one hand, and a craftsman who works to order, on the other.

Larvikite is a hard material, resistant to transformation. Few people are capable of performing such a challenging task of exploring and persuading Larvikite to change. Over his years of haptic engagements with Larvikite, Martin’s knowledge about the rock has been “created *in touch*” (Puig de la Bellacasa, 2017, p. 96). His reasoning unfolded through touch “sensitized at the fingertip” (Sennett, 2009, p. 238). However, in dealing with such a solid material as Larvikite, touching involves more than gentle contact between human skin and rock surface; it involves cutting through matter, dissecting it, digging into its anatomy, and interfering with the structures that formed millions of years ago. Such encounters can lead to “intensified relations” (Puig de la Bellacasa, 2017, p. 97) that affect both the human and non-human part. Hands might get harder. Feldspar might get brighter. A heart might get softer.

Changing Larvikite’s shape demands complex crafting skills and techniques, acquiring knowledge about appropriate use of tools, as well as the use of one’s own muscles (see Figure 6.7). With the help of powerful machines, the wearing

and tearing of one's own body is reduced, but machines can hamper the immediate contact between the hand and the material. And the lack of direct encounters through touch can reduce the possibility to listen to a rock. Listening to a rock is hard when one is physically distant from it, as a remote artist, who delivers designs on paper, but does not live through the momentary meetings (Aspelin, 2010) that are essential parts of a crafting process.

Larvikite is often chosen for sculptures because of its colour, sparkling surface, longevity, or other qualities that this rock can disclose (Cohen, 2015). However, the desire for the beauty of a final product can develop blindness for *a particular* rock with its specific density, composition of melted particles, the structure of its matter. Lack of intimate encounters with a rock can lead to a conclusion that all Larvikite rocks are similar to each other and are inert matter, without a significant contribution to the sculpture they are being shaped into. Due to the natural processes of Larvikite formation, each piece of the rock is unique. Martin meets every rock on a personal level and sees each of them as unique and exceptional. Each rock's personality becomes even more apparent through the process of mutual touching, chiselling, balancing, and listening. The remote artist is deprived of these experiences. The lack of these experiences also obscures one's ability to understand. For someone who lacks such embodied experiences, it can be incomprehensible to grasp what could possibly be wrong with deciding all the details of a sculpture in advance.

During Martin's conversations with Larvikite rocks, each of the rocks stands out from anonymity; each of them battles for his attention (Abram, 2007), and has its own dreams and desires of what to become. Assigning rocks the ability to dream might sound odd, and absolutely anthropomorphic, but it is indeed Martin's trained eye that can *see through* the rock and seize possibilities hidden in it. Over time, he has developed a kind of "X-ray vision" with the ability to scan the impenetrable volcanic mass and imagine what is hidden inside it. However, unlike Michelangelo, who uncovered detailed human forms from his rocks, Martin does not fully know (or *want to know*) in advance what his sculptures will look like at the end of the process. He does not rely on his sight alone, but listens with his entire body to what the specific rock wants to say. Engaged in the process of ongoing touching between the two bodies, the human and the stone, when Martin is acting in the role of an artist, he is crafting-with the rock, not against it. Such process is an ongoing negotiation of continual gives-and-takes, where the rock's agency is acknowledged.

The capacity to remain patient, sustain frustrations, and stay focused, which characterises good craftsmanship (Sennett, 2009), is valuable in both crafting *of a*

rock and in crafting *with* it. However, these virtues are applied differently in each case. When crafting *with* the rock, they are applied in order to follow unexpected directions the process might lead to, whereas when crafting *of* a rock, a pre-designed shape is being followed in order to secure the accuracy of the final product. From a rock's point of view, when a pre-designed shape is forced into its body, the voice of the rock is silenced. The rock is stripped of its power, incapacitated, and subjugated to someone else's power.

When acting in the role of a mediator of another artist's ideas, Martin's hands are tied. He is not free to make interpretations of what a rock is trying to say, but rather, in order to meet the pre-subscribed shape, he has to ignore his discoveries in the process of shaping. The materials' agency is only possible when someone allows the materials to become an active partner in the process of crafting, to "intra-act" (Barad, 2007). In Martin's case, he had to be allowed to facilitate each piece of Larvikite's agency, in such a way that the two of them could "meet half-way" (Barad, 2007), in an asymmetrical manner where differences are embraced and nurtured (Nikolic, 2017).



Figure 6.6: Martin's sculpture installation at the quarry. Photo: Fredriksen.

LISTENING TO THE EARTH



Figure 6.7: Martin Kuhn's sculpture at Bakkenteigen campus, University of South-Eastern Norway. Photo: Fredriksen.

Geophilia – love between a sculptor and a rock – is a wistful experience, because any romance with a stone inevitably ends with withdrawal and remoteness: the stone always outlasts its co-crafter (Cohen, 2015). Still, listening to, and caring for, rocks and other elements of the Earth is especially necessary in our times of ecological crises. Caring is about counteracting the destruction of different environments that have taken centuries and millennia of natural processes to create. Caring for geological matter involves generous and unselfish behaviour. “The ‘geo’ is an inversion of the ‘ego!’” (Grosz et al., 2017, p. 132). Nevertheless, caring for matter and materials of the Earth is not only voluntary but a pure need, because our lives depend on these forces much more powerful than we are. We are not equal. In this Anthropocene period, we often assume that the asymmetry between the human and the geological is leaning towards our own advantage. We should rethink! We owe it to rocks to listen to them (Gan et al., 2017, p. 11), both for our own sake and for the sake of our planet.

By listening to Larvikite, one can recognise the matter's promiscuous desire to affiliate with other forms of matter, organic or not (Cohen, 2015). Our living bodies do not end with our skin (Haraway, 2013) – they are infiltrated by minerals, water, and other substances from our environments. The presence of minerals in our bones, for instance, has made it possible to walk (Cohen, 2015). Post-human ecology is about becoming aware of these surface encounters and the merging between our own bodies and “the earth bodies” (Nikolic, 2017, p. 268).

Most of us never intended to harm our planet. However, in the complex dynamics of human and non-human forces “neither humans nor ecosystems are in complete control” (Raipola, 2019, p. 271). Still, “*Anthropos* has become an overwhelming force that can build and destroy, birth and kill all others on the planet” (Gan et al., 2017, p. 12). The “Sixth Extinction”, currently taking place, “is the product of modern industry” (Gan et al., 2017, p. 4) and our insatiable consumerism. Global warming is closely connected to the extraction of fossil fuels and other substances from the strata (Nikolic, 2017). Among other harmful interferences with the foundations of our planet, we have been injecting water, sand, and chemicals into deep rock in order to extract oil and gas. Such fracturing of shale rock destabilises the ground and can have consequences fatal to our fragile underground water supplies and resources such as clean air that we are dependent on to survive (Muncie, 2020). We should learn from the last decades of accelerating ecological catastrophes and try to listen to what environmental changes are communicating to us.

Because rock matter changes so slowly in relation to our human time scale, we often assume that they are inert and lifeless. It is particularly for this reason that we have to be more attentive and sensitive in order to notice the slow and subtle changes. Ecological ethics are about nonviolent coexistence with non-human beings (Morton, 2018). They are about questioning anthropocentrism, empowering other species, and acknowledging geopower. Becoming more ecological in our ways is a slow and painful process. Discovering our own prejudices, biases, and inconsistencies is uncomfortable, but it is where we need to start.

Each body, human or non-human, “is differently emplaced within the folds of Spacetime-mattering” (Nikolic, 2017, p. 267), and stones are time's most tangible carriers (Cohen, 2015). “A stone always conveys the astral, material, and ecological influences particular to its point of origin, an inbuilt vibrancy and enduring environmental imprint” (Cohen, 2015, pp. 415–421). From the depth of Earth, Larvikite speaks the language of volcanoes, melted minerals in compact structures pressed into the depth of the Earth.

Traces from the past are inscribed in the rock's layers, and new layers will mark human geological force (Gan et al., 2017) in the Earth's crust. A hundred years from today, someone might find my Njo. In thousands of years to come, Martin's sculptures (see Figure 6.8) might still ascend and, like the mysterious rocks from "2001: A Space Odyssey", puzzle the Earth's future dwellers.



Figure 6.8: Martin's sculpture. Photo: Martin Kuhn.

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7. Wind as a crafting agent: Learning from a slow engagement with time, place, and nature

Alison Clark

Abstract This chapter explores the relationship between weather, time, and pedagogy. The first part focuses on the wind and the passage of time through my playful engagement as an artist with a specific coastal landscape in Orkney, Scotland. This is followed by discussion of slow pedagogy and the connections between time, nature, and place. The chapter considers a patient alternative to hurried education by exploring the role of the natural environment in teaching a different way of relating to time.

Keywords slow practices | play | photography | time | nature

INTRODUCTION

How do you begin to engage with a place? How do you move beyond the quickly taken and shared image and begin to reach below the surface? Staying with one location can suggest a way to *work with* the landscape rather than trap an instant view within a frame. Such collaboration requires time and attention. Andy Goldsworthy, sculptor, collaborator, and documenter of landscapes, comments in his book, *Time*: “Time and change are connected to place. Real change is best understood by staying in one place” (Goldsworthy, 2000, p. 7).

The artist’s role begins as an outsider. There is a necessary humility involved that starts with “slow looking” (Tishman, 2017). This two-part chapter opens by exploring my immersion in place over time as an artist in relation to a specific landscape and the most dominant feature of its weather: the wind. The second part of the chapter becomes the springboard for reflecting on slow pedagogy (Clark, 2020, 2023) and the connections between time, nature, and place. The chapter draws on Biesta (2012) to think about teaching and learning that is “patient” by exploring

examples of creating a different relationship with the clock and the potential role of the natural environment in this process.

An island landscape

Exploring a sense of place has been a continuous thread through my art practice over the past 30 years, alongside my work as an early childhood academic. I have been drawn to a series of coastal landscapes starting with the Dorset coast in England and more recently on Orkney, a small group of islands off the northeast coast of mainland Scotland, that has become my home. Travelling and relocating has also been a frequent feature of my life, and art has played an important part in engaging with a new place and incorporating it into my sense of self.

Wind is an almost ever present part of the Orkney landscape. You need to work with the wind rather than ignore it. This applies to everyday life and to making art. Local shops on Westray, my home island in Orkney, have two entrance doors, facing in different directions to make sure you are not fighting the wind to buy your groceries. Car doors can be blown off. Wind is not benign. Collaborating with the wind has developed wind power as a powerful economic force in the region with many community wind turbines as well as individual units generating income. The Scottish poet Andrew Greig draws attention to the way the wind shapes life in this island community in the opening lines of his poem “Orkney/This life”:

It is big sky and its changes,
the sea all round and the waters within.
It is the way sea and sky
work off each other constantly,
like people meeting in Alfred Street,
each face coming away with a hint
of the other's face pressed in it.
It is the way a week-long gale
ends and folk emerge to hear
a single bird cry way high up.

Extract from “Orkney/This life”, Greig, 2006, in Astley, N.
(Ed.),

Staying alive: Real poems for unreal times (p. 31). Bloodaxe Press.

CRAFTING WITH THE WIND

I have made a series of artworks *with* the wind. My starting point has been “how do you document this invisible power?” This has been a dialogue with the Orkney landscape – an improvisation based on close attention.

First steps

The series begins with a “prayer circle” traced by the wind in the sand on a local deserted beach. Whenever I arrive back in Orkney I visit this place. I go open-handed and wide-eyed, looking. August days may reveal stranded jellyfish, worn fragments of plastic buoys, a sun-bleached urchin shell. Sometimes the force of a winter storm has remoulded the beach and heaped kelp stalks across the sand. Seaweed was an important source of income for the island many decades ago when seaweed was gathered, burnt, and sold.

On this January morning the wind catches a tethered piece of seaweed and casts precise concentric rings as if with compass and pencil. This is quiet and patient art. It doesn't shout to be noticed and requires a slowing down to be observed. It reminds me of the marks made by Buddhist monks, trowelling gravel in manicured prayer gardens in Japan. The wind leaves these temporary circular traces on the beach. These sequences of mathematical patterns in time will disappear, rearranged by the wind or trodden over by humans and animals. There is a playfulness to these marks too. The spinning pieces of tethered seaweed are like mechanical toys, stopping and starting with each gust of wind. My photograph “holds” this moment in time but in such a way that the experience can be remembered and revisited (see Figure 7.1).



Figure 7.1: Prayer circle.

Improvisation

I moved next from the shoreline to the marram grass on the edge of the beach. My challenge here was how to demonstrate the dexterity of the wind. I tried to photograph the movement, but the images remained static. I searched in my pocket and found a length of ribbon. On impulse I threw it into the grasses and waited to see what would happen. The wind caught the ribbon and made it dance, drawing attention to its power but also its grace. The piece “Improvisation” is a playful assemblage of the human and more-than-human (Deleuze & Guattari, 2004) composed of wind–ribbon–artist–and–marram grass (see Figure 7.2). The different elements in the assemblage collaborated together, fusing time and place. My role as artist was integral in introducing the ribbon, taking photographs and a short video, but the more-than-human elements were essential too. Time is also played with here. There was an attentiveness that required a slowing down. This was accompanied by a readiness to seize the moment and experiment. The playfulness is connected to the unscripted nature of the collaboration (for example, Sutton-Smith, 2001; Greve, 2013). This was an open-ended encounter that was content to be without a fixed agenda, rules, and outcome. My improvisation continued away from the beach and the direct engagement with the wind as I made a series of paintings in mixed media, revisiting the moment in paint, pen, and pencil on canvas,



Figure 7.2: Improvisation.

Swallow flight

Moving from shore to sky, “Swallow Flight” started as a series of observational drawings of these birds that are summer visitors to Orkney, somersaulting through the air like kites. I hold my breath each year as to whether they will return. My first reaction on seeing the swallows again is to sit and draw their complex “webs” of flight as they search for food. These drawings on tracing paper then became a loose “weaving” in black ribbon across the inside of wide windows. Something felt missing, however, in displaying this weaving inside. I carried the piece outside and tied it to the outdoor washing line where the wind made a beautiful new piece. “Swallowflight” (Figure 7.3) needed the collaboration of the wind to change it from a *representation* of flight that I could control to *taking* flight itself, where I became a bystander. This image holds the memory of summer days in Orkney with calm seas and birdsong. Each sequence of the making process from the observing, drawing, and weaving is concertinaed together into the final photograph. The image doesn’t replace the experience but is a marker to return to and, as in this chapter, to open up discussion.



Figure 7.3: Swallow flight.

Piecing together this series of work I am struck by the accumulated knowledge about place and time that these encounters have offered to me. The land artist Andy Goldsworthy, in his review of his artistic process during the first decades of his long career, discusses moving from seeing his engagement with place as of the moment to a greater “sense of time embedded in place.”

Goldsworthy’s artistic practice combines patience and playfulness. Photography has been an important tool for Goldsworthy in documenting his making alongside his brief “haikus” of the process, for example:

Red river stones
Ground to powder
And thrown.
PENPONT, DUMFRIESSHIRE
AUGUST 1999. (Goldsworthy, 2000, p. 6)

The patience is represented here in taking the time to find particular red stones and then grinding them into small enough particles to become dust. The playfulness is seen in Goldsworthy’s decision to throw the red powder into the blue sky above, watching the wind catch the pigment.

The second part of this chapter draws on the artistic practices discussed in this section to reflect on teaching and learning in higher education and in early childhood education.

PLAYFUL ENGAGEMENT WITH TIME, PLACE, AND NATURE

Slow knowledge and the unhurried student

Periods of global uncertainty, as experienced during the pandemic, can create the opportunity to reconsider priorities in education across sectors from early childhood education to higher education and lifelong learning. This has added further impetus to a growing body of concern about increasing pressure on fast, universally applied teaching techniques that are only interested in the easy to measure (Ball, 2016; Biesta, 2012). Biesta has described this as an impatient model of education:

I am inclined to argue that what we find here is predominantly an impatient look. Not only do we find a desire to put as much world as possible into the child or student. We also find a desire to do this as quickly and cheaply as possible, to constantly monitor and measure the effectiveness and efficiency of the operation, to make teachers’ salaries dependent on the extent to which they succeed in producing pre-specified “learning outcomes”. (Biesta, 2012, p. 99)

Slowing down is at odds with an emphasis on acceleration and fast results in society and in education. Rethinking the relationship with time is a key feature of slow pedagogies (Clark, 2020, 2023) that draws on several pedagogical disciplines and traditions, including from Nordic practice. A “slow pedagogy of place” has emerged from environmental education, as a counterbalance to “fast, take-away” pedagogies, as Payne and Wattchow (2009) explain. There is an emphasis on first-hand experience combined with the opportunities to be immersed in nature. Payne and Wattchow designed a course for undergraduate students in Australia that involved two extended stays in the same outdoor environment, using contrasting pedagogical approaches.

Slow practices are also at the heart of art education where value is given to process above outcome, to an openness to the unexpected and to the difficult to measure (for example Veechi, 2010). As Eisner has reflected: “From the arts I have learnt that not only cannot all outcomes be measured, they frequently cannot be predicted” (1991, p. 18).

Both environmental and artistic approaches coalesce in thinking about a playful engagement with time, place, and nature.

Deepening children’s relationship with place, time, and nature

My exploration of the wind was made possible by the opportunity to develop a relationship with a specific natural environment over time. I was able to slow my own pace, to sit and observe across many months and at different points in the day and in a range of weather. This can be understood as a temporal relationship that is characterised more as cyclical than linear (Deleuze & Guattari, 2004). It was not chiefly bound by the clock, as in linear time but was more attuned to the flow of time across the seasons and to the embodied experience of time, noticing, waiting, and collaborating with nature. Reflecting on Deleuze and Guattari’s discussions about time, MacRae et al. (2020, p. 138) comment: “They remind us that time can also seem to move at different speeds and sometimes almost stands still”.

There may be something particular here to learn from children in early childhood education and care that has resonance across other sectors. Young children can be fully present in their play in such a way that ignores the imperative for an end goal. This connects with my artistic practice as I set out on many visits to the same beach, without a specific “task” in mind. My intention was to be open to what was happening in that particular moment in time, as Bresler (2006, p. 55) comments: “It is the intentional detachment of the artist from the pursuit of pre-defined results that allows artistic and aesthetic discoveries”. A tightly prepared

script of what would be the “product” of my visits would have been likely to miss the wonder of the moment.

Deepening children’s relationships with place, time, and nature can take many forms. I draw attention briefly here to two examples involving young children. Jeanne Iorio and colleagues adopt a “commonworld” framework (Taylor & Guigni, 2012) for recognising the relationship between place and the “more than human” (Iorio et al., 2017a, 2017b). There has been a strong temporal dimension to these explorations as shown in the “Out and About” research study in Victoria, Australia, as I have discussed elsewhere:

One of the four sites in the project includes repeated visits to a beach with young children, educators and families, creating a common ground with which to listen “with” place. This sense of developing a common experience together has been of particular value when working with children new to the country and to the region. Connections are built through shared experiences in a similar way that working with art materials can build connections. (Clark, 2020, p. 144)

Waller (2006) gives a further example of supporting young children’s deepening relationships with place and nature through slow practices. This English study involved three- and four-year-old children’s repeated visits to an outdoor country park. Waller describes how, through these regular visits, “children are given time and space to follow their own priorities, thus allowing practitioners and researchers opportunities to develop their knowledge of individual children through listening, interaction and observation” (Waller, 2006, p. 76).

As the children’s familiarity with this specific natural environment increased, they began to name natural objects that became shared landmarks, such as “The Octopus Tree”, “The Giant’s Bed”, and “Dragonfly Land” (Waller, 2006, p. 87). The country park had become a storied landscape as the named features show. The traces of the children’s play had become embedded in place through the opportunity of deep and extended immersion. Children and educators were able to move to different rhythms with more freedom than the daily schedules allowed. Slow practices may involve moments of great intensity and speed (Clark, 2020; Kind, 2013; Tishman, 2017).

This example suggests several questions to me which I raise briefly. What would the relationship with time, place, and nature be if the country park had become the children’s permanent base? This would be in keeping with Nordic outdoor kindergartens and farm kindergartens as well as connecting with ideas in the forest kindergarten movement (Dean, 2019). This leads me to a more provocative thought

of what would teacher education look like if conducted on a solely outdoor model? Setting aside the practical issues of how this could be arranged and sustained, a permanent outdoor base would require slower pedagogies that were more mindful of the cyclical time of the seasons and weather than linear, clock time.

Extending children's relationship with place through photography

I described in the first part of this chapter how, in thinking with Deleuze and Guattari (2004), my encounter with the wind and the marram grass could be seen as an assemblage of the human and more-than-human. There was an intra-action between the wind-ribbon-artist-camera and the marram grass. The ability to play with moving and still images was an important part of my process of learning about the wind and how to make visible its affect. This playfulness happened in the taking of the series of images and also in extending the memory of the encounter with the wind from the beach to my home, to my computer, and across digital space.

I continue to be interested in how young children's photography can play a significant role in their entanglements with place (Clark, 2019; Kind, 2013; Merewether 2018) although the value of slow listening with a camera can extend to each sector of education. My own research has focused on developing visual, participatory methods, firstly with young children (for example, Clark, 2010, 2017), and has been adapted to work with educators (Clark, 2011). More recently this extended to my involvement in a study working with pre-school children in Norwegian kindergartens who were about to move to school (Pettersvold & Nordtømme, 2019). The aim of the study was for children to think with the camera about how they would like to remember being at pre-school. Many of the children's photographs featured their friends, but there were also photographs documenting their connection to the natural world, including a local beach, footprints in the snow, open blue skies, and close-up images of the surface of fallen trees.

The Canadian atelierista Sylvia Kind has documented her playful entanglements with children, camera, and place in the specific environment of a studio:

I was compelled by a mutual experimentation, and a play between myself, children, camera, lens, places, and things. In being-with children, the camera, and photographic processes, I was curious about what we could invent and figure out together and how we could imagine other ways of looking and engaging with photography's possibilities. (Kind, 2013, p. 430)

Here Kind explains how the camera can be part of "itinerant improvisations", drawing on Ingold (2011), where children and adults can be wayfarers together.

The relationship between time, place, and nature is brought indoors in the case of this type of artistic studio through the materials that are given centre stage, for example, clay and wood that each have their own timescales (Carlsen & Clark, 2022; Lemke, 2000).

Responding when nature intervenes

My documenting of the prayer circles in the sand resulted from an openness to the present moment. A slow pedagogy is attentive in this way, not afraid to change plans if necessary and to go “off track”. It is this openness to the present moment that I have chosen as my final example where time, place, and nature can come together to create new possibilities for exploration with children. This account is taken from my “Slow knowledge and the unhurried child” study (2020–2021) that focuses on in-depth interviews with 20 early childhood researchers, teachers, and teacher educators from 11 countries. Amanda Bateman, one of the participants, visited an early childhood setting in New Zealand just after an earthquake had struck. There had been damage to buildings in the neighbourhood as well as to the water supply to the kindergarten. She documented one of the teacher’s conversations with the children when they took the “in the moment” decision to go for a walk, as their planned activities of painting and cooking were no longer possible without water:

....“so what we’re going to do today is we’re going to have an investigation and we’re going to have a walk down the road and see what’s happened”... Straightaway you see a wall that’s broken completely, demolished.

One of the teachers is talking to a group of children. “Oh look at this wall!” (...) “What do you think has happened here?” and then this prompts this discussion, these [children’s] working theories about what they think has happened with this wall, and immediately you get somebody talking about the earthquake, “I think it was from the earthquake”. “Oh, how do you think the earthquake has done this?” So there was this lovely exploration of what they thought had happened. (Amanda Bateman, Interview, September 2020, in Clark, 2023, p. 94)

So, in this episode nature intervened. Educators were attentive to the present moment and responded by opening up the pedagogical potential of the encounter between the force of nature and the young children. They were able to slow down and make time to listen to the children’s working theories and concerns, rooted in their own neighbourhood. Kari Carlsen, a Norwegian participant in my study,

underlined the importance of such an approach: “to be *aware* of the moments. We are given moments for common interest and learning – to learn to be slow with the environment and to be aware of the moments given you as a teacher” (Clark, 2023, p. 94).

CONCLUSION

I have set out in this chapter to explore engagement with time, place, and nature through artistic practice and in education. This discussion began with examples from my practice as an artist in a specific coastal landscape through my observations, improvisations, and collaborations with the wind as a force of nature. This has led to the accumulation of slow knowledge about place.

Such attention to the pace and rhythm of teaching and learning in education can be seen to draw on environmental and arts education, as illustrated throughout this volume. These traditions can be understood as having elements of slow pedagogies that embrace first-hand experiences, a valuing of the present moment and giving attention to process over outcome. An intrinsic playfulness has featured in the examples shared. Following such quiet traces involves making conscious choices to prioritise a slow speed of looking and listening. There will always be other demands on our time, but there are rich rewards for educators, students, and children in embracing such an approach.

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8. The wind-kite-me – an explorative essay about kite flying and crafting with nature

Kari Carlsen

Abstract The art of kite building and the act of kite flying belong to the fields of craft and play. The concepts *crafting* and *making* are examined through the author’s constructing and flying experiences with kites. The text leans on a post-human understanding and expands into an intimate correspondence with materials, crafting, place, kite, and wind. A question is posed about the significance of the “self” in such a context, where the boundaries between the human being and the surrounding nature are both blurred and intensified.

Keywords crafting | making | materials | nature | new materialism | kite flying

PRELUDE – BEFORE THE PLAY BEGINS

The art of kite building and the act of kite flying belong to the fields of craft and play. In this chapter the concepts of *crafting* and *making* with nature are examined through my constructing and flying experiences with kites. The text is based on a post-human and new materialist understanding with some reflections and doubts. The title, *The wind-kite-me*, reflects the holistic experience of standing on a beach, feeling the forces of the wind against the body, which is made possible together with the kite. My intimate connection to the materials in the building process has grown through years of practice as a kite maker. The correspondence with nature at the specific place where I am playing with the kites and the wind plays with us gives me a unique experience. At the same time, the question is posed about the significance of the “self” in such a context, where the boundaries between the individual human being and the surrounding nature are both blurred and intensified.

Crafting is closely connected to the concept of *making*. To make something has traditionally involved transforming materials based on specific ideas to serve a function and satisfy human needs. This is a broad activity carried out by professional designers in production of various kinds. The design process has many phases: identifying the specific needs and developing ideas with sketches on drawing boards or with computer programmes. Then, in the last stages of the process, the product is handcrafted or mechanically fabricated. The appropriate materials must be selected, either natural materials or industrially produced materials, which in turn have influence on the fabrication processes and the finished product.

In Arts and Crafts education students' design processes can be characterised by transferring an idea to two- or three-dimensional form through the shaping of materials using appropriate tools. The Nordic Forum for Research and Development in Educational Sloyd, together with Telemark University College, set an agenda by focusing on making and materiality in Notodden, Norway, in 2012, through arranging *Making – an international conference on Materiality and Knowledge*. Marte S. Gulliksen and Siri Homlong edited one of three special journal publications with full papers from the conference. In the Editorial they write: "Making is here defined as the process of creating something, an intentional activity in which an individual or a group of individuals actively engage in developing and changing something, such as a material, so that it becomes something else" (Gulliksen & Homlong, 2013, p. 1). At the beginning of the 2020s, we see a renewed craft-movement based on the human need to create useful things almost for personal use, with care for the materials in a tradition of economic austerity, and with a sustainability perspective with an ecological superstructure (see, for example, Ahlskog-Björkman et al., 2020; Näumann et al., 2020). In this movement, there is a clear intention to make full use of the potential resources that the materials possess through use and reuse, and at the same time, the materials could still be seen as the raw material that humans design according to our own needs.

In response to the quote from Gulliksen and Homlong, Ann-Hege Lorvik Waterhouse (2021, p. 134) describes humans' intentional transformations of materials as a hierarchical positioning of humans as cultural beings over the materials from nature. A paradigm shift is taking place in pedagogical philosophy, from the humanistic positioning with man at the centre, and nature and materials serving our needs, to a post-humanist positioning built on the philosophy proposed by Donna Haraway (2016) and Karen Barad (2007, 2008), amongst others. As a reaction to the linguistic turn in philosophy, Barad says: "Language has been granted too much power [...] Language matters. Discourse matters. Culture matters. There is an important sense in which the only thing

that does not seem to matter anymore is matter” (Barad, 2008, p. 120). New materialism, as an interdisciplinary, theoretical, and political field of inquiry, has emerged as part of what may be termed the post-constructionist, ontological, or material turn, as Susan Yi Sencindiver (2017) writes. Of special interest for me in the thinking with Barad and others is the new materialism fertilization across science studies and cultural theory:

...yet it cuts across and is cross-fertilized by both the human and natural sciences. The revival of materialist ontologies has been animated by a productive friction with the linguistic turn and social constructionist frameworks in the critical interrogation of their limitations engendered by the prominence given to language, culture, and representation, which has come at the expense of exploring material and somatic realities beyond their ideological articulations and discursive inscriptions. (Sencindiver, 2017)

As ethnographer and researcher in the educational field, I belong traditionally to the human sciences, and as so, I have positioned myself as a pragmatist. My educational field, the Arts and Crafts, as well as my practice as an artist and kite maker are embedded in my experiences, knowledge, and skills with the natural world. The new materialist position gives scholars the opportunity to reject the former paradigmatic dichotomy between human and natural sciences. Pedagogical thinking, inspired by the material turn in philosophy, is also connected with greater ecological understanding and sensitivity (Fredriksen, 2019; Johansen, 2019), where the notion that people have the right to consume their surroundings gives way to the idea where human beings are part of the nature and aligned with it. This paradigm provides a perspective on both the materials and the making processes, as Ann-Hege Lorvik Waterhouse (2021, pp. 67–71) discusses in her PhD dissertation. She emphasises that a post-human position includes the human, but the human in connection with the environment. This brings me back to the position John Dewey describes in *Art as Experience* (1934), which I started to elaborate on in Carlsen (1985, pp. 31–32). Dewey sees the human being as nature and the processes in the human mind as similar to the nature’s “ongoing movement and culmination, of breaks and re-unions” (Dewey, 1934, pp. 17, 42). The line could be drawn from Dewey and a pragmatist position to a new materialist position building on this quote: “...life goes on in an environment; not merely *in* it but because of it, through interaction with it. [...] The career and destiny of a living being are bound up with its interchanges with its environment, not externally but in the most intimate way” (Dewey, 2005, p. 12, italics in original).

I find a possible bridge from Dewey to the concept *intra-action* in human-material processes that Barad mentions as a meaning making process in a specific local phenomenon (Barad, 2008, pp. 133, 135). For the maker and crafter, the matter really counts (see. Barad, 2008, p. 120). It is in the intra-action with materials in the local phenomenon, the specific crafting process, that both form and meaning emerge. And as Waterhouse (2021, pp. 249–251) describes, in crafting processes the border between the material and the crafter is blurred. She gives an example of how a little boy's fingerprint leaves a pattern in a lump of clay at the same time as the clay gets attached to his fingers: "Through exploring clay, children can discover that the skin's pattern melts into the clay surface and that clay fragments stick to the skin" (Waterhouse, 2021, p. 278). As human beings, we consist of the same matter as the rest of the nature. By existing, the human body consists of and exchanges atoms with the environment in the continuous stream of changes in the physical world. J. J. Gibson's term *affordance* (Gibson, 1986, p. 41) implies that materials provide different resistance and possibilities for action to different people and any living being in making processes. The affordance depends on who is making: their age, strength, skills, and the nature of the materials; their age, moisture content, crispness, colour, texture, and what sort of tools are available. The materials' affordance is therefore not given exclusively by the physical properties of the materials, but through the ecological context they are part of, and who they are in exchange within a given environment (Carlsen, 2015, p. 133). Gibson does not give matter and materials characteristics through exact properties, but by contrast, they appear in specific ways in the given ecological context. This corresponds well with what I perceive that Tim Ingold is looking to capture in his criticism of the concept of *agency* that is linked to certain properties of matter or materials: "Bringing things to life, then, is a matter not of adding to them a sprinkling of agency but restoring them to the generative fluxes of the world of materials in which they came into being and continue to subsist" (2007, p. 12). Ingold's alternative to describing processes between people and materials as expressions of agency is, as he says, to take the materials seriously only as materials, as it is from them that everything is made (2007, p. 14). The mutual influence between people and materials is based on the constant process of alteration that takes place in the exchange between the substance and the medium that surrounds it and the surface between them. Processes of change occur in different ways for different materials, depending on the properties that emerge in the environment, which includes human beings, who also are changing because we are made of materials.

The empathy lies by Ingold in my understanding of matter and materials at the moment. When thinking with Barad, I understand my cooperation or

correspondence with the matter, the wind and the beach as intra-actions with other components. I choose to understand the concept of agency, not as a distinctive feature of myself or the materials, things, and phenomena in nature, but as the force that is immersed in the connection of components or subjects in the ongoing processes in the world, of which I am an intimate part. For further elaboration of these theories and the epistemological positioning, see Carlsen (2015, pp. 125–139).

With this as a theoretical springboard, the text that follows explores the connections or correspondences between me as a kite builder and kite flyer, the kite, and the wind itself. I enter the exploration together with a review of the Danish author Søren Ulrik Thomsen's essay *Store Kongensgade* (Langballe, 2021), which I read during my kite-building field work in Denmark in the autumn of 2021, prior to the start of this writing process. From now on, the text will develop without a formal academic structure. It moves more as thematic sequences of descriptions and reflections on and about construction and flight and how to get a kite flying with the air. However, I return to Waterhouse (2021) along the way, conclude with Ingold (2013), and then draw the chapter to a close with Søren Ulrik Thomsen (2021). And now the play begins:

I do it now. Build the kite and fly.

I read the landscape and the weather, perceive the changes in the sound of the wind in trees and grass, the movements in the tree branches far away and near, the direction of the sand spray against the legs. The wind grabs hold of the kite and lifts. The kite line runs between the fingers of the right hand. The kite yanks the flying line. The wind controls how much line the kite needs and how I move my body to follow the kite's movements up there. My rhythmic pull in the line makes the kite rise higher and higher in the sky. The release of string between my pulsating tugs allows the kite to lift itself and reach new layers of wind with air currents that give it buoyancy.

THE TEXT

I'm doing it now. Building the kite. The first glue dries, and I write.

Triumph! I am building. I put the writing aside and act together with the materials and tools. The writing tends to get in the way of this. I'll just write a post, an article, a doctoral dissertation, another article, a book ... This is my paradox

because what I am writing about is action. The importance of knowledge acquired in practice, what arises and what happens in the repeated handling of tools and materials, as insightfully written about by Camilla Groth (2020). The different grips, where the fingertips discern qualities more accurately than we have words for. Fingertips, which analyse textures, temperatures, structures. As children, we grasp our environment and touch materials from the very first moment in contact with the world around us. At this stage, we take it for granted that this is how to explore, without knowing that this is knowledge. Through formal education, we are taught to believe that knowledge is found in books, in writing, in digital or analogue, and only there. Or do we learn this? And why do I write? My shaping with language, the text, does it matter? Do I matter here? The Danish author Søren Ulrik Thomsen asks and responds to this question:

... why do you write at all? To postpone death, to win back the beloved, to capture and immortalise moments in the hope that they will not haunt one indefinitely. To squander one's experiences, so that with new ignorance one can tell the same story again. (Thomsen in Langballe, 2021, my translation)

I write.

THE KITE

From 1987 to 1998 and then again in 2007 and 2008, Ketil Olav Sand, craftsman, kite builder, and photographer, held annual kite workshops at the handicraft market in the town of Risør on the southeast coast of Norway. I participated every year and got to know Ketil, and he became my kite master. He invited passionate kite builders from many countries to be instructors for the kite workshops, among them Bengt Carling from Sweden, Esko Mäkelä and Mårten Bondestam from Finland, István Bodozcky from Hungary, Gunnar Fretheim from Norway, and Joan Montcada from Spain. These kite builders from around the world taught me, in Risør, how to build Japanese-inspired elegant rice paper light-wind-flyers, robust three-metre-long box kites made of plastic and tape, and sharp-flying delta kites for strong winds, lush, linked snake kites and micro-flyers made of cigarette paper, a piece of straw and a sewing thread.



Figure 8.1: Kite made of three cigarette papers, a straw, and a sewing thread.
Photo: Truls Corneliusen.

Attached to a kite string of suitable thickness, “everything” can fly. I see a leaf floating in the wind. I do not see the spider’s invisible strong silk thread, but I know that it is there – a kite – because the leaf is hanging in the air, held by something, without swirling and falling to the ground with the other leaves.

The Greek myth of Daedalus and Icarus tells us about the dream of being lifted by the wind. Trapped in the maze, Daedalus made wings of feathers, fastened with wax for his son Icarus. He escaped the maze and flew, but too close to the sun and fell. Leonardo da Vinci studied the skeletons of birds and their flight in the sky and constructed human wings. The ancient Melanesian fish kite is made of large flat leaves. The kite line has another line that follows it – the fishing line – with a hook hanging down from the kite’s leaf body, far from the fisherman’s boat. When the fish bites, the kite is pulled down towards the water surface and the fisherman pulls in the kite line and fishing line.

Amongst the war machinery of ancient Japan were giant kites. One hundred and seventy square metres of surface carried the archers, who were tied to the

bamboo skeleton of the kite, which was then flown over the enemy's warriors, so they could fire at them from above. A hundred men were needed to get such a kite in the air.

In Chinese parks, when there is an appropriate wind, old men stand with a thin string in their hands. They talk and look up. They do not run but tug gently to lift and let go of small swallow-shaped kites.

In Afghanistan, fighting kites are the participants in deeply serious feuds between rival groups of boys and young men. They include glued glass splinters on the kite line, to cut the line on the opponent's kite, so that it crashes to the ground. Khaled Hosseini, in his novel *The Kite Runner* (2003), tells that whoever retrieves the fallen kite captures it for the next duel. On a football field in Telemark, I met a boy from Afghanistan, because I saw a kite in the air when I drove past. I turned around and went back to investigate. The boy told me how, in his home country, he primed the battle kite line with powder from broken light bulbs mixed with resin. When the flying line crosses the opponent's high up there, it is important to jerk the line, so that the opponent's line is cut and not your own. He showed me his scars from such kite cords inside his right hand.

The Palestinian author Ramzy Baroud writes about his summers as a child in Gaza during the Intifada of 1987–1993. He lived in the Nuseirat Refugee Camp, and the seaside was under Israeli siege: “My house was very short walk from the beach, yet somehow, we spent over seven years without visiting it once. Not once. And so kite running became the most favoured pastime” (Baroud, 2009). He talks about his first kite, beautifully made by his older brother with the colours of the Palestinian flag. The children flew the kites to be visible from the Israeli military camp. With his first and newborn kite in the air, together with those of his friends, the space over the camp was full of kites, but “out of nowhere, Israeli jeeps leapt into the open area, separating my house from the Martyrs Graveyard. Children ran in panic. Teargas grenades were lobbed in frenzy. Kites fell all around like wounded eagles. I too ran, in circles, without letting go of my kite”. But with a jeep speeding towards him and a soldier yielding in a loudspeaker, he had to let it go. He never wanted another kite. On July 30, 2009, 5,000 children on the beach in northern Gaza broke the world record for “flying colours”. Baroud says: “... adorned by the red, black, green and white of the Palestinian flag, Gazan children's kites are expressions of defiance, hope and the longing for freedom” (Baroud, 2009).

The aircraft is unthinkable without kite builders and kite flyers with well-developed knowledge of wind movements and the laws of aerodynamics. The first

double-decker planes were developed from modified box kites, and although wooden slats and oiled canvas have been replaced with moulded light metal, the principles are the same: the air flows at different speeds above and below the curved wing, and the difference gives lifting power. Still today, the box kite carries meteorological instruments to the right heights and sends digitalised information down to the weather forecasters.

THE PLACE

I stay down on earth. On a beach with wind. A breeze, a storm, where the wind carries the smell and moisture of the sea, rainy, or sunny and windless with a blank sea. Søren Ulrik Thomsen writes:

Is there a single year or place in a person's life that, as time goes on, will prove to be the most important? The spot where the compass point can be placed, because everything formerly dreamlike points towards it, and everything that came later points back to this centre, the significance of which, of course, is not comprehended until much later? (Thomsen in Langballe, 2021, my translation).

The place, which I constantly return to and move with, is the Danish beach of my childhood. The events of the past and present give this place meaning for me, in the way Thomsen expresses. Not a single year or a single event or observation but many: the imprint in the sand where a straw has been moved back and forth, a curved line or a whole circle, the traces of the compass of the wind. The lump of amber I find in the particular kind of seaweed when the sun is low and there is an amber light. The white shell that moves and is moved by the small waves, which also form grooves in the sandy seabed. The waves are broken by these sand grooves, and the shadow of the waves creates new grooves that cross the sand at a different angle depending on the position of the sun. I place a small stone on the beach, just out of reach of the waves, wondering what will happen with it and around it by the next time I come. There will be high tide and there will be low tide. Will "my" stone break the waves and make them take a different direction than they would otherwise? Will this shape the water's movements of the sand into new patterns? Or, if the wind blows hard, will the big waves move the stone to another place, where I cannot find it again? My actions in encounters with waves and wind, do they matter? Do I matter here?



Figures 8.2 and 8.3: The place, the beach, the water, the wind, the stone. Photo: Kari Carlsen.

Why do I fly kites? Because a windy beach is my place. This geographical spot at the centre point of the compass, which involves attention directed to the beach's diverse material variations, to the strength of the wind when it pushes me forwards or backwards, moves me around. The wind's properties and ability to move and lift give thoughts about what can be lifted. What new opportunities can I give the wind to lift and keep aloft?

THE MATERIALS

Which materials are appropriate for making kites, and what construction properties do the materials have? What proportions and sizes give the wind greatest capacity? The materials I choose for encounters with the weather and the wind are important. It is the weight per square centimetre of surface that counts. Kites with different kinds of construction have their unique ways of playing with the wind. With a grateful look back at da Vinci's sketches and ideas for flying gear, based on a bird's anatomy, I work on the kite's skeleton: the spine, shoulders, and ribs of the body must be strong enough to support the material of the surface that the wind lifts – the kite's skin – and must be flexible at the same time. The skeleton

of wooden or bamboo poles must provide just the right flexibility, so that it can bend and obey the wind if it becomes strong. The bearing surface then decreases and gives the wind less lift. The skeleton must both bend and have the elasticity to return to its original shape when the wind lessens. Then, the bearing surface needs to become larger again and give the wind a better lifting opportunity. If the sticks are too thin, they break; if they are too thick, they prevent the kite from rising into the air layers. Bamboo has elasticity. It can be split into thin strips and bent if heated over a flame or put in boiling water. Bamboo keeps its shape when the material cools again and can form complicated shapes as the people of the East have done since time immemorial.



Figure 8.4: To split and give the finishing touch to the bamboo lath is not easy. Photo: Kari Carlsen.

The kite's skin decides which construction methods are possible to choose. It is the skin that determines whether the kite can withstand rain or survive ending up in the sea. The wind pressure against the kite's skin can be very strong.

Fine weather kites are made of thin paper, and rough plastic kites for fresh breezes or gales: different skin for different kites. The paper gets stronger if I curl it before construction, because this breaks the direction of the fibres in the paper,

and it is not so easily ripped along the fibres if the kite plunges to the ground or gets hooked in a tree. I paste rice paper to rice paper with cellulose glue and strengthen with sewing threads in between.

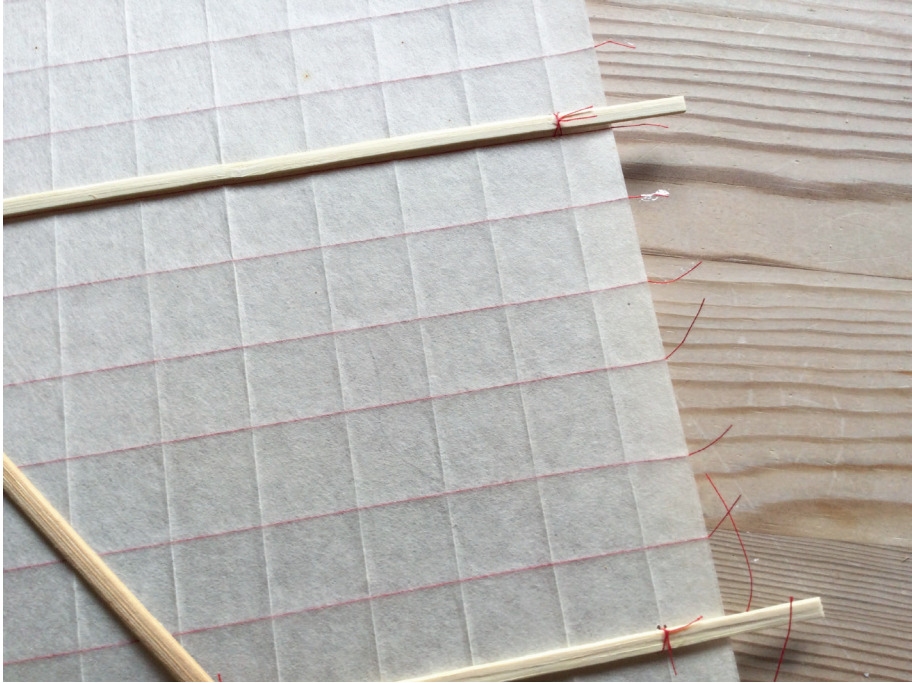


Figure 8.5: The skin of the kite is here two layers of rice paper glued together and laminated with sewing threads in between. Photo: Kari Carlsen.

The kite body is held together where the skeletal parts meet, and the weight of the kite must always be symmetrical around the vertical axis, the spine. Depending on the size of the kite, the joints can be tied with anything from sewing thread to hard-spun cotton twine of different thicknesses, and they can also be secured with elastic or fastened with tape, depending on the skin type of the kite. Paper and cotton thread belong together, whereas plastic goes with tape. Kite builders from the East reinforce the joints with rice flour glue. The stakes in the kite's bamboo body, the ribs, can also be glued to the skin with rice flour paste. I use outdoor wood glue to ensure that knots do not come loose. A small drop directly on the knot is enough. Synthetic materials can be fused together with a soldering iron.

The kite has two different kinds of cord in addition to the ones the construction itself is made with. I must choose suitable cords to rig the kite, like a sailing ship.

The construction and size of the kite determine how many attachment points the steering cord – or kite’s bridle, as my kite master calls it – should have. This steering cord determines how the kite behaves in the air, and with simple knots I can regulate the angle of the kite according to the wind. The kite string or flight line ties me and the kite together, and the choice of flight line is crucial. It must fit with the size of the kite and, at the same time, the strength of the wind. “Everything” can fly with the right flight line, say experienced kite flyers. Spun string twists quickly and sends the kite in circular motions. Fishing line always causes major problems with knots and cuts into the fingers. I choose a braided synthetic cord, since it is strong in relation to the weight, and is available in many thicknesses to switch between. It is the weight of the flight line that determines how high the kite can fly. In addition to its own weight up there, the kite with the wind must carry the entire weight of the flight line. So, it is the combination of lightness, strength, elasticity, resilience, and beauty that determines which materials I choose to build the kite from.

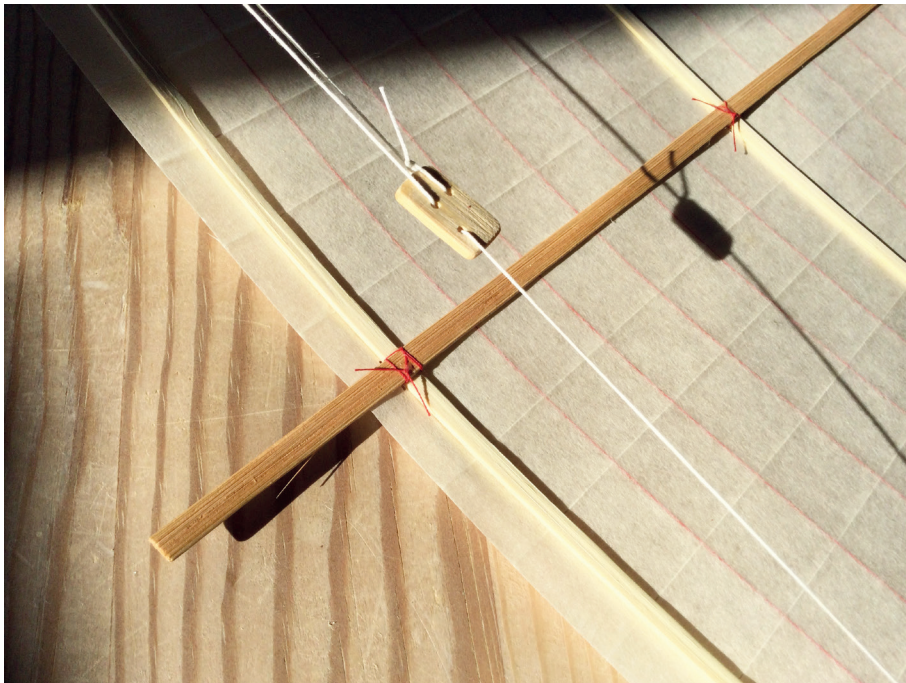


Figure 8.6: The kite is strung up with an adjustable tension cord to bend the “shoulder strut” at the top. This increases the wind lift as on a modern flight wing. Photo: Kari Carlsen.

THE TOOL

The materials I choose, and my preparations to meet the weather and the wind at height, require tools. The tools matter. A fine-toothed saw does not fray the bamboo when I divide it into suitable lengths. To split bamboo, I need a sharp knife that can be controlled and at the same time follows the longitudinal fibres of the material. I divide the bamboo stick lengthwise into several strips with the same weight distribution of bamboo joints. When I build the kite, it is important that these are laid out in parallel to ensure they are matched for the sake of good balance. I look for tools in the same way that I use my “kite glance” when I discover materials. I have a predilection for old hand tools. They often have a technology that is suitable for movement, and what is well used fits well in the hand. This gives me tool-joy. The construction of kites highlights and demonstrates that tools can be used for very different actions than originally anticipated.

The different phases of kite building need different tools. The skeleton demands a small saw, drill, sharp knives, folding ruler, and the hands’ sensitivity to weight distribution and flexibility. When working with the skin, I need scissors, a wall-paper knife, a cutting board, a brush and glue, needles and sometimes a sewing



Figure 8.7: The seaweed as motionless walrus with their heads phlegmatically turned outwards. Photo: Kari Carlsen.

machine. The rigging of the kite requires a large surface and space, a needle and scissors, a pair of hole-making pliers and glue. The flight requires both light and accessible hand tools and extra material. Something breaks on the beach. Scissors, string, tape, some extra slats, a pair of pliers, and a knife decide whether the kite goes up or not. But when tools are not at hand, I must improvise, find something on the beach that can be used. A sharp straw or a splinter of driftwood can precisely perforate the kite's skin, so that I can attach an extra steering cord. I tie a tassel of dried mare grass on one side and balance the kite or lengthen the tail and give weight with strips of dried seaweed from the large piles that are washed up on the beach. They lie there like motionless walruses with their heads phlegmatically turned outwards or like coiled ropes of twisted sea hair, trimmed by the waves, ready to be tied to the kite's tail. Something is always there, and the kite flies again.



Figure 8.8: Seaweed as ropes of twisted sea hair. Photo: Kari Carlsen.

Another type of tool are my past experiences and knowledge gathered in cooperation with other people's kite experiences, as in Master Ketil's kite workshops. There various teachers shared knowledge about kite types, materials, and technical solutions for construction, as well as enthusiasm and flying tricks for when

the wind takes full control of the kite, which often happens. Studying the kites of others is a source of knowledge. New knowledge was revealed when, on a work trip, I suddenly found myself on the top floor of the Modegi family's house in Tokyo. A small kite museum marked on the hotel's tourist map drew me like a magnet on the day when shopping was on the itinerary. I found this museum, which had limited floor space, but all over the place a number of kites hung, were lying down, stacked, and rolled. I encountered details of bamboo work and technical solutions, paper qualities and joints, couplings, knots, and line qualities that I have taken with me to my mental tool store.



Figures 8.9 and 8.10: Kites at the Tokyo Kite Museum, 5th floor of the Modegi family house. Photo: Kari Carlsen.

I noticed that the proprietor of the museum had the same tattoo on his hand as my kite master, and my new Japanese acquaintance then told me that they knew each other. Without knowing it, I was visiting one of Master Ketil's colleagues. I still don't know what the sign on the hand means.

Important development tools are also found through the indirect experiences that other kite builders convey in different ways. The classic *P.H.'s Kite Book* (Henningsen, 1988) and *Dr. Hvirvelvind's Kites That Fly* (Dr. Hvirvelvind, 1986), with instructive construction drawings and useful kite geometry, give new kite thoughts. They also give possible explanations for some of my kite breakdowns, when the glue fastens to the table instead of to the other paper

surface, or the bamboo sticks bends the wrong way, following the wind in wild spiral movements.

THE HAND

Kite thoughts and eagerness for flying come from many sources. Ideas occur to me on the beach and in the wind. Sometimes they come from stories in novels and films, other times from pictures and texts and instructional drawings. However, the construction of kites always starts first and foremost with the hands. The hands' negotiations with the materials and with the tools. The fingers' registering and getting to know the materials through repeated touching, so that the fingertips explore their properties. My knowledge of the materials lies in the multisensory experiences and feeling for what Ann-Hege Lorvik Waterhouse describes as both visual and haptic tactility:

Seeing the optical and the haptic opens for different approaches to seeing, or to different understandings of what we see. The haptic is linked to the tactile, to the sense of touch and the optical to the visual sense. As Deleuze (2017a) writes, the sense of sight and the sense of touch are woven together in the haptic, in a third eye. (Waterhouse, 2021, p. 93, my translation)

I use this "third eye". I find it disquieting that the tactile, the use of touch as an entrance to knowledge of our surroundings, is pushed so forcibly into the shadow of visual emphasis in our culture. I constantly experience that the hands and their crucial role need to be highlighted. The neuroscientist Jonathan Cole quotes Sir Charles Bell, who, as early as 1833, wrote:

The human hand is so beautifully formed, it has so fine a sensitivity, the sensibility governs its motions so correctly, every effort of the will is answered so instantly, as if the hand itself were the seat of that will.... We use the limbs without being conscious, or at least, without any conception of the thousand parts which must conform to a single act. (Cole, 2013, p. 11)

Cole describes how the hand is a unique exploratory organ "whose movements are determined by the feedback it receives from what it is touching and from its own movements" (Cole, 2013, p. 11). Again, he refers to Bell: "Sense of touch differs from other senses by this – an effort is propagated towards it as well as a sensation received from it ... the sense of motion and touch are necessarily combined" (Cole, 2013, p. 11).

Sensing the materials and the shaping movements during the construction of the kites are united with the kite flying observations, actions, and movements through this haptic third eye, which includes the movements of the body, the kite, and the wind – through the hand.

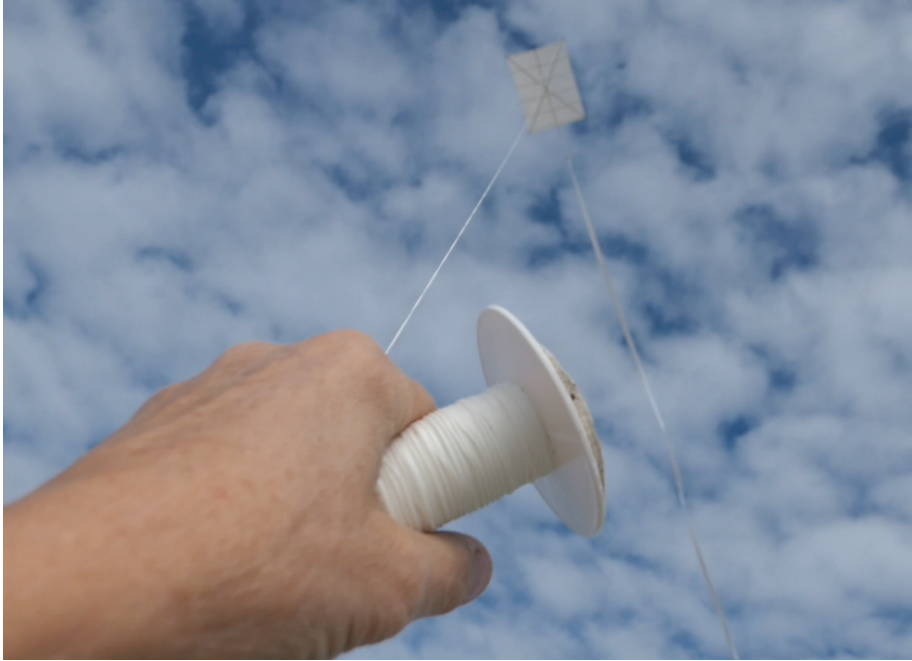


Figure 8.11: The hand, the flying line, the kite. Photo: Kari Carlsen.

In both construction and flying, the role of the hand is vital. It is the experience of the fingers connected to materials that decides the shaping and construction of the kite. The weight of the material in the hands determines the choice between two seemingly identical sticks. The hands register flexibility and a change of direction on the bamboo slats. Many are rejected. The fingers evaluate the thickness of the paper according to the size of the kites' surface. The fingers tie the knots and consider the right thickness of threads for different uses. The strong synthetic thread slides, whereas a twisted cotton thread attaches well when I make the skeleton knots. The fingertips are involved in a thousand small sensations and movements in the act of tying a knot, as Bell describes above.

Fishermen's and former seafarers' knowledge of knots is crucial for the kite flyer. Fixed knots must fit snugly, and others must be able to be adjusted easily, so that the kite's attachment to the bridle – the kite's steering cord – can be loosened and moved half a centimetre. Such a small displacement changes the angle of the

kite towards the wind and can transform a spinning wild kite into a steady wind catcher, floating on the air.

THE WIND-KITE-ME

My precision in building the kite's body, the weight distribution of the material and rigging the cords, determines how it is positioned in the wind, whether it twists to one side and swirls down with the pull of the flying line or when the wind becomes too strong. I adjust the angle of the flying line attachment or tie a tuft of grass in one of the sides to provide balance. My actions and movements are intertwined with the beach, this place where I am, with the surface, the sand's solid moisture or hot dryness. With the force of the wind, in the gusts or steady flow from the same direction, onshore or offshore winds, joined with the weight of the kite line in the balance between strength and lightness and the kite's material skin and shape.

Tim Ingold (2013) describes an experiment in his book entitled *Making*, where he and his students build and run with kites in a park. Ingold emphasises that this is not about a mutual relationship between a person and an artefact, or the flyer and the kite, or an interaction between an organism and an object with its own agency. He rejects the concept of agency and approaches the movements of the kite with entrance through the wind:

The flow of air – the wind (*anemos*), the breath of life – is the very antithesis of embodied agency. But if the air cannot be closed upon itself, then no more, as we have seen, can the organism-person that lives and breathes. Thus even if we allow that in flying a kite, the flyer dances with the air, it cannot be a dance of agency. It can only be a *dance of animacy*. (Ingold, 2013, pp. 100–101, italics in original)

The connection and transitions between the kite flyer, the kite, and the air are fluid and moving:

And in this dance, flyer and air do not so much interact as correspond. The kite, in effect, sets up a correspondence between the animated movements of the flyer and the currents of the aerial medium in which he or she is immersed. It is not that you need air to interact with a kite; rather you need a kite to correspond with the air. (Ingold, 2013, p. 101)

I do not run with a kite; instead I wait for the wind and let it go. My zeal and immersion of being in the wind are projected up to the kite. I feel the movements of the

wind all the way up there, through the line, in my hand down here. I fly with it up in the air and get the kite's view, a third eye, from up there and down on myself as part of this vibrating and breathing joy.

I have built and flown, I have written myself into kite facts and sensations of air, of togetherness in correspondence with the wind, with the kite, with the beach. I have "squandered my experiences", so that I "with new ignorance can tell the same story again".

I, at the centre point of the compass, and the wind draw the circle with a kite.



Figure 8.12: As part of this vibrating and breathing joy. Photo: Tone Carlsen.

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9. Writing companions – cat-writing as a pedagogy of messy interspecies entanglements

Aino-Kaisa Koistinen

Abstract This chapter examines what it would mean to take the ethical implications of human–cat relationships seriously in the practice of writing and knowledge production – or *cat-writing*. The chapter joins Donna Haraway’s feminist thinking and selected discussions of animal ethics together with creative writing, namely, poetry. I argue that cat-writing may invite ethical imaginations for the acknowledgement of the suffering of others, making it potentially a pedagogical practice in ecojustice education.

Keywords cat-writing | companion species | feminist knowledge production | vegan poetics | ecojustice education

INTRODUCTION: THIS MESS WE’RE IN

In *Companion Species Manifesto*, the feminist scholar Donna J. Haraway (2003, p. 3) asks: “how might an ethics and politics committed to the flourishing of significant otherness be learned from taking dog-human relationships seriously [...]?” In 2018, I was suddenly offered the chance to adopt a cat named Sotku. I had lived without a companion animal¹ for my adolescence and adult life, but I remembered very fondly the English springer spaniel, Kippari (Skipper), we had when I was a child. Therefore, I did not hesitate to take a cat into my life, even though there were a few issues that spoke against a successful coexistence with such a creature. Firstly, I had never lived with a cat and had absolutely no knowledge about them.

1 By ‘animal’ I refer to nonhuman (or other-than-human) animals, while acknowledging the problematics of the human/animal divide inherent in this choice of words. I will return to this divide later in this text.

I had, in fact, always considered myself “a dog person”. Secondly, I was allergic to cats. Even though the company of my best friend’s cats during my childhood had, after a long and painful process, desensitised me to cat-allergens, I had become allergic again in my adulthood. Thus, there was no telling whether I would be able to live with this new feline companion. Despite these obstacles, my partner and I decided to adopt the cat. What finally melted our hearts was that she was already 11 years old, and therefore not exactly hot stuff on the animal relocation market. People prefer younger cats, it seems – perhaps since elderly animals tend to need more care.

In the late summer of 2018, a glorious longhaired female cat with a funny name, *Sotku*, came to live with us. According to Google translate (2021 January 22), the Finnish name of our beloved cat, *Sotku*, has many translations: Mess, Tangle, Clutter, Muddle, Entanglement, Hash, Huggermugger, Complexity, Mix-up, Mess-up, Cock-up. This delightfully brings us back to Haraway (e.g., 2003, 2008, 2016), whose work is preoccupied with the messy entanglements between humans and their companion species. As a scholar interested in human–animal relations and an avid reader of Haraway, how could I not start thinking of the messy entanglements inherent in this particular mess, my mess, *this sotku*, that I suddenly found myself in? I soon also found myself wanting to write about the joyful mess of getting to know and love a cat, a member of a species alien to myself. Indeed, the cat could just as well have been a space alien to me: the cat-allergic, the dog-person. During my early attempts of writing about our relationship, a question nevertheless emerged: How can I write about my relationship with the cat, when I do not really understand it myself – at least not on a level easily transmitted into words?²

A year later, I was re-reading Haraway’s *Companion Species Manifesto*, where the messy entanglements between humans and their companion species manifest in what Haraway (2003, 3) dubs “dog writing [...] a branch of feminist theory, or the other way around”. It dawned on me then that if there is something called dog-writing, there most definitely must be a practice called cat-writing, as well. Haraway’s work inspired me to ponder not only the question of writing as in putting things into words but also the materiality of writing as more-than-human knowledge production. If dog-writing is a practice where Haraway “and her dogs co-create and co-construct each-others’ experience right down to the cellular level” (Sayers, 2016, p. 380), cat-writing is also a material – or “material-semiotic”, that is, both materially and semiotically constituted (Haraway, 2008, p. 383n11) – process.

2 Two of my talks on cat-writing that have partly inspired this chapter are (or should soon be) available on YouTube (Koistinen, 2021, 2022).

Cat-writing is therefore not only about producing meanings with the cat but also about the material connections, or entanglements, constructed while *writing–living–thinking–feeling–with* a companion animal (see also Haraway, 2003, p. 5). By 2019, I had, indeed, desensitised myself to my feline companion, so there was no denying that Sotku had materially affected me. Furthermore, in terms of the materiality of the writing process, cats are notorious for their fondness for disturbing one’s writing – and Sotku (the Mix-up, the Huggermugger!) makes no exception. In this chapter, I thus attempt to showcase how cat-writing entails not only my process of thinking-with a cat, but also the material process of writing-with a feline companion.³

TAKING HUMAN–CAT RELATIONS SERIOUSLY

Following Haraway, I define cat-writing as a branch of feminism that takes human–cat relations seriously as part of both academic and creative practice. The research problem of this chapter then emerges as: how to write-with a cat about the process of writing-with a cat? Pondering this question, I soon started to ruminate on the power relations (and even violence) inherent in the process of “taming” living beings with language (see Derrida, 2006/2019; Holmes, 2021) as well as taming them as our pets and companions. The questions asked to tackle the overall research problem are thus shaped as follows: what kinds of poetic and political issues and practices come to the fore in trying to represent the process of *writing–living–thinking–feeling–with* a companion animal, a cat? What kinds of embodied knowledge or *knowledges* – in line with the feminist understanding of situated knowledges (Haraway, 1988, 2004) – and ethical considerations surface when writing-with a cat about writing-with a cat?

To grapple with these questions, I merge Haraway’s feminist thinking with animal ethics. Yet, as I am also a poet, I combine these with creative writing, namely, poetry. The text at hand is therefore a messy entanglement of different ways of thinking and writing, aimed at *tackling/describing/representing* the process of cat-writing. It is also an autoethnographic recollection of how my experiment to produce knowledge with *a cat* transformed into the practice of producing knowledge with *a particular cat*, my Sotku (the Tangle – the Complexity – the Entanglement). The approach could also be called “poetic autoethnography”,

3 I use the concept *writing-with* in the spirit of feminist collective knowledge production, or “thinking-with” (e.g. Haraway, 2016, p. 31). For more about writing-with nonhumans, see Ryan (2021) and Karkulehto et al. (2022).

where autoethnographic inquiry is entangled with pursuits in poetic language (Hanauer, 2021; Räsänen, 2022).

Poetry is used in this chapter to bring to the fore aspects of cat-writing that are difficult to put into words in traditional academic writing (see also Hanauer, 2021; Holmes, 2021; The Monster Network, 2021). Some of the poems presented in this chapter are fragments from my poetry collection *Uhanalaiset ja silmälläpidettävät* (roughly translated as *The Endangered and the Nearly Threatened*,⁴ 2021), where I write about themes such as how to know about/with animals and nature. The collection was, for the most part, written with Sotku purring in my lap or otherwise demanding my attention. These poems were originally written in Finnish, and I have translated them into English for this chapter. In addition, some of the poetry came into being while writing this text and has been written only in English.

In line with ecojustice education, I consider cat-writing as a potential pedagogical practice. Ecojustice education can be defined as a pedagogy that challenges the destructiveness in human cultures while promoting diverse ways of knowledge production that consider the role of the nonhuman in the processes of knowing (Foster & Martusewicz, 2019, pp. 2–8). Art can have a vital role in inspiring this sort of understanding of knowledge (Foster & Martusewicz, 2019, pp. 2–8). Returning to Haraway, the concept “companion species” refers not only to companions, such as pets, but to the broader, messy entanglements between humans and other species (see also Rossi, 2021). I argue that writing-with a companion cat may thus teach us something about the affective, more-than-human ways of producing knowledge in messy, co-species entanglements.

FELINE POLITICS AND THE TROUBLE WITH REPRESENTATION

Following Haraway and other dog-writers, Janet Grace Sayers (2016, p. 377, emphasis original) defines “[f]eminist dog-writing [...] as a type of *écriture féminine*” – a concept created by feminist philosopher Hélène Cixous – that is both “political and material as it aims to create new ways of co-constructing reality with other animal species, and it uses writing as a major vehicle for this objective”. Dog-writing is

4 The name of the collection is based on the categories for animals at risk of extinction. In Finnish, the category of “the near threatened” reads more like “those to be kept an eye out for”. This connotation of seeing, looking, being looked at, and controlling is thus lost in the English translation unless one uses: “Watch list of animals at risk” (which, however, would make a poor title). Due to the semantic, rhythmic, and phonotactic differences between the Finnish and English languages, translating the poetry has indeed been challenging, and some meanings are bound to be lost in translation. For this chapter, changes have also been made in the typographical setting of the poems.

therefore a practice of feminist thinking differently (Sayers, 2016, p. 380). Even though this chapter builds on the concept of dog-writing, there are some specificities in human–cat relations that require that dog-writing must be accompanied by a “feline politics”, meaning “the potential politics that is taking place *between* the human and animal”, namely, a cat (O’Doherty, 2016, p. 421, emphasis original). For example, when compared to dogs, cats have retained more of their wild nature, not becoming “part-human”, which is probably one reason humans find them so fascinating (Gray, 2020, pp. 16–18, 26). Human–cat communication also remains understudied (Humphrey et al., 2020), meaning that cat-writing may require a more attentive attitude than dog-writing.

There is no space here to go deeper into the differences between the relationships between humans and dogs and humans and cats. Yet, for the purpose of this text, as it is inspired by the ruminations on violence and vulnerability, there are at least two more aspects specific to human–cat relations worth mentioning. First, cats and dogs are often not valued in a similar manner. Even though cats have been worshipped in some parts of the world (Gray, 2020, pp. 99–104; O’Doherty, 2016), they have also been gruesomely mistreated by humans, and sometimes still are. To give an example, in early modern Europe, cats were often tortured or killed for entertainment (Gray, 2020, pp. 20–21). Indeed, cats have often been considered either gods or demons – and treated accordingly (Gray, 2020, pp. 99–100). In Finland, where Sotku and I reside, at least 20,000 cats are abandoned on a yearly basis (SEY). Humans therefore seem to act less responsibly with their feline companions than with their canine ones. Second, whereas dogs are more adapted to different diets, cats are strict carnivores. I will return to the specific problems of living with a carnivore later in this chapter.

There have been previous experiments with cat-writing in academia (e.g., Gray, 2020; O’Doherty, 2016; Rossi, 2021), even though they have not been explicitly named as such – not to mention the ventures of writing about cats in the world of fiction.⁵ Perhaps the most well-known academic text that might be called cat-writing is Jacques Derrida’s *L’animal que donc je suis* (The Animal Therefore I Am).⁶ Inspired by the gaze of a companion cat, Derrida (2006/2019) traces the violence inherent in the human/animal divide: how the naming of a vast number of species under the category of “animal”, as opposite to “human”, or the use of nonhuman animals as symbols, does violence to these species. For Derrida, language is a form of violence: it inherits a sort of “carnophallogocentrism”, meaning that by naming

5 In Finland, for example, author Anni Kuu Nupponen has held humorous presentations of using cats as writing aids (e.g., Nupponen, 2023).

6 I refer to the Finnish translation, *Eläin joka siis olen* (2019).

we metaphorically devour the other (Sayers, 2016, pp. 375–377). Even though there is violence in human–cat relations that goes beyond linguistic representation, physical malice towards individual cats cannot be separated from how cats as a species are represented through language. In other words, physical violence towards animals cannot be disentangled from the ways that they are discursively and culturally invested with value. It is therefore important to discuss the (feline) politics of representation also in the present text.

While I write this, lying on the sofa in the most un-ergonomic position, Sotku jumps on my chest. She gazes at the laptop screen, sweeping my face with her furry tale. Blocking the screen, she forces me to pause writing and pet her. I stroke her soft fur and listen to her purr. When she leaves, I reach for the keyboard:

you are history – you are not
 you are animal – you are
 named and nameless

a paw, a claw, a tongue, a purr – the twitch of an ear!

words and bodies whirling in time and space

 hurling a toy mouse
 I chase

I leave these poetic fragments here as a budding endeavour to represent the process of thinking- and writing-with my cat companion.



Figure 9.1: Cat-writing in practice. Copyright: the author.

THE MONSTROUS POETICS OF CAT-WRITING

How, then, to write-with a cat about writing-with a cat? Using examples such as Luce Irigaray, Hélène Cixous, Martin Heidegger, and Friedrich Nietzsche, Sayers (2016, p. 382) argues that “[p]oetic writing is a main writing strategy used in philosophy to respond to the animal”. Indeed, “[t]he call of the animal to the human requires an imaginative, poetic and open response since the necessary break with habits of thought is so profound” (2016, p. 378). Writing on “anthropocentrism and representation in writing the lives of animals”, Jessica Holmes (2021, p. 229) argues that:

Poetry in particular is a literary genre, which has consistently lent itself to expressions of silenced or oppressed voices and bodies, in part due to its capacity to embody loss, fragmentation, and absence. Contemporary poems thus provide a useful foundation for rethinking narratives of anthropocentrism and revisiting vulnerable bodies (both human and nonhuman). [...] Poems offer alternative methods of seeing or bearing witness to, remembering and assigning value to individual subjects.

In fact, Derrida (2006/2019, p. 22) also suggests that the question of whether an animal can think is a question for poetry. It is no wonder, then, that in my attempt to capture my relationship with Sotku, I, too, turn to poetry.

To me, poetic language is a way of venturing beyond the violence of naming and taming, an attempt to “move” from fixed meanings to the processes of becoming in the messy co-species entanglement that is cat-writing. As Haraway (2008, p. 4, emphasis original) notes: “To be one is always to *become with many*.” I write these lines as Sotku lies on my ribcage, comfortably lodged between my laptop and my face. She faces me, purring and warm, sharp little claws burrowing through my shirt and into my flesh. She leaves marks on my skin that take days to heal – I wonder, what is she writing on me? The purring resonates in my body, and I feel a deep connection to this small animal, this cat, *this Sotku*, and beyond. I am grasping to find the words to describe this connection that expands beyond me and the feline, to other species, and to the world. Some of it is, perhaps, expressed in this poem:⁷

I mend my ways, I tame the universe
 into my lap
 if I should transform into a cat, expand
 to the size of galaxies?

7 For the Finnish version of the poem, see Koistinen (2021b, p. 44).

There is no telling, if the cat settles into me,
or I into the cat.

From animal to animal, soft heat flows,
solar plexus.

For poet Audre Lorde (1984/2007, p. 25), poetry allows the writer to express something “nameless and formless, about to be birthed, but already felt”. This makes writing poetry “a monster method, attempting to find (and create) words for embodied knowledges” (The Monster Network, 2021, p. 152). Monster or the monstrous refers here to something that transgresses boundaries, like the boundary of human and animal described in the poem above: something messy and unstable, that can bring forth new ways of knowing and of feeling in and of the world (Hellstrand et al., 2018). Poetic language is, in a sense, like a cat that “occupies a liminal space in the house and largely refuses [...] domestication” (O’Doherty, 2016, p. 415), which is why poetic expression so readily lends itself to the practice of cat-writing.

While Sotku (the Complexity!) purrs in my lap, I can only surrender to the realisation that the process of cat-writing will always remain a practice of chasing words incomplete to describe our relationship.⁸ From this incompleteness the poetic autoethnography of cat-writing is born; a poetics seeking to find new, less violent ways to write-with our nonhuman companions. Lorde’s words are echoed in the following lines (Koistinen, 2021b, p. 62) where I endeavour to make sense of that something “about to be birthed, but already felt” (Lorde, 1984/2007, p. 25) present in the material connection between Sotku and I:

we are the-indifference-of-earth
the-feeling-of-words

8 This incompleteness of language in cat-writing could also be discussed in terms of affects and emotions – often separated from each other, affects referring to complex and uncertain bodily sensations and emotions to the sensations defined in language (cf. Ahmed, 2004; Wetherell, 2012). Even though I do not entirely subscribe to this division, since past histories and cultural context influence affective bodily reactions and responses (Ahmed, 2004), there seems to be something affective in cat-writing that is not completely captured by cognition – or by human language.

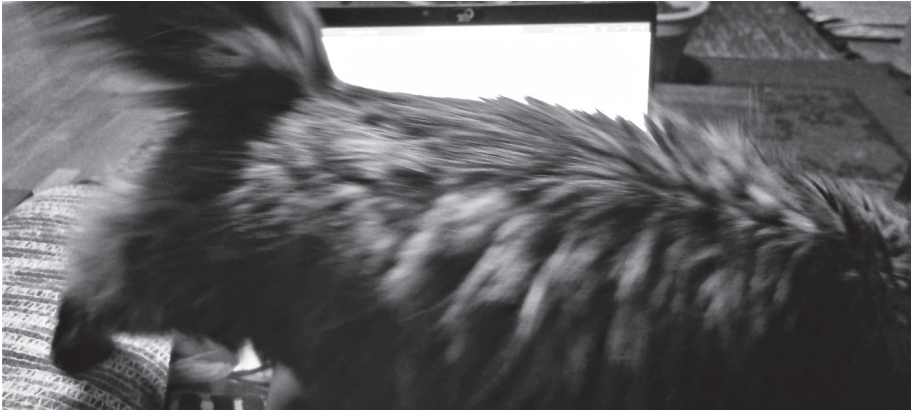


Figure 9.2: Cat-writing always escapes domestication. Copyright: the author.

FROM REPRESENTATION TO PRACTICE – OR HOW CARING FOR A CARNIVORE TURNED ME VEGAN

When Sotku had been living with us for a while, I proclaimed to my partner that I never again wish to live without a cat. When she had been living with us for a longer time, I said to my partner: “I am not sure that I can ever live with another cat.” Should I, then, be talking of *Sotku-writing* instead of cat-writing? Perhaps. In *When Species Meet*, Haraway critiques Derrida for forgetting the actual, living, individual cat. Even though Derrida acknowledges that he is writing about a particular cat, Haraway (2008, p. 20) notices how he quite soon leaves the cat behind while engaging in discussion with white, male philosophers. Derrida therefore “did not become curious about what the cat might actually be doing, feeling, thinking, or perhaps making available to him in looking back at him” (Haraway, 2008, p. 20). In what follows, I wish to consider what kinds of knowledges and practices the process of writing-with a particular cat, Sotku, is making available to me. But Sotku, as an individual, cannot disentangle from the needs of her species, either. Thus, I will also discuss how living with a cat, a carnivore, opened my life to new ethical considerations of the violence between humans and animals.

For Derrida, the inspiration for cat-writing emerges from the shame he feels when a housecat looks at him while he is naked, bare, and powerless. Like Derrida, I, too, experience a stabbing feeling of shame when Sotku faces me, but it is a different kind of shame. I am ashamed that Sotku must live in an apartment and cannot roam free like her ancestors – as all companion animals are essentially our captives (Gruen, 2014, p. 130). When Sotku’s attentive eyes face me, I wonder whether she is content, unhappy, or even suffering, and if she were suffering,

would I ever be able to know. I am slowly learning to read her signs: the narrowed eyelids that cats use to communicate with their humans,⁹ but also the funny silent meows and other habits specific to *this cat*. Sotku has also been diagnosed with tumours in the abdomen, so lately I have been even more preoccupied with the question of how to care for my nonhuman companion.

My shame is also connected to another gaze, the absent gaze of what Sayers (2016, p. 374) dubs “meat-animals”. I face this gaze as I handle the packages of meat that I buy for Sotku. It is impossible to live with companion animals, such as cats and dogs, without participating in the killing of other animals (Gruen, 2014, p. 134). I am thus ashamed of the fact that, for loving Sotku, I need to take part in the massacre of other animals.¹⁰ Since Sotku has been diagnosed with allergies and an irritable bowel, we buy only the best hypoallergenic meat for our beloved companion – and we cannot always be sure of how the meat has been produced. Have the meat-animals suffered? Probably.

Carol J. Adams (1990/2010, pp. 66–67) claims that animals that are used as meat become absent referents. The affective connection between “meat” and “animal” becomes lost, making it more difficult to see the animals in the meat and therefore also easier to consume meat (see also Hall, 2013; Holmes, 2021). Here is where the aforementioned cultural circulation of signs comes to play. For Ahmed (2004), affects and emotions are deeply interconnected and produced discursively: objects and signs become invested by affective power in their cultural circulation. I nevertheless find it hard not to see – and not to feel for – the animals in the meat that I feed for Sotku. Our cat-writing is thus haunted by these broader human–nonhuman relations and the affective cultural practices that maintain that some animals are to be considered so-called meat-animals while others are considered beloved pets.

That said, cat-writing is also a loving and joyous act for me, and hopefully also for Sotku, and even the shame that I feel has inspired moral action (see Aaltola, 2017). When we took Sotku in to live with us, I had been following a lacto-ovo-vegetarian diet (with the occasional addition of fish) for a little over half of my life. I had often considered going vegan, but I lacked the final push. It was only after taking in the carnivore that the ethics of eating animal products started to really haunt me.¹¹ When Sotku climbs onto my chest and brings her face so close to mine

9 On narrowing the eyelids in cat communication, see Humphrey et al. (2020).

10 For a thought-provoking discussion on feminist care ethics and the interdependency of humans and other animals, including the ethical problems inherent in meat-eating, see Taylor (2014).

11 A vegan lifestyle may also not be free of oppression, violence, and death. For instance, culturing crops can destroy the living-environments of wild plants and animals, as well as human beings, and producing crops often includes varied violations on the workers’ rights (for more,

that I can feel the tickle of her whiskers and sometimes smell the stink of her diet on her breath, I cannot help thinking of and feeling for our other companions, the meat-animals. We are all tangled up in this mess together. I let these fragments of a poem express my feelings further (Koistinen, 2021b, pp. 36–37):

as if wandering in the backlight, we do not believe in warnings
about the new, the forthcoming

farm animals galloping in my dreams, I imagine
this is enough

convenience stores filled
with selected absences, cat food packages

For Gruen (2014, p. 135) the messy entanglements of living and dying between humans and their companion species necessitate that “it is important to come to terms with the death and dying, the grief and mourning that come from being vulnerable, embodied, fragile animals”.¹² This is not to say that we simply need to accept, for example, the mass-slaughter of meat-animals, but that the webs of living and dying between human and nonhuman animals are never simple. Gruen (2014, p. 131) suggests that rather than making futile attempts to disentangle ourselves from other animals “we would do better to think about how to be more perceptive and more responsive to the deeply entangled relationships we are in”. Following Judith Butler’s writings on grief and vulnerability, Gruen (2014, p. 137) offers mourning for the dying nonhumans as a solution to make their lives more valued (cf. Haraway, 2016, pp. 38–39). For Butler (2010, e.g., pp. xix, 22), grievability is, in fact, the precondition of a “livable” life – a life that can flourish and prosper.

Faced with the dilemma of caring for one animal while letting others die, I indeed began to actively mourn for the deaths (and the living conditions) of the so-called meat-animals. This eventually led me to adopt a vegan diet. While Sotku and I cannot disentangle ourselves from the lives and deaths of meat-animals – in this sense, we cannot avoid violence – by mourning for the meat-animals,

see Gruen, 2014, pp. 134–135). Moreover, people have different opportunities to choose and maintain a vegan lifestyle due to, for example, food allergies and the availability and prices of vegan products.

12 On grief and meat-eating, see Holmes (2021). On writing and grief, see Hanauer (2021).

cat-writing has inspired me to seek ways to be more responsive and responsible in these entanglements.

VEGAN POETICS AND MONSTROUS INTERRUPTIONS

Returning to poetics, mourning for the meat-animals also inspired me to attempt not to reduce animals to symbols or metaphors in my poetry.¹³ In *Uhanalaiset and silmälläpidettävät* (Koistinen, 2021b, p. 21), there is, for example, a poem commenting on the tradition of using birds as symbols in (Finnish) poetry (see Lummaa, 2017), where a cat is hunting worn-out bird symbols. In this sense, the practice of cat-writing resonates with a “vegan poetics” that strives to make animals visible *as animals* and not only as metaphors in poetic language, asking the reader to contemplate the animals instead of their absence (Holmes, 2021, p. 232). This is not to say that symbols and metaphors cannot function as powerful thinking tools (see also Chapter 3 in this book), “but a vegan poetics does sustain an allegiance to literal animal and human presence, to the singular beings and bodies upon which the human gaze falls” (Holmes, 2021, p. 232).

Sayers (2016, p. 382) develops Derrida’s ideas of carnophallogocentrism and the ethics of eating well and suggests the concept of “meat-writing [...] as a transgressive practice to unsettle carnophallogocentrism in culture”. For Derrida, the practice of eating well means that both the metaphorical (in language) and the actual devouring of others requires responsibility. Thus, meat-writing as a concept and practice could be translated as thinking responsibly with meat-animals, of which Sayers (2016, p. 376) uses the pig as an example. Since eating the other means incorporating the other into one’s body, it also involves breaking the boundary of I/other (Sayers, 2016, p. 377). Meat-writing, as derived from Derrida’s ethics of eating well, therefore highlights the radical interdependencies – the messy entanglements – between humans and “their others”. One could, indeed, argue that cat-writing is also a practice of meat-writing.

What, then, does carnophallogocentrism mean for the reading or writing of actual texts? Sayers (2016, p. 376) paraphrases Derrida as follows:

13 It is not my aim here to assign fixed meanings to my poetry – even if it were, it would be impossible since the reader and the context of reading play a role in constructing the meaning of any text. I simply want to shed light on the circumstances in which the poems were created and the questions that they seek to address.

In response to a question that if all understanding is a kind of eating, what is to become of reading text, his answer is to respect that which cannot be eaten with a similar logic that he uses with regard to what is indeterminate or untranslatable in reading/writing. Derrida says there is always a remainder that cannot be read and that remains alien; this translates to meaning we can never fully comprehend or assimilate the animal. What is left-over must constantly be remade and re-written to keep it alive and present in culture.

Cat-writing as a process could therefore be described as the constant remaking, rewriting, and tracing of that which remains incomprehensible or alien in human–cat relations. This alienness can be represented in written text, for example, through textual “interruptions” (such as repetition or white space) to place emphasis on the monstrous, excessive elements of a text – the collaborative, partial, and often interrupted process of knowledge production through writing (The Monster Network, 2021). This messy knowledge production that is cat-writing could also be examined with Haraway’s (2004, pp. 233–237) metaphor of diffraction, “the production of difference patterns”, that places emphasis on how critical inquiry is always partial and situated.¹⁴

In academic work textual “interruptions call for a slower pace of research, as they invite the reader to pause and think with them” (The Monster Network, 2021, p. 145). This is also true in creative writing. In poetry, interruptions invite the reader to pause and to think and feel with the text. Indeed, interruptions are also material: whereas textual interruptions may affect how the reader thinks and feels, there are also other sorts of interruptions inherent in writing, as our “bodies are endless interruptions, disrupting not only our lives and our writing, but also how we think, where our focus is and may be, and what we are able to do” (The Monster Network, 2021, p. 151). The material, concrete interruptions caused by my feline companion also invite me to pause, think, and feel, and this, in turn, influences the text that I am writing.

Slowness is, in fact, exemplified in the material process of cat-writing: as Sotku crawls onto my lap, blocking the screen, she demands all my attention. Thinking and writing are interrupted, yet also stimulated and shaped, by the presence of my companion animal. These interruptions are also a communication of sorts, outside of human language – a messy, bodily entanglement with the cat and her purring that resonates in my bones – that I attempt to describe in my poetry (Koistinen, 2021b, p. 9):

14 For interruptions and diffractive knowledge production, see Barad (2007).

to define this feeling, this
 otherliness
 paw against the back of my hand, the chance
 of a claw

THE MESSY PEDAGOGY OF CAT-WRITING

In this chapter, I have approached cat-writing as an entanglement of feminist thinking, animal ethics and poetry, and the messiness of living with a cat – and not just any cat, but a specific cat, my beloved Sotku. In the process of writing, Sotku (the Tangle – the Entanglement) has served as my teacher, facilitating a crafting space for me to think, write, and act differently, with a slower pace that is attentive to the disruptions of the nonhuman. In the beginning of this text, I asked: how to write-with a cat about writing-with a cat? This question was connected especially to the vulnerabilities – and even violence – inherent in the process of writing-with a companion animal. I also asked what kinds of poetic and political issues and practices, embodied knowledges, and ethical considerations come to the fore in such writing.

Writing-with Sotku has taught me that there are some sorts of vulnerability and violence that our cat-writing cannot disentangle from, yet there are other kinds that I can seek to avoid in language, in thinking and writing, and in my other daily actions. For me, cat-writing has shaped up to be a deeply material-semiotic process, where I write not only with Sotku, but with the lived histories of humans, cats, and other (companion) species. This includes the materiality of the writing process; where the cat concretely disturbs and takes part in the writing process. In such interruptions, something of the relationships between humans and cats and humans and other species – and the knowledges crafted in such relationships – can be communicated. At the same time, cat-writing has been an effort to craft space for Sotku as well – for her to be better listened to, attended to, and cared for.

The cat-writing behind this text has taken place on at least three levels: 1) Sotku initiating my thought processes in terms of how to live ethically in the messy entanglements between humans and nonhumans, which has not only inspired me to engage with feminist thinking, animal ethics, and poetry but also influenced my daily eating habits; 2) Sotku materially taking part in the writing process of my poetry as well as this very text by climbing on my lap, blocking the laptop, stepping on the keyboard, or otherwise forcing me to pay attention to her and interrupt whatever I might be doing; and 3) me attempting to somehow capture these two aforementioned processes in writing. Others will have to figure out the process of cat-writing for themselves and their companion cats, since I believe that

cat-writing is something that must be rethought and revised in each human–cat companionship.¹⁵

Following Carol J. Adams’s argument that cultural texts about animals (i.e., “*texts of meat*”, emphasis original) transform the bodies of animals into meat, Holmes (2021, p. 238) poetically asks: “If texts can transform flesh in this way, [...] can texts also transform it back, reverse it, unerase individual subjecthoods?”¹⁶ This question leads us to the final points of this chapter, that is, to knowledge production, pedagogy, and action. As stated before, art has the potential to inspire imagination, which is needed for the making of sustainable futures (Foster & Martusewicz, 2019, pp. 6–7). In a sense, my (or, indeed, *our*) cat-writing has been a pedagogical process of opening my imagination to learning with the nonhuman – not only with the cat but also with the so-called meat-animals that she and I remain entangled with.

Based on this experience, I believe that writing-with animals might be used as an imaginative practice in ecojustice education (see also Koistinen et al., 2022). I would not be as bold as to claim that writing-with an animal would necessarily lead to similar kinds of imaginings in each writer, nor would I claim that a vegan lifestyle is the only outcome that cat-writing should inspire (and I, too, sometimes fail to follow the lifestyle). Writing-with a carnivore could, in any case, invite students to pause and face the uncomfortable emotions and knowledges connected to human–animal relations, such as keeping pets and producing meat for food (see also Koistinen & Savinotko, 2022).

It is, in fact, not that far-fetched that writing-with an animal might inspire people to consider their actions towards animals. Pirjo Suvilehto (2021, p. 31) suggests in an essay on animal literary therapy that writing and talking about animals (for instance, writing down memories of childhood pets) can be used to reflect on the treatment of animals. If cat-writing is to be used in teaching humans to relate to animals differently, specific pedagogical tools are nevertheless needed. I leave it with researchers, artists, and teachers, yours truly included, to develop cat-writing – or any other form of more-than-human writing (see Karkulehto et al., 2022) – as such a tool.

15 Much more could also be said about cat-writing as a process of affective becoming(s), which is something that Sotku and I might have to return to later.

16 It should be noted that Adams’s work has been criticised for dichotomous thinking, an anti-sympathetic stance to queer and trans people, and of assuming that a “fully present (essential) referent” can exist (Hall, 2013, pp. 170, 172, 178). That said, according to Lauren Rae Hall (2013, pp. 170–171), “Adams’s framework is one of the earliest attempts to spell out connections between the exploitation of women and nonhuman animals and could be useful in forwarding theoretical models that are more encompassing of marginal sexual identities and practices”.

How, then, to write-with a cat about writing-with a cat? How to represent it? What kinds of knowledges are made available by it? The questions still haunt. Perhaps in this relentless need to ask questions about the ethics of human–animal relations lies the pedagogical potential of cat-writing – or any kind of messy interspecies practice of living, loving, and writing. I look at Sotku (Mess, Tangle, Clutter, Muddle...). I write:

you talk with narrow eyelids
 no taming, just living

 and there is nothing, really nothing
 more to be said

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10. “You really are a thing!”: Queering relations with the more-than-human world

Henrika Ylirisku and Tomi Slotte Dufva

Abstract The chapter discusses human entanglement with digital devices and digital data. Through an artistic research experiment the authors approached crafting with digital devices and digital data as a possibility for making the human entanglement with the more-than-human world accessible to human sensoria. The experiment, drawing from queering as a praxis, challenged the habit of treating digitality as an unproblematized human-governed realm separated from the organic, bodily life.

Keywords more-than-human | entanglement | digital | crafting | queering

INTRODUCTION

The current environmental crises such as climate change, biodiversity loss, and environmental degradation are rapidly changing the planet. These crises are intricately interlinked with complex, multifaceted social, political, cultural, ethical, and philosophical aspects that go beyond the grasp of modern Western epistemologies (e.g., Oppermann & Iovino, 2016). The humanism-bound Western worldviews are based on human exceptionalist¹ assumptions and binary understandings that separate nature from culture and human from the nonhuman (Braidotti, 2013; Martusewicz et al., 2015). As researchers, artists, and teachers in the fields of art and art education, we see that in the era of environmental crises, it is necessary to pay more careful attention to the ways in which our lives are enmeshed with the more-than-human world (Haraway, 1985/2016). Instead of thinking of separate beings and objects, we should turn our attention to the flows, movements, and relations through which human agency emerges (Pyyhtinen, 2016, p. 22). Likewise, Myers (2018) emphasises that mitigating anthropocentric actions

1 Some scholars refer to human exceptionalism interchangeably with the term anthropocentrism (Lupinacci & Happel-Parkins, 2016; Malone, 2016).

through anthropocentric logic is impossible, and she calls for alternative perspectives for creating alternative liveable worlds.

Our earlier individual research in art education has addressed human relations with the more-than-human world with a different emphasis. Henrika's research has focused on rethinking human-nature relations, and particularly on the challenges arising from anthropocentrism (Ylirisku, 2021), whereas Tomi's research has focused on humans' relations with digitality and digital technologies (Slotte Dufva, 2021). In the study presented in this chapter, we bring these overlapping areas together, as nature-cultures are in complex ways linked together with technology and, in particular, with ubiquitous digital technology and digital processes (see also Berry et al., 2015; Hayles, 2001, 2017). As Hayles (2017) proposes, we live in a symbiotic relationship not only with biological beings, but also with digital processes. However, we want to note that we do not consider the human entanglement with digitality as universal, neutral, or equal. On the contrary, digitality is entangled with human and more-than-human relations in problematic and often unjust ways. We propose that bringing together human-nature and human-technology relations can be beneficial for disassembling the illusion of human separateness and autonomy.

Based on an artistic (research) experiment, we discuss how it would be possible to promote ways of noticing and sensing the enmeshment of varying agencies in the more-than-human worlds. With the more-than-human we refer to living beings, things, matter, and materials, including the human, as well as natural phenomena and digital processes. More-than-human relations are often difficult to notice since their scale, temporality, or complexity goes beyond the human-scaled perception (Neimanis, 2017). The phenomena can also be difficult to relate to because they might be "both vulnerable and dangerous, distant and proximal, and ... risky and familiar at the same time" (Oppermann & Iovino, 2016, p. 2). As Davis & Turpin (2015) point out, humans tend to adapt to the changing conditions, and it thus becomes difficult to be aware of the new perceptual and sensorial conditions (p. 12).

We conducted a series of experiments where we approached crafting with digital devices and digital data² (such as open-source databases and data from digital sensors) as a possibility for making the elusive enmeshment of human in the more-than-human world accessible to human sensoria. We were also interested to try out how artistic practice and engagement with art works can disturb the anthropocentric understandings of human relations with the more-than-human

2 As digital data we consider information produced and/or stored by digital devices in digital space as bytes.

world. By making the engagement with digital devices and data unconventional and strange – queering the relations – we sought to find ways of embodying and perceiving more-than-human entanglements beyond binary thinking and human exceptionalism.

In the next section, we introduce the posthumanist theoretical frame of the experiment. Following the frame, we define our methodological approach more closely and bring forth the concept of the speculative middle (Springgay & Truman, 2018) as a path towards thinking about and doing more-than-human research. Then, we describe our artistic experiment. The chapter ends with a discussion about the identified potentials of artistic crafting practices for queering habitual understandings of more-than-human relations – on behalf of both the practitioners and the ones engaging with the crafted artwork.

BEING AS ENTANGLEMENT

Our practice draws from Karen Barad's (2003, 2007) suggestion of ontological entanglement. The concept entanglement refers to the intertwining of all connections existing in an event. What we conceive as reality is not composed of things that exist ontologically independently, but phenomena that emerge only through being in contact with others (Barad, 2007). As Hohti (2016) formulates, this entangled relationality is not to be thought of as a simple intertwining "but connections of entanglement are relations of interdependence and mutual constitution" (p. 5). For example, as human beings we are constantly becoming through various material, social, and discursive relations that are emerging and changing.

The ontological entanglement unfolds matter and being as active doing, as a process where being is produced through intra-relating with others (Barad, 2007). Barad (2003) even proposes pulling together ontology and epistemology as onto-epistemology, as knowing-in-being. We do not gain knowledge of the world through an outsider position, but through an insider position, because we are "part of the world in its open-ended becoming" (Barad, 2003, p. 821).

Through the relational onto-epistemological orientation, we join a wider posthumanist theoretical project³ that seeks to redefine the notion of the human by challenging the Western humanist presumptions of human exceptionalism and

3 The terms posthumanism and new materialisms are in some contexts considered as parallel because they share a similar agenda with only slightly differing emphasis (Bozalek & Zembylas, 2016). However, in some discussions they are considered to be nested. In this text we consider new materialisms as a specific branch within the posthumanist theoretical movement (Ferrando, 2013).

the categorical divides between nature and culture, and human and nonhuman (Braidotti, 2013; Braidotti & Hlavajova, 2018). These theories throw into doubt conceptions of humans as "rational, self-aware, free and self-moving agents" (Coole & Frost, 2010, p. 8). However, it is important to note that even though posthumanism is critical to the humanist universal idea of the human (Man), posthumanist theories should not be considered as a rejection of humanism.⁴ Instead, they focus on the limitations and boundaries of humanist thought and strive to reach beyond critical juxtapositions (Braidotti, 2013; Coole & Frost, 2010). Posthumanist theories promote experimenting with alternative ways of thinking and encourage conceptual creativity (Braidotti, 2013; Snaza et al., 2014), aiming for interdisciplinary and transdisciplinary thinking between different disciplines, sciences, and arts.

Rethinking the notion of the human and unpacking of human exceptionalism turns the attention to the vitality of materiality and enables acknowledging how profoundly entangled human bodies are with nonhumans – animals, plants, materials, machines, and things – in our everyday lives (Coole & Frost, 2010; Snaza et al., 2014). Astrida Neimanis (2017) offers an intriguing example of thinking about the human enmeshed with the more-than-human world by considering human bodies as bodies of water. Over half of human bodies consist of water, and thus through constant processes of intake, transformation, and change our bodies concretely take part in the wider flows of planetary bodies of water. Through the watery relations our bodies are entangled with other bodies, space, time, events, and things in a manner where we "leak and seethe, our borders always vulnerable to rupture and renegotiation" (Neimanis, 2017, p. 4).

Then again, some other dimensions of being entangled can appear problematically abstract – or even invisible. The entanglement of human bodies with technologically produced (human-made) gadgets and things, such as digital devices and digital data, appears as such a dimension. Florian Cramer (2015) and Douglas Rushkoff (2010) suggest that digitality constantly abstracts the analogue, physical world. For instance, events that appear continuous to us (sounds, light, movement) become abstracted rows of ones and zeros through an algorithm. As such, digital data can be considered as a mediated and flattened version of the event. Furthermore, the digital data can then be processed, altered, multiplied, scaled, and analysed in ways and speeds that we as humans cannot comprehend or (easily) experience (Dufva & Dufva, 2019). Data, the code that runs the data, and all the metadata added to the data are all invisible and often encrypted, making

4 We are aware of the risk that questions of power relations and politics will be concealed if post-humanisms are not intersected with feminist, race, decolonial, and other critiques (Braidotti & Hlavajova, 2018; Åsberg, 2018).

it not only hard to grasp but impossible even to reach. Moreover, as Katherine Hayles (2017) proposes, computational processes are entangled with present-day humans in a symbiotic relationship, not unlike the symbiotic relationship humans share with other biological beings. Moreover, Hayles notes that this relationship is complex, both symbionts bringing their own characteristic advantages and limitations into the relationship.

We as art educators are particularly interested in the experiential dimensions of being entangled: how can the enmeshment of human and nonhuman be grasped? How to become more sensitive to the more-than-human relations and learn new ways of paying attention to how we both affect the materialities of the world and are affected by them? We are aware that the habits of dividing the exceptional human from the rest of the world and prioritising social relations between humans are deeply embedded in our beliefs, values, and language (Martusewicz et al., 2015; Snaza et al., 2014). Assumptions of the separate subjectivity and exceptional agency of the human can prime the orientation towards nonhuman creatures and things and prevent us from acknowledging relations that nonetheless are always already there (Rautio, 2013). However, focusing on the embodied sensations, affects, and sensory might allow us to find ways of “paying fresh attention to the way in which our bodies are moved, disconcerted, affected and enlivened” (Taylor & Blaise, 2014, p. 385) by the entanglements in the more-than-human worlds.

But how to acknowledge and investigate the lived human experience in a manner that allows us to reach beyond the presumption of the autonomous and separate human subject? We are inspired by Neimanis (2017), who proposes cultivating phenomenology in a posthuman frame. She suggests reconfiguring the phenomenological orientation to lived experience (Merleau-Ponty, 2021) in a way that acknowledges that bodies are more-than-human: they allow “the possibility of more-than-human contact with the world” (Neimanis, 2017, p. 45). Neimanis (2017) further describes posthuman phenomenology as an attunement, listening, and observation of the embodiment, that is attentive to relationalities and carefully attuned to difference (pp. 24–25).

A central challenge with tracing and describing experiences of being entangled with the more-than-human world is the fact that many of the entangled phenomena can take place below or beyond the human-scaled perception (Neimanis, 2017, p. 25). They might be too latent, too vast, too small, or temporally and spatially too distant. For example, the entanglement of human bodies with the circulation of environmental toxins might be messy and contingent and thus challenging to map without access to scientific technology – and might still never reveal themselves to human understanding. As Neimanis (2017) sums up, the material embodied entanglements are at the same time “both intensely local and wildly global” (p. 39).

As another example, digital processes tie us into a mesh of actions that happen both here and abstractly far away. For instance, a simple googling for the nearest cafeteria ties us into our mobile screens and into satellites orbiting the Earth to get the GPS-location and to an undisclosed server in some server hall somewhere. Moreover, as Rushkoff notes (2013), as digital technologies have become faster and ubiquitous, the present moment has become overwhelming. Everything and everyone are digitally here and now, all the time, in the form of, for example, social media that gathers everyone from spouses and colleagues to cousins and acquaintances into a flat algorithmically managed experience.

CRAFTING AS A SPECULATIVE MIDDLE

The issues tackled in this chapter are a part of our broader research project, which includes both artistic and pedagogical experiments. Even though this chapter is discussing only our first artistic experiments, we see it as essential to introduce our methodological approach since the experiment functions as a site and source of research thinking. By opening our methodological approach, we hope the reader can gain a better understanding of the motivations and aims of the experiment.

Our methodological thinking is inspired by more-than-human and post-qualitative inquiry, fuelled by the "ontological turn" (St. Pierre, 2014) ongoing in several research fields (Jackson & Mazzei, 2012; Lather, 2013; MacLure, 2013; Springgay & Truman, 2018; St. Pierre, 2014; Ulmer, 2017). Post-qualitative inquiry criticizes the humanism-bound presumptions of conventional qualitative research, such as separating "the knowing subject from the object of knowledge" (Hohti, 2016, p. 40) and the centrality of the human subject aspiring to know the world and create causal and clear meanings (Gerrard et al., 2017; MacLure, 2013). Furthermore, the posthumanist onto-epistemologies motivate scholars to rethink assumptions of research processes as linear and predictable, and methods as procedural (St. Pierre et al., 2016).

When the presumptive centring of the human subject is rejected, the research unfolds as provocative and active interrogation done *with* the world rather than as a representation or a reflection of a phenomena isolated from their temporal-spatial-material contexts (Jackson & Mazzei, 2012; Springgay & Truman, 2018). Post-qualitative research is suggested to produce situated, material, relational, processual, and affirmative knowledge, that is always partial (Ulmer, 2017, p. 836). The orientation in research is turned from beings, things, and structures towards relations, doings, and events (Ulmer, 2017, p. 838). Research thus unfolds as active world-making (St. Pierre et al., 2016; Ulmer, 2017).

Particularly we draw from the idea of research as a *speculative middle* (Springgay & Truman, 2018). To Springgay and Truman the speculative middle is a sort of “what if” that activates new thought. In the speculative middle, thinking-making-doing emerges from the process itself and cannot be known in advance. With this orientation, methods cannot be considered practices for gathering data to be reflected on afterwards but become techniques of being inside the research event and becoming entangled in relations (Springgay & Truman, 2018).

In this context, we think of artistic crafting as a propositional catalyst that enables novel encounters with different materialities. Crafting further unfolds as a form of thinking-making-doing that activates new relations and thus adds movement and connectivity to the speculative middle (see Springgay & Truman, 2018). We see that crafting goes beyond traditional organic materials (such as clay, wood, or metal), extending to digital materials such as electronic components (resistors, microchips, transistors, etc.) and even to digital code and data. Moreover, we consider crafting as an activity where the human does not hold the sole agency. Instead, we think of the nonhuman materialities such as the digital processes (code and data) and hardware (such as electronics, sensors, microcontrollers) as active participants that can resist human attempts and present potentialities for new subjectivities and relations. Eventually, crafting can be considered a practice for altering our imagination – enough so that grasping more-than-human relations and shared agencies could become possible.

As such, we acknowledge that as academic staff in a Western university and White, Nordic practitioners, we are in many ways in a privileged position that influences how we think and what kind of relations are accessible to us. In our practice we strive for accountability and responsibility but acknowledge that our thinking prioritises Eurocentric academic theories.

ARTISTIC EXPERIMENT

We set out by pondering if it would be possible to alter some dimensions of the entanglement with the more-than-human through artistic practice to a form that would be better accessible to multisensory bodily experience. We were encouraged by Neimanis (2017), who suggests that art can work in this way by activating and amplifying undertows in experiencing the more-than-human entanglement – particularly dimensions of experience that might be otherwise too obvious, mundane, and taken for granted to attend to (p. 55).

We speculated what would happen if we started crafting with the digital processes and mixed up digital data gathered from both human and more-than-human sources. What kind of experience of entangled relationality would that

create and how would that change the ways digital data can be experienced? As discussed in the previous section, we find the enmeshment of the human body with digital technologies as a dimension of more-than-human entanglement that is ubiquitous in our everyday lives, but still appears as an area that gets treated as an unproblematized human-governed realm separated from the organic, bodily life. Furthermore, this dimension of entanglement might remain unacknowledged in research and/or artistic practice focusing on human relations with nature (e.g., London, 2003; Louv, 2005).

We chose to utilize digital devices in our experiment and to draw from the idea of *queering as a praxis* (Hunt & Holmes, 2015). Queering as a verb is understood as "a deconstructive practice focused on challenging normative knowledges, identities, behaviors, and spaces thereby unsettling power relations and taken-for-granted assumptions" (Hunt & Holmes, 2015, p. 156). In this experiment we concentrated less on topics relating to troubling identities and power relations and rather focused on the potentiality of queering to offer ways of experiencing more-than-human entanglements beyond binary thinking and human exceptionalism (see Ylirisku, 2021). Queering as a praxis, in this case, offered us an opportunity to let things "grow, expand, and pick up speed" (Springgay & Truman, 2018, p. 87) so that new, generative thought could be activated for further research.

We are aware and inspired by artists who work on similar themes and include technological agencies to the more-than-human entanglement in their practice. For instance, Sougwen Chung collaboratively works with robots (2018), artificial intelligence (2019), and lately plants (2020). Her work, inspired by Donna Haraway (see, e.g., Haraway, 2016), seeks to explore alternative ways of becoming with robots. Another example is Jenna Sutela's work that seeks to map the social and material entanglements with technology and living matter. Her work *Gut-Machine Poetry* (2017) imagines a biological computer, where bacteria are given the computational agency, often vacated by humans. Last, we want to mention Holly Herndon and Mat Dryhurst's work *Spawn*, an art project where the artists taught Herndon voice to a machine learning algorithm and treated the algorithm as their baby (Beta, 2019). In Herndon's 2019 album *Proto*, listeners can hear the development of *Spawn* as it first gets a godmother and gradually learns more voices (Claymore, 2019).

Our crafting took a much more low-tech approach compared to the above-mentioned art projects, as we wanted our experiment to be easily accessible, both economically and technically. We started by imagining different ways of using and misusing (queering) human and more-than-human digital data and digital devices – and their intended usefulness to humans. We went from logging GPS-coordinates of rocks to thinking about USB-thumb drives for squirrels.

However, we did not want only to carnivalise the digital processes and their enmeshment with more-than-human lives but to find alternative ways to comprehend them. This led us to thinking about different ways to bodily experience data and different ways we ourselves gather digital data. Both of us have activity trackers, and we started exploring how to use human heart rate data in our experiment.

At first, we gathered the heart rate data from our activity trackers and pondered how to make this heart rate experienceable to others. Tiny vibration motors and solenoids appeared as the most useful options. We connected a vibration motor to a programmable microcontroller (Arduino compatible Adafruit Circuit Express), and through googling we found a formula for translating heart rate data into motor vibrations. However, the formula made the vibration feel disturbingly artificial considering that we were working with human heart rate data. This led to new tests with the code to change the motor on and off times to emulate heart rate in a pulse-like manner.

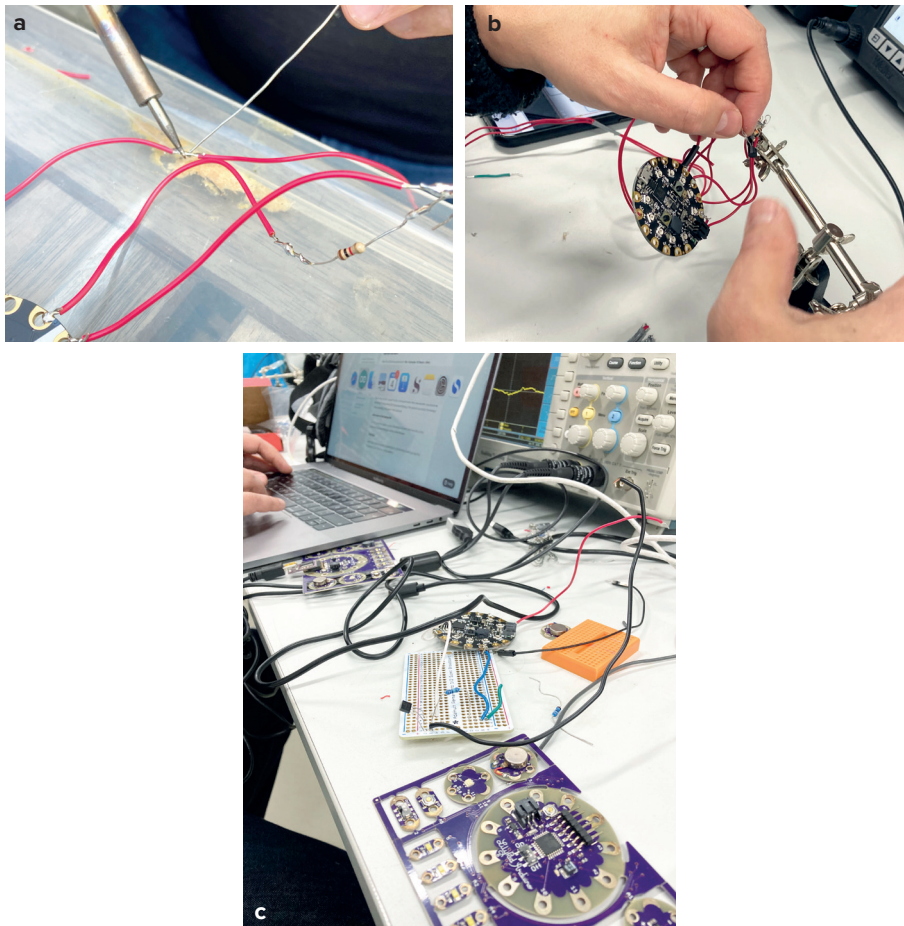
Thereafter we searched for data sources that could be added to the heart rate code. Our aim was to find any kind of data (no matter how weird) that could be translated to a form that would resemble a beating pulse. We found lots of different open access data, from weather and biological to cultural and political sources. We ended up with data that showed the COVID-19 vaccine statistics in different countries, hit-points of different Pokémon characters, and nuclear fallout statistics from the Chernobyl disaster from 1986 in different countries. Later, we got CO₂-transfer data gathered from a certain pine and a birch tree from the University of Helsinki's Hyttiälä forestry field station. The mixture of data unfolded as a whole where different human- and more-than-human pulses vibrated in random order. Some of the data sequences were short and some were very long. Their temporal scales also differed. For instance, we had to accelerate some data sequences 10,000 times so that we could sense and comprehend them through the physical vibration of the motor. Moreover, we played with the length, tempo, and speed of the data in order to transform them from mechanical rhythm to resemble organic, living (heart rate-like) pulsing that appeared more familiar and easier to relate to.

We also thought a lot about how the different pulses through the vibration motor feel when the motor is placed onto the skin. The placing, the movement, and the strength of the motor had to be considered and experimented with since in some code tests the pulse felt convenient in the hands but when placed onto the belly skin it felt too irritating to touch after a few minutes.

The materiality of digital devices and crafting with data very concretely led our crafting throughout the whole process. Due to the COVID-19 pandemic, we mainly built the pulse devices at our homes without proper tools. The size of our hands and fingers felt big compared to the small size of the electronic parts (connectors, transistors, resistors, wires), which brought inaccuracy into the

making of the devices. The prototype devices were fragile and easy to break, and we had to give up the original idea that one could carry the pulsing device along while doing other daily activities.

Making the device also forced us to rethink and reposition the use of technological devices more broadly. We realised that often the crafting was driven by our habit to make the device work in a way that would allow us to constantly know what kind of data it was playing, and in a sense the device to be in our "control". We, however, wanted to make the device work in more uncontrollable and unpredictable ways. We understood that designing such a device was paradoxically functional in its own context; however, we chose to highlight the complex entanglements we have with the digital (that is not always functional) and strove to find new ways to think with digital technology.



Figures 10.1a, 10.1b, 10.1c: Images of the crafting of the pulsing device.
Photos: Henrika Ylirisku.

After crafting and testing with data and the pulse device ourselves, we wanted to invite others to explore it. We had prepared a place for the voluntary testers to sit down with the pulse device and video filmed each encounter with the device.⁵ The testers, mainly our colleagues and students, were asked to put the pulse device in their hands, and we encouraged them to spend a few minutes with the device and to explore it haptically. We strove not to tell them too much about the device in advance so that we would not prime their encounter with information about the functioning or meaning of the device. After the testers had spent a few minutes with the device, we asked them to share their feelings and thoughts with us. Only after this did we tell them more details about the device and the digital data it pulsed.

Due to the pandemic, we did not have many opportunities to meet with other people and offer the device for testing. However, we managed to record four testers' responses. In general, they identified the vibrating motor with a heartbeat, which in some form indicates that the device worked as planned.

We will open the thought activated by the experiments in more detail in the next discussion.

DISCUSSION

The aim of our artistic experiment was to explore more-than-human relationality in a form that would be accessible to embodied experience. We experimented by crafting with a digital device as a propositional catalyst and aimed at queering the habitual ways of comprehending the human (exceptionalist) relations with the more-than-human world.

In another theoretical context, the artistic experiment could have been framed as a version of a design research, where through iterating and experimenting we come up with something new. The difference, however, was that here our goal was not to end up with a better design or artefact but to trace what starts to unfold from the onto-epistemological reorientation of the habitual human exceptionalist thinking modes through crafting. Next, we follow two threads that have started to unfold from the experiment. The first thread relates with insights that relate with the actual crafting of the device, and the other relates with the experiences emerging from being-with the device.

5 The testers were anonymised, and the video materials produced were managed securely. Each tester was informed of the aims of the experiment and documentation of the event, and they were aware of their right to withdraw from the collaboration and erase the video of their encounter with the device.

Crafting with the digital

When we crafted the digital device, we soon clashed with our habit of expecting functionality to be at the core of the making. Understood more conventionally through (humanist) phenomenology, making can be comprehended as an active intention of the subject towards something; we humans make our world and understand it through making (Kojonkoski-Rännäli, 1998; Merleau-Ponty, 2012). When engaging with the crafting, we soon realised that it was challenging to find ways to work with the digital materials and to produce and gather digital data in a manner that would acknowledge more-than-human agencies and decentre our ambitions.

Indeed, digital technologies, and technologies in general, *are* usually intentional and functional (for human use); they are built for a purpose. Even though one can use technologies in art and/or artistic ways, like code can be used in creative coding (Slotte Dufva, 2021), technologies are expected to hold a level of functionality. For instance, code requires a specific structure to execute properly, and digital data needs to be read in a specific way. Furthermore, the hardware components need to be assembled in definite ways for the device to function. All in all, the structuring of digital technologies is thus embedded with functionality driven by human(centric) intentions.

We also came up with temporal and rhythmic differences that made the bringing together of human- and more-than-human-sourced data very challenging. For instance, the data sequence from Chernobyl radiation is so different in measure than human heart rate data that just translating them to pulses goes against the human comprehension of time or what we could imagine as a pulse with a temporal rhythm. A direct translation of the Chernobyl data into pulses would have resulted in a pulse happening once in every hour or so, and to run the whole dataset would have taken days. For a digital device, this would not have been a problem, but for our human-scaled perception, we needed to radically accelerate the tempo to make the data perceivable.

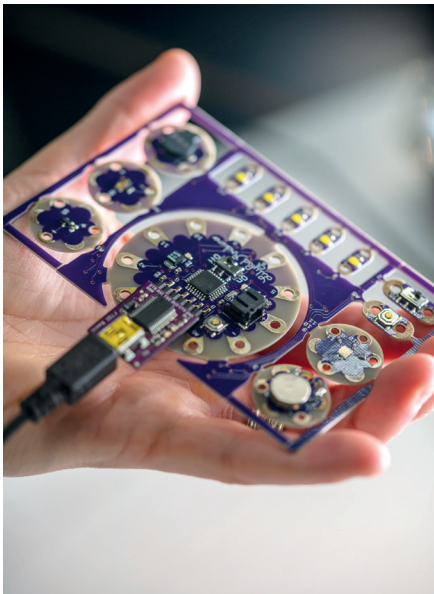
Furthermore, we realised we were inhabiting a tension where our intentions toward a goal-driven result and the initiatives emerging from the process were in conflict. We pursued a working prototype of the pulsing device, and broken wires and code errors emerging from the crafting did not give us the feeling of success or an opening of a new possibility but a feeling of failure. We realised the device itself had a sort of agency. At first, it did not work at all, and then it did not work as intended. The unpredictable results also affected our making process and the end result. In one instance, for example, the device started running all the different pulses simultaneously, which then led us to a different design process altogether: it felt like the device had capabilities that we as humans were unable to grasp or even imagine. Moreover, the materiality of the device from the abstract black microchip to the fragile and very small components made us handle the device with care and

led to a sense of unpredictability. The device became an alien-like thing functioning in a way that we somehow comprehended and to some extent did not.

The need to find different kinds of digital data and advice for using them with the device made us search for ways forward through googling. The googling itself became a practice that was inherently part of the crafting with the digital. To get the vibrator motor to vibrate, we needed to do an electronic circuit involving a microcontroller, the vibrator motor, and transistor and resistors. Even if one of us had done this circuit many times, we googled for the schematics to remember how to do it. Moreover, to get the data to pulse through the motor, we had to google tips for the maths and the code. It is interesting to note that googling seemed to offer knowledge and hints that were to a certain extent somehow plausible but could unveil as chaotic and reveal unexpected results through the incorrect information.

The engagement with the strange device

The device we offered to others to feel ended up being the third prototype. We hid the electronics inside a brown furry fabric cover so that the device would not immediately feel only like digital hardware. The fabric layer affected the whole appearance of the device, making it more approachable and identifiable. It brought some twisted cuteness and more-than-human animal-like characteristics to the



Figures 10.2a, 10.2b: The pulsing device and its furry fabric cover.

Photos: Tomi Slotte Dufva.

device. We noticed that particularly the plushness and the brown colour of the fabric cover had similar effects to both ours and the testers' responses to the device that, for instance, Turkle (2011) has noted: it is harder for humans to think, detect, and comprehend the technological underpinnings of a device if it is presented as relatable and creature-like.

The voluntary testers we invited to encounter the pulsing device all echoed the wish to find ways to relate to and comprehend the pulsing device. They started by sensing the device in their hands, as if they would have wanted to evaluate if the device was dangerous. Then they all placed the device against some part of their head, be it a forehead, ear, or chin. This seemed like an attempt to listen to the device; what is it and what does it do? From there the device was then taken back between their hands and placed against different parts of the body or felt with their fingers, as a sort of examination of the workings of the device. Some peeked inside the felt cover to see the inner workings.

When we, while crafting, tested how the pulse feels on different parts of the body, we likewise prioritised our hands, but also placed the device next to our belly and sides. Maybe because the testers were not familiar with the structure and working of the device, they did not slip the device below their shirts, next to the bare skin, but used their hands and areas of their heads that are not covered by clothes.



Figures 10.3a, 10.3b: The device pulsing against the human body. Photos: Tomi Slotte Dufva.

When the testers articulated their experience with the device, they all told us that they tried hard to understand what the device was and how it might work. Some even tried to see if it was possible to interact with the device and admitted getting a bit frustrated as it was not clear how to interact with it – no buttons to be pushed or recognisable controls to be used.

One of the data sets the device runs randomly has a much more aggressive and faster rhythm, which all the testers noted, and even got a bit scared or confused, moving the device a bit further away from their bodies. Another data set is much more subtle and muted, which at least one of the testers interpreted as a signal that the device is not feeling well or might be dying. In short, when the testers encountered the unfamiliar device that functioned unpredictably (the rhythm and intensity of the pulse did not stay regular), they responded with caution. Some of them identified with the device and even formed a compassionate and caring bond with it. Some talked to it: “Mmh... you really are... a thing!”

Both our own and the testers’ encounters with the pulsing device drew our attention to the inconsistencies unfolding from our attempts to comprehend the functionality of the device with cognitive logic. Our minds worked hard to explain the situation, while the bodily experiences of the pulse seemed to evoke a sense of weird togetherness. One participant aptly said that there was uncanniness in the encounter – something familiar but also otherness.

It appears that the embodied engagement with the pulsing device called for curiosity or willingness to become affected. This orientation seemed to require a feeling of sufficient safety. The device itself mostly just is; it does not make much sound or visible movement. The pulsing can be felt only after touching the device, which is pleasant to touch and does not sting or hurt in any other way. The device calls for an attentive and intimate being-with, and maybe it is exactly the gentle but weird intimacy of the encounter that opens up possibilities for residing in the in-between space of defining, knowing, and not knowing the other. In this way, the device brings together experiences of familiarity/relatedness and otherness/strangeness. Then again, the pulsing digital device does not need the human (as it does not care if someone feels it or not, nor does it know anything about it), but we can comprehend the digital entanglement differently through it.

Questions relating to queering and next steps

The digital data and technologies we used in the artistic experiments are the same as those primarily used for monitoring and optimising human health (through steps taken, minutes trained, and so on), for predicting ecological phenomena, or for analysing large data sets. As such, digital technology functions as an instrument,

as something we can use to gain and gather information. Due to the instrumental nature of digital technology, it quickly becomes opaque and taken for granted. An important question that emerged from our experiment is if there is a need to challenge and queer the instrumentality, controllability, and opaqueness of digital technology. Queering this taken-for-granted orientation towards digital technologies can facilitate spaces for learning to become affected (Taylor & Blaise, 2014) by the more-than-human agencies. Stripping the digital device out of its apparent utility makes a space for what Barad calls "open-ended becoming" (2003, p. 821). The human engagement with the pulsing device makes the material and what could be called social relations (between human and machine) of the digital entanglements accessible.

As we mentioned earlier in the text, this experiment is a work in progress and will continue with further experiments. So far, the attempts to bring human and more-than-human-sourced digital data into a perceivable form has made us become aware of the need to question the always so central position of the human in the crafting practices themselves. In our case, the instrumentality of digital technologies, as well as the tools used in crafting (code, electronic tools, etc.), were all built around human-centred practical functionality since they were originally developed for the purposes of monitoring and optimising human health.

In all, queering unfolded as a generative technique for disturbing human exceptionalist assumptions relating to both the topic at hand (more-than-human entanglement) and the ways of working with it (crafting with the digital). We see that by making things (relations) weird and playing against the grain with their habitual roles, it becomes possible to reach beyond conventional understandings and experience of relations. Furthermore, queering as a technique can highlight how different materials propose certain directions for action and obscure others. For instance, some of the electronics we applied – commonly used in everyday electronics – are so small that they are clearly designed for a robotic assembly. In this context, queering their use can appear as an empowering way to oppose instrumental effectiveness by soldering the components by hand.

The experiment allowed us to develop one possible way of haptically experiencing digital data from both human and more-than-human sources and thus to grasp the messy more-than-human entanglements. In the artistic experiment, the human heart rate, gas exchange of certain trees, and random statistics together form a continuum of pulses where their differences stand out, but the knowledge of which pulse relates with which data remains hidden. Probably feeling for a moment a weird, pulsing device does not change much the human acknowledgement of more-than-human entanglement, but might offer an invitation to pay more careful attention to the porousness and leakiness of categories we might

habitually consider separate. Likewise, thinking through the idea of ontological entanglement can open up access to realising previously unattended more-than-human relations and the interplay of agencies in them. These moves can further create possibilities for imagining relations differently and to attend to their ethical and political implications (see also Ylirisku, 2021).

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11. All things speak! An eco-animism of co-crafting with other-than-humans in outdoor life (*friluftsliv*)

Per Ingvær Haukeland

Abstract In this chapter I explore the things that speak in the process of co-crafting and what they say. I will inquire into how humans and other-than-humans co-craft and what role these other-than-humans play in the co-crafting process. I relate co-crafting to fields of ecophilosophy and outdoor life (*friluftsliv*). The chapter presents an eco-animism that opens a deeper connection to the lives of those other-than-humans we co-craft with.

Keywords co-crafting | ecophilosophy | eco-animism | other-than-humans | ecological Self | outdoor life (*friluftsliv*)

It doesn't have to be
the blue iris, it could be
weeds in a vacant lot, or a few
small stones; just
pay attention, then patch

a few words together and don't try
to make them elaborate, this isn't
a contest but the doorway

into thanks, and a silence in which
another voice may speak.

Mary Oliver, from *Thirst* (2007, p. 37)

INTRODUCTION

Mary Oliver (1935–2019) patches words together in a way that opens a poetic doorway into a space of thankfulness and silence where unheard voices are welcome to speak. The blue iris, the weeds, and the few small stones participate in this patchwork. Many of us humans are deaf to what they say, but poets and artists help us open our ears to hear more than what we usually hear. This chapter attempts to blow life back into those things that we craft with.

The authors of this book have boldly opened their minds and arms to embrace crafting relationships with other-than-humans, and they take what they say seriously. These other-than-humans play a crucial role in the crafting process, but they often fall in the shadow of the human crafter. How should I understand these other-than-humans and how should I interpret what they say? If the things I craft with have a voice, how can I be sure I know what they say, or if I only hear an echo of my own thoughts? If all things speak, are they also alive somehow? How would this view alter the way I see the things I craft with? If these things play a role in the process of crafting, should I not see them as co-crafters in a “co-crafting” process?

I will explore these questions from within the fields of ecophilosophy and outdoor life, which are the fields I am currently teaching and conducting research in at the University of South-Eastern Norway. I seek to break the dualism between humans and nature. In my pursuit to better understand the nature of things and things of nature, I propose an eco-animism. The overall aim of this chapter is to explore what it means to include those other-than-humans as co-crafters and to show how co-crafting is contributing to a deep ecology of life that connects humans with other-than-humans.

CO-CRAFTING THINGS BACK TO LIFE

The word “craft” has the same root as the Norwegian and German “kraft”, meaning “strength, skill”, but it is translated into Norwegian as “håndverk” (handwork/handcraft). In modernity, handwork is seen as unmodern, backwards, and primitive. The practical knowledge (techne, hand) of a craftsperson is subjugated to the theoretical knowledge (episteme, head) of an academic, excluding all together the practical wisdom (phronesis, heart). Vocational education is subordinate to academic education, manual labour to intellectual labour, which reproduces the separation between body and mind. Co-crafting, as I see it, integrates the hand and the head with the heart!

In the last few decades, interest in crafting has been renewed, and not only within the field of arts and crafts (Fredriksen, 2020). The sociologist Richard Sennet (2009) defines “craftmanship” as “the basic human impulse to do a job well for its own sake”, which he also finds applicable to IT-programmers. But is this basic impulse to craft only a human impulse? What about a termite’s mound, a bird’s nest, a beaver’s dam, or a bee’s hive? Defining craft as an only human impulse seems to be too human-centred.

I find it necessary to distinguish between the concepts of forming, making, creating, and crafting. Life is always forming, deforming, reforming, and transforming things. Things are forms *of* life or forms *in* life. The word “making” is more general than “crafting”; we would not say we craft children. What is crafted is more carefully created by skill and intent, while things that are made can be formed naturally, such as a river gorge. Whether a bird makes or crafts a nest can be debated, but in the line of argumentation here, I see it as an act of crafting, where the bird’s individual choices are acknowledged (Aure & Fredriksen, 2022). There are differences in how a bird crafts a nest and how a human being crafts a house, but there are also some similarities. A bird and a human have several innate skills, but many skills are also learned. Human crafters can learn their craft in what Wenger & Lave (1991) describe as “a community of practice”, which can be extended also to the more-than-human world and to other-than-humans, like the bird. There is also an element of creativity in how humans co-craft with other-than-humans. Ingold points out that “the creativity of making lies in the practice itself, in an improvisatory movement that works things out as it goes along” (2011, p. 178). He continues,

Artists – as also – artisans [craftmakers] are itinerant wayfarers. They make their way through the taskscape as do walkers through the landscape, bringing forth their work as they press on with their own lives. It is in this very forward movement that the creativity of the work is to be found. To read creativity “forwards” entails a focus not on abduction but on improvisation. (Ingold, 2011, p. 216)

Ingold defines craft as a practitioner’s “knowledge *of* things” and what the practitioner “does *to* them”, which is grounded in “intensive, respectful, and intimate relations *with* tools and materials” (2011, p. 239). If anthropology is a craft, he says, it is “being *with*” people, in contrast to ethnography that he sees as a “description *of*” people (Ingold, 2011 p. 241). He presents two ways of craftmaking: hylomorphic and haptic. The hylomorphic way is when one imposes a form onto matter in a step-by-step planned process. The haptic way is when the crafting unfolds as a corporeal process of improvisation, correspondence, and material flow in between

the human and other-than-human. “To improvise”, says Ingold, “is to follow the ways of the world, as they open up, rather than to recover a chain of connections, from an end point to a starting point, on a route already travelled” (2011, p. 216). Ingold gives often very good examples, many from life outdoors. Just like he speaks here of crafters wayfaring in a “taskscape”, which is when the tasks determine what opens or closes in the process.

When I study the co-crafting process with other-than-humans, the role that those others play may vary; they are sometimes active and other times passive. It is not that something alive, like a cat, is pro-active, while that which is seen as inanimate, such as a stone or a river, is re-active. When we paddle a river, for example, we co-craft a line of movement with the river. The forward movement may lead to an eddy in the river, and suddenly the river plays a lead role in how the movement continues to unfold. The river is not simply an arena to paddle in, but an actor that participates in co-crafting a movement. Latour (2017) suggests that anything that plays a role can be called an “actor” (or *actant*). When actors act together with other actors in the context of a play, they do so in a network of relations, which Latour refers to as an “actor-network theory”.

But how can I know that what the river tells me is not just in my own head? If I paddle the river and hear a certain rushing sound, if I do not interpret it correctly, it can be fatal – I can fall into a dangerous rapid or waterfall. Luckily, I can learn the language of the river, just as I can learn the language of dogs. The skill I have already gained is an open attunement, what can be called a “hand-born” knowledge, which is a knowledge acquired through practical, hands-on experience. If I am to participate in co-crafting things back to life, I believe I need to first acknowledge these others as things with their own lives, selves, and personalities.

CO-CRAFTING WAYS IN OUTDOOR LIFE

The word “outdoor” simply states that something is “out-of-doors”, but most people associate it with a whole range of activities that take place in and with nature, such as walking, climbing, kayaking, canoeing, hiking, strolling, sailing, cycling, fishing, hunting, foraging, and so on. I prefer the phrase “outdoor life”, since, in my opinion, it conveys different aspects of life outside, including different ways of engaging in outdoor life and the life we encounter while being in the outdoors. In Norwegian, the word “outdoor life” is translated as *friluftsliv* (literally, *free-air-life*), which invites associations to a sense of joy and freedom in the open air (Faarlund, 2015; Gurholt & Haukeland, 2019; Tordsson, 2008).

Friluftsliv is studied as a threefold phenomenon: sociocultural, existential, and pedagogical (Haukeland, 2018). First, as a sociocultural phenomenon it has

changed meaning from a traditional culture, in which outdoor life was associated with necessity, to a modern and a postmodern culture, associated with leisure. Modern culture's *friluftsliv*, understood from a romantic point of view, promotes a purposeless wandering as simply a form of appreciating nature's intrinsic value (Faarlund, 2015), while in a *friluftsliv*, that builds on traditional cultural ways of life, the appreciation is found in the use of nature to meet the necessities of life. The contrast between nature's use-value and intrinsic value can be in conflict, also in *friluftsliv*, but to acknowledge nature's intrinsic value does not exclude its use-value. Seeing a natural material as an instrument for my purpose does not exclude an acknowledgement that it has also a life of its own. The relevance of this issue has, indeed, been increasing with the affluence of Norwegian society, where the outdoor industry, related to recreation, equipment, and travel, is one of the largest growing industries in society (Haukeland, 2019). *Friluftsliv* is for many a way of caring for nature, but research has shown that it, paradoxically, may undermine nature and the climate through all the travel and equipment used (Haukeland, 2019). This trend is a part of what the sociologist Thorstein Veblen described in the late 1800s as "conspicuous consumption" and "pecuniary culture" of leisure life. Different kinds of activities in *friluftsliv* relate differently to ecological sustainability (Haukeland, 2018). There is a big difference in one's climate footprint, for example, between a daily hike in nearby nature and travelling to the Alps to ski for a weekend.

Second, *friluftsliv* can be studied as an existential phenomenon (Haukeland, 2019). The word appeared first in a poem from 1859 ("Paa vidderne") by Henrik Ibsen, who placed the phenomenon in a traditional culture, as we follow a hunter from the village life in the "lowlands" to the "highlands" in the mountains where he finds "friluftsliv for my thoughts". This contrast can be interpreted with what Kierkegaard (1992) called an "either/or" situation, which he saw between the necessities and possibilities in life. There is no leisure in traditional society, but there are certainly time and space in which people are more free to be in the open air, as many can find in fishing, hunting, foraging, or being with the animals they herd. To be a self is something I become through the choices I make. It includes a risk of failure. Also, I may think I choose as an individual, but in reality I simply do what others do. Kierkegaard said that one needs to throw oneself into that unknown. One should surrender and commit unconditionally to that power that is determinate for oneself, which he sees as "God". To give up oneself, Kierkegaard says, is to find oneself. Similarly, the hunter in Ibsen's poem sought to give up that life of necessity to a life of possibility close to "God". The point made by Kierkegaard, though, is that I live in either one or the other realm, but I need both. I cannot remain in the highlands. I also need the lowlands.

Third, *friluftsliv* is studied as a pedagogical phenomenon in school and higher education (Leirhaug et al., 2020; Haukeland, 2020). In Norwegian primary and secondary schools, it is mandatory for students participating in physical education classes to learn skills to navigate in the outdoors, sleep under the open sky, and cook outside, and they may also learn to climb, paddle, make camp, solve problems, and care for each other. At the University of South-Eastern Norway (USN), we have a bachelor and master's in *friluftsliv*, where we teach students to become what we call “friluftslivsveileder” (literally, *free-air-life-way-leader*). The students are trained to lead others along their ways of life in the free air. A “wayleader” needs the skills both to wayfare in nature safely and to care for both nature and people.

In the bachelor programme in outdoor life (*friluftsliv*) at USN, we have a course, *Handcraft and creative joy in nature*, that focuses on *friluftsliv*-based handcraft, which are things students use in practising *friluftsliv*, such as knives, axes, rucksacks, clothing, skis, sleeping bags, etc. In addition, we focus on *handcraft-based friluftsliv*, which is related to outdoor activities, such as the making of snow shoes, snow caves, bow drills, flutes, and other things we can use in our outdoor life activities (see Fig. 11.1).



Figure 11.1: Things crafted at the University of South-Eastern Norway to be used in life outdoors. Photo: P. I. Haukeland.

An example of a co-crafting process from the course is when students carve a spoon (Haukeland & Sæterhaug, 2019). They simply craft one from a piece of green birch wood. When they carve, they use a knife. They draw the form using a pencil, but the form will change, since many unexpected things can happen in the process. It is a matter of engaging in a conversation of practice between all the things involved in the carving, including oneself as a crafter, the knife, and the wood. They may hold the one end of the wood towards their chest and carve using their knife towards themselves. As they carve the material, it responds as it alters its form, which is a message that they need to attend to and respond to, so that the next cut they make is slightly different. If the knife carves hard into the wood and makes a splinter, they need to turn the wood and carve carefully in the opposite direction; if not, they may destroy the wood and its potential to become a spoon. In other words, there is a reciprocity and participation between the things involved in the crafting of a spoon (see Fig. 11.2).



Figure 11.2: Crafting a spoon. Photo: P. I. Haukeland.

Professor Marte Gulliksen at USN has provided important insights to the carving process from a multi-disciplinary perspective. She calls such crafting with wood a “creative meeting”, a dialogue between the maker and the material. Based on her own experiences carving, she writes, “The wood and I have to compromise... The wood needs a long period of intense persuasion to accept my ideas, and my

ideas need time to adjust to the wood” (Gulliksen, 2020, p. 2). And many of the chapters in this book have opened new doors to see the human reciprocity with other-than-humans in nature.

In our course on “handcraft and *friluftsliv*”, we found in a research project that, for students, crafting connects them not only to the material but also to nature (Haukeland & Sæterhaug, 2019). It enriches and extends students’ nature experiences through using the things they make. Students say that using the spoon they have made continues the relationship with the material that started when making it. In addition, we found that it makes students reflect more on caring more for the things they use when they have made it and thereby addressing issues of sustainable living in the outdoors (Haukeland & Sæterhaug, 2019). The Canadian craft teacher and researcher Zabe MacEachran (2005, 2007), who has paid attention to *friluftsliv*, also claims that “making a craft serves as a microcosm for peacefully living in nature; craft-making is about exploring *friluftsliv*” (2007, p. 184). Students would only take the material that they need, and what they take, they treat in a “peaceful” and careful way.

AN ECOPHILOSOPHY OF CO-CRAFTING

The ecophilosophical approach to co-crafting I present in this chapter is inspired by the Norwegian philosopher Arne Naess (1912–2009), whom I had the good fortune to collaborate with over the last 20 years of his life. Naess quit his position as a professor in 1969 to devote his life to searching for a philosophical response to the ecological crisis, which became what he called “ecosophy” and “deep ecology” (Haukeland with Naess, 2008; Naess, 1989; Naess & Haukeland, 2003). Ecosophy is a description of a personal holistic view and an approach to personal transformation. Deep ecology is a movement of social transformation (Capra, 1997). The transformative process, both personally (ecosophy) and socially (deep ecology), integrates how we view life and how we live our lives (Haukeland & Naess, 2008; Naess, 1989). Naess claimed that the separation between humans and nature in our thinking creates an ecologically destructive way of life. The separation between what we think from what we do creates a gap that perpetuates the ecological crisis. He proposed a paradigmatic shift from this separative, reductive, and anthropocentric way of thinking, which has dominated modern culture, to a relational, integral, and eco-centric way of thinking that characterises an ecological culture.

The prefix “eco” (Greek, *oikos*), which you find in the words “economy” and “ecology”, is most often translated as “household”, but it can also be interpreted as “home” and understood as our “home in life”. The word “philo” means,

etymologically, “lover of” or “friend of”, and “sophy” means “insight, wisdom”. An ecophilosopher, hence, connects this love or friendship to one’s “home in life”. When field ecologists study organisms, they often explore their relations with their habitats. A deep ecology of life will study how individuals are “home in life”, which connects nature, culture, community, and self. Naess (1989) used the term “ecosophy” to refer to how we see that home; he shortened the word ecophilosophy by excluding the “philo”. I, however, do not want to take “philo” out of the word since it refers to that love or friendship that connects my home in life (eco) and insight into that home (sophy). It is *ecophilia* that connects deep ecology and ecosophy, which I see come together in the word “ecophilosophy”.

What I set out to explore here is whether we can extend this relational understanding of home in life to include all things, not only a cat and a tree, as we have seen in Chapter 3, but also a stone and the wind, as Allison Clark so beautifully does in Chapter 7 in this book, and the playfulness of Kari Carlsen. All things are situated within a relational field, physically, mentally, and culturally. The ecophilosopher and cultural ecologist David Abram (1996) says succinctly: “we are human only in contact, and conviviality, with what is not human” (1996, p. 16). The shift from an anthropocentric to an eco-centric way of thinking does not exclude the human. Naess was critical of the narrow anthropocentric way of thinking that states that all things exist as instruments for human needs and purposes, but he supported an open anthropocentrism that states that humans are in the centre of the world they experience and are responsible for. From this position he proclaimed, “We are all anthropocentrists!” (in Brennan & Witoszek, 1999, p. 328).

Instead of “eco-centrism”, it may be more precise to use the phrase “eco(multi)centrism”, since all things are at the centre of their lifeworld. One way to make sense of the meeting with others is to use already known patterns of meaning. For example, we can speak of the roots of a tree as its legs, the arms of a river, or the face of a mountain. This form of *anthropomorphism* is a way for us humans, according to Naess (Haukeland & Naess, 2008), to connect to other-than-humans. My dogs can, perhaps in similar ways, use a form of *caninemorphism* to connect to other-than-dogs.

Spending more time with my dogs, though, helps me learn more of their language, but my dogs and I have also made our own way of speaking, a common language, which can be in certain sounds and moves we make and how we respond to these. By reanimating our language, as Mary Oliver and David Abram (1996, 2010, 2014) do, we can open that animistic doorway of silence and gratitude in which voices speak – together.

ECO-ANIMISM

Eco-animism, as I see it, is an aspect within ecophilosophy that enlivens and animates all things. It reenchants the nature of things and the things of nature. In this book, I find examples of both those other-than-humans that clearly have a voice of their own, such as a cat, and those other-than-humans that it is more difficult to say have a voice, such as a stone. The animistic outlook, however, does not discriminate between things. If a thing is alive, it speaks, and if it speaks, it can be considered to be alive.

According to Harvey (2017), “the world is full of persons, only some of whom are human, and that life is always lived in relationship with others” (p. xiii). Harvey uses the phrase “other-than-humans” to describe those “others” we encounter. Animism comes from Latin “anima”, meaning “breath”, “soul”, “life force”. What is animate is alive, but what does it mean to be “alive”? The word “animal”, etymologically speaking, means that which is endowed with “spirit” and the ability to move. This is, again, easier to comprehend with an animal, such as a cat, but not so easy to comprehend with a stone.

A stone is not alive like a cat, but it is rather “in life”. The flow of minerals in the stone is integral to the flow of life. Each stone is a unique expression of its history in a unique composition. This is one way the stone is in life, but we humans can also give the stone “life” in a mythopoetic and animistic sense. The word “animare” is helpful here. It means, etymologically, “to give life”, which is what the sculptor in Chapter 6 (Fredriksen & Kuhn) does when he speaks with the stone. It does not alter what the stone is or what it does, but it alters, it seems, his relationship to it and makes him more attuned to what it says. He does not speak *for* the stone, but he speaks *with* the stone. The meaning is in the meeting!

The *Handbook of Animistic Studies* (Harvey, 2017) brings together an impressive group of writers from diverse fields that echo studies in the post-humanist field (Braidotti, 2013), but the animism that the handbook presents does not go beyond the human. Instead, the authors advocate more of an open anthropocentrism that integrates the human in the more-than-human world.

We can identify three kinds of animism that eco-animism draws on: cultural, scientific, and philosophical. First, *cultural animism* is often linked to indigenous cultures, such as the Sami people who live in Norway, Sweden, Finland, and Russia. The word “animism” was in the mid-1800s used in a derogatory sense to describe primitive, outdated, and unmodern animistic cultures (Harvey, 2018). These cultures saw everything as animate, but they made distinctions between beings born of nature and that of human culture. Cultural animism is animistic in various ways, mythological, folk cultural, and spiritual, including the use of

magic, medicinal plants, vocalization, rituals. A key person in these cultures was the shaman, who had special powers to connect the physical and spiritual worlds, known in Norse culture as “seid” or “volve” and in Sami culture as “noaide”. They used different materials in their practice, such as the drum for the noaide. The drum was carefully crafted from wood and animal hide and given life. This cultural practice was seen by the state and the church as “witchcraft”, and many, both Norwegians and Sami, were persecuted and killed, a process which intensified in the 1500s. Today, there seems to be a renewed interest in cultural animism. There is an element of nature spirituality or nature religiosity in cultural animism that enchants nature. Cultural animists are often seen as pantheists and polytheists, seeing something divine in all things and the belief in various gods. Cultural animism invites a sense of awe, reverence, humility, and respect towards the spirit of life that runs through all things.

Second, *scientific animism* opens new doors to understanding life. Three scientific developments that challenge the dominant mechanistic and reductive scientific paradigm are evolution, ecology, and Gaia. Both evolution and ecology promote a relational view on life, considering organisms as formed in contact with their environments. Such a relational view, promoted by Charles Darwin, Eugene Odum, and Rachel Carson, influenced the rising field of ecophilosophy in the 1960s. However, it was James Lovelock, Lynn Margulis (1938–2011), and the Gaia-theory in the 1970s that truly revolutionized the new scientific paradigm of life itself (Harding, 2006; Lovelock, 2006). Lovelock and Margulis proposed that matter is an essential ingredient to life and that the whole planet is a living entity, Gaia (after the Greek Earth goddess). The Gaia-scientist Stephan Harding proposes a scientific animism in his book *Animate Earth* (2006):

We need to allow ourselves to be open to the subjective agency at the heart of every “thing” in the world so that we can speak and act appropriately in their presence and on their behalf. We must keep alive and nurture a sense of the “otherness” of whatever phenomenon we might be considering, allowing a strange kind of intimacy to develop in which the urge to control is replaced by a quickening awe at the astonishing intelligence that lies at the heart of all things. (p. 37)

Harding tells us that the Earth is animate and alive, and he

urges us to find ways of speaking and acting that allow us to consciously reanimate the Earth so that we bring her back to life as a sensitive and sentient Being – even, if you will, as a person in the widest and wildest sense of the word. It is time to rediscover Gaia, for Gaia is Earth personified. (2006, p. 39)

He does not claim that all beings are equally alive, but that all things are beings “in life”. This scientific animism helps us better understand the beings we co-craft with, such as stones, wind, and water.

Third, a *philosophical animism* broadens the cultural and scientific animism even further. The Australian ecofeminist Val Plumwood (2014) proposed a “philosophical animism” that “opens the door to a world in which we can begin to negotiate life membership of an ecological community of kindred beings” (in Bird Rose, 2013, p. 93). Naess (1979) calls such communities “mixed communities”.

Eco-animism draws on all three forms of animism outlined above. It gets at our shared “home in life” (eco). Eco-animism builds furthermore on panpsychism (Nagel, 2012). Panpsychism says that all things are not only physical bodies, but they are also consciousness (*psyche* as mind, soul), as the anthropologist Gregory Bateson (1979) explores in the book *Mind and Nature: A Necessary Unity* (1979). The meshwork all things relate to is both physical and mental. Those beings (or becomings) I craft with, whether born or made, are *bodyminds* like myself. Latour proposes an “actor-network theory” that does not discriminate between things. Ingold (2007, p. 223) agrees with much of the relational perspective of Latour, but he finds that actors interact not in a network with straight lines but rather in a “meshwork” of interwoven threads. A meshwork, according to Ingold, is:

...interwoven trails rather than a network of intersection routes. The lines of the meshwork are the trails along which the life is lived. (2007, p. 81)

Ingold says he borrowed the term “meshwork” from the philosopher Henri Lefebvre, who is well-known for his studies of rhythms in everyday life. Lefebvre (2004) looks at the rhythms of the meshwork when he looks at the window of his study:

This garden that I have before my eyes appears differently to me now from a moment ago. I have understood the rhythms: trees, flowers, birds and insects. They form a polyrhythmia with the surroundings: the simultaneity of the present (therefore of presence), the apparent immobility that contains one thousand and one movements, etc. ... (p. 17)

Rhythms are a crucial area to how the meshwork plays out. An “actor-meshwork theory” may combine the “actor” of Latour and the “meshwork” of Ingold. Both

Latour (2017) and Ingold (2007) use the word “things” rather than “objects”, and they have both likened a thing to the Norse word “ting”, which can be translated both as a “thing” and a “gathering”. In Norwegian, the parliament is called “Storting” (large gathering), and in Iceland it is called “Allting” (the all-gathering). A thing can, hence, be understood as a meshwork of threads running through it and binding it to others. My favourite nature-writer, John Muir (1838–1914), once wrote: “When we try to pick out anything by itself, we find that it is bound fast by a thousand invisible cords that cannot be broken, to everything in the universe” (in Fox, 1986, p. 291).

THE ECOLOGICAL SELVES OF ALL THINGS

Eco-animism attunes me to how things speak in the co-crafting process as selves with personalities. I am not using the word “self” in a narrow sense, but I relate it to Naess’s concept of the “ecological Self” (with capital S) (Haukeland & Naess, 2008; Naess, 1989). Naess was largely concerned with expanding our understanding of the human self, but we can extend this to the ecological Selves of all things. Naess (1989) distinguished between a unique self and a relational self. The relational self is that which binds me to others in two relational ways. Extrinsic relations are relations to others that I *have*, while intrinsic relations are relations to others that I *am*. Intrinsic relations are integral to my relational self and my ecological Self-identity. Similar to how we can speak of an interplay of extrinsic relations, we can speak of an *intraplay* of intrinsic relations (Richards & Haukeland, 2020).

The capital S signifies a larger connection between the uniqueness and relationality of the ecological Self, which can be both positive and negative. A positive relation helps the unique self to flourish, while a negative relation hurts it. Naess could speak of intrinsic relations also to that which most think of as inanimate things, like cups, towels, mountains, rivers, the wind, and his cabin. Naess says that anything alive, either organically or culturally, has intrinsic value, which means that it makes sense to care for it for its own sake, not simply for the sake of what use it has for us humans. A piece of wood that I carve with, for example, is both unique and relational. Treating the wood as a unique self may help me not simply to see it as an instrument for my purpose, but rather to treat it as something in itself. Illeris and Riis describe, in the second chapter of this book, how such togetherness with a specific piece of wood can contribute to a boy’s eco-centric aesthetic leaning process.



Figure 11.3: The cup itself! Photo: P.I. Haukeland.

Let me take an example with another material. This cup I am drinking coffee from (see Fig. 11.3) is made by a local potter I know. Both the potter and the clay are ecological Selves that co-craft together. In this case I know the potter, and she has an intrinsic relationship to both the clay and to the cup crafted. The cup is a third thing that emerges from within the co-crafting process. It becomes a thing with an ecological Self, which emerges from the co-crafting process. It is “in life”, from the flow of materials, and I have given it status as being alive with an intrinsic value, which means that it makes sense for me to do something for its own sake. An attentive reader may notice a crack in the cup, after an accident in the dishwasher. I will care for it as I would care for myself, since it is an important part of my ecological Self; never again in the dishwasher!

CO-CRAFTING A PAIR OF SKIS

Skiing is an important part of my outdoor life. I love to ski, and I prefer to ski off the machine-made tracks. These “tram tracks” limit my freedom to move, while when skiing off the tracks, I can feel free to be and create a movement from what I encounter. In the place-in-time I call “home”, there is a wild terrain with steep cliffs, long ledges, forests, creeks, and mountains. It is a difficult terrain to move about on skis, especially those narrow skis that fit in the tram tracks. I usually

move about in this terrain with snowshoes, which I enjoy very much. It slows down my pace and helps me pay more attention to things I encounter. But I would love to have a pair of skis with specific qualities (width, length, thickness, elasticity, etc.) that are in between a snowshoe and a ski. With such skis I could move further into the landscape, explore more of it, carry more, and have fun skiing downhill and jumping small cliffs. I decided that the best way is to make my own pair of skis that are suited to my home and my needs.

I contacted a master ski-maker that I know and asked if I could make a pair of skis under his guidance this past winter. He agreed and we spent three days together at his farm. The first thing he asked me was to describe the terrain where I wanted to use the skis and what my needs were. He showed me various kinds of skis used for various purposes on different types of terrain. The Sami people, who herd reindeer on skis, could use a longer pair of skis across a mountain plateau, and they could even have skins of reindeer fitted permanently into the sole of the ski, to get better traction in icy conditions. I told him about my terrain and needs, and he could immediately imagine which pair of skis would be suitable. They should be short (about 150 cm), broad (over 20 cm), and have an easy binding that I could attach to regular boots. The wood should be soft pine wood, which is better in navigating uneven terrain. The skis he suggested were close to what I had imagined myself: a hybrid between snowshoes and skis.

The ski-maker and I walked into the forest where he showed me what materials he was looking for when making skis. The different wood creates different kinds of gliding. Hardwood, like ash or birch, will create a faster and less flexible ski, while soft wood, like the pine, would be slower and more flexible. Pine is a common material to make skis from in Norway, also because it is quite accessible. However, a pine is not just a pine – they are all unique. The way the ski-maker approached a potential tree is like the way someone approaches an unfamiliar dog, attentively and carefully. The ski-maker was quite attentive to the subtle differences in the wood, knocking with the back of his axe and listening to how it responded. I could barely hear the differences in the sounds the trees made. “You did not want that deepest sound”, he said. It had to do with how compact the wood was, and he wanted a slow-growing wood. Already here there was a process of attending to the wood, and it seemed the wood attended back. “This can be a good one”, he said. When I asked why, he answered that there was a feeling the wood gave him. “I get a feel for the life of this specific tree”, he said, and “I imagine its home and what has happened to it throughout its life”. He spoke as if he imagined himself to be the tree. Naess called such imagining an ability to identify with others, which is also what many of the students in the third chapter of this book (Thorsnes & Fredriksen) experienced while drawing inner lines of an old oak: their lives connected with the

life of the tree. The ski-maker said that he usually cuts down a tree in a certain way and hauls it out while it is still snowy, so he does not hurt its “body”. He spoke of it as an individual with unique qualities. We did not cut the tree, since he had already prepared and dried material for me. One does not carve skis from green wood. He marked the tree in a certain way, so that he could come back to it for another time. We walked to several places where there were trees and saplings he could use for different purposes, but that he would not take before he needed to.

The tree would be cut on the sawmill, and the miller plays an important role in the care for the unique qualities of the tree. The sawmill makes a series of boards out of the tree. The wood is cut with the inner and outer bark intact. Then the boards are left to dry. The ski-maker had already dried a piece of pine wood, which was laid out on the table. We studied it in detail. One slice of the trunk, close to the roots, can make two skis, one on each side of the heartwood that you want to avoid, since it can more easily crack. We use part of the heartwood and part of the softwood. The heartwood side can be the inner curve of the skis where there is most tension when you ski sideways. Again, the wood has much to say about where to draw out the skis. It is what Gulliksen (2020) referred to as a process of negotiation, and it echoes much of the way the participants related to the old oak in Chapter 3 (Thorsnes & Fredriksen) in this book. I drew on the board where the skis would be made, and I took time to attend to it carefully, to make sure I avoided certain cracks and knots. I followed the grains and form of the wooden material carefully. When I finally drew, I felt both a great responsibility of respecting the qualities of the wood and a gratitude to the tree for giving me this possibility. It generated a great sense of respect, like I would imagine a hunter can feel towards the animal they hunted. The sense of gratitude makes me ever more careful and respectful not to make any mistakes, so that the material would have to be discarded. I spent time with the wood before I did anything, to get acquainted with its qualities. I could feel up and down the grains and pay attention to what Bateson (1979) called “a difference that makes a difference”. No hidden knots were found that caused any problems, but there was a crack near the core wood that made me concerned, but I found a way to work around it. I studied the hard and soft wood and the different branch-knots. It was as if the wood and I found together the best place to draw the contours of the skis. As I drew, I paid attention to the lines of the grains and how the form placed the harder and softer part of the wood. When the form was drawn by pencil on the board, then the die was cast! The wood and I had committed to each other.

Now it was time for the axe. I held my hand close to the head of the axe, to control each strike better. As I let the axe-edge strike the wood, the wood responded. Small pieces flew off. If the angle of my axe was too tilted, it can cut deeper into

the wood and start a crack. If I tilted it too little, it made the work more strenuous. The axe, the wood, and I co-responded to each other. The wood tells me where to hit, and I react by the way I tilted the axe. Then the strike and a new response, back and forth. Then I work with the plane to thin the board. A bit thicker where the foot is to stand on the ski. If the ski is too thin, it may crack. If it is too thick, it may be too stiff to manoeuvre. My body and mind collaborate and negotiate with the wood, and the plane the thickness of the wood. The tips of the skis are formed using damp, and the skis are hardened from heat over a bonfire outside before I treat them with tar. For the bindings, I used one-year-old birch saplings. We walked into the forest, found some that were long with few branches or injuries. In the workshop, I peeled off the bark and started to wind them, which is hard work. I can feel the resilience of the saplings and what happens when they let go. When the grain splits, it becomes more elastic and “easier” to bend and form into a binding. The skis do not look like the initial pencil image drawn on the board. The skis came into being in a process of improvisation and correspondence (see Fig 11.4).



Figure collage 11.4: Co-crafting a pair of skis. Photo: P.I. Haukeland.

The test trip in the snow outside the workshop on the third day is exciting. These are my first home-made skis. I am blown away by how they float in the snow. I thought that they would simply glide backwards as I walked up the hill without

ski wax, but the way I planed the skis and treated them makes them stick to the snow which makes it easy for me to walk uphill. Returning to my home, I could not wait to try them out in the place they were intended. I could now move in the uneven terrain in a different way from using snowshoes. I could glide more, so it went faster, and I could also ski downhill, which gave me a feeling of flowing in the snow (see Fig. 11.4). However, the skis do not like all kinds of snow. A few days with wet snow and mild weather was something the skis did not like. It shows how the skis too have a life of their own, with certain needs. The skis have shown me what is necessary and possible in skiing in the specific terrain where I live. All the actors in the co-crafting process have left their mark on what has been made. I know the skis intimately. What they like and dislike. They are alive with unique qualities, and with intrinsic value, which means that I will, as with the example of the cup above (see Fig. 11.3), care for them for their own sake.



Figure 11.5: Natural and machine-crafted movements. Photo: Simon Jeppesen, USN.

When I use the skis, I find that they invite me to move in the snow differently than if I were to follow machine-made tracks. When I ski the style of skiing we call “Telemark style”, the skis form a traceable movement in the snow (see Fig. 11.5).

I can follow my movement as the skis carve into the snow forming tracks. Some of us who ski this way love to see those traces in the snow, almost like traces from a paint brush on canvas. It may be a stretch to compare skiing to art, but, no doubt, there is an aesthetic dimension present in the joy of skiing. This movement and its trace are also co-crafted. It too involves a meshwork of actors, such as the skis, the snow, my skills, and the weather. Sometimes the snow may be soft, and other times icy in the same run, which means I have to respond to both what I see and what I hear. In the machine-made tracks, there is little room for freedom to move, improvisation, and reciprocity. The machine-tracks standardize the movement, which is fine when I am out to ski without thinking about where I move, when I want to ski fast or ski as exercise, but it is different to move on the skis outside the tracks (see Fig. 11.5). Making my own tracks helps me to be more attentive, mindful, and present in what I do.

There is a difference between hand-made and machine-made skis. Machine-made skis are more standardized, even though companies now make specialized skis for different purposes, like slalom, ski touring, Telemark, and cross-country. Hand-made skis can be crafted to a specific need and a terrain. It is hard to say what is better, since they have different functionalities. I have both machine-made and hand-made skis, but I do find that there is a certain feeling when I ski with my hand-made skis. I have a more intimate relationship to the skis. Inspired by Ingold (2013), I find that they help me connect more haptically to the flow of material in making the skis and the flow of life outdoors when using them. I find that something changes in my relationship to other-than-humans when I see those others I co-craft with not as resources or arenas but as actors with unique and relational selves and personalities. It gives me a deeper sense of relationship to those others and to nature and a deeper sense of meaning in what I do outdoors.

WAYFARING ONWARD

Already from the outset in this chapter, I stumbled into several critical questions, such as why focus on the voice of all things, including stones, when we humans cannot even hear the voices of the oppressed humans or fellow animals? I understand the critique, but I find that we humans can deepen our care for our fellow humans and widen our care for other-than-humans, both organic and inorganic. My experience from crafting the skis has helped me in this process of deepening my relationship to the more-than-human world, but I can always go deeper. Caring for things, such as equipment, can also contribute to more sustainable living by consuming less and taking care of what I have. I find that I especially care for the

things that I make myself, such as the skis. Crafting is a transformative process, so I need to be more attentive to how I treat the things and materials I craft with. There is an ethical issue in how I see others and how I treat them. I am just beginning to grasp what an “eco-centric aesthetic learning process” is (see Illeris & Riis, this volume); however, my knowledge from ecophilosophy helps me to see how all things are connected in our shared homes in life and to become more attentive to what responsibility I have for the things I co-craft with. As an ecophilosopher, it is tempting to focus solely on nature and not on all kinds of human-made things, but looking deeper into the issue, I find that nature is in all things and all things are in nature somehow.

There is much exciting going on in the research field of crafting with other-than-humans, as we can see from the various chapters in this book. I am not an expert in this field, but I find that there are topics for future research explorations also related to the field of outdoor life studies and ecophilosophy, including that of the economics, politics, and ethics of crafting with other-than-humans. It is interesting to investigate the question of power relations in between the human crafter and the other-than-human co-crafters. It is, furthermore, interesting to explore the discursive and narrative field in which co-crafting is situated, especially in the context of ecopolitics and human-nature relations. An economic perspective on co-crafting, relevant also for the outdoor life field, is related to all the consumerism in leisure culture. From an ethical point of view, it can be interesting to apply Albert Schweitzer’s (1923) “reverence for life”, which focuses on all beings’ “will-to-live”, which requires respect, affirm, exalt, and revere life. Similar to researchers dealing with arts-based research methodology (see Bresler, 2006), I also find much in the work of Martin Buber on the I/thou relations versus the I/it relations, in an effort to not move away from objectifying the other I am co-crafting with. The land ethic of Aldo Leopold is also relevant since it gets at the broader meshwork of actors in our homes in life. Leopold (1949) says, “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (p. 112). Could this be reformulated so that care flows in the direction of that which serves life to flourish? To pay attention to all these things does not exclude paying attention to all the problems of war, social injustice, nature-loss, and climate crisis. It can attune me to those connections that both help me contribute to the flourishing of life and critique those that do not. I want to go in the direction that sees all things as co-crafters in a co-crafting process.

The future landscape of co-crafting studies seems open and exciting. This book has given many good examples of crafting with other-than-humans in art, education, and research, and in ways that inspire further explorations and

new horizons of understanding in various fields, including that of outdoor life (*friluftsliv*). I have only been able to touch the surface of the landscape of eco-animism in co-crafting practices, but with the bright examples of crafting with other-than-humans from the authors in this book, there is light shining through the dark clouds of our times.

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This book is about crafting in a more-than-human world. The volume discusses performative and aesthetic forms of learning, arguing that learning, and the negotiation of meaning, is a multisensorial and multi-species processes. Many of the chapters are creative and artistic, and framed in a poetic language. The poems and images not only contribute to a pleasant reading experience, but they play essential roles in communicating how to craft relationships with nature through creative practices. The chapters explore the roles of nature, materiality, space, improvisation, playfulness, and artistic practices in research and teaching. They show a variety of co-crafting processes that emerge through more-than-human dialogues.

The contributors of the book come from different research disciplines, from architecture, ecophilosophy, outdoor life studies, and craft education; to art, creative writing, poetry, and the performing arts. They all seek to overcome narrow anthropocentric approaches to the arts, arts education and education in general, and propose possible paths to a pedagogy of care and responsibility. They exemplify an eco(multi)centric approach to creative practices and invite readers to participate in a future of becoming together in a the more-than-human world.

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