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Research in Arts & Education
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PROCEEDINGS FROM THE ART OF RESEARCH CONFERENCE VIII

Exploring Ecological Relationality Through Architectural Practice

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ABSTRACT

This practice-led research article explores how post-humanist and eco-feminist perspectives of entanglement and relationality challenge human exceptionalism as a basis for making architecture in the process of the Alusta research pavilion. Multisensory spatial experience, material circulation and more-than-human temporalities are explored through building a temporary pavilion for multispecies encounters in an urban museum setting. Reflecting on the project, an architectural space is understood as a continuous process of becoming enacted by various human and non-human forces instead of as a stable object with a sole human author. Architecture is reimagined as part of the web of care sustaining all life.

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VERTAISARVIOITU
KOLLEGIALT GRANSKAD
PEER-REVIEWED
www.tsv.fi/tunnus

Figure 1: The Alusta Research Pavilion in Helsinki in the courtyard of the Museum of Finnish Architecture and the Design Museum, August 2022. Photo: Maiju Suomi.

Introduction

Key life sustaining systems of the Earth are critically endangered due to human activity (Richardson et al., 2023). Practicing architecture in this era of the climate crisis and mass extinction calls for critical re-visioning of the worldview and the values we build on. Could architecture help us in situating ourselves as part of the life-sustaining web of ecological relations? Architecture has the practical task of sheltering us from the elements and facilitating cultural functions and encounters. Simultaneously, it shapes the sensorial experience of our living environments, and embodies cultural meanings, values, and worldviews. It is not neutral, it affects our well-being, frames our world, and advances certain values instead of others. Yet the environmental discourse on architecture focuses on the pragmatic and quantitative qualities of construction, the measurable level of material and energy consumption (Brennan, 2011). This leaves aside the communication of ideas and meaning through the embodied multisensory experience of inhabiting a space, the aesthetics of architecture.

Critical voices have argued for environmental architecture to operate in the realms of both technology and art (see e.g. Hagan, 2001, 2008; Hosey, 2012; Rawes, 2013a). It is through the double function of being both an environmental act and its symbolic representation that environmental architecture can have the greatest influence on the societal level (Hagan, 2001). The image and experience of architecture needs to convey the shifting conception of humans' position in relation to other species and the life sustaining processes of the planet (Meyer, 2008). Architectural practice weaves together aesthetic expression and its ethical implications (Frichot, 2018, p. 21). What happens if we take ecological relations as a starting point for this ethico-aesthetic practice?

In this article, we reflect how the process of making a temporary architectural space, the *Alusta* Research Pavilion (Suomi & Koivisto, 2022a; 2022b) (Figure 1), became a tool for questioning human-exceptionalism as a basis for making architecture. This world view raises humans hierarchically above rest of nature, thus justifying the use of other living beings and materials as mere resources for human wellbeing (e.g. Bai, 2013; Plumwood, 1993). Through this practice-led research, we speculate on how post-humanist and eco-feminist perspectives of entanglement and relationality can

guide making architecture more ecologically and socially just (see also Frichot, 2018; Rawes, 2013a). Focus of the sustainability movement has become the quantifiable use of materials and energy. However, critical feminist perspectives of relationality and care challenge us to consider buildings through the relationships they create in time and space, with environments, plants, and animals, both human and other-than-human (Tronto, 2019). The focus of this article is on how environmental theoretical thinking can be represented and further reflected on through architectural practice. The case of the *Alusta* pavilion illustrates how this value shift reshapes architectural language, and the kind of ramifications that it has on our understanding of the practice of architecture.

First, we will present the *Alusta* pavilion as a tool for exploring themes arising from contemporary environmental philosophy. We will discuss making as a tool for knowledge creation and situate this research in the context of practice-led research. Then, the theoretical background shaping architectural practice in the case study is introduced. Concepts arising from theory are represented through features of the architectural space. In the end, we reflect on how the case study shapes current understanding of the creative process of making architecture, what it means for our conception of authorship and the stability of designed artifacts such as buildings. Finally, key points of the article are revisited and future avenues of research proposed in the Discussion section.

Case Study on Relationality-informed Environmental Architecture

Today, ecological features are considered more carefully in the Western design world, yet the underlying focus is on a human-exceptionalist ontology (St. Pierre, 2019, p. 98). The *Alusta* Research Pavilion (Figure 2) explores architectural practice based instead on ecological relationality and care (see also Fitz & Krasny, 2019; Rawes, 2013a). It aims to create conditions for interspecies relationships to appear, calling into question our perceived hierarchical separateness from the rest of the living community. *Alusta* reclaims the urban space, built solely for human purposes, for the diversity of species replaced by the city. Inviting the non-human animals back to this space where they've been cleaned out of by modernity sets the stage for continuous interspecies encounters and a renegotiation of borders and shared space (see also Coccia, 2021, pp. 147-152).

The *Alusta* Pavilion in Helsinki in the courtyard of the Museum of Finnish Architecture and the Design Museum was conceived of as an open platform for environmental discourse. The temporary space, open in this location from July 2022 until October 2024, was built on Maiju Suomi's (author 1) concept, based on theoretical readings in posthuman and environmental philosophy (e.g. Haraway, 2016; Puig de la Bellacasa, 2017; Van Dooren, 2016). The project was further developed through a collaborative process led by architects Suomi and Elina Koivisto[1] (from here on referred to as the designers of the project). It engaged diverse human stakeholders, such as ecologists, clay builders, material producers and architectural and design students, and was open to formative non-human forces such as living plants, non-human animals, natural processes, and their interactions with the materials chosen for the project (Figure 3). *Alusta*'s pollinator-friendly plantings, decaying wood blocks and porous clay structures offer shelter and nutrition for different insects and birds in a densely built urban environment. Simultaneously the space invites visitors to reflect on their position in the more-than-human community. Could our idea of community be re-visioned to include humans as well as other animals, plants, the soil with its microbes and fungi along with the materials and systems that support all life?

Architecture as a discipline is deeply dependent on economic resources, societal values, legal regulation, and conditions on site, among countless other factors (Till, 2013). This dependency is at the core of the profession but also limits responding holistically and timely to the complex sustainability agenda. Acknowledging this, the designers of *Alusta* wanted to explore if a non-permanent architectural intervention, limited in temporal and physical scale, would allow for more speculative thinking to emerge. Working in a research context, without a conventional client, with funding from cultural foundations[2] allowed a re-examination of the current understanding of architectural sustainability led by capitalist and technocratic markets (Rawes, 2013b). Reflecting on their 15 years of experience in architectural practice, the designers approached broadening the sustainability discourse on three levels: the materials and their circulation, the sensorial experience, and the societal discourse enacted through discussions in the experimental space itself and beyond it in the media.

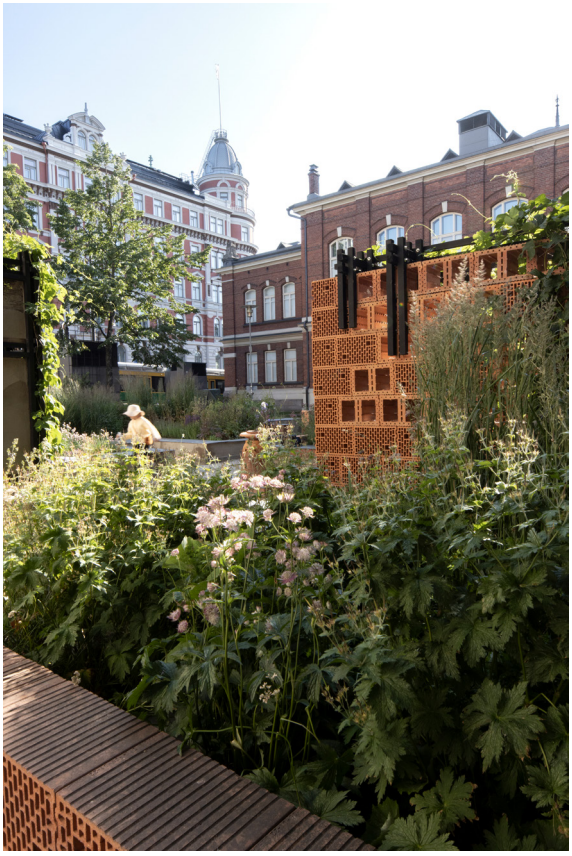

Figure 2: The Alusta Pavilion reclaims a paved urban parking lot for plants, nonhuman animals and people. A child runs through the space defined by pollinator--friendly plantings of, for example, Wood Cranesbill (Geranium Sylvaticum), Great Masterwort (Astrantia Major), and Feather Reed Grass (Calamagrostis x Acutiflora). In the background, multistory brick buildings and a tram passing by. Alusta Pavilion. July 2023. Photo: Maiju Suomi.

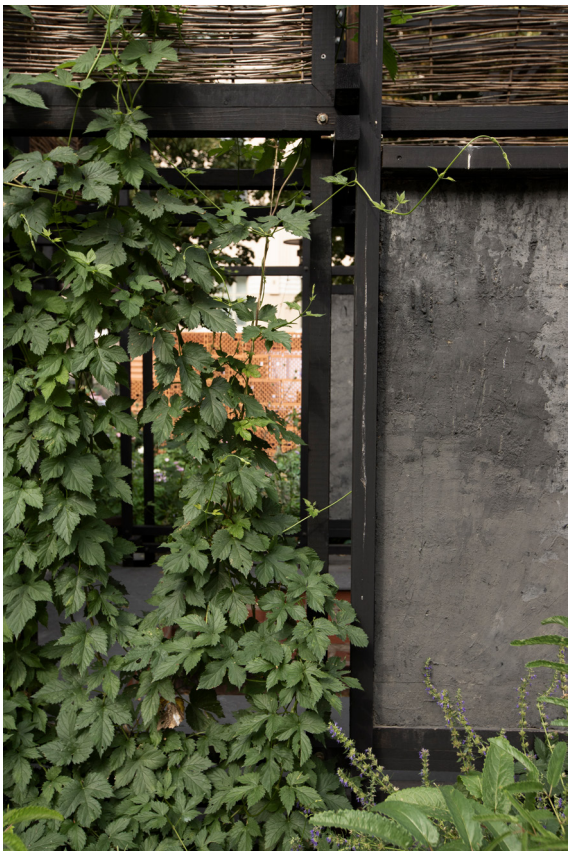

Figure 3: Wooden pergola with panels of woven wicker, partly rendered with mortar made of biochar and raw clay, subject to alteration through erosion. Common Hops (Humulus lupulus) rising to cover the openings of the pergola. Hyssop (Hyssopus officinalis) and Great Burnet (Sanguisorba officinalis) growing in front. Alusta Pavilion. August 2022. Photo: Maiju Suomi.

The location of the work in a museum context was chosen to reach audiences in a state of mind open for speculative thinking and value discussion (see also Lohmann, 2017, pp. 39-41). The pavilion's prominent location in central Helsinki, its non-conventional aesthetics, and support from the museums' staff allowed the broadening of discussion on architecture and environmental questions through the media. The themes behind the design were explored in greater depth through a discussion series with experts held at *Alusta* during the summers of 2022 and 2023 (Figure 4). The pavilion became simultaneously a laboratory for research and a tool for disseminating research findings to a broader public (see also Latva-Somppi, 2022).

The design work of the *Alusta* pavilion was based on the practical act of increasing biodiversity in an urban setting. On the level of cultural meanings, it explores the ramifications of the paradigm shift from a human-exceptionalist conception of the world towards interconnectedness and co-existence. Climate crises and mass extinction are global crises, yet they are experienced in a locality, through the liveability of certain places (Tsing 2016, p. 3). *Alusta* became a spatial exploration of possible solutions to the loss of biodiversity in this setting.

Making as a tool of inquiry

This article sets itself in the continuum of practice-led research conducted by the maker of art through the process of making (Mäkelä, 2016). Social scientist Donald Schön (1983) outlines in his theory of reflective practice that our knowing is in action, often in tacit form. He proposes two kinds of reflection related to the different stages of action. Reflection-in-action happens simultaneously with the practice, whereas reflection-on-action is engaged in by the practitioner afterwards, returning to the thinking, actions, and feelings relevant to

Figure 4: Open discussion on Urban Design and Loss of Biodiversity in the Alusta pavilion. Speakers: Elisa Lähde, professor of Landscape Architecture, Aalto University and Kati Vierikko, docent of urban ecology, and Maiju Suomi. Flowering Spiked Speewell (Veronica Spicata), Common Yarrow (Achillea millefolium) and European Michaelmas Daisy (Aster amellus). September 2022. Photo: Elina Koivisto.

their professional practice. Through his theory, Schön calls for analysis of the tacit frames which determine how we make value-based decisions in our practice.

The process of designing and making the pavilion was documented by one of the designers of the pavilion, Suomi, through autoethnographic journaling, photography, and audio and video recording. The journaling and note-taking became a form of reflection-in-action. This material later served the process of reflecting on how the theoretical background challenged the designers' habitual ways of making architecture, and what can be drawn from this experience considering the making of architecture in general (see also Mäkelä & Nimkulrat, 2017).

Conceptual tools: Moving from dualisms towards an interconnected web of care

The modern Western worldview as framed by philosopher, anthropologist, and sociologist Bruno Latour (1993, p. 13) is based on "the double separation […] between humans and nonhumans on the one hand, and between what happens 'above' and what happens 'below' on the other." The human domination of nature can be traced to the scientific revolution, and the reconceptualization of nature from a living organism into a mechanical machine, to be understood and governed by rational male intellect (Merchant, 1990). Environmental philosopher Val Plumwood (1993) argues that the Western culture's treatment of the human / nature relation as a dualism has led to the regarding of human identity as outside nature, denying the interdependence of our existence with the rest of the natural world. In the key binaries of Western thought, such as reason/nature, culture/nature, mind/matter, mind/body, human/animal, reason/emotion, and subject/object, the latter is instrumentalized to the former, seen as inferior and made to serve the needs of the dominating one. As well as laying the basis for colonization and oppression of others among humanity, this dualist lens also justifies the instrumentalization of non-human animals, plants, and natural processes. Nature is backgrounded, stripped of diverse needs and personal features, seen as void of its own agency.

Educated into the modern Western ontological understanding of nature and culture as separate realms, and the ethical implication of seeing the natural world as a resource for human endeavor, the designers wanted to reconsider this worldview guiding their architectural practice (see also Bai, 2013). The pavilion offered a tool for questioning the underlying values of their practice and inciting broader environmental discourse in and through the space. As Suomi puts it in a conversation that takes place between the two designers: "We are creating a new experiential view into a reality guided by alternative values to the ones in power today" (Suomi, 10.8.2021).

Alusta pavilion became one answer to multispecies feminist theoretician Donna Haraway's (2016) call for cultural representations as a way of play and work in constructing possible futures and new stories of entanglement. Haraway moves in the world of naturecultures where the realms of nature and culture are irreversibly entangled: we 'become with' other species, and our existence is part of a multilateral web of living and dying together.

Drawing from feminist theoretician, science and technology scholar Maria Puig de la Bellacasa, the designers speculated on the concept of care as a basis for making architecture in the more-than-human world. Puig de la Bellacasa (2017, p. 161) rephrases Joan Tronto and Bernice Fischer's notion of care (Tronto, 1993, p. 103) as "everything that is done . . . to maintain, continue, and repair 'the world' so that all . . . can live in it as well as possible." Puig de la Bellacasa broadens the caring agency of Tronto's original conception to include the whole interdependent web of things and processes that sustain life for human and nonhuman beings alike.

Feminist philosopher Rosi Braidotti (2013, p. 38) argues for hope as a vehicle to activate forces of change such as imagination, spirituality, and art. The designers wanted to project into the future an exploration of a space built on relationality and care, as a way of affirming hope. Approaching sustainability through the ethics and aesthetics of making a space became a way of questioning the core dualistic pair of reason/nature (Plumwood, 1993). Reason sets apart humans and animals, intellect and emotion, mind, and body. Reason governs and leaves aside the various ways of knowing seen as inferior to it. Nevertheless, as anthropologist Gregory Bateson (2000, p. 146) states "rationality unaided by such phenomena as art, religion, dream, and the like, is necessarily pathogenic and destructive of life".

Exploring care and relationality through spatial practice

In contrast to biology with its focus on living organisms, ecology studies the relationships between these organisms (Sheldrake, 2020, p. 17). As we shift our perspective from the individual towards the myriad relationships that shape and support its existence the boundaries between entities begin to dissipate.

Often that which is done to care for the world to sustain its liveability escapes our human senses. We do not perceive how plants turn sunlight, water, carbon dioxide and minerals into oxygen and chemical energy in the form of carbohydrates through the process of photosynthesis, nor do we stop to pay attention to how fungi and bacteria cycle nutrients through decomposition of organic matter. We breathe. And we eat, perhaps remembering the people who cultivated the food but overlooking the labors of the plants, fungi, and bacteria. Through their spatial practice, the designers sought to make some of these invisible support systems perceivable for humans.

To communicate a tangible example of the interdependence of human existence with the more-than-human world, the designers chose to work with pollinators (Figure 5). The role of pollinating insects in the human food chain and ecosystem sustainability is critical and there is a pressing need to acknowledge their intrinsic and extrinsic value, and to restore their living conditions globally (Van der Sluijs & Vaage, 2016). *Alusta* is not alone in the attempt to raise awareness towards pollinators through architecture. However, whereas the Pollinators Pavilion by Harrison Atelier, an analogous habitat and AI aided monitoring station for native bees (Harrison, 2020) adopts a high-tech approach, *Alusta's* low-tech solutions allowed the participation of students and community in the construction. This rendered the process of making, as well as the pavilion itself, an educational tool. The high-tech approach may also make adopting environmental construction less accessible due to costs and availability of technology. In contrast to experimental architectural projects to be experienced through digital means such as the Pollinator Park designed by Vincent Callebaut[3], *Alusta* offers a tangible experience of multispecies co-existence. It also opens the space up for alteration through the passage of time and the effects of natural processes. There are various examples of projects revealing hidden potentials for biological as well as cultural

Figure 5: Bumble bee visiting the flowers of Flat Sea Holly (Eryngium planum) to feed on their nectar. Alusta Pavilion. July 2023. Photo: Maiju Suomi.

diversity in urban space such the Highline in New York or the Bee Highway in Oslo. In contrast to these, Alusta strives to simultaneously activate a philosophical and political discourse on the ontological basis we build our environments on.

Through their architectural education and practice, the designers had learnt to consider empathy as a means of relating to the needs of future users of a space. In a conversation that took place between the two designers, Suomi used the following wording to phrase a challenge posed when building also for non-human lifeforms:

> Empathy in architecture has been thought of as the ability to relate to the position of the person, specifically the human person, who the space is being designed for. This has been seen as adequate. The question in our project is how to expand this empathy to the flora and fauna whose needs we do not feel in our own skin the same way as we know human needs. (Suomi, 10.8.2021)

To move beyond their human experience, the designers consulted natural scientists. Ecology researchers[4] acted as advisors on the lifeways of the insects and the feasibility of inviting these non-human visitors to the pavilion on an existing paved urban parking lot. Instead of a traditional construction made with solid and stable materials through a precise formal plan fully controlled by human intellect, the focus came to be on bringing suitable plant life onto the urban site and ensuring the plants' flourishing in this setting. This experience underlines the need for designers to acknowledge the limits of their own understanding of the relational natural processes at play in chosen contexts. Multidisciplinary collaboration with other experts enables designers to make decisions based on a deeper understanding of the ecological and social systems their work becomes part of.

Through discussions among the designers, ecologists, and gardeners, a planting of roughly 40 different flowering perennials and grasses offering nutrition and shelter for the insects throughout the growing season was planned (Figure 6). Through these interactions, the designers noticed their own

Figure 7: Turkeytail mushroom fruiting bodies appear on the fungi-inoculated wood blocks. Alusta Pavilion. November 2022. Photo: Maiju Suomi.

Figure 6: Flowering in late summer Blue Globe-Thistle (Echinops bannaticus), Purple Coneflower (Echinacea purpurea), and Flat Sea Holly (Eryngium planum). Alusta Pavilion. August 2022. Photo: Maiju Suomi.

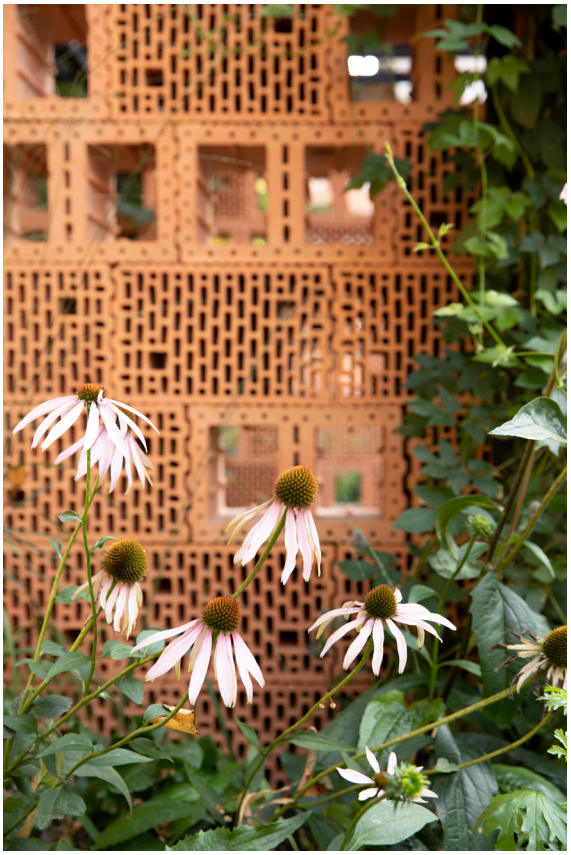

Figure 8 (left): Porous clay blocks. Common Hops (Humulus lupulus) and Purple Coneflower (Echinacea purpurea). Alusta Pavilion. August 2022. Photo: Maiju Suomi.

Figure 9 (right): People visiting the Alusta pavilion. Feather Reed Grass (Calamagrostis x acutiflora), Masterwort (Astrantia major), and Woodland Geranium (Geranium sylvaticum). August 2022. Photo: Maiju Suomi.

mental categories shifting. In Western dualist pairs, such as human/animal, the lesser one becomes homogenized and seen without the richness of individual features (Plumwood, 1993, pp. 53-55). This attitude began to yield as the designers worked with selecting plants attractive to different kinds of insects with their own preferences for colour and anatomic features. The pollinators emerged as a heterogenous group, with individual needs to be taken into consideration when making the space, and thus the perspective of the designers was enriched.

Puig de la Bellacasa (2017, p. 202) draws from permaculture practices calling for more active and in-depth relations between humans and soil. We are part of the food web and thus bound to the cycle of growth, death, and decay, together with all other living organisms. On *Alusta,* fungi, compost and biochar nourish the soil, supporting the plants who, in turn, offer nutrition for the pollinating insects and birds. Pollinators sustain food crops for human beings. Following a recommendation of the ecologists, fungi-inoculated decaying wood blocks previously used as a substrate for mushroom cultivation (Figure 7) were brought in to offer shelter and nutrition for various beetles, and later for hole-nesting pollinators. Insects benefit most from wood further in its decomposition process, but to communicate to human visitors the circulation of nutrients back to soil enacted by the fungi, the designers included wood where the fungi would still produce fruiting bodies. This illustrates the importance of simultaneously considering the architectural intervention as an environmental act of repairing living environments and its sensorial representation.

Human-centrism is neither in the interests of humans nor non-humans, as it leads to a detachment from the interdependence and restrictions set by the other-than-human (Plumwood, 2013, pp. 443-444). To provide a concrete example of mutually beneficial co-existence, design decisions on *Alusta* were made to support the well-being of both pollinators and people. The pavilion's porous clay structures open pathways and nesting space for insects (Figure 8). Simultaneously, their tactile

materiality speaks to the human senses (see also Goldhagen, 2017). Flowering perennials offer nutrition for pollinators while the presence of natural features and processes (Figure 9) creates a restorative spatial experience for people (see also Gillis & Gatersleben, 2015). Aiming for shared well-being is essential as most environmental questions are tied to the interests of both, instead of either one (Plumwood, 2013, pp. 443-444).

Material Encounters

Architecture is most often made of concrete matter, with the power of energy. This matter is extracted somewhere with ensuing environmental and social effects. While bound to the manmade structure, it affects its surroundings and the creatures who dwell in it. Once released from the edifice when no longer deemed useful for human purposes, matter returns to circulation and affects wherever it flows. The Western conception of matter as inanimate and passive is challenged among others by political theorist Jane Bennett (2010, pp. vi-xi). In her theory, vibrant matter runs through all of humans and non-humans alike, making up the biotic as well as the abiotic, suggesting an entangled web of interbeing where all things have agency. Rethinking making architecture from the perspective of vital materiality redistributes agency and demands ethical reconsideration. In *Alusta*, matter becomes an active participant in molding the experience of space. Simultaneously, its presence in the pavilion is the outcome of its extraction from somewhere else, with energy that is becoming scarce.

To visually communicate the presence of soil and the vital importance of its well-being to the ecosystem, the designers chose to work with clay as the main construction material (Figure 10). In addition to its symbolic potential, clay is a practical environmental choice. The environmental impact of its extraction is limited as it comes from the surface layers of the earth, and sites from where clay is lifted can be restored into, for example, wetlands for bird habitat. When used in construction in its raw form, clay requires little energy and once no longer needed, can return into the ground as no harmful substances have been added to it. In fired form, the elements can be reused elsewhere as no cement is used to hold them in place; instead, they are mechanically fastened for easy disassembly.

The research context enabled the use of experimental materials with potential environmental benefits.

Figure 10: Clay in different forms was used in the construction of the space. The terracotta-colored elements are fired clay, and the grey ones are raw unfired clay. The raw clay bricks contain reed that comes to surface as the structure erodes. The clay plastered elements on the pergola change their appearance as erosion progresses. Alusta Pavilion. June 2023. Photo: Maiju Suomi.

To communicate the technical and aesthetic potentials of material circulation, the designers chose to work with biochar made of lignin, a by-product of the pulp industry. Biochar was used in both an upscaled form as a wall relief and in recycled use as part of the soil mixture sustaining the plantings (Figure 11). As a component of the clay renderings which slowly erode with time, biochar is gradually released to enrich the soil.

Through working with varied haptic clay and biochar surfaces, the designers wanted to invite the sense of touch in human visitors, and so to create a closer experience of inhabiting the space. When considering the meaning of touch, Puig de la Bellacasa (2017, pp. 95-97) raises the re-embodiment of thinking and knowing. Vision allows a certain distance from the environment. In *Alusta*, architecture is not experienced as a pre-given form to be beheld from an outside position, but rather as an embodied experience wrapping one

Figure 11: Biochar relief on fired clay wall reflected in water. Plantings of Wild Strawberry (Fragaria Vesca), Lemon Thyme (Thymus citriodorus), Chives (Allium schoenoprasum), and Field Scabious (Knautia arvensis) growing in a mixture of biochar, sand and soil. Alusta pavilion. August 2022. Photo: Maiju Suomi.

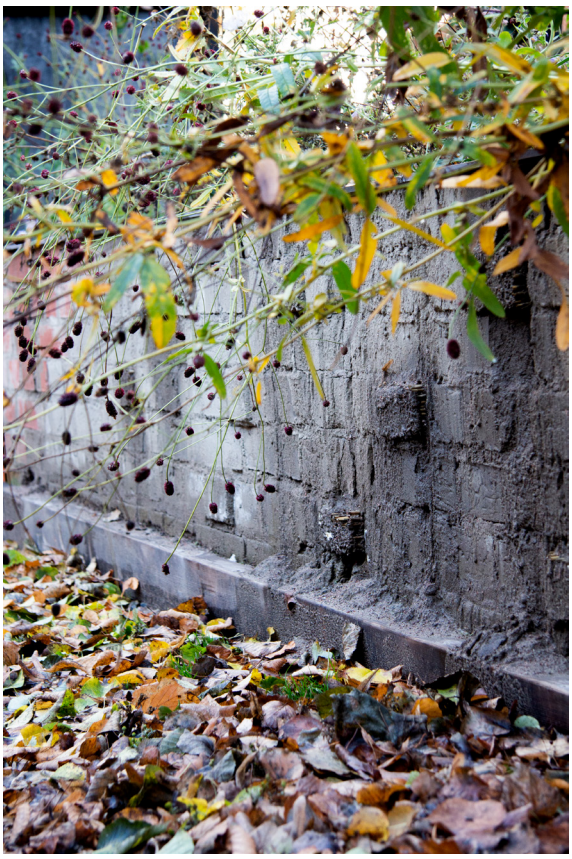

Figure 12: Raw clay bricks erode as rainwater washes over them. Great Burnet (Sanguisorba officinalis). Alusta Pavilion. October 2022. Photo: Elina Koivisto.

in its embrace and communicating through the more intimate senses of touch and smell. Bellacasa (2017, pp. 95-97) further argues that thinking with touch can bring about an interconnectedness that questions the Western dichotomies between, for example, emotion and reason. In *Alusta*, the embodied experience of the space opens through affects in time. Sustainability is approached on the level of emotions as well as through technoscientific understanding.

Working with various temporalities

When considering more than human temporalities, all architecture becomes temporary. In the case of *Alusta*, this transient quality was heightened. As the pavilion was initially planned only for two growing seasons, the material flows were carefully considered, and the aesthetics of the space were opened for natural changeability.

The continuous transformation of the spatial experience of the pavilion is tied to the rhythms of the more-than-human world. Raw clay erodes with water and time (Figure 12). The plants grow, bloom and wither, each at their own pace, offering nutrition for various pollinators from early May until late autumn (Figure 13). Fungi, algae, lichen, and moss begin to take over as time passes and moisture takes hold (Figure 14). Humans can trace the gradual change which binds the urban environment back to the cyclic rhythm of growth and decay.

Future-oriented temporalities inflicted on us by the capitalist system leave out of sight the temporalities of the living community (Puig de la Bellacasa, 2017, pp. 174-177). The designers wanted to call attention toward thinking on timescales sustaining the liveability of the planet for both humans and non-humans (see also Gan, 2017; Kokkonen, 2017). These parallel temporalities tied to natural processes are often too fast or too slow for human senses to observe. Just as these processes often

Figure 13 (left): Michaelmas Daisy (Symphyotrichum novi-belgii) flowering in the snow in late autumn. Alusta Pavilion. November 2022. Photo: Elina Koivisto.

Figure 14 (right): Fired clay blocks with algae and frost on them. Alusta pavilion. November 2022. Photo: Elina Koivisto.

happen spatially on a scale too small or too broad for us to comprehend. Soil is formed through the geological processes of breaking down rock and the shorter ecological processes of decomposing organic matter. In *Alusta*, gradual changes are amplified and opened up for human experience, for example through the inclusion of raw clay prone to the effects of erosion. Raw clay used on wall panels made of woven wicker erodes with time as rain washes over it. The panels change their appearance but do not break, rather taking on a new form. The passage of time is embedded in the aesthetic experience of the space. Materials around and in us are in constant flux. Often the pace is outside the scope of our experience, and we mistakenly take it as stability.

The gradual transformations brought on by climate change and loss of biodiversity do not register to us as they happen on a temporal scale exceeding our everyday experience. Could living in an environment that accepts and embraces change help us in understanding the shifting conception of the Earth as a stable environment, and open our eyes to its fragility and sensitivity towards our actions (see also Latour, 2017, pp. 59-63)? Could this also help us grasp ourselves as part of the living active tissue of the Earth, as subject to change and decay along with all other biotic beings?

Understanding a place as a meshwork of life

The main findings of the case study in relation to the making of architecture involve authorship and how we understand the essence of an architectural project. When observing the process of the *Alusta* pavilion, the coming together of different living things, materials and their continuous change along with the movements of air and water, the idea of a building as a stable object fades. Anthropologist Tim Ingold (2013, pp. 213-214) follows Deleuze and Guattari's (2004) overcoming of the hylomorphic model in Western thought; the Aristotelian reasoning of things as compilations of form (morphe) and matter (hyle), where form is set upon passive matter by an active agent with certain objectives. Instead, Ingold proposes an "ontology of animism" that accentuates the processes of becoming instead

Figure 15: Alusta pavilion. November 2022. Photo: Maiju Suomi.

of final forms – changing and shifting instead of stability. This calls for a certain sensitivity towards the continuous transformations of the environment, and a responsiveness to a world in constant flux.

Modern society has striven for a well-organized material world, representing its mental categories with clear borders, but Ingold (2013, p. 221) maintains that life repudiates strict boundaries. A constant flow of material across surfaces is what sustains life. In *Alusta*, the materials give way to these movements and connections. The porous fired clay blocks allow vines to twine their stems through, and the raw clay bricks with reed let insects make their homes inside. All contribute to a free movement of life in and through the structures, as well as accepting the changeability and the loss of aesthetic control that comes with it.

When reflecting on *Alusta*, through Ingold's thinking it can be seen as a "gathering together of the threads of life" (Ingold, 2013, p. 222). The different trajectories of becoming, growth, flourishing, decay, and death bind together into a meshwork of life (see also Ingold, 2007, pp. 80-82; Ingold, 2015, p. 3). This interweaving of lines can be experienced in the aesthetic texture of *Alusta* (Figure 13). The pavilion is an immersive tapestry made up by countless human and nonhuman participants, experienced with all senses in a temporal setting. In contrast to the prevailing attitude of human control and order enacted by the architect over the materials and other living organisms, the designers here aimed at keeping the process of form-taking open to different human and non-human forces, inviting a richness that could not have been achieved if strict creative control was retained (see also Petrescu, 2012). Plumwood (2013, p. 447) argues for giving nature back its active voice so that it can no longer be backgrounded and used as a sheer resource for human benefit. In the context of design, this demands the designer to open their process to those forces other than human also shaping the spatial experience. *Alusta* can be seen through the broader distribution of creative agency from human hands to also include the other members of our more-than-human community. It is architecture shaped by the needs (Plumwood, 2013, p. 452) and the creative world-making power of forces other than human as well as human agency, set in dialogue.

Discussion

We re-imagine architecture as part of the web of care sustaining all life. This requires architectural

interventions to become acts of repair informed by multidisciplinary understanding of the natural and cultural systems they become part of. While practically operating to heal environmental degradation, architecture can symbolically, through its aesthetics, challenge and shape the cultural status quo of human exceptionalism by embodying the values of care and relationality.

Ecology with its focus on relationships invites the maker to look beyond the individual on different levels. In the case of the *Alusta* pavilion and the process of its becoming, relationality appears in several ways. The aim of the project was to create conditions for diverse life to flourish and for interspecies relationships to appear. The pavilion was built as an open platform for environmental discourse to inspire visitors to rethink nature-culture relations and their conception of community.

Building a tangible space to embody concepts of interconnectedness and care enabled the designers to communicate through the multisensory experience of space. Intimacy with visitors was aimed at by choosing tactile materials that evoke the sense of touch. Changeability and more-than-human timescales were woven into the aesthetic texture of the space by allowing different natural processes to affect the experience. Individual creative agency and autonomy of the designer were called into question, as countless human and non-human actors took part in shaping the space.

Design decisions become ethical questions when considering their environmental and social impact. On the level of materials, their ethical sourcing, low energy solutions and reusability were key factors of the project. Construction methods were chosen to allow for repairability and community participation. Educational potential was also highlighted. The focus came to be on the relationships created and fostered through the process rather than the building itself as an object.

Many avenues of thought that were opened through the process of making the *Alusta* pavilion remain outside the scope of this article. These await future inquiry. A more thorough reflection on architectural space as a vehicle for environmental discourse and societal change is required, on the level of the agency of the aesthetic experience and the discussions held in the space itself, and beyond in the media as well as in professional and academic spheres. The participatory practices employed in the making of the pavilion also need to be evaluated from the perspective of the space as a tool for education, community building and democratic discussion. Following these, a more practical overview is called for concerning the need for change in the dominant ways of building in relation to the findings of this case study research.

Ecologist and philosopher David Abram (1996, pp. 27-28) argues that we have lost our sensuous connection to other species and our shared environment and are therefore indifferent towards their destruction. The *Alusta* pavilion was conceived of as a space for resensitizing ourselves to the alternate ways of being of the non-human, for slowly tuning ourselves into their pace and allowing their lifeways to unfold in and around ourselves (see also Morizot, 2022). Future reflection on the *Alusta* pavilion will also explore the space as a mediator for multispecies encounters and change.

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Endnotes

1 Koivisto was at the time University Teacher in Building Technology at Aalto University's Department of Architecture. Her responsibilities in the *Alusta* Pavilion project concentrated on the material realities and the pedagogical activities.

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3 https://environment.ec.europa.eu/topics/nature-and-biodiversity/pollinator-park_en

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