

portfolio

Radical ecology, design research

Hannah Caroline Segerkrantz

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From Mines to Mountains

(2025)

From Mines to Mountains unfolds as an act of care within an industrially mined landscape often denied tenderness. Anchored in historical, environmental and socio-political research, the project unveils the complex entanglements of Ida-Virumaa, Eastern Estonia—a region reshaped by over a century of oil shale mining. At its core are four hand-sculpted vessels made of clay and glazes from oil shale ash sourced directly from this terrain. Through field research, writings, material experiments, and a visual essay, the project asks what it means to care for a terraformed environment, offering a new perspective through the language of craft.

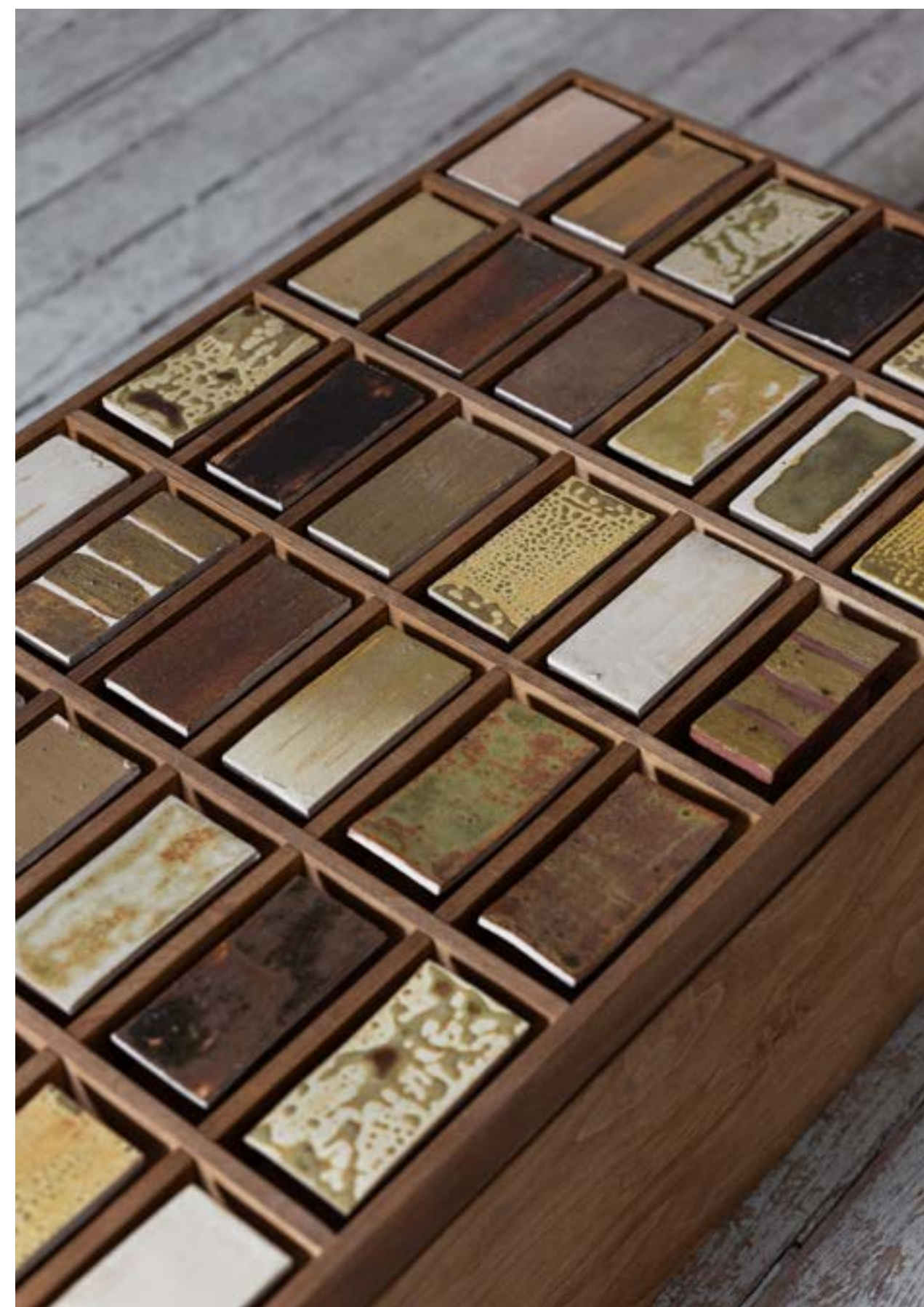
The exhibition “From Mines to Mountains” took place in the watchtower of Pikk Jalg in Tallinn, Estonia, from 15.05 - 29.06.2025.





RESEARCH Rather than using oil shale as fuel, as it typically is, the project employs its ash—already burned, spent, and often discarded—as a ceramic material. This repurposing is symbolic: a proposal to rethink our participation in seeing this industrial material as valuable only in cycles of extraction, consumption, and waste. The ash becomes not energy, but a container—a vessel that holds, rather than consumes. The vessels do not continue the narrative of domination but contain it, literally and conceptually.





Exhibition photography by Hedi Jaansoo

Material Assemblies

(2024)

Today's extractive material practices demand a paradigm shift in the resource consumption within the construction industry. Our built environment must now be regarded as a resource and strategies of adaptive reuse and alternative material production processes perceived as a viable architectural approach. Transitioning towards circular building practices commands, new values, characterised by the use of local material waste streams paired with a circular understanding of material sourcing, processing, assembly and disassembly in the context of the territories they ultimately depend on.

„Material Assemblies“ focuses on material research and 1:1 experimentation, aiming to explore and propose an alternative material narrative linked to and embedded in the city of Vienna, its resources, know-how, history and identity.

Through identifying, mapping and collecting local resources, industrial and agricultural by-products and waste streams in and around Vienna, the studio aimed to understand, test and analyse the physical properties and logistical implications of such raw materials, simultaneously reflecting on their value on a social, cultural and political level. With the help of industry, local and international experts employing various techniques and tools, we experimentally developed recipes and samples, and produced a small-scale series of selected materials that would ultimately point out directions for concrete applications in architecture and design.





Forest Archive

(2020)

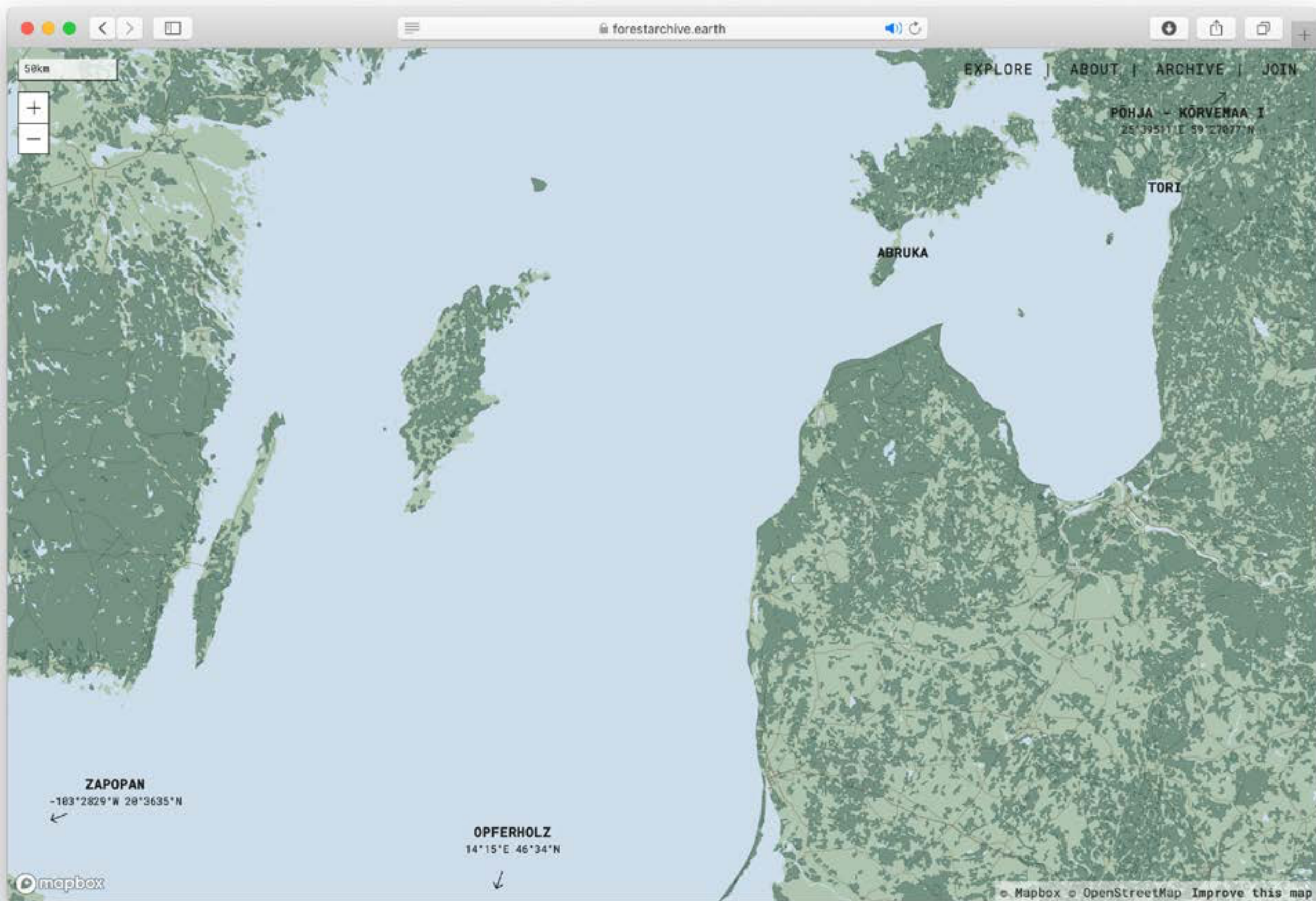
The contemporary society has brought us from the land to the city, from sensorial experiences into the world of facts. The implicit pull towards nature is present, but our relation can stay rather careful and superficial, mainly focused on the visual sense of the beautiful landscape.

Throughout the human evolution we have slowly separated ourselves from nature, and instead of co-existing, we are now dominating and exploiting it. When sensorial knowledge and stories of natural environments are disappearing from our society, how can we re-interpret our connection with nature today?

Forest Archive is an online archive experience, a digital environment for sharing personal connections and stories about forests. The viewer can wander around the world map and get access to practical information about various forests as well as read or listen to a personal sotry. Each forest on the map is represented by a local forest ambassador, who is taking the viewer on an audio-visual walk throughout which we discuss the meaning and importance of nature in their lives. These stories serve as an informative tool, giving the viewer alternative ways of interacting with the forests.

Through digitalising the forest, Forest Archive aims at helping people understand the value of existing together with nature and re-discover their intuitive connection with it.





RESEARCH

CONTEXT

MATERIAL & FORM

Cambio

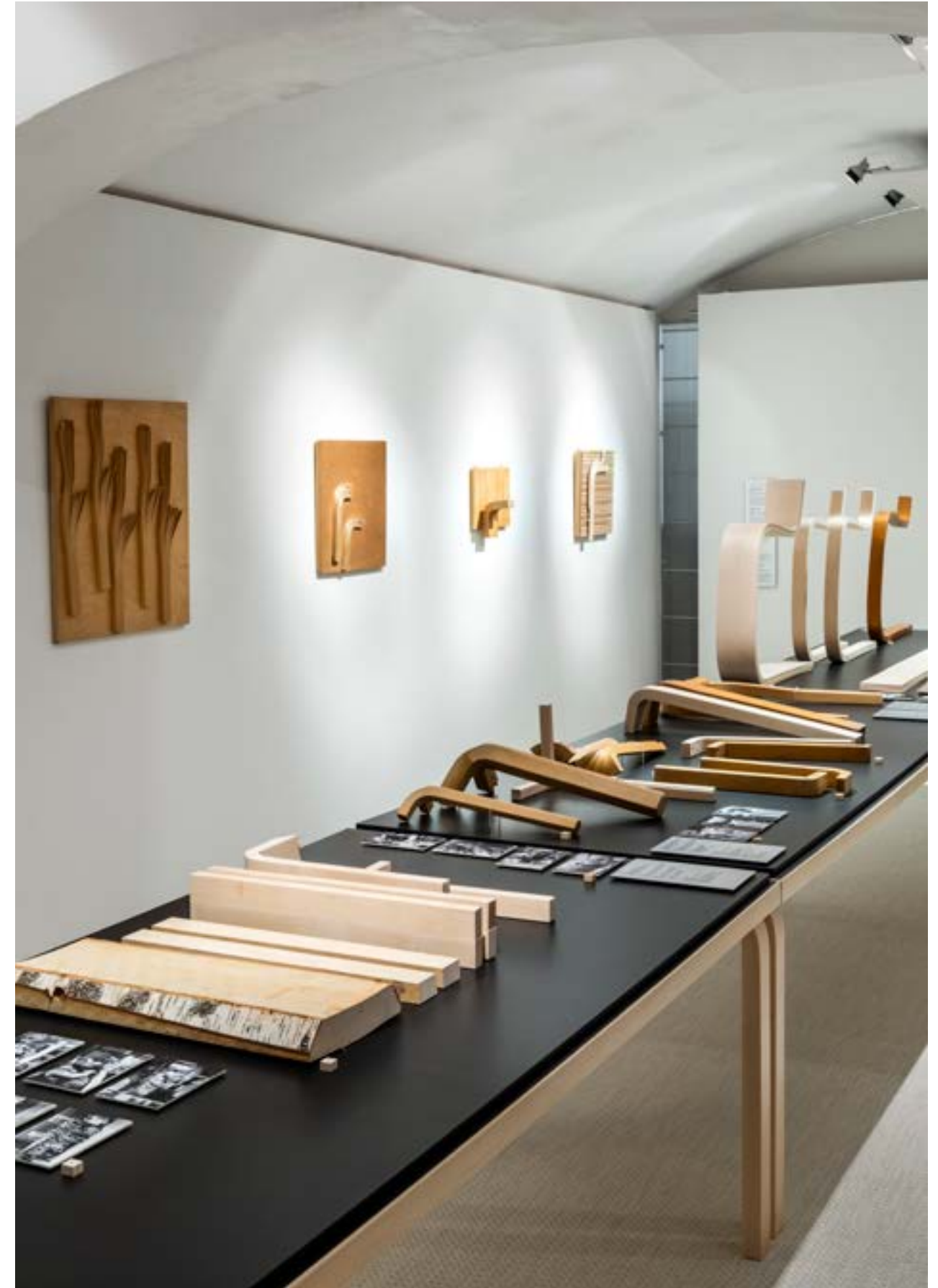
(2022)

Based on the Formafantasma's ongoing research project Cambio, the latest exhibition titled "Cambio – on Finnish forestry" is a work in collaboration with Artek, the Finnish furniture company.

Through the lens of Artek's own manufacturing reality, the exhibition investigates the Finnish forest sector, how the extraction and use of timber in Finland have evolved over time and how the paper pulp industry has contributed to the design and management of forests and plantations.

The exhibition was on show at the Helsinki Design Museum, from 10.06-28.08.2022.

Role in the project: design researcher and exhibition developer as a part of Formafantasma.





Interview with Riku Rehell and Jukka Silvennoinen

Artek



Interview with Kaisa Raitio

Swedish University of Agricultural Sciences



Interview with Henrik Heräjärvi

Birch Mechanical Expert
National Resources Institute

RESEARCH The research for this project was done based on archival research, site visits and extensive interviews with scientists, professors and experts in the field of forestry, as well as politicians and climate activists, in order to understand the local context and inform Artek's future environmental agenda. Selected images originate from the Finna Archives.



Exhibition photography by Paavo Lehtonen



hemp-it-yourself

(2020)

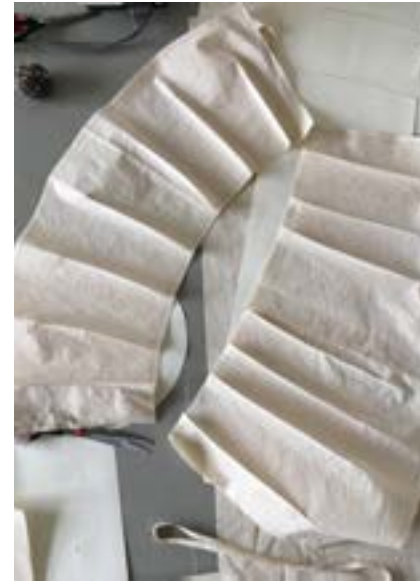
Hemp is a versatile and globally growing plant absorbing more CO2 per hectare than any forest or commercial crop. When combining hemp shivs with a lime binder, hempcrete is made which has the strength of concrete and the flexibility of clay. The material is widely used in ecological building, but has little application on a smaller scale.

Further exploring the potential of the material, [Hemp-it-yourself](#) creates a new method of applying hempcrete into a collection of carbon negative furniture pieces by merging material knowledge with a low-end approach to meet current values of sustainability. The semi-modular system consists of six textile patterns that can be mixed and matched together to create fabric form-works for casting objects with various heights, volumes and functions.

[Hemp-it-yourself](#) aims to encourage the usage of natural materials, craftsmanship and local, on-demand production. Inspired by the democratic design philosophy, the furniture pieces are based on a manual and can be produced locally, giving the power to the user. When various people around the world make a side table according to the [Hemp-it-yourself](#) manual, a network of makers is created, shifting the focus from the individual designer to a collective, globally local practice.

The more hempcrete furniture is made, the more carbon is captured – apart from creating a new aesthetics for sustainable materials, these pieces also serve as totems for ecological and planet-centric design.





MATERIAL Hempcrete is well known for it's ability to naturally regulate heat and moisture. Yet, this quality is already applied by using hempcrete as a natural isolation in ecological building.

I wanted to work with the characteristic of it being a flexible filler material – either by casting (ramming) or hand shaping.

Working with fabric adds an organic feel to the casting, as the mold is loose and less strict, making the outcome asymmetrical and almost bodily.





WORK - SHOPS

The goal of Hemp-it-yourself has always been to share the know-how of hempcrete, whether through the open source manual, or during workshops, where the participants can learn about the material characteristics, history and applications of hempcrete, as well as cast or hand-form a small sculpture.

Previous workshops have taken place during the Design Fest Gent in April 2022, and at the Tallinn Architecture Biennale in September 2022 as a part of the exhibition „Handful“.

Kosmosekivid

(2023)

As a development in the series of hempcrete pieces, Kosmosekivid (Space boulders) is a commissioned set of 12 black hempcrete boulders, coloured with natural pigments and hand casted into wooden form works.

The project was commissioned by Aeris Interiors, into the new office space of a law firm based in Tallinn, Estonia, with the goal of introducing new carbon negative materials to fields less aware of innovative material developments. The boulders will act as conversation starters, carrying narratives of floating black carbon banks from outer space.

Produced in collaboration with Krohwin.





in memory of the vicinato

(2018)

A socio-spatial research carried out in Matera, Italy.

Based on observations of the usage and ownership of public space around the front door in small Italian towns, a thorough research was carried out on the inside-outside spaces and social dynamics of the vicinato, which is a common architectural typology in the Sassi (old town of Matera), combining multiple households into one community.

As a part of the research, a possible memorial was created – a space to experience the feeling of moving in a vicinato – where the inside space can be confused with the outside as can be the borders of communal and personal spaces.

Within this project I got to experience multiple different approaches to research, develop a more personal way of working, discover the overlap of anthropology and spatial studies and experiment with abstract drawing for a possible architecture.





RESEARCH METHODS

Previous page – dialogue – talking with locals to deeper understand the essence of the space they inhabit, and add a personal layer to the research, carried out through collective map making and drawing.

Interventions in public space – to gain physical and emotional understanding of the observed in-between space, extension of the household.



Photo-observations of the city – documenting the streets, open doors and various curtains. Remembering the smells and documenting the sounds of local life.



Archival research for old photographs, maps and documentation of every-day life.

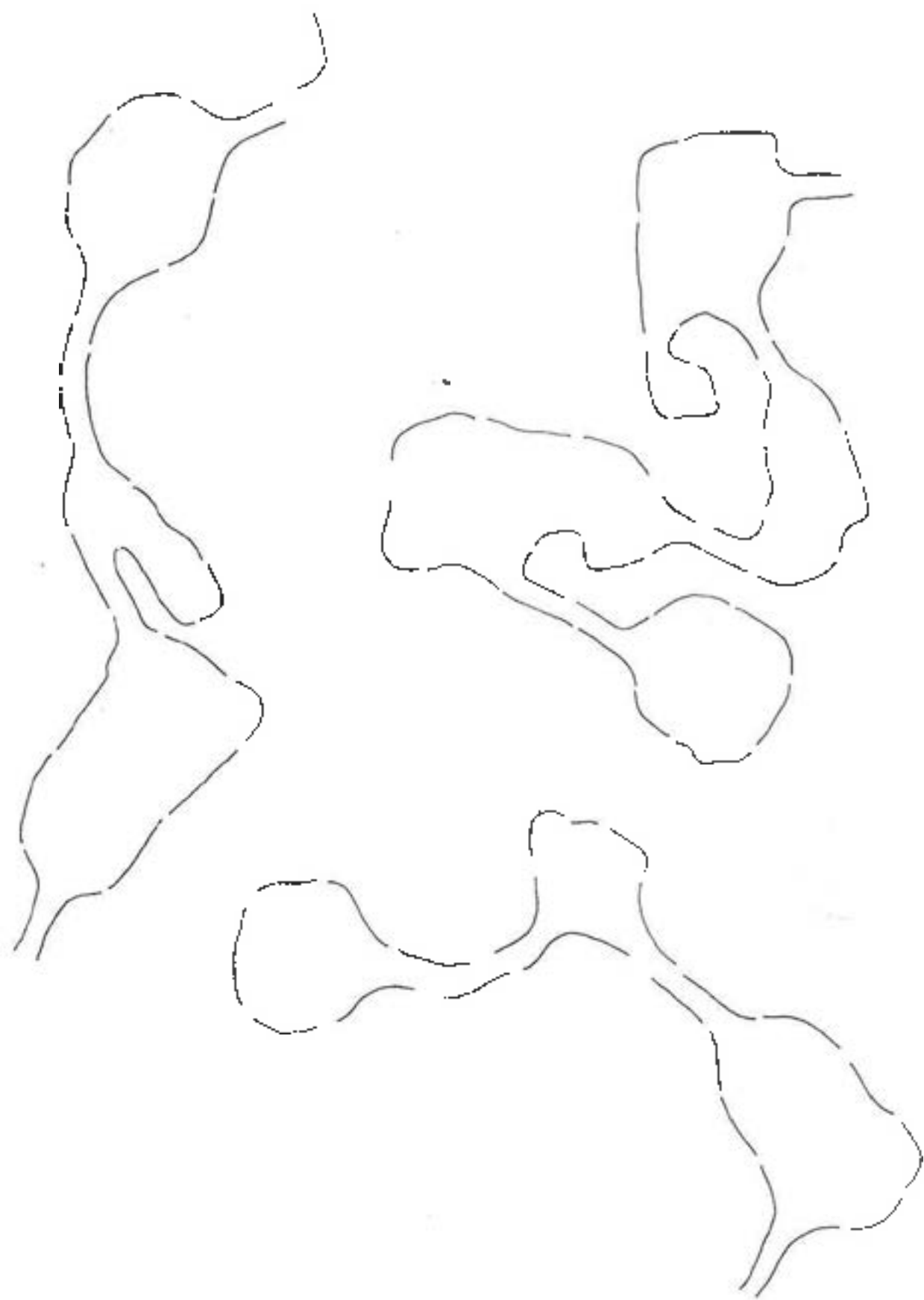


MATERIAL & SITE

Working with the typology of a city built out of tufo, it was inevitable that the final model would be made of this stone.

In order to understand the materiality of tufo, I visited both active and inactive quarries at various times of the day and worked together with a local craftsman to learn tufo carving.





DETAIL The memorial is composed out of tufo blocks, placed next to each other with gaps in them, in order to emphasize the feeling of being inside and outside simultaneously. The curved hallways play with the curiosity of the visitor, and the privacy - non privacy of former inhabitants.



RESEARCH

CONTEXT

MATERIAL & FORM

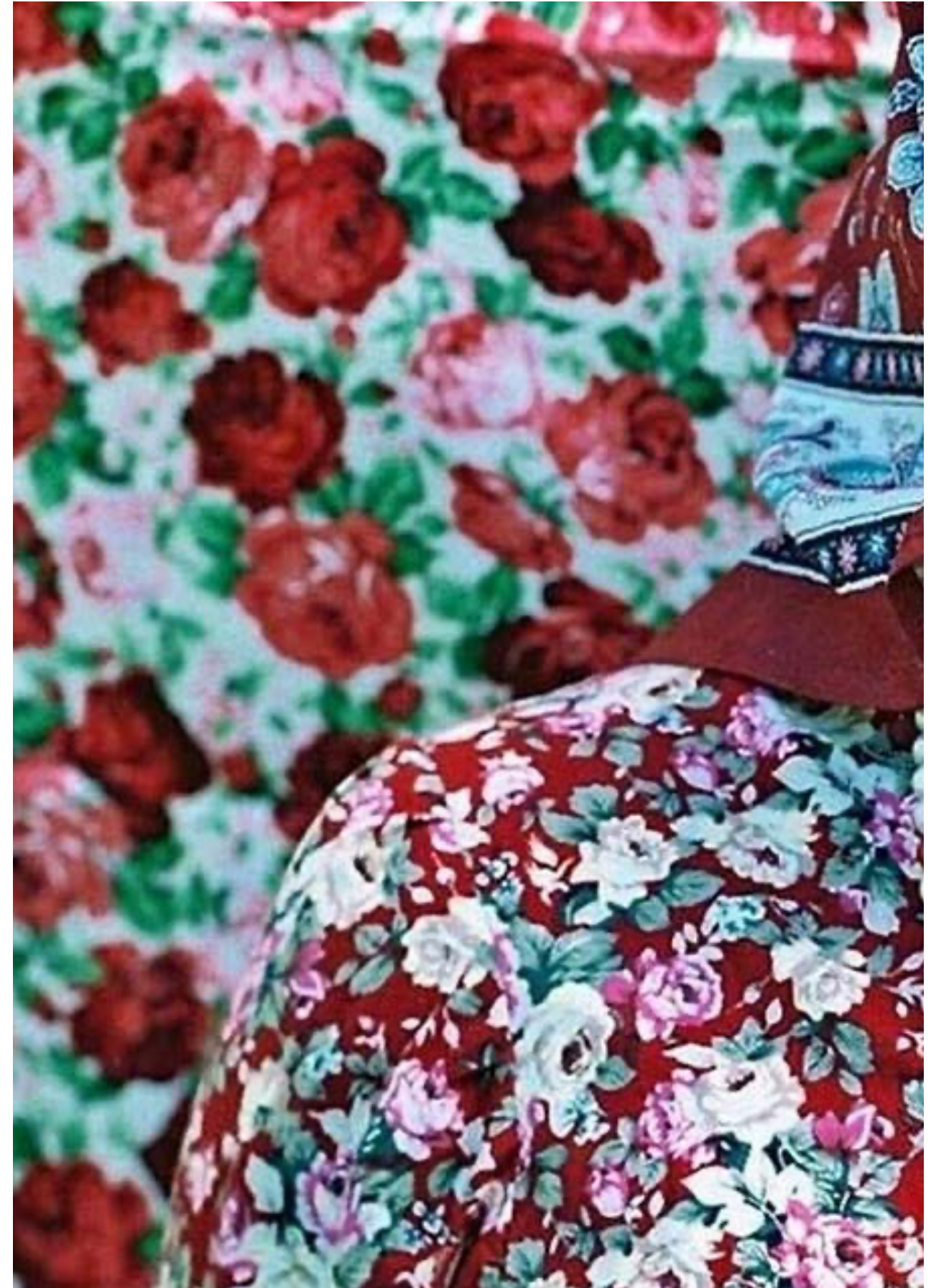
Lood Kynest

(2023 - ...)

Lood Kynest (Stories from Kyne) is a design research project about the cultural heritage of Kihnu, the seventh-largest island in Estonia. The project examines the island as a marginalised community and documents the relationships local inhabitants have with their surrounding, with sub-themes in ecology, feminism, vernacular design and crafts traditions.

The research will be carried out using ethnographic photo and video documentation, interviews, community gatherings and collective map making.

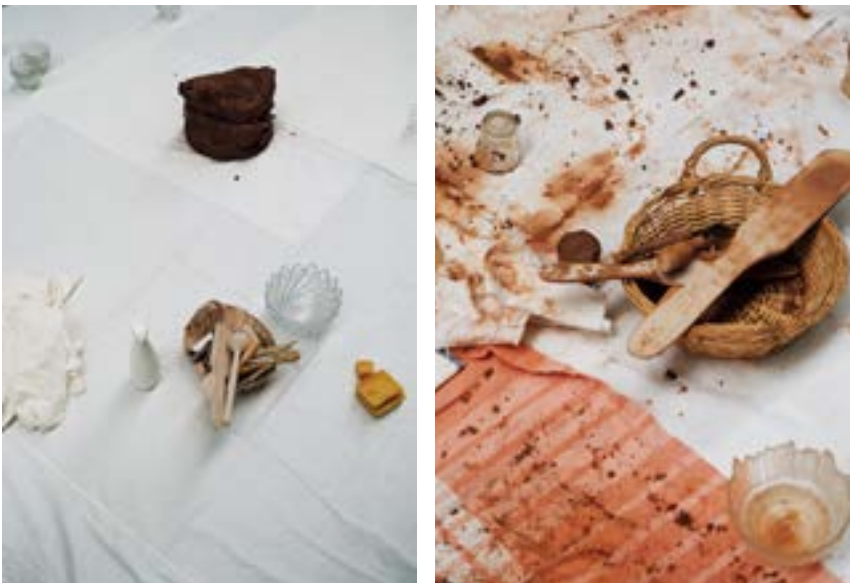
Ongoing and in collaboration with Mia Tamme.



A series of vases blown into the
same molds made for Kiukivi casts,
as an experiment in how different
materials fill the same form work.



A material led intuitive workshop
titled “Wild clay”, which took place in
Kumu Art Museum, with clay foraged
from Viljandimaa.



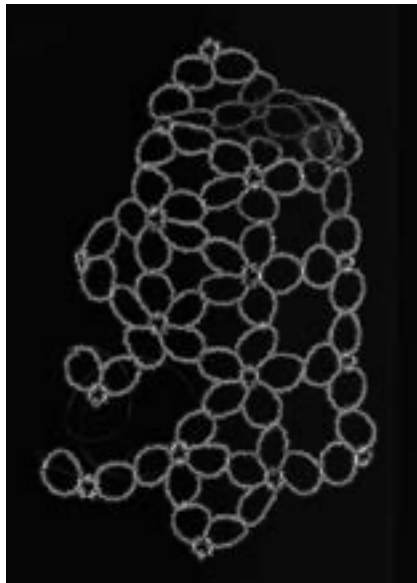
The following spreads show a selection of ongoing researches and material experiments, as (2019 - ...)
well as some material play from previous projects.

In my work, materials often define the process, meaning I start with a material, research its
cultural, historical and social backgrounds and simultaneously play on a trial and error basis,
in order to understand its characteristics, qualities and gestures. Over the past years, I have
mainly focused on ecological and site-specific materials, or their recycling.

Simultaneously to that, I have started questioning my position as a woman working in the
intersection of design and crafts, which has resulted in a new stream of research into feminist
practices, care and women as carriers.

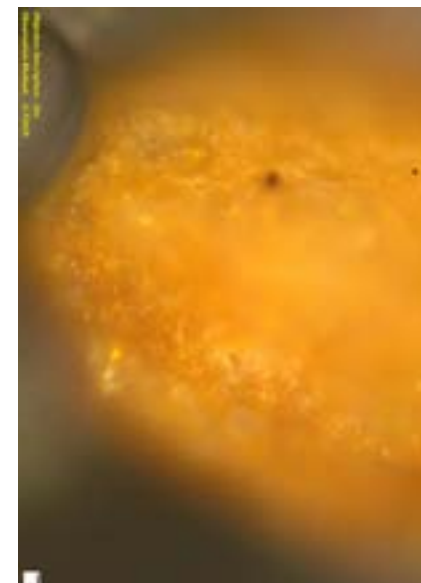
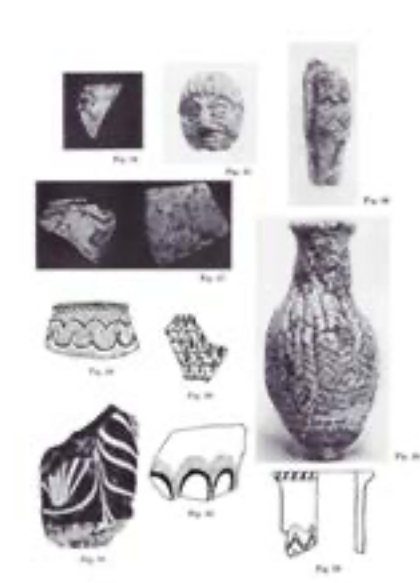
An ongoing research combining
traditional Mexican pottery with
raw earth compositions. Pictured
vessel (right) is made of clay from
Viljandimaa, flax fibres and foraged
sand, unfired and polished with terra
sigillata, applying the same tools and
techniques as with the Kiukivi series.





Ongoing research on the topics of crafts and feminist practices, questioning the separation between boycrafts and girlcrafts, looking into carrier bags (based on the Carrier bag theory of Evolution by Elizabeth Fisher) and embodied knowledge.

Last two images originate from the archives of ERM.



MA Craft Studies, research on the ecology, politics and history of sand, resulting in a series of material experiments, melting together recycled glass and wild sand.



Material process from a project titled "Lood/tus", with the aim of bringing the serenity of the Estonian bogs into the cityscape.

The outcome – a 'bog bowl', imitating the texture of soil in the bottom and reflecting the surroundings due to the darkness of unpolished brass.

conclusion

thank you for your attention!