

Unmaking Abstractions

25.11.2024

Documentation of Artistic Result

Magnhild Øen Nordahl

Reader’s Guide

This PDF provides documentation of the artistic outcomes from the PhD project *Unmaking Abstractions*, as well as details on the project’s dissemination to the public

The artistic result of *Unmaking Abstractions* was presented at Oseana Kunst og Kultursenter (Oseana) and at Entrée from 05.02.22–13.02.22. The artwork *Two Rocks Do Not Make a Duck* was shown at the Munch Museum from 01.10.22–11.12.22.

This PDF is divided into three sections corresponding to each of the three public presentations. Material documenting the artistic result is presented on pages with a white background. Material documenting dissemination of the project is presented on pages with a black background.

Document Overview

- 1 The exhibition *Oppløyte Abstraksjonar*, including the works *Secret Support*, *Holder*, *Objects at Hand* and *Explode Mesh*.
- 2 *Open Studio* at Entrée with live event program.
- 3 The artwork *Two Rocks Do Not Make a Duck*.

- 1 Exhibition at Oseana p. 3
 - 1.1.1 Exhibition architecture *Explode Mesh* – list of elements p. 5
 - 1.1.2 Exhibition overview and exhibition architecture p. 6
 - 1.1.3 Dissemination and mediation of exhibition at Oseana p. 18
- 1.2 *Secret Support*
 - 1.2.1 *Secret Support* – list of works p. 23
 - 1.2.2 *Secret Support* at Oseana p. 24
 - 1.2.3 Documentation of sculptures not exhibited at Oseana p. 33
 - 1.2.4 Dissemination and mediation of *Secret Support* p. 35
- 1.3 *Holder*
 - 1.3.1 Holder – list of works p. 41
 - 1.3.2 Holder at Oseana p. 42
 - 1.3.3 Dissemination and mediation of *Holder* p. 55
- 1.4 *Objects at Hand*
 - 1.4.1 *Objects at Hand* – list of works p. 59
 - 1.4.2 *Objects at Hand* at Oseana p. 60
 - 1.4.3 Dissemination and mediation of *Objects at Hand* p. 73
- 2 *Open Studio* at Entrée p. 75
 - 2.1.1 List of elements in interior p. 77
 - 2.1.2 Objects on display at Entrée p. 78
 - 2.1.3 Documentation from *Open Studio* p. 79
- 2.2 Dissemination of project at Entrée
 - 2.2.1 *Open Studio* Program p. 84
 - 2.2.2 Other artists and events using the interior p. 95
- 3 *Two Rocks Do Not Make a Duck* p. 100
 - 3.1.1 List of parts in installation p. 101
 - 3.1.2 Documentation from exhibition at MUNCH. p. 102
 - 3.1.3 Logbook excerpt from museum hosts p. 112
- 3.2 Dissemination of *Two Rocks Do Not Make a Duck* p. 113
 - 3.2.1 Mediation and exhibition reviews p. 114
 - 3.2.2 Texts about artwork p. 116
 - 3.2.3 Presentations of work in other venues p. 117

1 Exhibition at Oseana: Public presentation and dissemination of artistic result

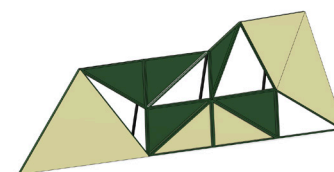


Exhibition at Oseana – section overview

This section documents the artistic result presented at Oseana from 05.02–13.03.22 in the solo exhibition *Oppløyste Abstraksjonar*, curated by Entrée director Randi Grov Berger. The exhibition included works from the sculpture series *Secret Support*, *Holder*, *Objects at Hand* and *Explode Mesh*, the last of which also served as a site-specific exhibition architecture. Material documenting artworks presented in this exhibition is presented on pages with a white background.

This section also includes documentation of how the exhibition and its individual works were mediated and disseminated at Oseana and elsewhere. This material is presented on pages with a black background.

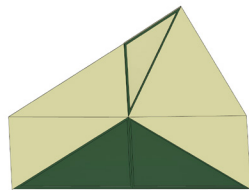
In parallel with the exhibition at Oseana, Entrée hosted my *Open Studio* with a live event program. Documentation from Entrée is presented in section 2 of this PDF.



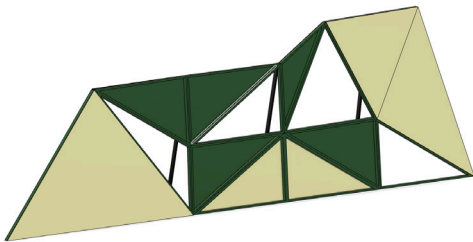
- 1.1 Exhibition at Oseana p. 3
 - 1.1.1 Exhibition architecture *Explode Mesh* – list of elements p. 5
 - 1.1.2 Exhibition overview and exhibition architecture p. 6
 - 1.1.3 Dissemination and mediation of exhibition at Oseana p. 18
- 1.2 *Secret Support*
 - 1.2.1 *Secret Support* – list of works p. 23
 - 1.2.2 *Secret Support* at Oseana p. 24
 - 1.2.3 Documentation of sculptures not exhibited at Oseana p. 33
 - 1.2.4 Dissemination and mediation of *Secret Support* p. 35
- 1.3 *Holder*
 - 1.3.1 *Holder* – list of works p. 41
 - 1.3.2 *Holder* at Oseana p. 42
 - 1.3.3 Dissemination and mediation of *Holder* p. 55
- 1.4 *Objects at Hand*
 - 1.4.1 *Objects at Hand* – list of works p. 59
 - 1.4.2 *Objects at Hand* at Oseana p. 60
 - 1.4.3 Dissemination and mediation of *Objects at Hand* p. 73

1.1.1 Exhibition architecture *Explode Mesh* - list of elements

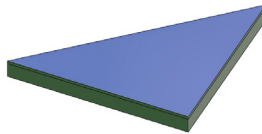
Explode Mesh #1, 2022
painted wood and MDF
3,9 × 3,0 × 0,6 m



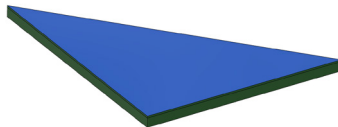
Explode Mesh #2, 2022
painted wood and MDF
10,0 × 3,0 × 0,6 m



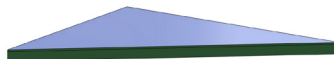
Podium 1, 2022
painted wood, HPL
on plywood
2,1 × 1,7 × 0,7 m



Podium 2, 2022
painted wood, HPL
on plywood
2,2 × 1,6 × 0,7 m



Podium 3, 2022
painted wood, HPL
on plywood
2,0 × 1,8 × 0,7 m



1.1.2 Exhibition overview and exhibition architecture *Explode Mesh*



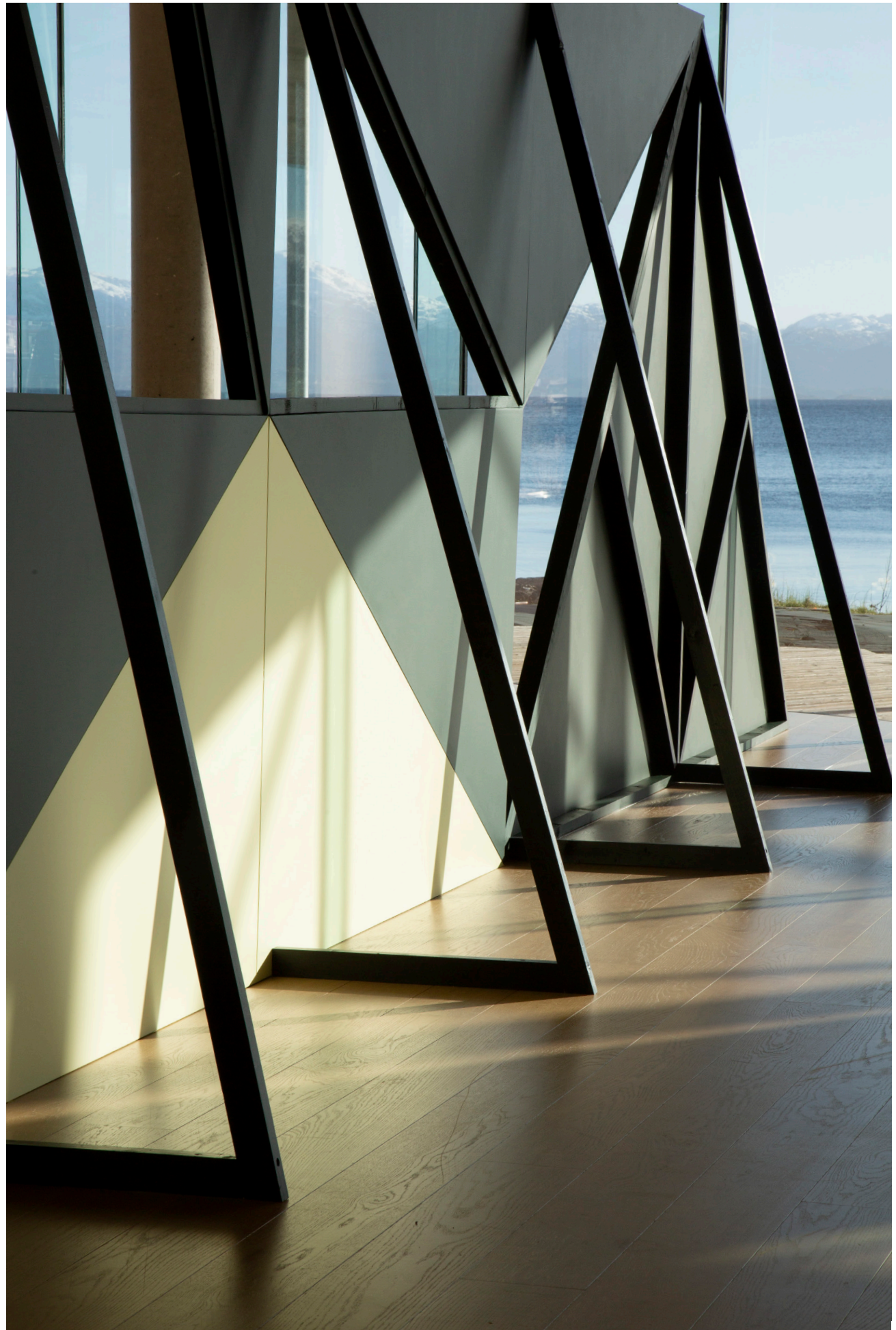






















1.1.3 Dissemination and mediation of exhibition at Oseana

Mediation Programme

- 05.02.2022
Artist talk at opening with curator Randi Grov Berger
- 12.02–05.03.2022
Guided tours of the exhibition during two weekends by Oseana staff
- 23.03.2022
Oseana open day with tour of exhibition by Oseana staff
- 07.03.2022
Guided tour for PhD candidates at KMD by Øen Nordahl
- 13.03.22
Guided tour for the public by Øen Nordahl final weekend

Mediation materials in exhibition

- Text in Norwegian and English written by curator Randi Grov Berger.
- Ipad with Artistic Reflection Website open, placed by the entrance of the exhibition space.

Dissemination of exhibition

- Presentation of work in Phaidon book *PRIME -Art's Next Generation* (included in section documenting dissemination of the work *Secret Support*)
- Presentation of exhibition at Oseana and Entrée on ArtViewer



Artist talk at opening event with curator Randi Grov Berger



Guided tour by Oseana



Guided tour for PhD candidates at KMD. Photo: Ingrid Rundberg

OPPLØYSTE ABSTRAKSJONAR
MAGNHILD ØEN NORDAHL
05.02 - 13.03, 2022

The exhibition *Oppløyste abstraksjonar* at Oseana Kunst- og Kultursenter is the final presentation of Bergen-based artist Magnhild Øen Nordahl's artistic research PhD project that she has been working on at the Faculty of Art, Music and Design at the University of Bergen. The exhibition has been curated by Randi Grov Berger in collaboration with Entrée.

The exhibition consists of a combination of colorful sculptures and exhibition architecture that in different ways make use of, and at the same time examine, abstraction in 3D modeling. *Secret Support* is a close study of translations between the digital and non-digital which takes place when a virtual shape is turned into a physical object. Their shapes are derived from the support structures that hold an object in place while being 3D printed, a structure which is automatically generated by a proprietary algorithm. In the interactive sculpture series *Holder*, Øen Nordahl lets various YouTube instructors teach 3D modeling by using her sculptures as the object for the exercise. The exhibition architecture is created by enlarging small, geometric fragments of 3D scanned objects that have a dual role by also being shown in the exhibition as a series of jesmonite sculptures.

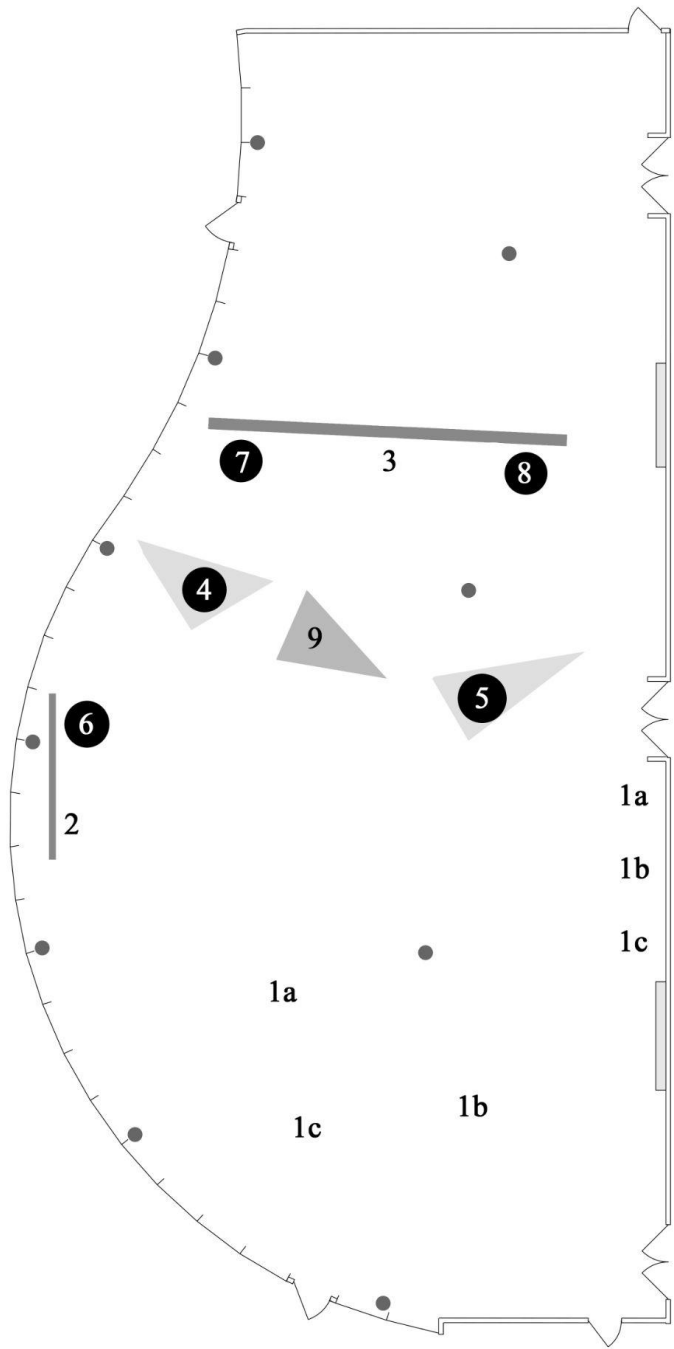
In their foundation 3D models are built up by layers of abstraction, which include x-y-z coordinates, mathematical formulas, and zeros and ones. When you scan an object, it becomes clear how the abstraction process simplifies by including some qualities and discarding others; the shape of the object continues to exist, but not the smell, taste, or cultural context. The natural sciences, language, economics and other systems that simplify, categorize and structure our chaotic world are all built on abstractions. Together these structures steer our understanding of the world and how we construct it. In Øen Nordahl's PhD project she uses her sculptural practice to investigate what the abstractions in 3D modeling technology are and how they influence the things that we make and the way that we look at our surroundings.

The exhibition activates Oseana's large space on the first floor that normally houses The Grieg Collection. The project continues at gallery Entrée, where Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted and laminated poplar and spruce. The new interior (commissioned by the gallery) has been designed to temporarily transform Entrée from a white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations.

In parallel with the exhibition Øen Nordahl presents an open studio at Entrée, where we invite our audience to participate in a discursive program with invited guests who go further into the themes that the artist process sculpturally. The program consists of workshops and presentations by Patrícia Šichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta and Felipe R Pena. See below for the full program.

Magnhild Øen Nordahl (b.1985, Ulsteinvik) lives and works in Bergen. She is based at Aldea Center for Contemporary Art, Design and Technology, which she co-founded in 2018, and which has produced many of the works in the exhibition. Øen Nordahl's main artistic interest is how humans translate the phenomena we perceive through our bodily senses into abstract concepts, and how we use these simplifications to create new modes of understanding and to make new things. Chopping up, mixing, and assembling different materials has become her method of dissolving abstractions and of understanding the world through her eyes, hands, and feet. Previous projects have examined body-based measurement units, numerical systems, the formula for the shape of the Earth and other kinds of universal standards. Øen Nordahl has an MA in Fine Arts from the Royal Institute of Art in Stockholm (2014) and a BA in Fine Arts from the Bergen Academy of Art and Design (2010). She has exhibited her work at institutions including Bergen Kunsthall, Astrup Fearnley Museum in Oslo, Palais de Tokyo in Paris (FR) and Banff Center for Arts and Creativity in Alberta (CA). Her work is included in the collections of KODE Art Museums, The Sogn og Fjordane Art Museum and The Equinor Collection.

oseana
KUNST & KULTURSENTER
GRIEGSAMLINGEN



Exhibition text available to visitors at Oseana, written by curator Randi Grov Berger

1a. **Holder I** (2020) Birch, anodized and spray-painted aluminum tubes, laminated forescolor, 110 x 80 x 86 cm
Fusion 360 for Digital Fabrication, Beginner CAM Project

Instructional film from Youtube by Product Design Online, 25:43 min (loop)

1b. **Holder III** (2020) Walnut, tape rolls, through-dyed and laminated forescolor, 110 x 75 x 86 cm
Tape Holder Modeling + Manufacture Simulate, Fusion 360 for Digital Fabrication

Instructional film from Youtube by Mufasu CAD, 18:10 (loop)

1c. **Holder II** (2020) Oak, painted color samples in pine bark, laminated forescolor, 100 x 84 x 86 cm
Make a wooden sculpture- Design to Manufacturing using Autodesk Fusion 360- Part1 Instructional film from Youtube by Design Sangam, 21:36 (loop)

Make a wooden sculpture- Design to Manufacturing using Autodesk Fusion 360 - Part 2
Instructional film from Youtube by Design Sangam, 09:45 (loop)

2. **Explode Mesh I** (2022)
Exhibition architecture in painted wood and MDF, 3,9 x 3,0 x 0,6 m

3. **Explode Mesh II** (2022)
Exhibition architecture in painted wood and MDF, 10,0 x 3,0 x 0,6 m

4. **Secret Support # 2** (2019) Powder-coated aluminum tubes, 72 x 23 x 20

5. **Secret Support # 6** (2019) Powder-coated aluminum tubes, 76 x 33 x 18

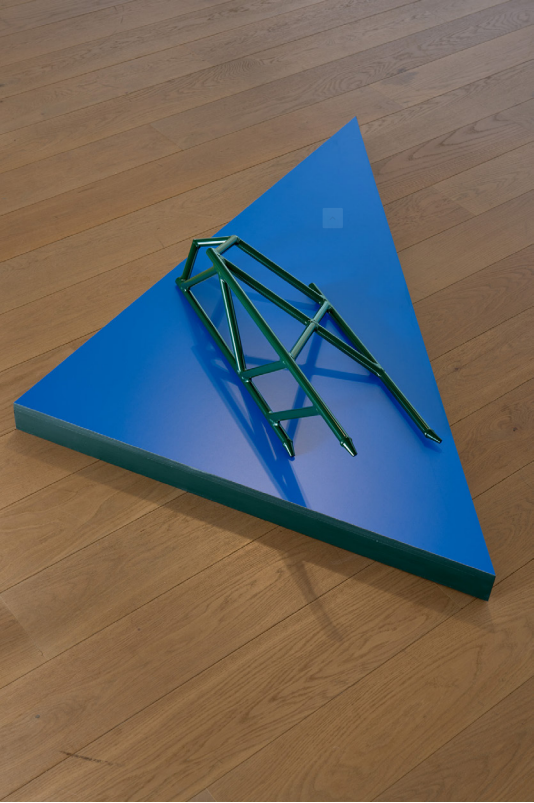
6. **Secret Support # 7** (2019) Powder-coated aluminum tubes, 108 x 21 x 16

7. **Secret Support # 1** (2019) Powder-coated aluminum tubes, 60 x 80 x 10

8. **Secret Support # 5** (2019) Powder-coated aluminum tubes, 80 x 38 x 5
The 'Secret Support' series is on loan from KODE Art Museums' collection

9. **Objects at Hand** (2022) Jesmonite
Variable dimensions

Magnhild Øen Nordahl at Entrée and Oseana
March 11, 2022



Artist: Magnhild Øen Nordahl
Exhibition title: Unmaking Abstractions
Venue: Entrée, Oseana, Bergen, Norway
Date: February 5 – March 13, 2022
Photography: Bent René Synnevåg / all images copyright and courtesy of the artist and Entrée, Bergen



Magnhild Øen Nordahl, *Exploded Mesh I* with *Secret Support # 5*. Installation view, Oseana. All photos by Bent René Synnevåg



Magnhild Øen Nordahl, *Exploded Mesh I* (in front), *Exploded Mesh II* (behind)



Magnhild Øen Nordahl, *Exploded Mesh I* (in front), *Exploded Mesh II* (behind)

The project continues at gallery Entrée, where Magnhild Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted, and laminated poplar and spruce. The new interior has been designed to temporarily transform the white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations. In parallel with the exhibition *Unmaking Abstractions*, invited guests Patricia Sichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta, and Felipe R Pena, will give lectures at Entrée in relation to Øen Nordahl's field of artistic research



The project continues at gallery Entrée, where Magnhild Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted, and laminated poplar and spruce. The new interior has been designed to temporarily transform the white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations. In parallel with the exhibition *Unmaking Abstractions*, invited guests Patricia Sichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta, and Felipe R Pena, will give lectures at Entrée in relation to Øen Nordahl's field of artistic research



The project continues at gallery Entrée, where Magnhild Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted, and laminated poplar and spruce. The new interior has been designed to temporarily transform the white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations. In parallel with the exhibition *Unmaking Abstractions*, invited guests Patricia Sichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta, and Felipe R Pena, will give lectures at Entrée in relation to Øen Nordahl's field of artistic research



The project continues at gallery Entrée, where Magnhild Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted, and laminated poplar and spruce. The new interior has been designed to temporarily transform the white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations. In parallel with the exhibition *Unmaking Abstractions*, invited guests Patricia Sichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta, and Felipe R Pena, will give lectures at Entrée in relation to Øen Nordahl's field of artistic research

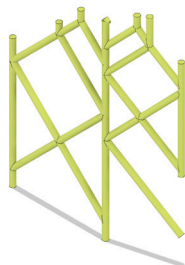


The project continues at gallery Entrée, where Magnhild Øen Nordahl has transformed the traditional white cube into a flexible structure consisting of walls, shelves, tables, and stools made of stained, painted, and laminated poplar and spruce. The new interior has been designed to temporarily transform the white cube into a room for social and discursive art projects for a longer period. The shelves and furniture are made in a system that can be reorganized to facilitate workshops, lectures, libraries, and other forms of presentations. In parallel with the exhibition *Unmaking Abstractions*, invited guests Patricia Sichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta, and Felipe R Pena, will give lectures at Entrée in relation to Øen Nordahl's field of artistic research

Excerpts from work presented on ArtViewer 11.03.2022.

1.2.1 *Secret Support* – list of works

Secret Support #1, 2019
Powder-coated steel
60 × 80 × 3 cm



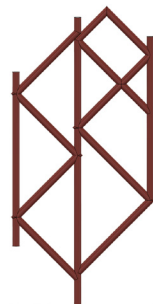
Secret Support #4, 2019
Powder-coated steel
60 × 23 × 3 cm



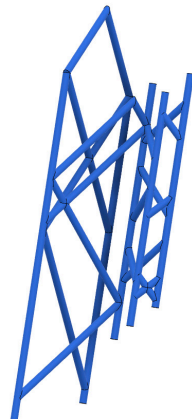
Secret Support #2, 2019
Powder-coated steel
72 × 23 × 20 cm



Secret Support #5, 2019
Powder-coated steel
80 × 38 × 5 cm



Secret Support #3, 2019
Powder-coated steel
115 × 40 × 30 cm



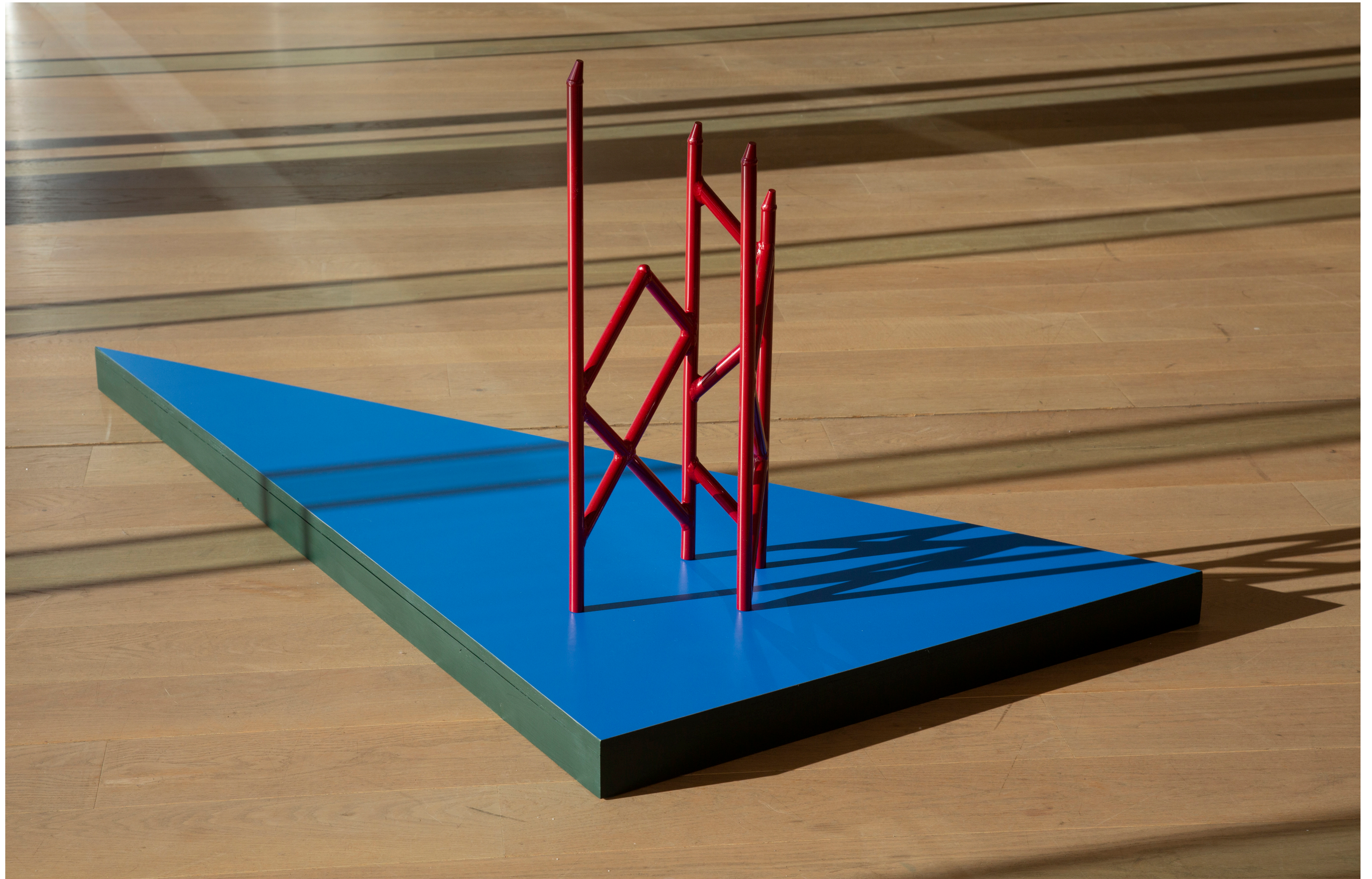
Secret Support #6, 2019
Powder-coated steel
76 × 33 × 18 cm



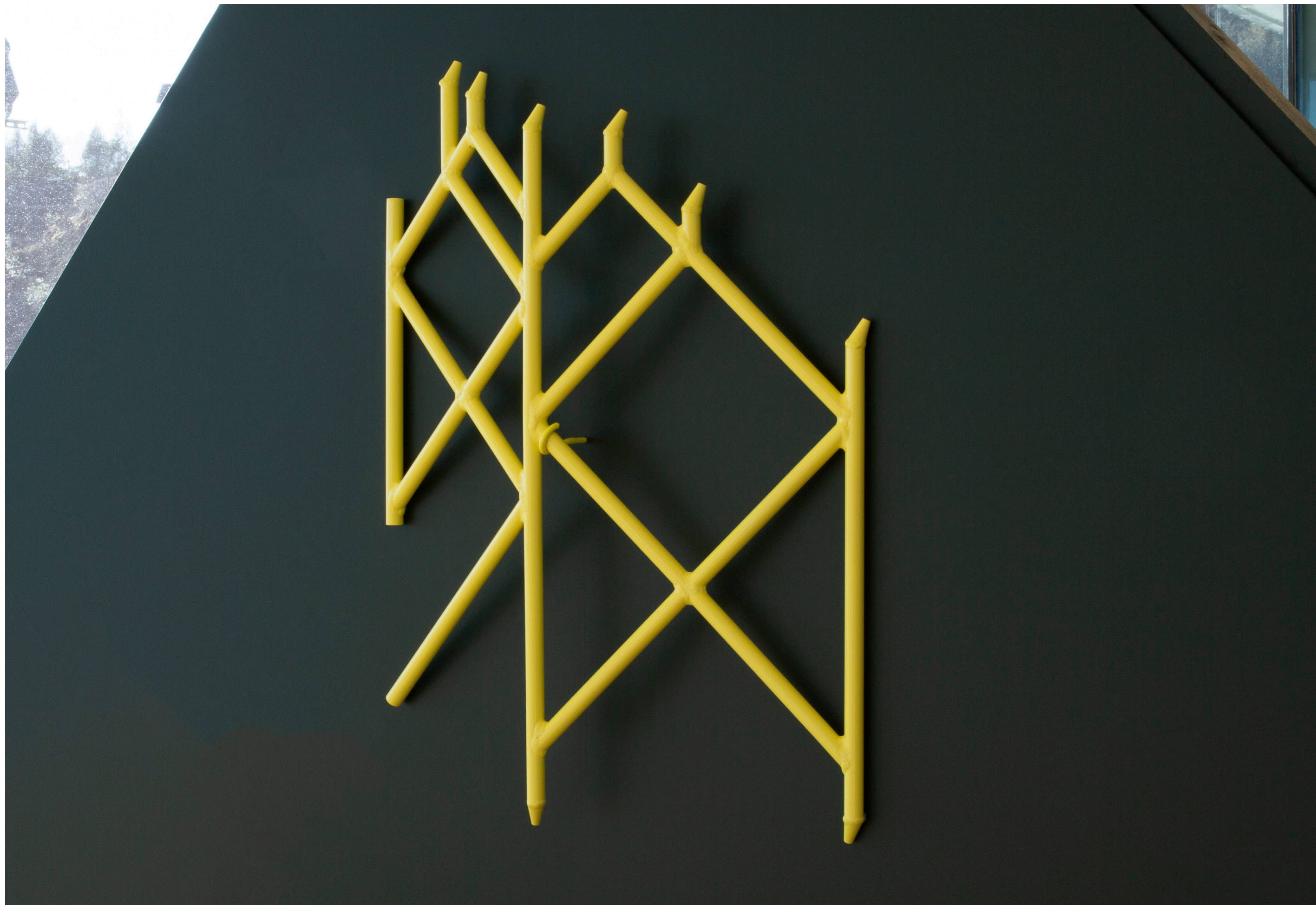
Secret Support #7, 2019
Powder-coated steel
108 × 21 × 16 cm



1.2.2 *Secret Support* at Oseana

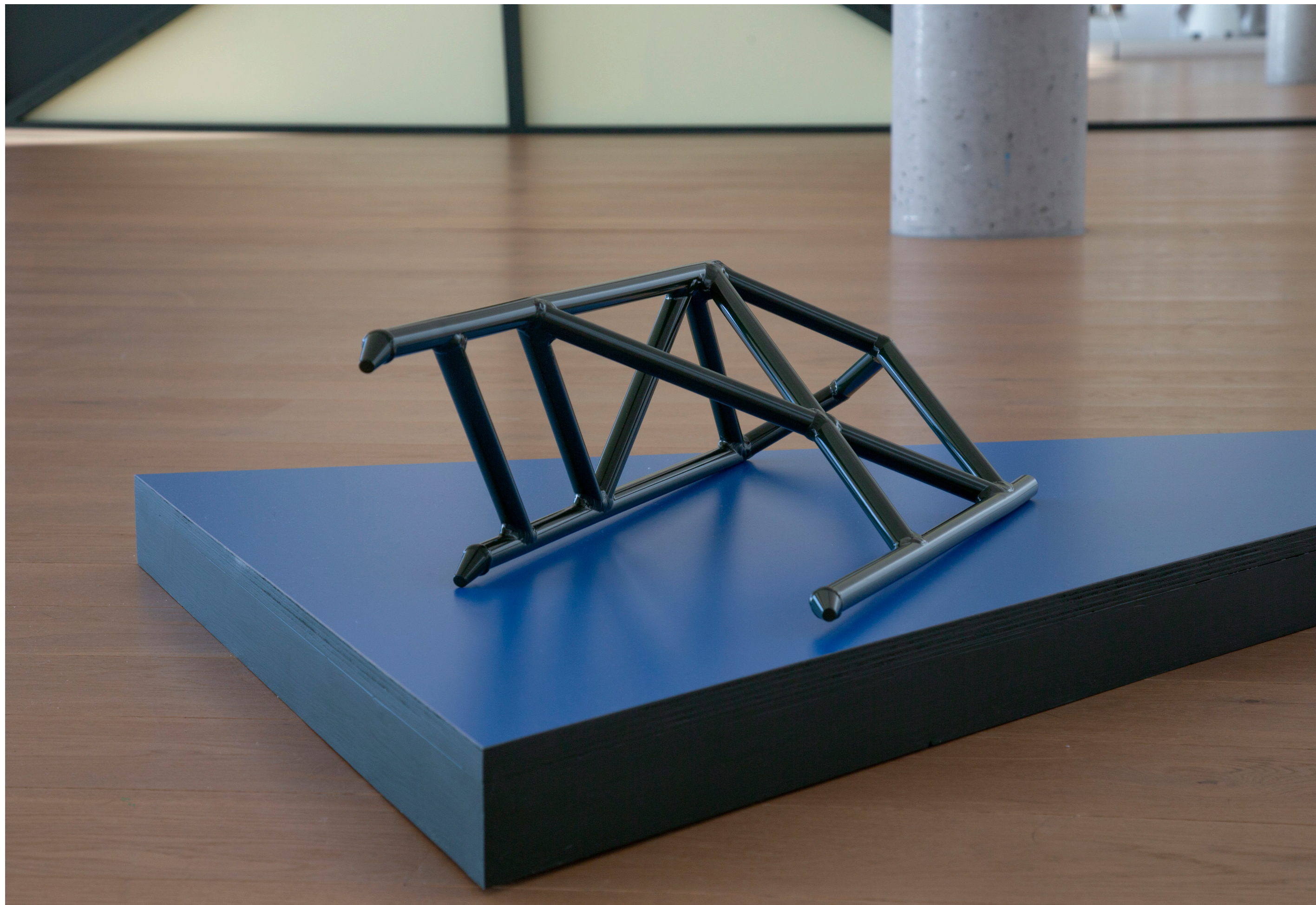




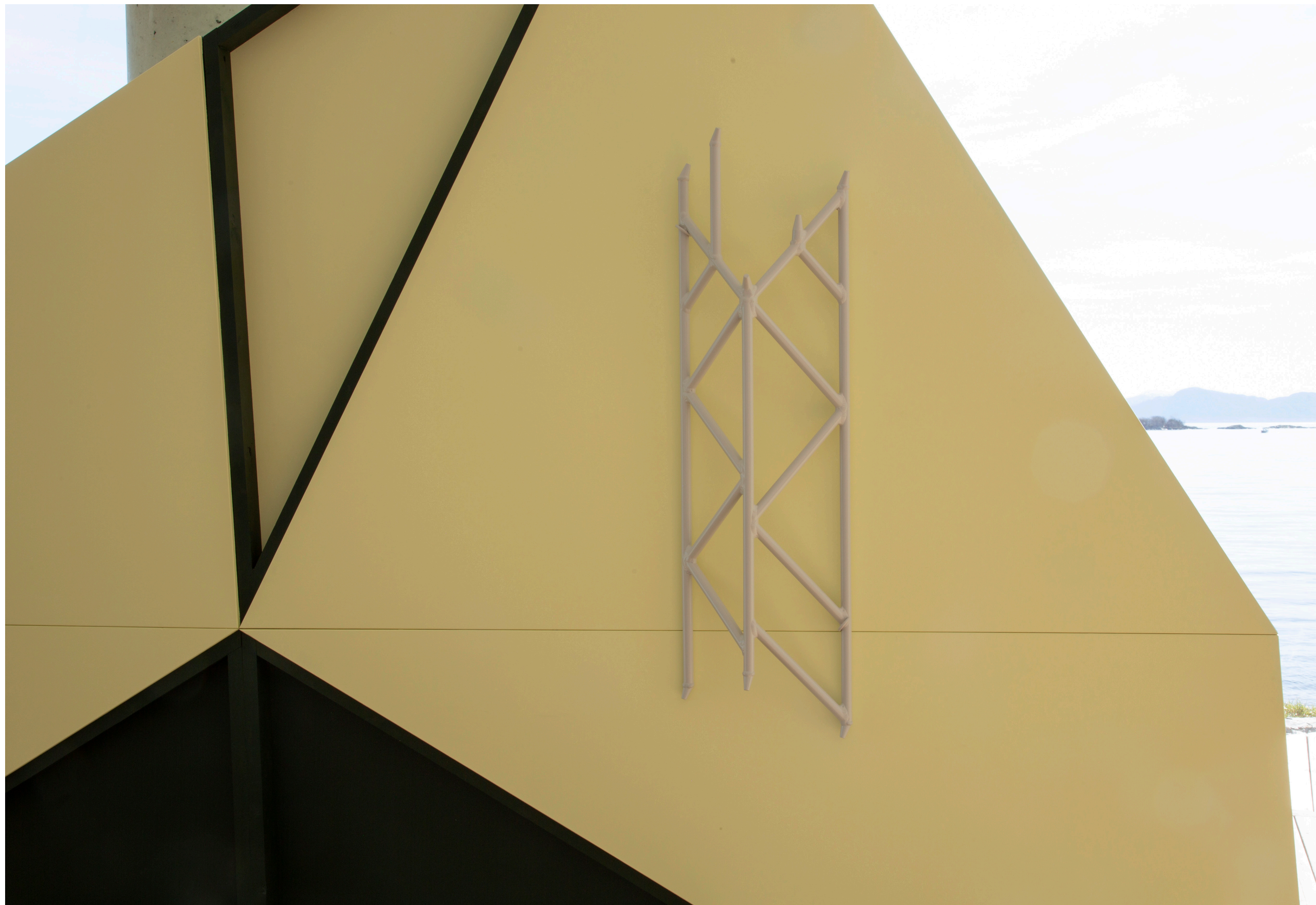


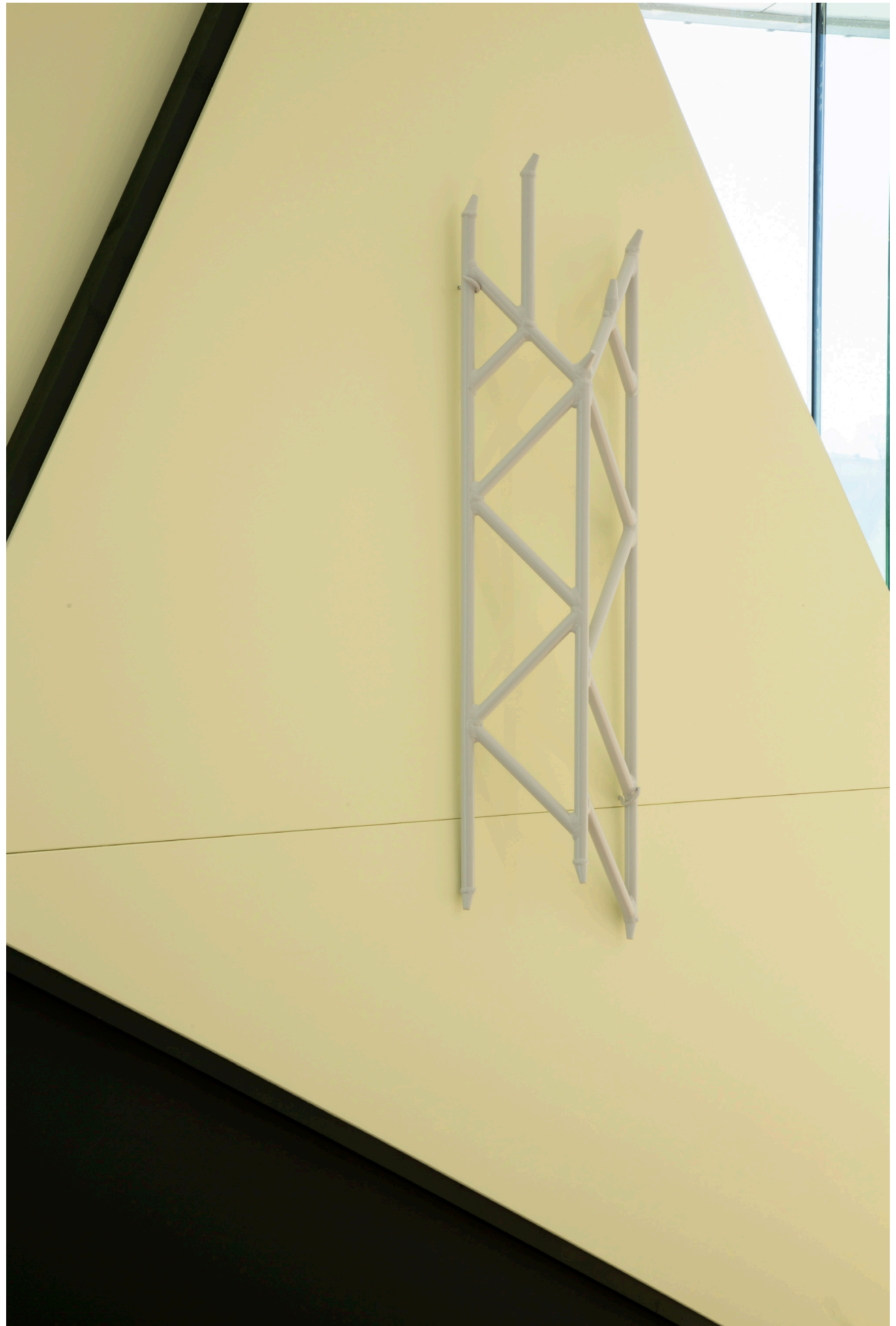




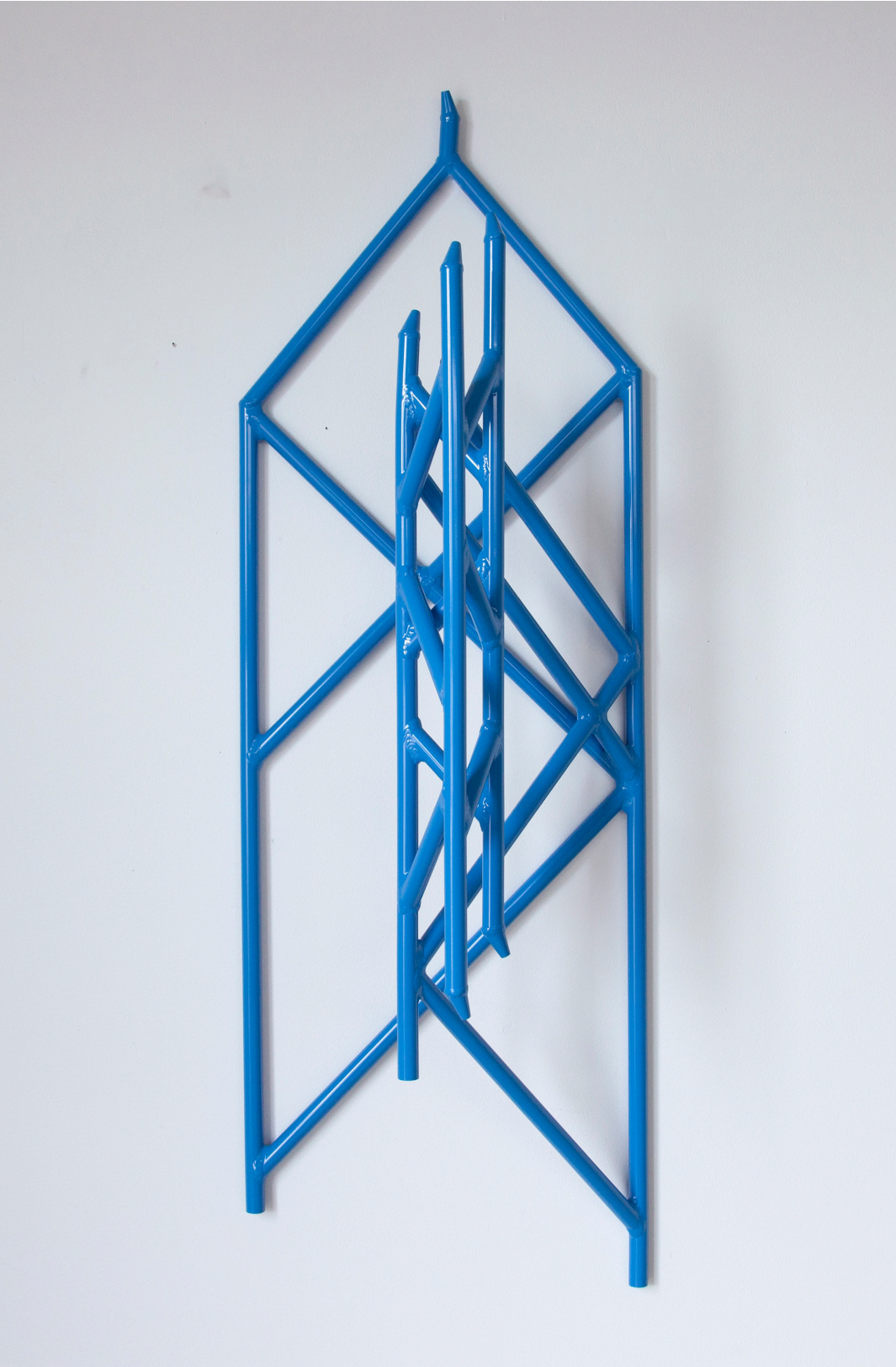


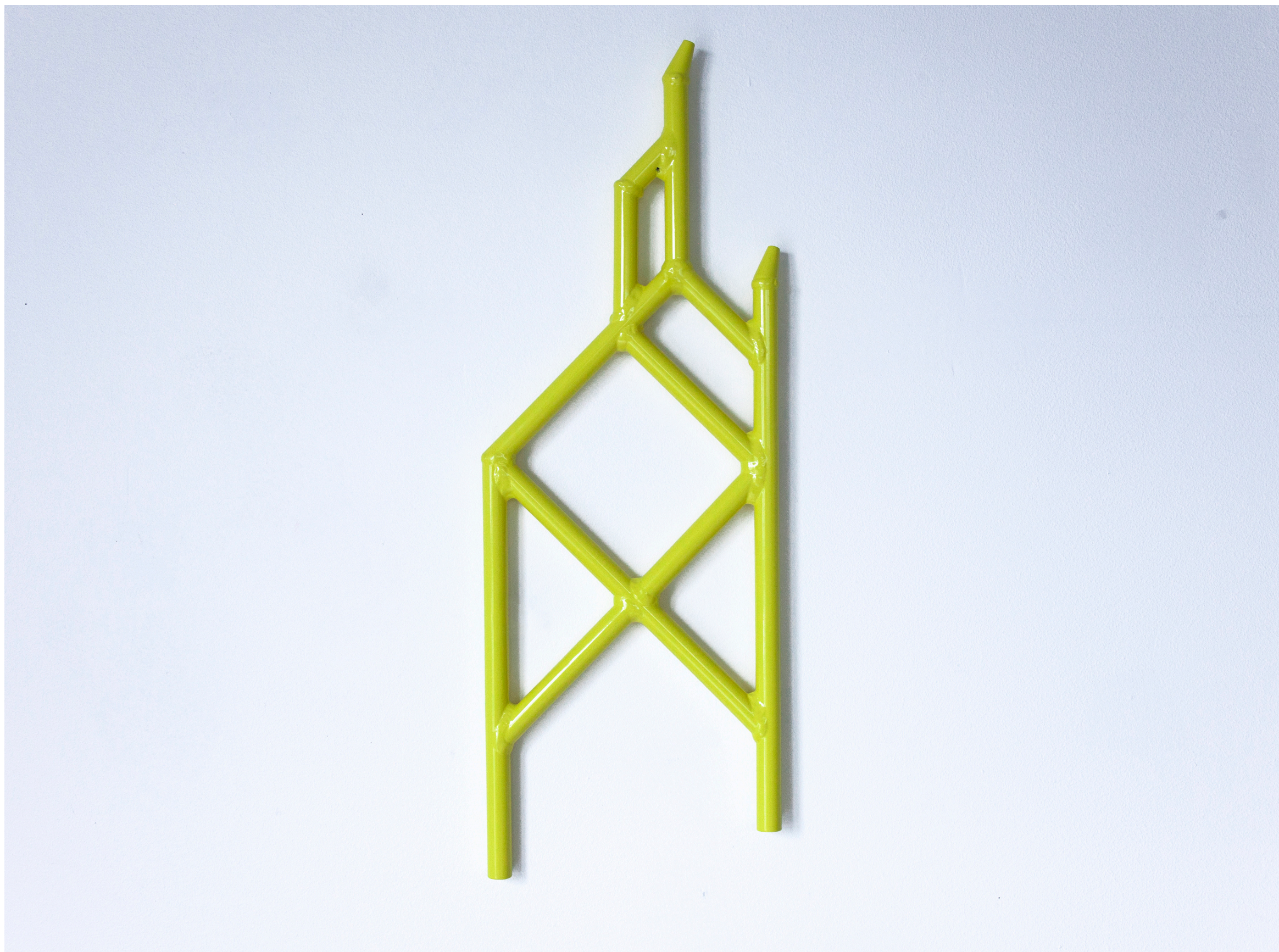


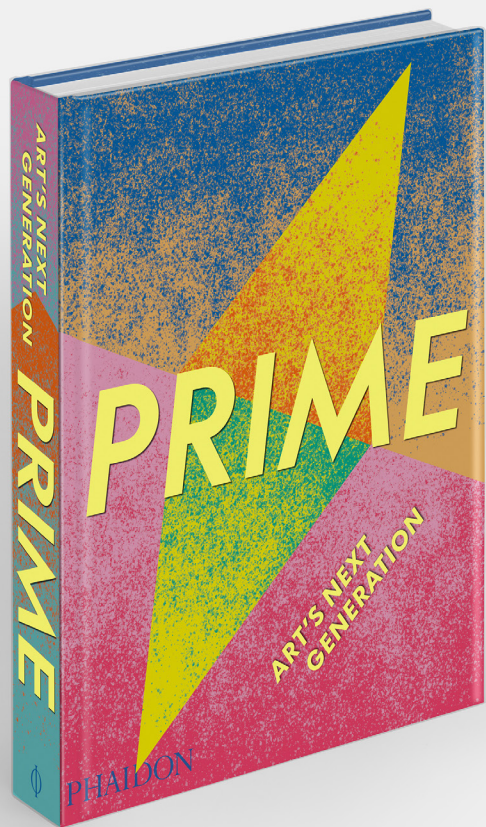




1.2.3 Studio documentation of sculptures not exhibited at Oseana







Presentation of *Secret Support* and artistic practice in Phaidon Publication ‘Prime, Art’s Next Generation’ published in 2022. Excerpt from presentation on the following page.



PRIME FOCUS - Magnhild Øen Nordahl

By Artspace Editors
MAY 13, 2022



Interview online at Artspace in connection to the launch of PRIME.

MAGNHILD ØEN NORDAHL

b. 1985, Ulstein, Norway. Lives and works in Bergen, Norway.

Imagine if every element in the world was made out the same string, only tied into different types of knots. Such was the mathematical theory of knots that emerged in the eighteenth century: one knot for lead, one for nitrogen, one for helium. In her 2014 project *Occupational Knots*, Magnhild Øen Nordahl used colored rope to represent those elements according to the theory. Beautiful, sculptural, and delicate, they hang from the wall like flowers left to dry. Even in the attempt to give form to pure knowledge, materials escape, act out, and produce something else as well. This “something else” is one definition of what art is—and Nordahl’s art in particular. ▲ The mathematical knot theory, unlikely as it sounds, is not so far from the modern concept of DNA, and not so far either from the burgeoning field of 3D printing. For her series *Secret Support* (2019), Nordahl took the fundamental scaffold that is repeated endlessly when producing 3D-printed objects and translated the form into sculptures over a meter in height and made out of anodized aluminum tubes in luminous red, blue, orange, and green. These strange shapes, which look like a lighting truss or playground architecture, were dropped into the epic Norwegian landscape as if to make visible something that was already there. The design of the scaffolding is patented and may not be copied, so Nordahl had to reconstruct it manually from digital files. It is by such instances of irony, when the sheen of reality is ruptured and its underlying structure made clear, that Nordahl’s work takes place. ▲ Technology is not developed in a vacuum; it has specific histories, and gaining knowledge of those histories allows us to understand why things are made the way they are. Through her research into 3D rendering programs, Nordahl came across the “Utah teapot,” a computer-generated teapot from the mid-1970s, which has become ubiquitous as a test item in 3D modeling software. Just as *Secret Support* required a translation from file to physicality, in the video *How to Make a Utah Teapot* (2016), Nordahl asks an experienced ceramicist to craft the pot in clay. We watch her hands move deftly, securely, calmly. In an interview with Hans Carlsson, Nordahl said about the work: “I actually had to re-film some shots, and I could mix the new footage with the existing sound recording because she does things in exactly the same rhythm each time she makes the teapot.” In Nordahl’s work, translation is not a one-way street. She helps us to see when technology expands beyond its own boundaries, turning into art, as well as when human hands become so dexterous as to be mechanical. Both are equally impressive—perhaps merely different knots tied from the same string. ▲

KRISTIAN VISTRUP MADSEN

*1
Secret Support #3, 2019, sculpture, anodized 20mm aluminum tube, 45 ¼ x 15 ¾ x 11 ¾ in. (115 x 40 x 30 cm). Installation view: Vevringutstillinga, Vevring, Norway, 2019

*2
Trivial, Nontrivial, Impossible, 2014 (detail), aluminum, acrylic tubes, pear tree wood, steel, synthetic rope, cotton rope, pigmented concrete, carved linden, pine, 66 ⅞ x 24 ¾ x 43 ¾ in. (170 x 62 x 111 cm). Installation view: *Occupational Knots*, Galleri Mejan, Stockholm, Sweden, 2014

*3
Cylinder001, ChamferCylinder002, Teapot002, Square001, 2016, Styrofoam, epoxy, 46 ⅞ x 13 x 13 in. (119 x 33 x 33 cm); Styrofoam, pigment, plaster, 13 x 13 x 8 ⅞ in. (33 x 33 x 22 cm); porcelain, 4 x 5 ¼ x 9 in. (10 x 13 x 23 cm); foam, textile, 15 ¼ x 15 ¼ x 15 ¼ in. (40 x 40 x 40 cm). Installation view: Hordaland Kunstsenter, Bergen, Norway, 2016

*4
Occupational Knots, 2014, sculptures based on mathematical knot theory and Clifford Ashley’s *Book of Knots*; rope, aluminum, acrylic tubes, steel, pear wood, pine, birch, stained LED-framed glass, Styrofoam, plaster, and more, dimensions variable. Installation view: *Occupational Knots*, Galleri Mejan, Stockholm, Sweden, 2014

*5
The Frisbee Perspective, 2018, installation with sculptures and lamp, 5 sculptures in powder-coated steel, Styrofoam, and jesmonite: each 51 ⅞ x 23 ⅞ x 23 ⅞ in. (130 x 60 x 60 cm). Installation view: Sogn og Fjordane Art Museum, Førde, Norway, 2018. Collection Sogn og Fjordane Art Museum, Førde, Norway

*6
7°, 2012, MDF, paint, 152 ¼ x 105 ⅞ x 31 ½ in. (388 x 267 x 80 cm). Installation view: Spatial Displacements, Tin Sheds Gallery, Sydney, Australia, 2012



*1

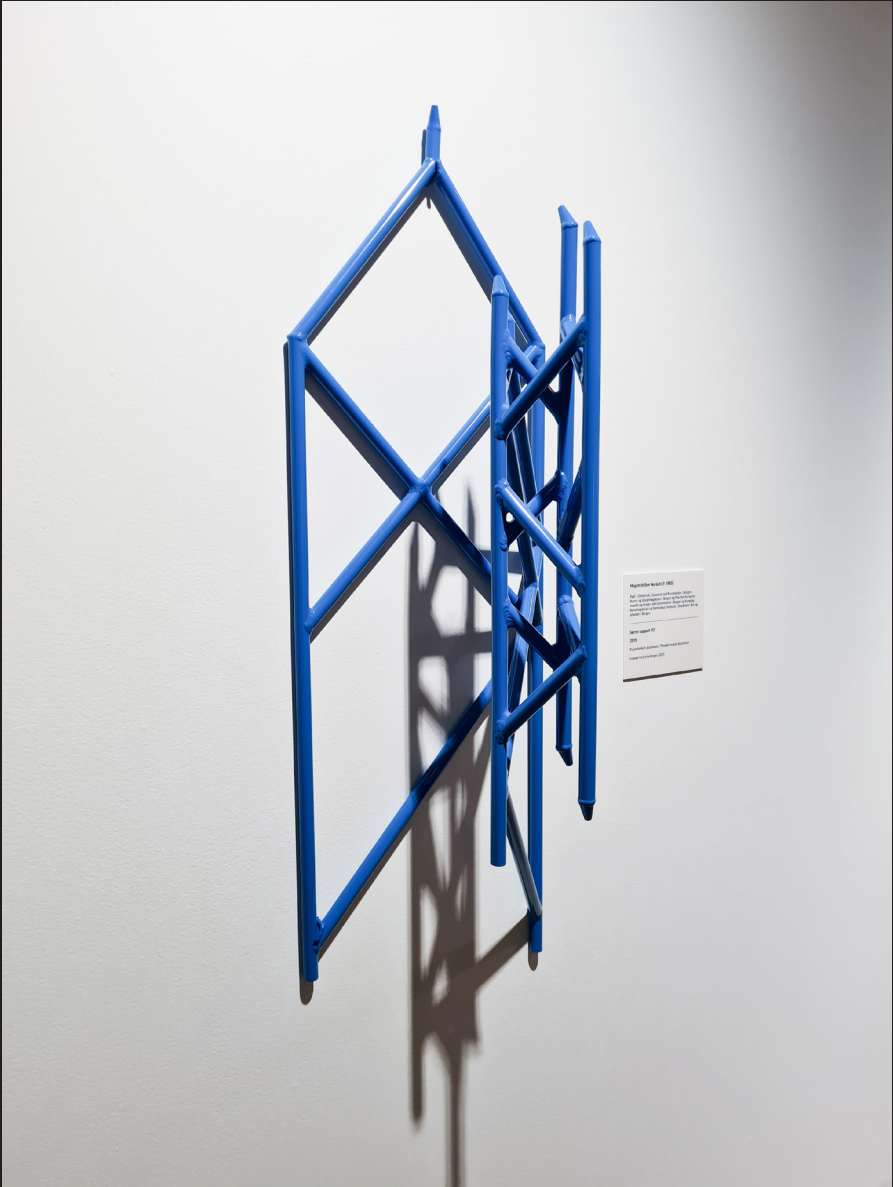


Exhibition of *Secret Support* in Vevringutstillinga, 2019. The first versions of the sculptures were anodized in different colors than the final, powdercoated ones.





Secret Support #3 was showed in the exhibition 'But First the Good News' at KODE in 2021, alongside other recent acquisitions to their collection.



Exhibition and presentation at Coast Contemporary, 15.09–18.10.2020



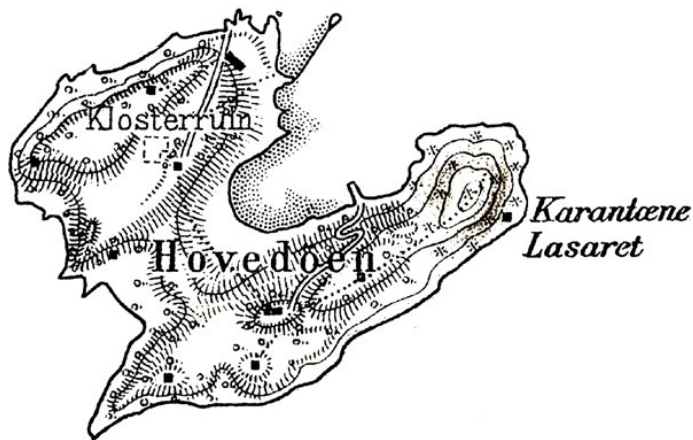
Presentation of *Secret Support* and artistic research project at Coast Contemporary in 2020. Located this year at Hovedøya in Oslo and using the title and curatorial framework *Constructing Structures*

I led a reading group using a text by Celine Condorelli on support structures , which was relevant to Coast Contemporary's topic for the year and to *Secret Support*



Secret Support exhibited at Hovedøya for *Constructing Structures*

CONTEMPORARY
COAST
2020



Magnhild Øen Nordal

Born in Ulstein in 1985.
Lives and works in Bergen.



Secret Support, 2019.
20 mm anodized aluminum tubes. Sculptures vary in sizes up to 40x30x120xcm.

36

Magnhild Øen Nordahl is a visual artist. In her practice and research, she looks at how we translate phenomena into abstract concepts and how giving abstractions a sculptural body can be a means of examining with our hands, eyes, and feet the things that structure our everyday lives. She has made works about measurement systems, the spherical shape of the Earth, standard shapes in 3D modelling software, and about the double nature of the 3D model as both abstract and particular, digital and physical. Currently she is exploring YouTube tutorials on 3D modelling as a form of interactive sculpture. In 2018 she co-founded the Aldea Center for Contemporary Art, Design and Technology and started a PhD in artistic research at the University in Bergen.

Øen Nordahl has exhibited her work nationally and internationally at venues including Bergen Kunsthall, The Astrup Fearnley Museum, Palais de Tokyo and Banff Center for Arts and Creativity.

Øen Nordahl will present *Secret Support*, a series of sculptures related to the structures addressed during Coast's fourth edition. She will also arrange a Conversation with the audience based on the text *Support Structures* by Celine Condorelli.

About *Secret Support*

Secret Support is a series of sculptures based on the support structure holding objects in place while being printed on a Formlabs 3D printer. An algorithm automatically generates the support structure required to fit the object perfectly for print. This algorithm is proprietary information and the structure can therefore not be converted into other file formats. This prompted a meticulous process of manually measuring and digitally redrawing the little printed plastic structures. Such translations between virtual and physical are central in my ongoing artistic research project dealing with 3D modelling and abstraction.

37

1.3.1 Holder

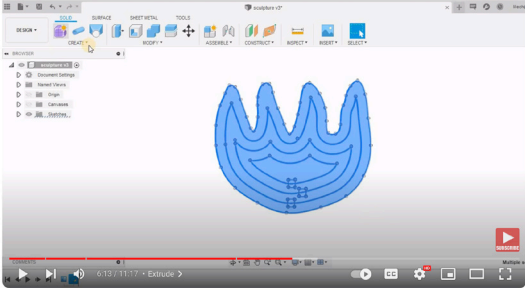
Holder #1, 2020

Sculpture
Oak, painted pine
45 × 41 × 2 cm

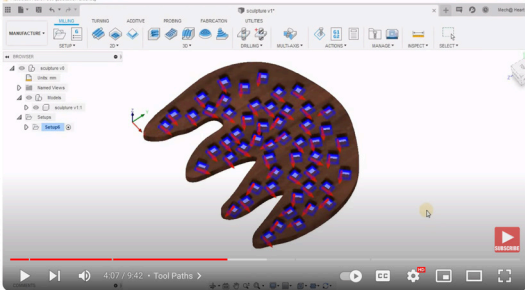
Table
HPL on black MDF
111 × 82 × 86 cm



Instruction Video by MechatHeart, part 1
2020
YouTube video
11:17



Instruction Video by MechatHeart, part 2
2020
YouTube video
9:41



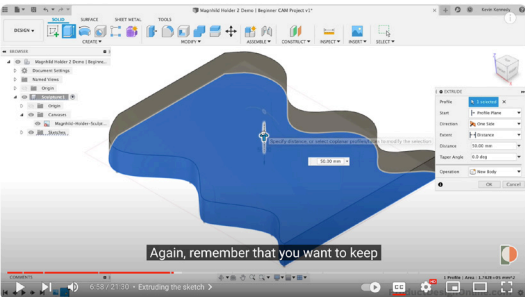
Holder #2, 2020

Sculpture
Birch, anodized aluminum tubes
52 × 40 × 3 cm

Table
HPL on black MDF
126 × 84 × 86 cm



Instruction Video by Product Design Online,
2020
YouTube video
9:41



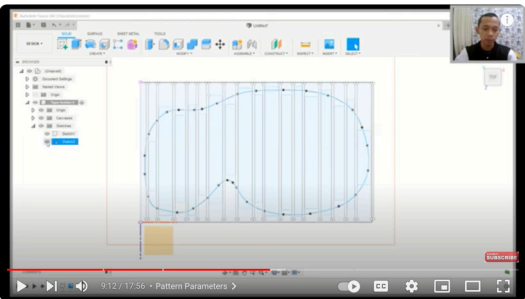
Holder #3, 2020

Sculpture
Walnut, tape rolls
58 × 33 × cm

Table
HPL on black MDF
110 × 72 × 86 cm



Instruction video by Mufasu CAD, 2020
YouTube video
17:56



1.3.2 *Holder* at Oseana













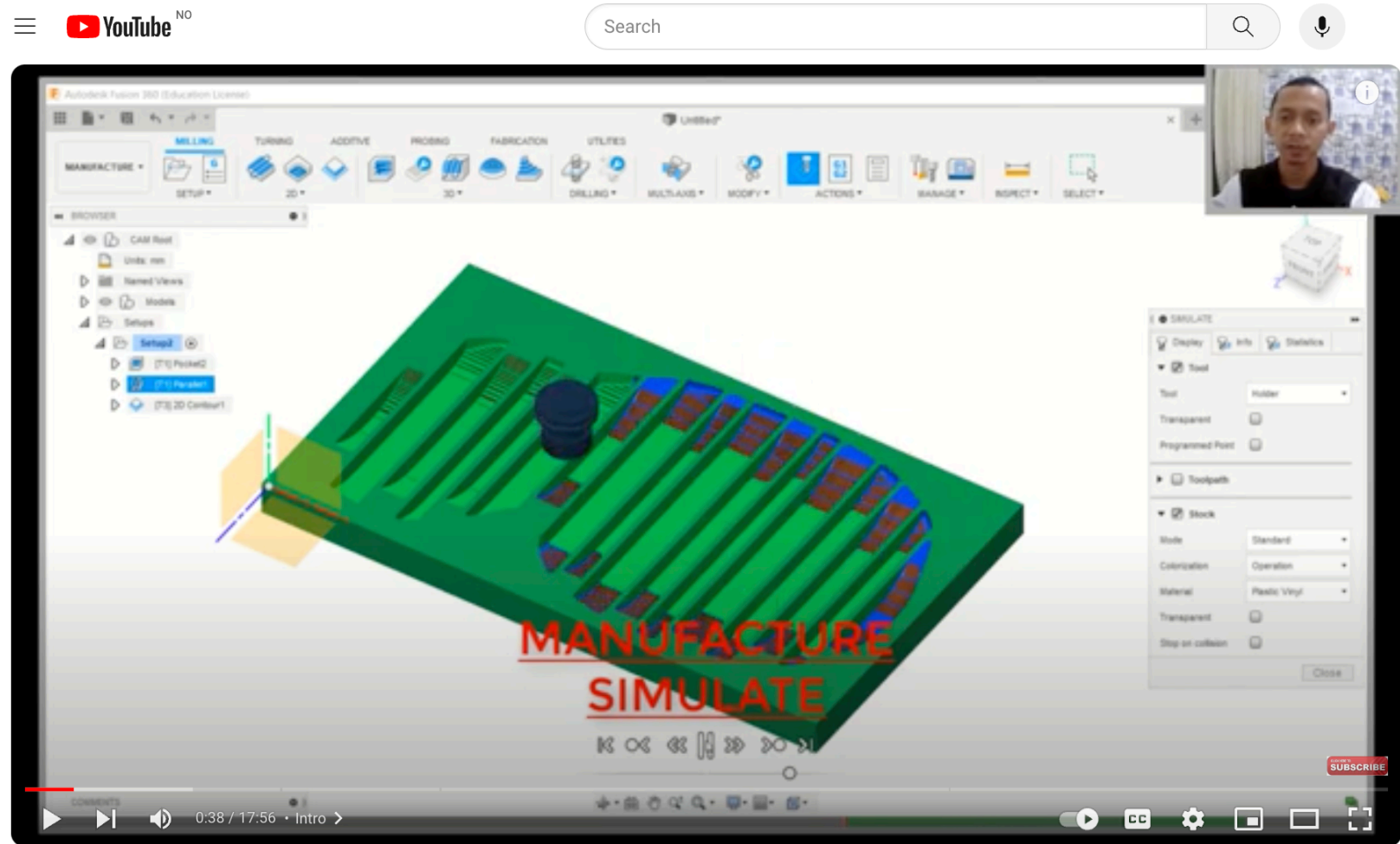












Tape Holder Modeling + Manufacture Simulate | Fusion 360 for Digital Fabrication

Mufasu CAD 191K subscribers [Join](#) [Subscribe](#) [17](#) [Share](#) [Download](#) [Thanks](#) [Clip](#) [...](#)

846 views Aug 26, 2020 UNITED STATES

In today's Fusion 360 beginners tutorial video we are going to see how we can design and manufacture simulate tape holder by the artist Magnhild Øen Nordahl in Autodesk Fusion 360. To see more of her work, please visit www.magnhildnordahl.com

Instruction Video by Mufasu CAD.

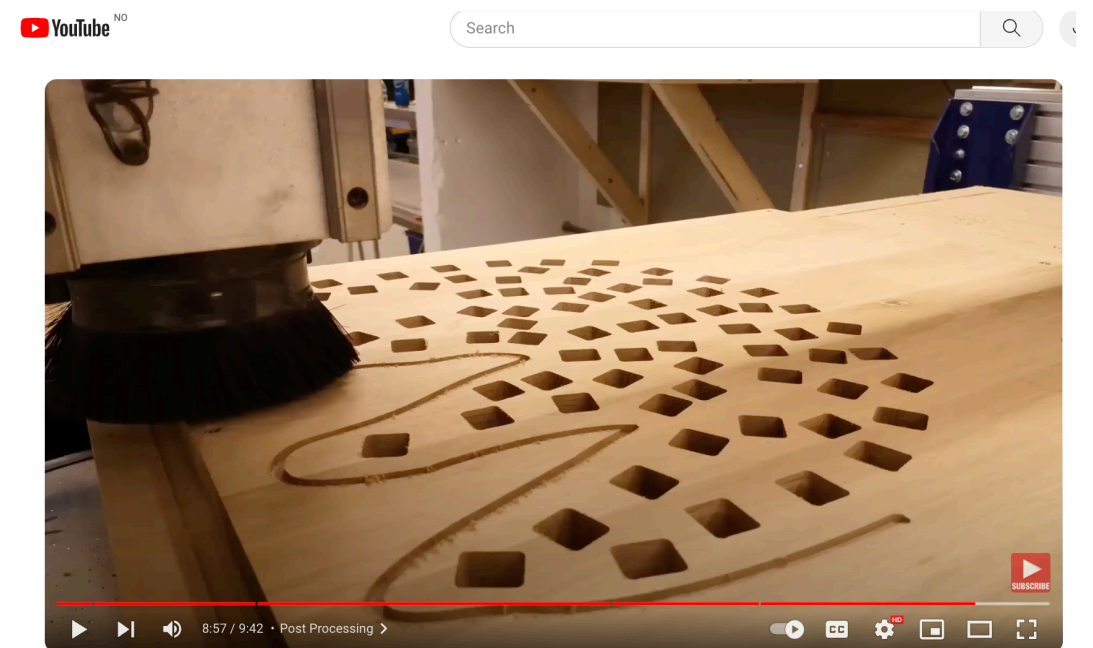


Make a wooden sculpture- Design to Manufacturing using Autodesk Fusion 360- Part 1

MechatHeart 1.21K subscribers [Subscribed](#) [4](#) [Share](#) [Download](#) [Clip](#) [...](#)

206 views 3 years ago #fusion360tutorials #autodeskfusion360

Instruction Video by MechatHeart, part 1.



Make a wooden sculpture- Design to Manufacturing using Autodesk Fusion 360 - Part 2

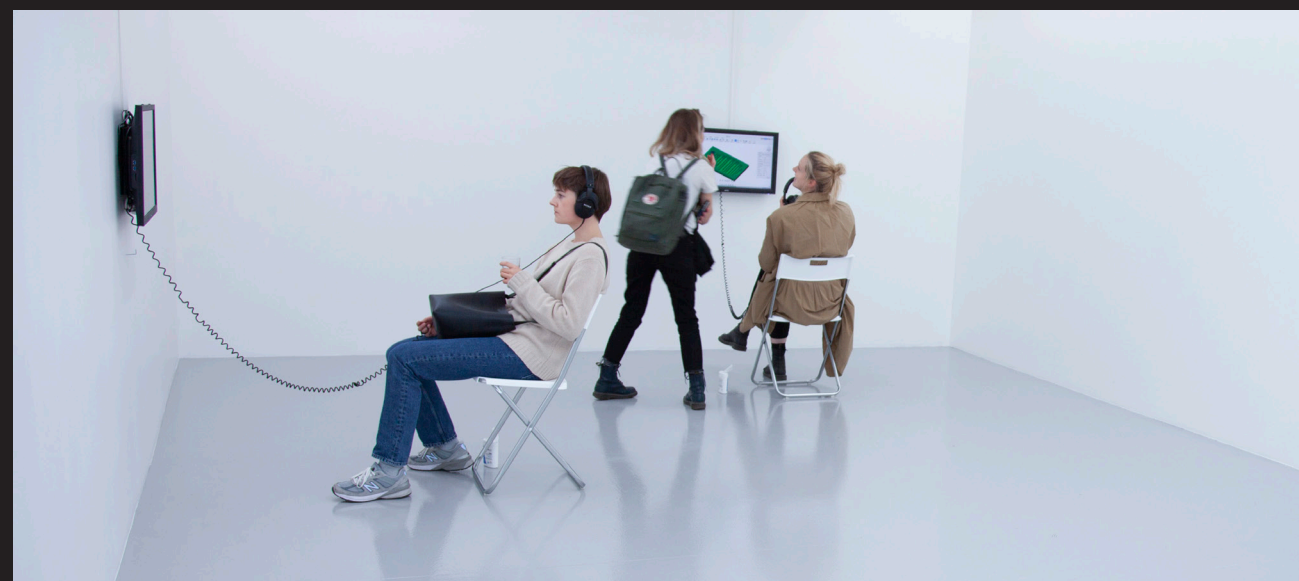
MechatHeart 1.21K subscribers [Subscribed](#) [3](#) [Share](#) [Download](#) [Clip](#) [...](#)

Instruction Video by MechatHeart, part 2.

1.3.3 Dissemination and mediation of *Holder*



Exhibition and presentation at Tag Team Studio 03.10–11.10.2020



Holder

Magnhild Øen Nordahl

Tag Team Studio

03.10 – 11.10.2020

På Tag Team Studio vil Øen Nordahl vise en serie nye interaktive skulpturer som eksisterer både i utstillingsrommet og på ulike Youtubekanaler som eksempelobjekter i instruksjonsvideoer for 3Dmodellering. Arbeidet er del av hennes kunstneriske forskningsprosjekt der hun undersøker 3Dmodelleringen sin tvetydige karakter. Samtidig som dette verktøyet kan fremstå som ikke-materielt og universelt, bygd på lag av abstraksjoner som trekanter, punkter i koordinatsystemer, nuller og ettall, er det også et teknologisk og kulturelt verktøy som påvirker de prosessene der det er i bruk og våre materielle omgivelser. Instruksjonsfilmene på Youtube er et av disse områdene som kunstneren har blitt kjent med ved å selv lære seg 3Dmodellering. I utstillingen presenteres tre instruksjonsfilmer laget av eierne av Youtubekanalene Design Sangam, Product Design Online og Mufasu CAD på forespørsel fra Øen Nordahl. I stedet for å demonstrere 3Dmodelleringsprogrammet med sine sedvanlige skiftenøkler eller koppholdere, har Youtubeinstruktørene blitt bedt om å bruke kunstnerens skulpturelle objekter som eksempelobjekter i instruksjonsfilmene. Skulpturene er de samme som blir presentert i fysisk form i utstillingen og de er laget for å være enkle øvelsesobjekter for 3D modellering og CNC fresing. De er basert på praktiske verktøysholdere fra verkstedet, men istedenfor å holde fresebits og bor, er skulpturene laget for å holde restmaterialer og fargeprøver fra kunstnerens studio som utstillingens publikum kan bruke til å lage egne fargekomposisjoner.

Magnhild Øen Nordahl arbeider med ulike kunstneriske formater og uttrykk, men har skulptur som utgangspunkt for sin praksis. Hvordan verktøy, materialer, rom og situasjon påvirker hverandre og arbeidet hennes, har gjort henne interessert i hvordan fenomener vi opplever gjennom kroppens sanseapparat blir oversatt til forenklete, abstrakte konsepter, og hvordan vi bruker disse forståelsesmodellene til å organisere og systematisere en kaotisk verden. Magnhild Øen Nordahl er utdannet ved Kunst og Designhøgskolen i Bergen, Kungliga Konsthögskolan i Stockholm og arbeider for tiden med en doktorgrad i kunstnerisk forskning ved Fakultet for Kunst, Musikk og Design. Hun har stilt ut nasjonalt og internasjonalt på steder som Palais de Tokyo, Banff Center for Arts and Creativity og Astrup Fearnley Museet og var i 2018 med å grunnlegge Aldea i Bergen.

English

At Tag Team Studio Nordahl will present a series of new interactive sculptures that exist both in the exhibition space and online in different Youtube channels where they appear as example objects in instruction videos for 3D modeling. The work is part of her artistic research project where she investigates the dual nature of the 3D model and 3D modelling. Appearing as immaterial and universal, built on layers of abstractions like triangle meshes, points in a coordinate system and disembodied zeros and ones, the 3D model is at the same time a technological and cultural artefact that influences the processes where it is in use, and our material surroundings. The How-to instruction videos on Youtube is one of these areas that the artist had become familiar with through learning how to use 3D modelling tools herself. Presented in the exhibition are three instruction videos made by the owners of the Youtube channels Design Sangam, Product Design Online and Mufasu CAD on request



Public presentation of *Holder* and PhD project as part of midway assessment, at Tag Team Studio in Bergen, 05.10.2020

Exhibition text presented at Tag Team Studio, written by curator Morten Kvamme

Dissemination of *Holder* on YouTube

YouTube

NO

Search

Produ...

219K...

Join

Subscribe

430

Share

...

11,317 views May 23, 2020 [Fusion 360 for Beginners](#)

Fusion 360 can be used for just about any digital fabrication project. This project looks at a piece created by Norwegian artist, Magnhild Øen Nordahl.

We'll take a simple reference image and turn it into a 3D body, followed by using the Manufacture workspace to set up some simple tool paths for a CNC.

This video is a high-level overview of a workflow that can be used to create your own unique objects, but note that it does not cover every detail of the CAM environment.

Check out Magnhild's work - <https://www.magnhildnordahl.com/>

The Instruction Video by Product Design Online is shared on his YouTube account with 219.000 subscribers, where it has been watched over 11.300 times, it got 430 'likes' and 49 comments from different people.

YouTube

NO

Search

49 Comments

Sort by

M

Add a comment...

Pinned by Product Design Online

...

@ProductDesignOnline

3 years ago

...

TIMESTAMPS

0:00 - Idea to Design to CAM in Fusion 360

0:39 - Project overview

1:30 - Creating a component and reference image...

Read more

1

Reply

@do7awi 3 years ago

...

This is a great tutorial to get started with CAM. I've been trying to make two-part molds using a CNC and can definitely use a tutorial for this!

3

Reply

@Nitroxien 3 years ago

...

Awesome video just found the channel and love the content so far! Would love to see more CAM projects or a full CAM tutorial series since not many up to date ones exist :)

1

Reply

@xmrgwxw3474 3 years ago

...

Nice work! Hopefully in the future you will do more simple projects with design and cam together. Thanks

1

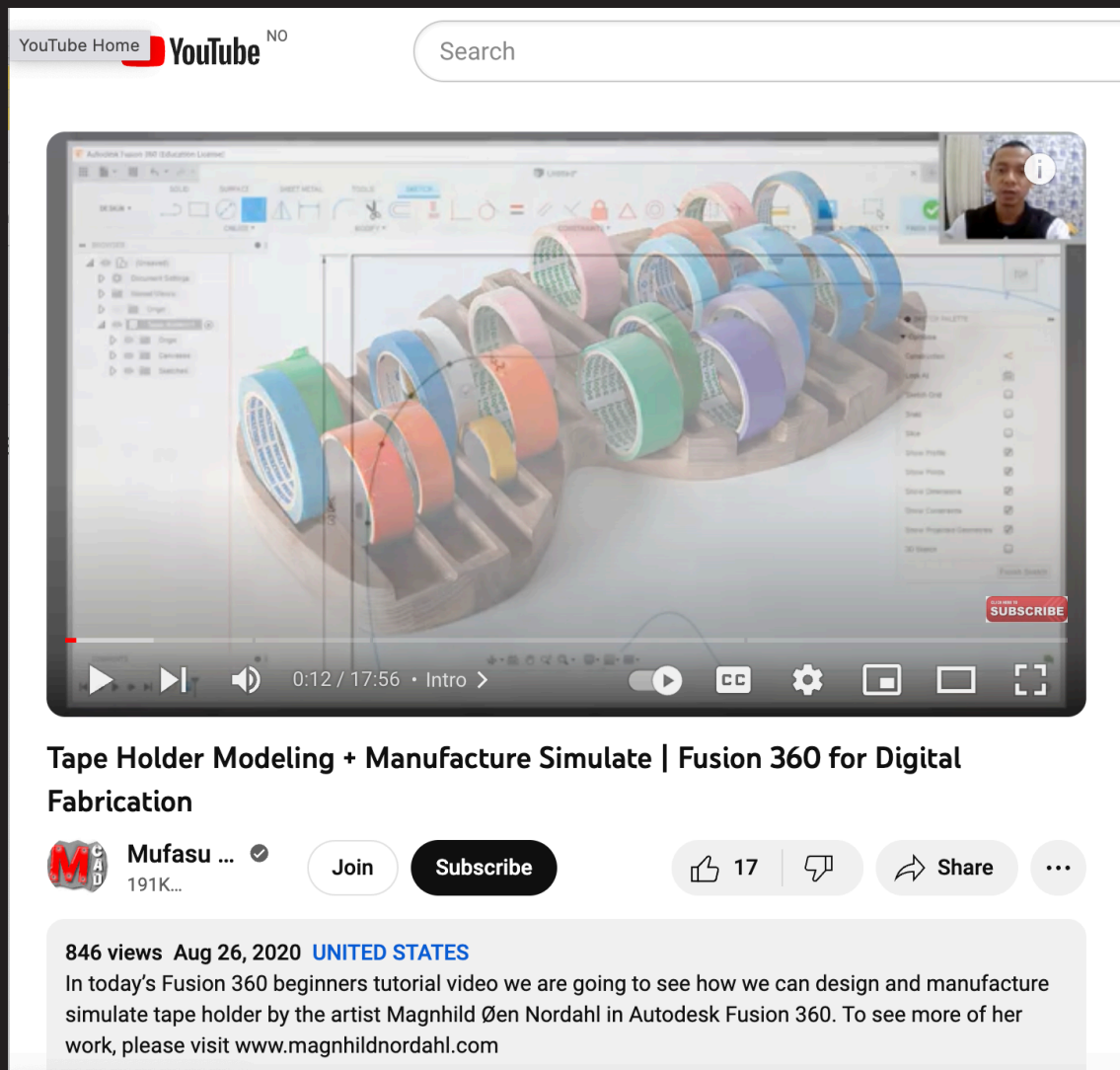
Reply

@tomcatmeow69 3 years ago

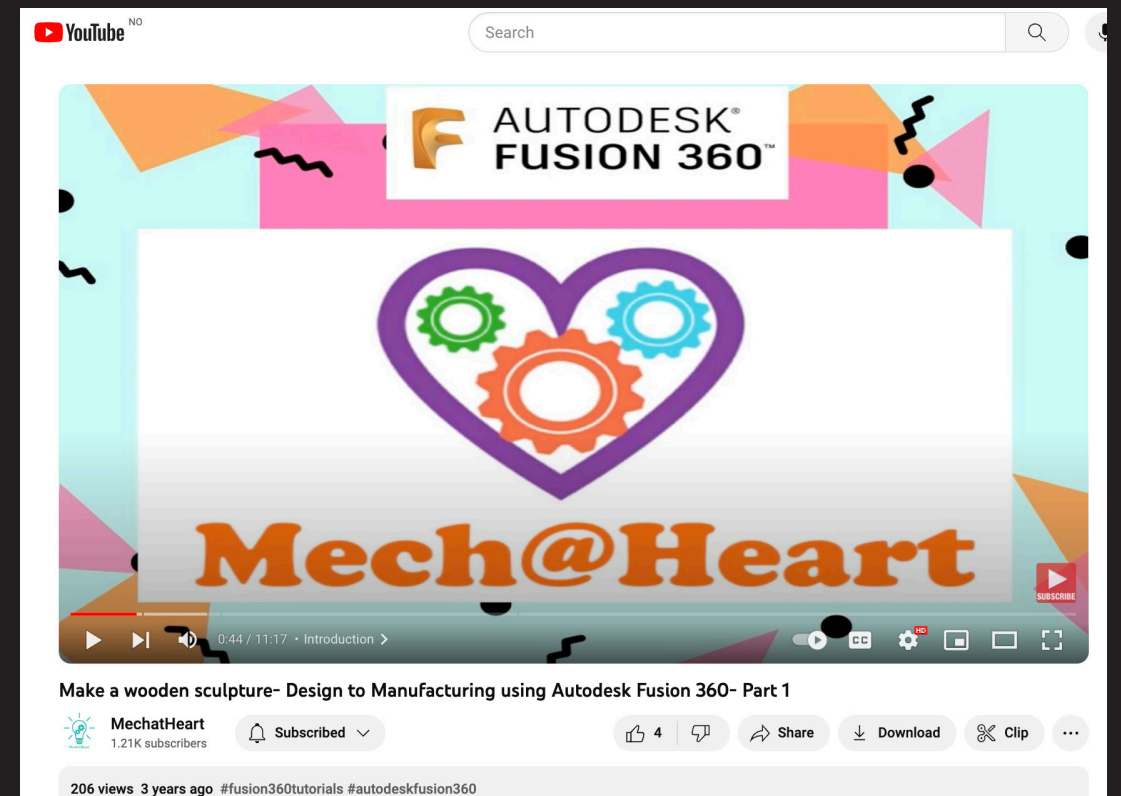
...

Great instructional videos. I'm doing your woodworking course right now with intentions of building my own cnc so this is nice to see where I will be heading. I'm also getting into injection overmolding on wire harnesses and need to mill pocket dies from aluminum insert blocks so a tutorial on that would be wonderful.

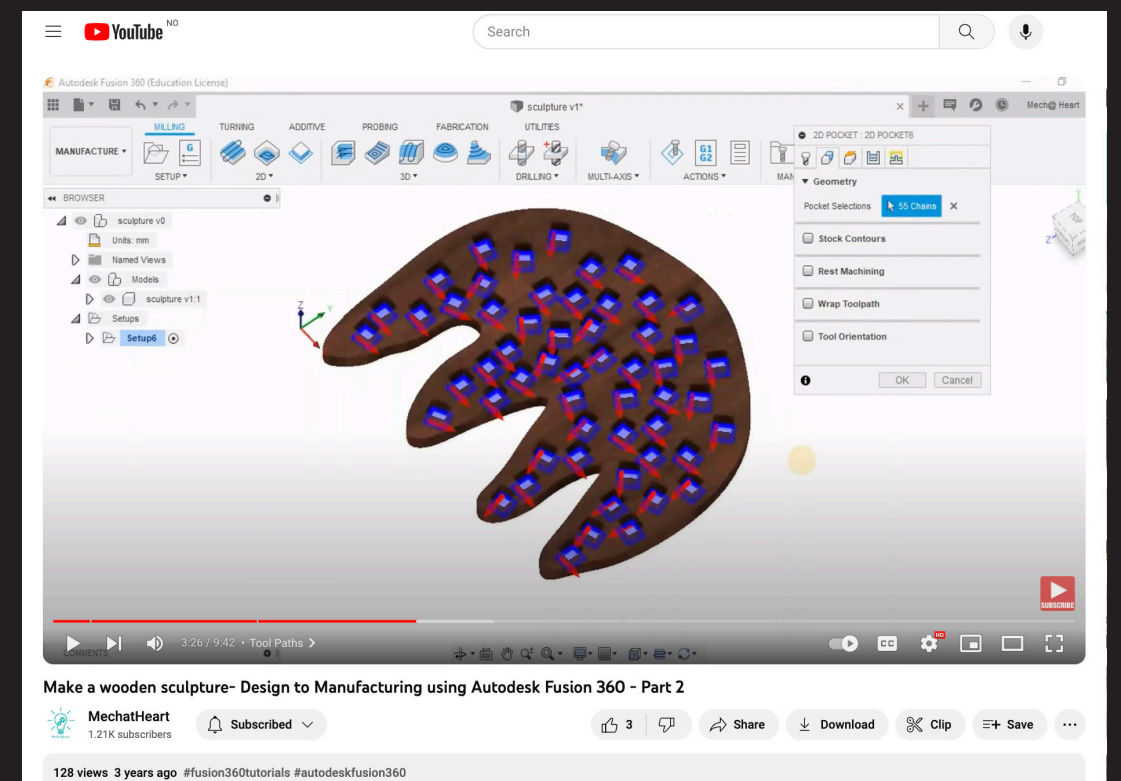
Examples of comments made by subscribers of Product Design Online's YouTube channel



The Instruction Video by Mufasu CAD was shared on his YouTube account with 191.000 subscribers.



The Instruction Video by MechatHeart shared on YouTube



1.4.1 *Objects at Hand* – list of parts in work

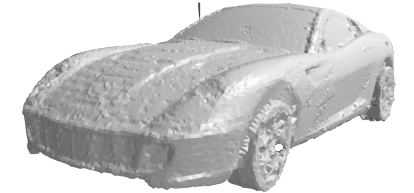
Objects at Hand (scanner)
2022
Jesmonite
15,2 × 15,7 × 4,6 cm



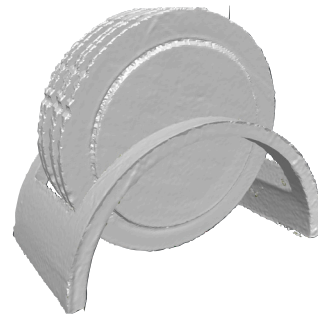
Objects at Hand (hammer)
2022
Jesmonite
19,5 × 8,9 × 2,4 cm



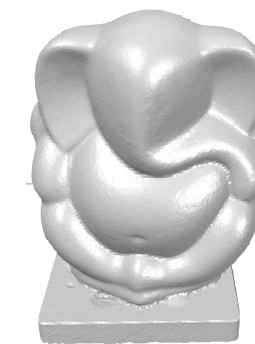
Objects at Hand (car)
2022
Jesmonite
20,0 × 8,7 × 6,1 cm



Objects at Hand (coasters)
2022
Jesmonite
19,5 × 14,5 × 20,0 cm



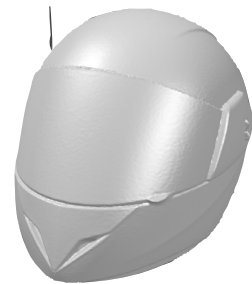
Objects at Hand (ganesha)
2022
Jesmonite
16,3 × 13,4 × 19,9 cm



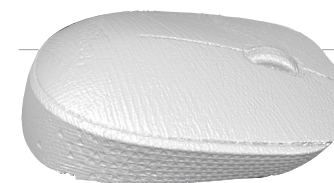
Objects at Hand (donkey kong)
2022
Jesmonite
19,5 × 14,5 × 13,8 cm



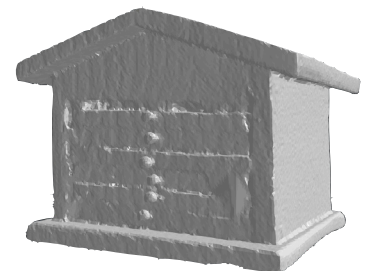
Objects at Hand (helmet)
2022
Jesmonite
19,7 × 16,5 × 16,5 cm



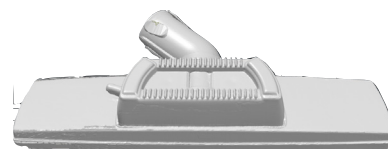
Objects at Hand (mouse)
2022
Jesmonite
20,0 × 12,8 × 5,4 cm



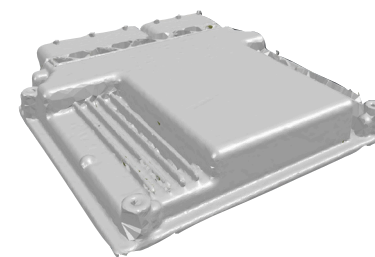
Objects at Hand (coaster house)
2022
Jesmonite
18,5 × 18,5 × 14,8 cm



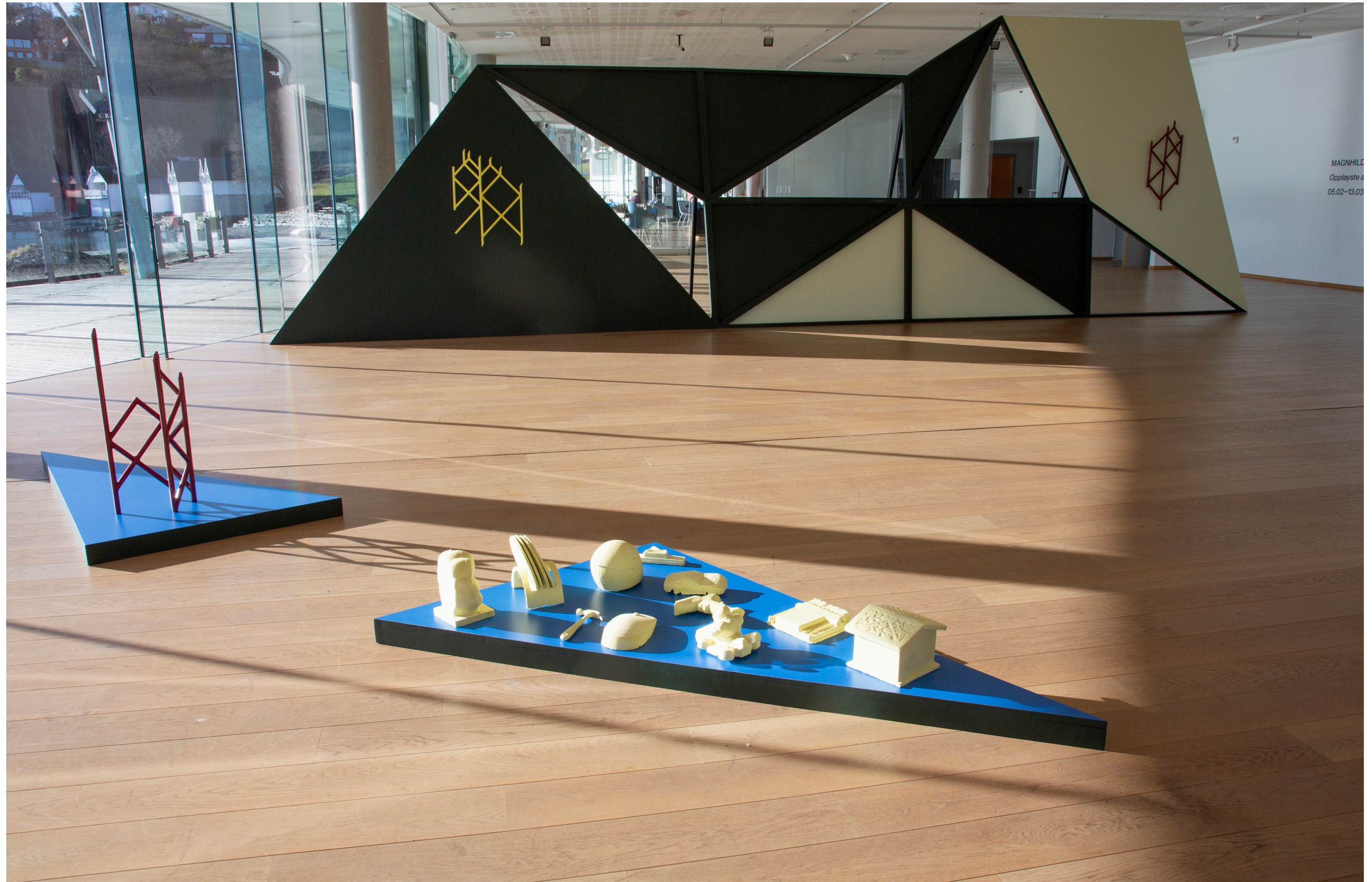
Objects at Hand (vacuum)
2022
Jesmonite
19,8 × 8,5 × 3,9 cm

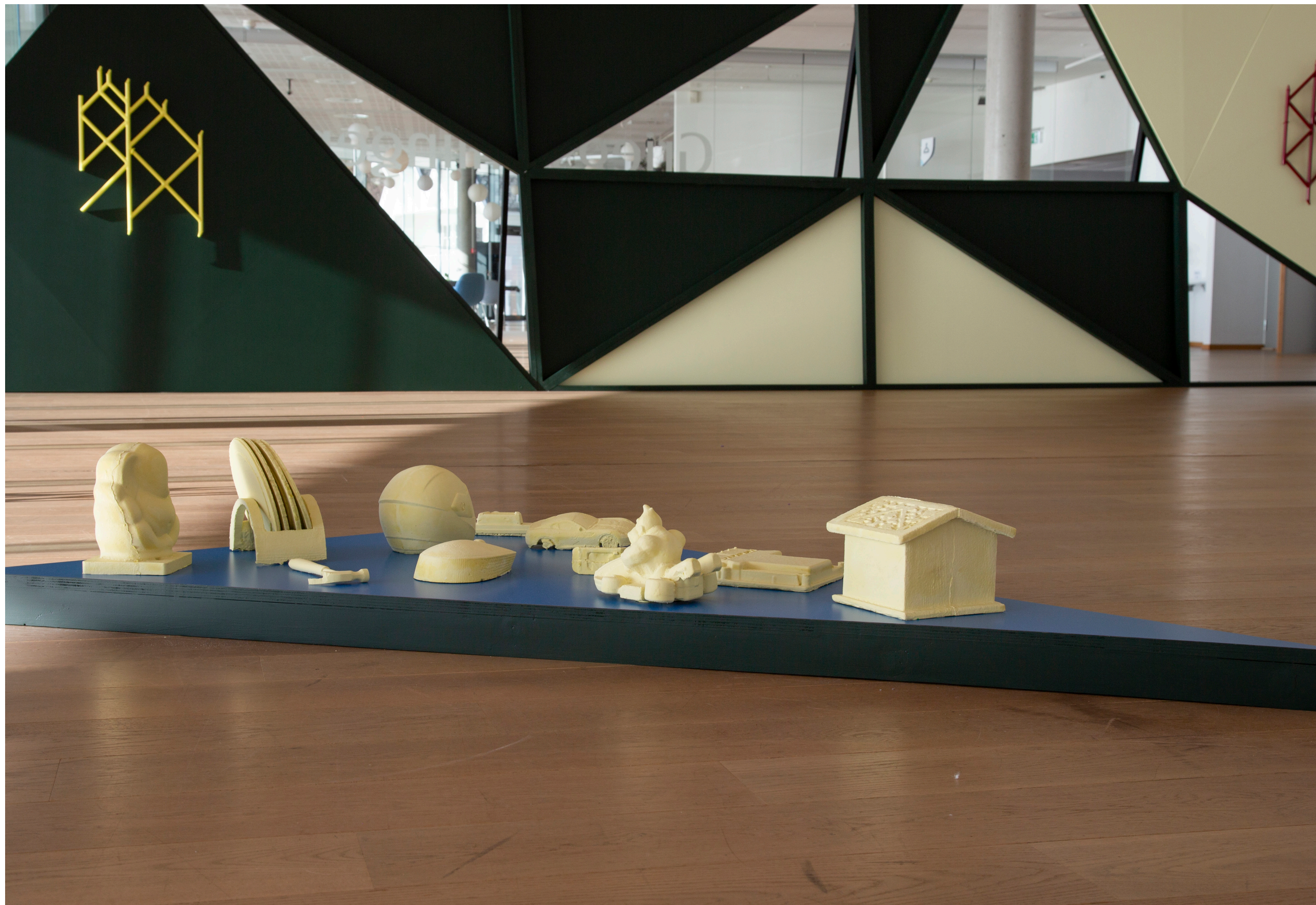


Objects at Hand (car part)
2022
Jesmonite
20,0 × 20,0 × 3,6 cm



1.4.2 *Objects at Hand* at Oseana





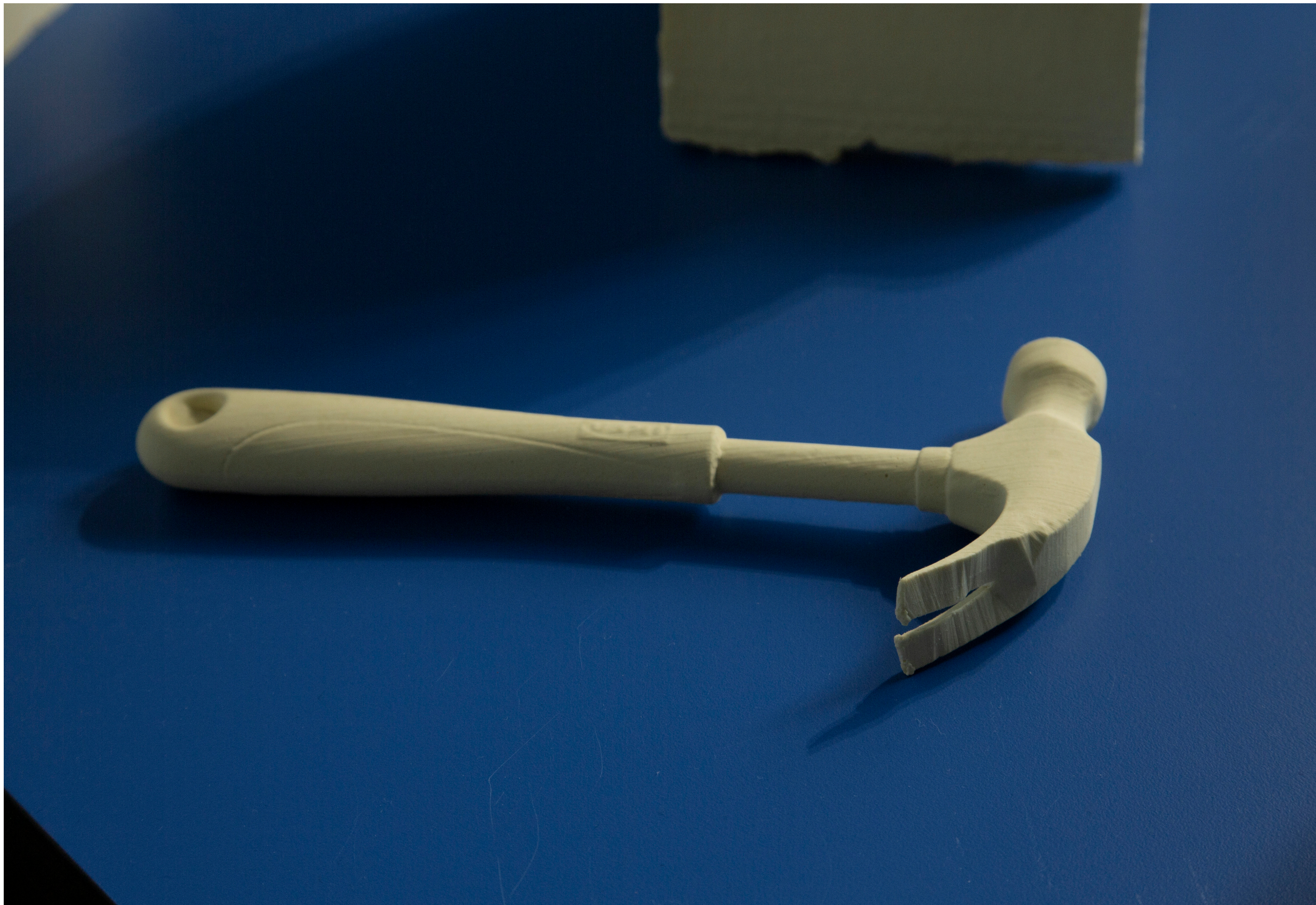






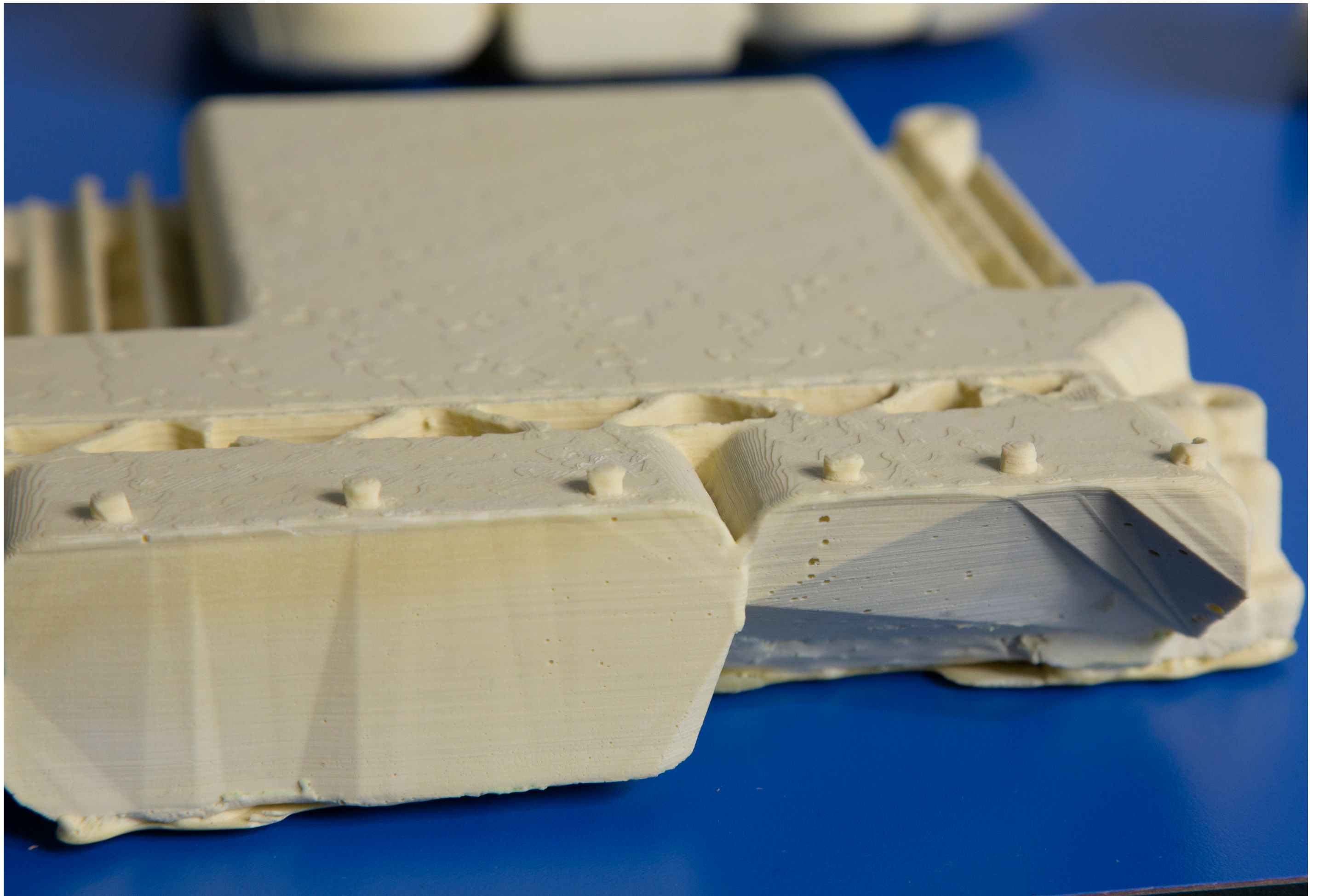


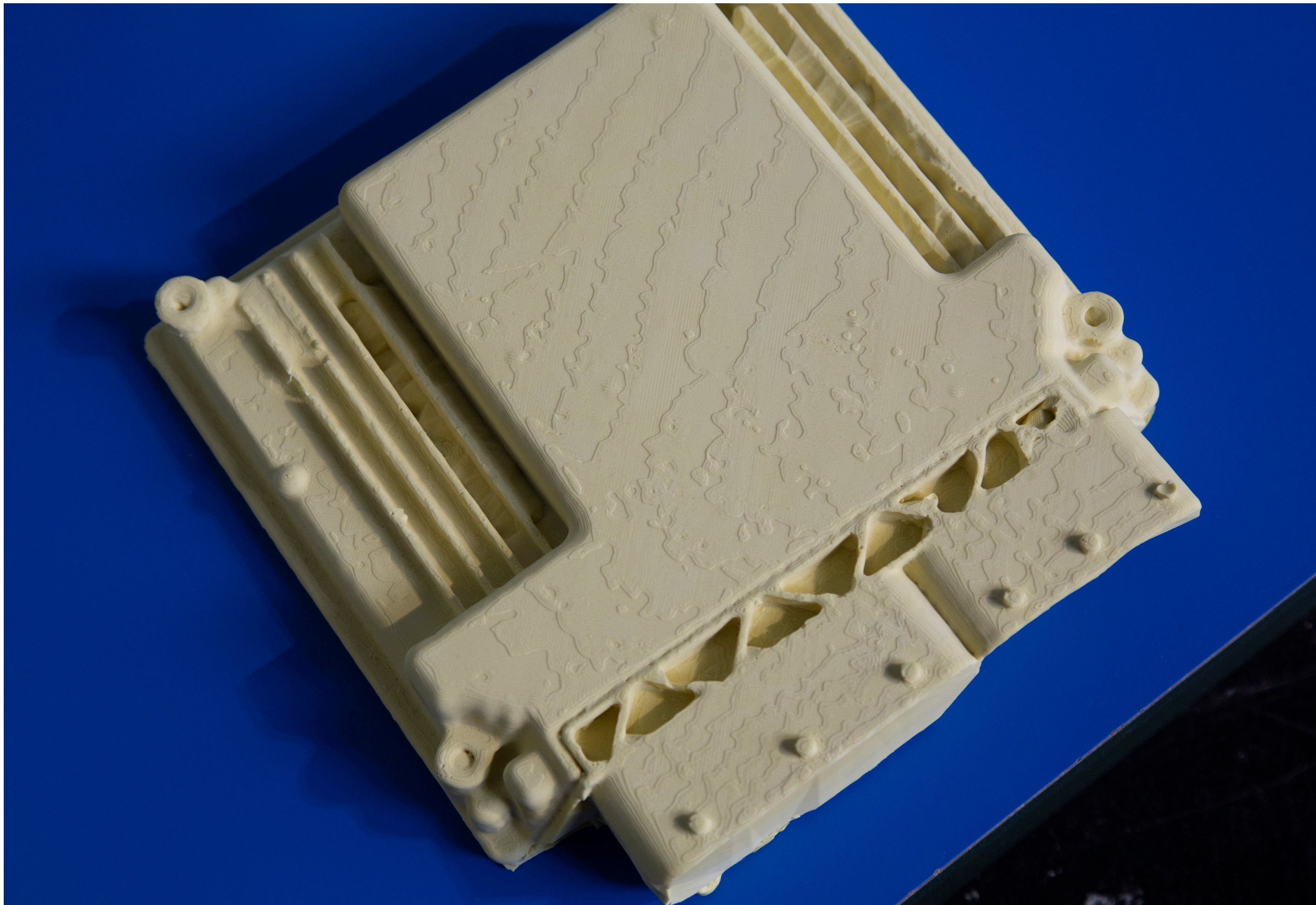


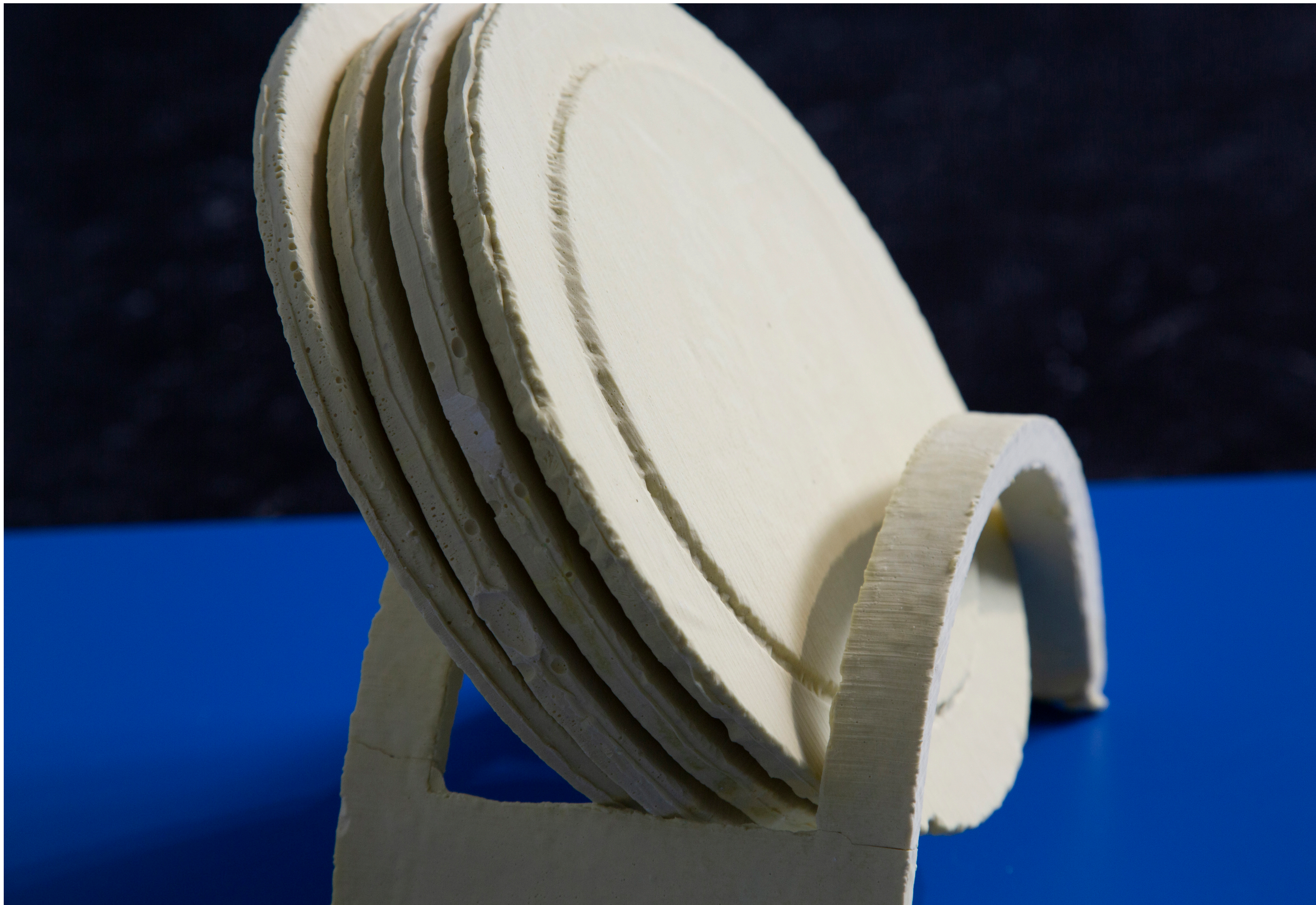












1.4.3 Dissemination and mediation of *Objects at Hand* – Lunds Konsthall

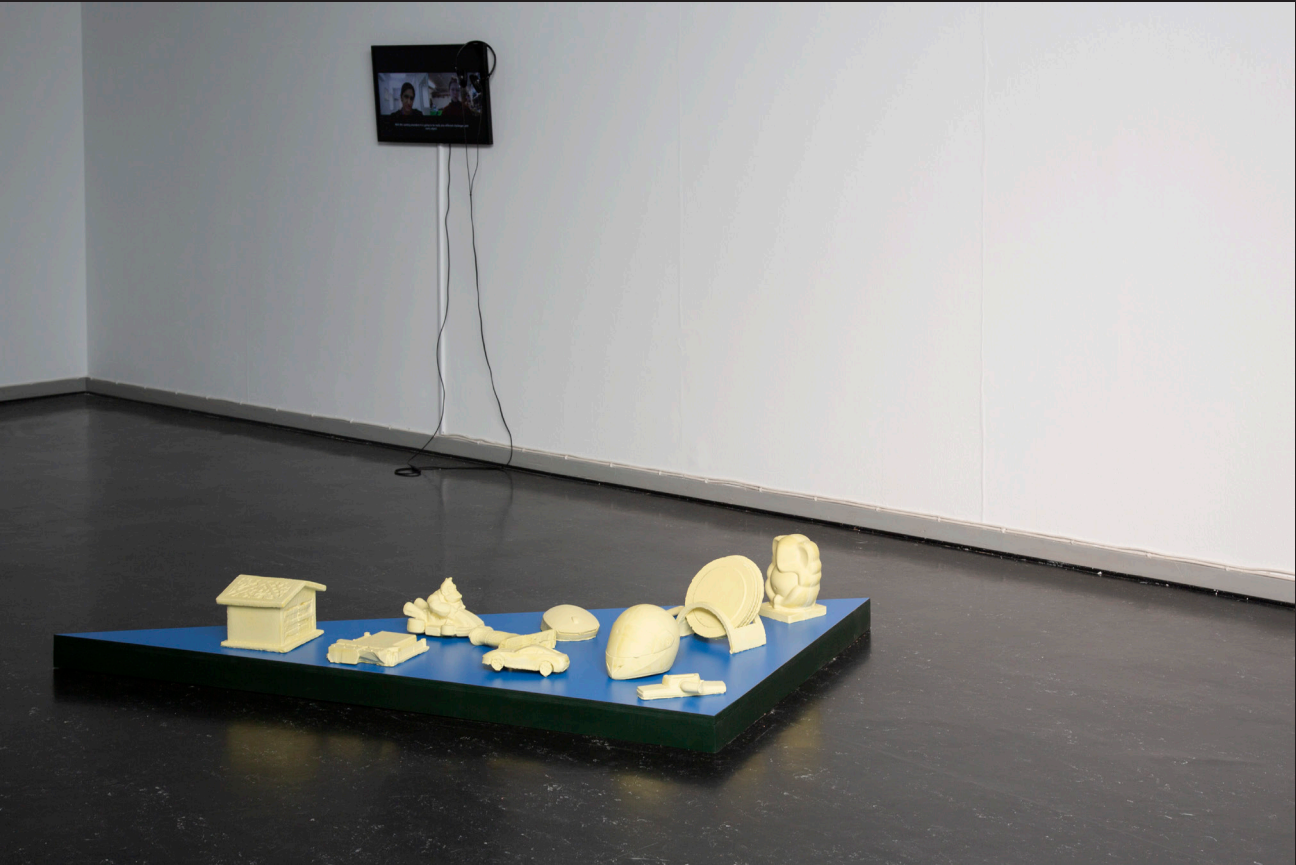


Video interview with Sirisha Shashikanth, presented as research material for *Objects at Hand* in the exhibition *Ways of Unseeing* at Lunds Konsthall.

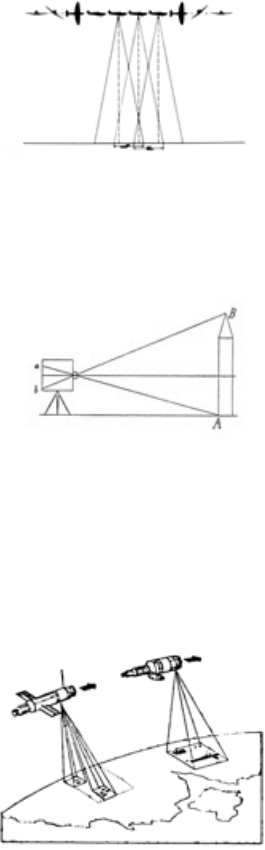


Opening reception at Lunds Konsthall, 16.09.2023. During the first three weeks 7217 people visited the exhibition.

Presentation of works in the exhibition *Ways of Unseeing* at Lunds Konsthall, 16.09.2023–21.01.2024



Ways of Unseeing



2023
2024

september
januari

16
21

—

Lundskonsthall

Talet tjugofyra får här en särskild innebörd, som det klassiska talet för stillbilder under en sekunds analog film, men också som en sekvens av liv, dygnets tjugofyra timmar. Sekvenseringen av flödet (dygnets tid, filmens rörelse) gör det möjligt att fånga och återvända till ögonblicket igen och igen.

Tillsammans med installationen presenteras konstnärsboken *M/OTHER*. Boken består av de första nitton minuterna av samma EKG som installerats på väggen i konsthallen, över vilka konstnären skrivit en dikt i besvärjelsens form.

Magnhild Øen Nordahl

Född 1985, bor och arbetar i Bergen.

Spoilboards, akrylgipsreliefer, 2023.

Ting for handa, akrylgipsskulpturer, 2022.

Magnhild Øen Nordahl visar två verkserier i utställningen. Den nyproducerade skulpturserien *Spoilboards* består av avgjutningar av bottenplattor från sex olika CNC-fräsar från olika verkstäder i Norge (en av dessa är kollektivverkstaden Aldea som konstnären själv har varit med och grundat). Maskinerna fräsar ut mönster och profiler i olika material efter att de programmerats av en dator. Bottenplattorna samlar spår från alla de olika projekt som producerats i verkstaden av maskinen. Spår som hamnar i lager på lager i en komposition som, kan man säga, skapats av konstnärerna, maskinerna, programvaran och respektive verkstadsansvarige tillsammans.

Ting for handa utvecklades som en del av Nordhals doktorandprojekt *Unmaking Abstractions*, om abstraktion i 3D-modelleringsprocesser, vid Fakultetet för Kunst, Musikk og Design i Bergen. När objekt

3D-scannas lämnas mycket information där hädan. Formerna består men bortan är till exempel lukt och kulturell kontext. De skulpturer som ingår i verket 3D-scannades först av ingenjör Sirisha Shashikanth, när hon lärde sig använda en ny scanner på sin arbetsplats, CGISimulations Ltd. Konstnären har sedan använt inscanningarna som förlaga för att gjuta akrylgipsskulpturer. Tillsammans med skulpturerna visas en videointervju med Shashikanth där hon berättar för Nordahl om de objekt hon tillfälligtvis hade till hands, och därför scannade in när hon skulle lära sig att arbeta med företagets nya maskin.

De två verk som visas i utställningen är tydliga exempel på Nordahls intresse för den industriella produktionens och vetenskapens (ibland förbisedda) estetik. De ställer också frågor om vad som händer med människans kognition, och förmåga att själv begreppsliggöra världen, när nya former för produktion ersätter gamla i en postdigital tid. På spel i denna förändring står också tillgänglighet och upphovsmannaskap – vem och vilka kommer i framtiden att bestämma, respektive få tillgång till, de verktyg som ger omgivningen dess form och funktion?

Elske Rosenfeld

Född 1974, bor och arbetar i Berlin.

Archive of Gestures: Standing Still
(*Standing Man/Centers*), videoinstallation, 2022–23.

Den tvåkanaliga videoinstallationen *Standing Still* (*Standing Man/Centers*) är en del av Elske Rosenfelds pågående projekt *Archive of Gestures*. Utgångspunkten för installationen är bilder på ”standing man”-protesten, som utfördes av Erdem Gündüz under oroligheterna i Turkiet 2013.

2 *Open Studio* at Entrée

This section documents the artistic results presented at Entrée in Bergen city center, concurrent with the exhibition at Oseana (05.02.–13.03.2022).

The *Open Studio* included a public live event program featuring invited artists, researchers, and curators who presented workshops, lectures, and performances related to the themes of the PhD project.

Various objects were presented to offer the audience a glimpse into the working process of the PhD project. Items on display included works in progress, color samples, sketches, notes, books, 3D-prints, molds for casting, and failed casts. An iPad with the artistic reflection website was also available for viewing.

The gallery's interior was designed to serve as a flexible space for the gallery's program, stepping away from the white-cube format for one year (Nov 22–Nov 23) to focus on discursive practices and events. The *Open Studio* was one component of this program.

- 2 *Open Studio* at Entrée p. 75
 - 2.1.1 List of elements in interior p. 77
 - 2.1.2 Objects on display at Entrée p. 78
 - 2.1.3 Documentation from *Open Studio* p. 79
- 2.2 Dissemination of PhD-project at Entrée
 - 2.2.1 *Open Studio* Program p. 84
 - 2.2.2 Other artists and events using the interior p. 95



2.1.1 Interior made for Entrée – list of parts

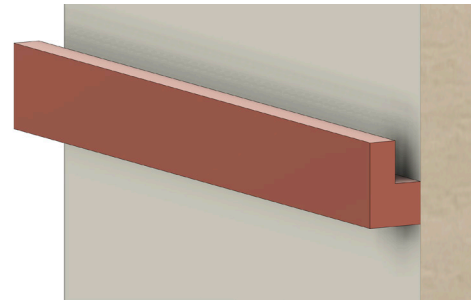
Walls

Stained poplar plywood walls covering all walls of the gallery

Cleats

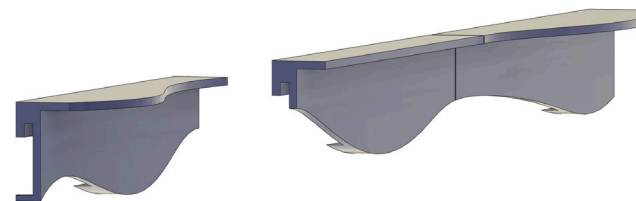
Stained pine cleats to hang shelves in 6 heights

Total length 90 meters



Movable shelves

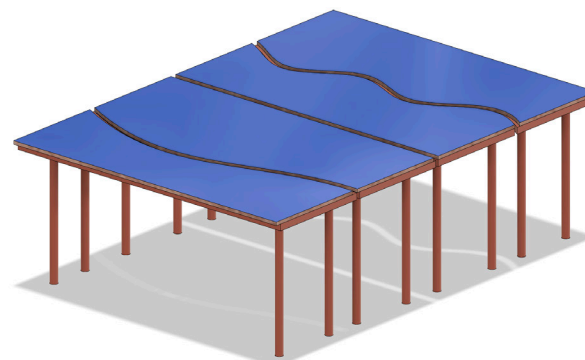
36 stained and painted poplar plywood shelves,
L 120 × W 20 × D 20 cm (width and depth variable)



Modular tables

4 tables that could be combined form 1, 2, 3 or 4 separate tables.

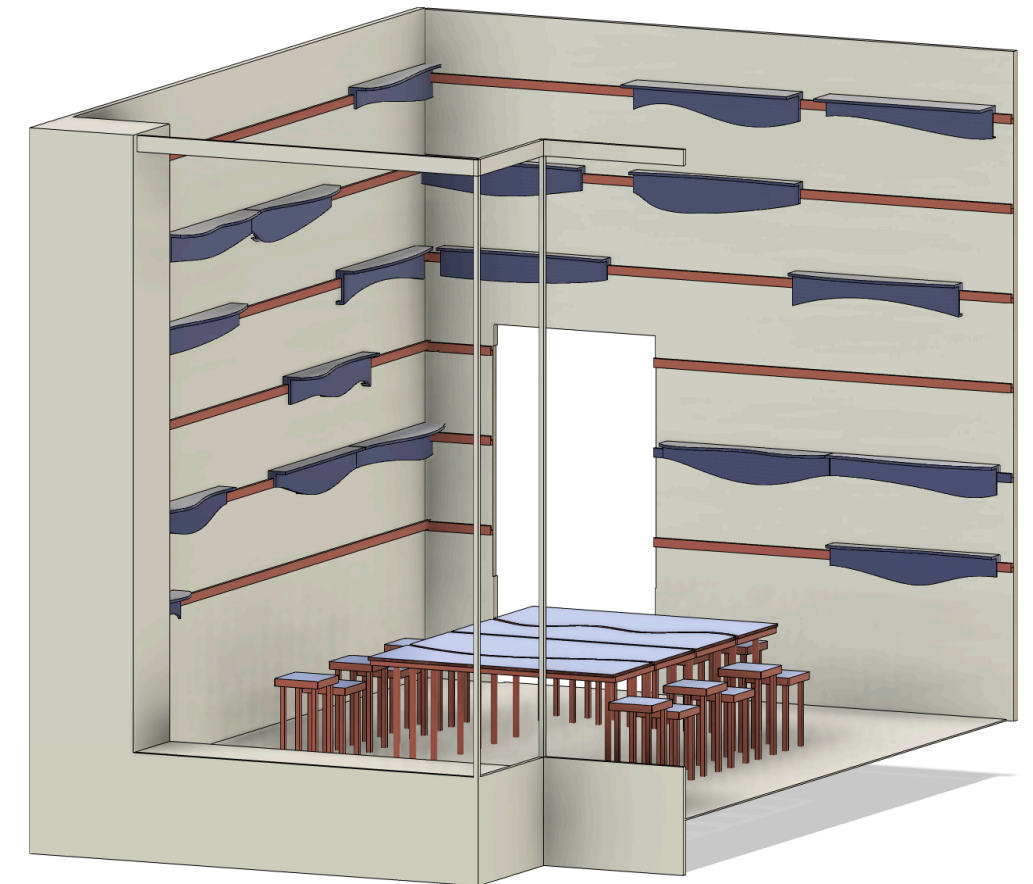
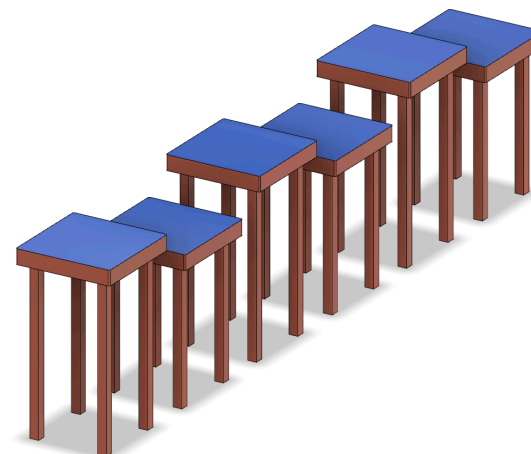
Made in High Pressure Laminate and stained pine
L 180 × W 60 × H 78 cm



Stools in two heights

16 stools in two different heights (high chair for workshops, low chair for lectures and similar)

Made in High Pressure Laminate and stained pine
L 16 × W 16 × H 59/49 cm



Additional cleat-hung objects were made and added to the interior when there was a need for it, such as a pin board, coat hangers, surfaces to screen videos and hooks to hang ropes for a performance. The many other artists using the gallery also added things and altered the space to fit their needs.

2.1.2 Objects on display at Entrée

IPad with Artistic Reflection Website

Color samples for sculptures and interior:

- Wood stain colors, anodized aluminum, acrylic paint on wood

Material samples for sculptures and interior:

- High pressure laminate in different colors
- Wood
- Jesmonite

3D prints:

- Support structures used to make *Secret Support*
- Prints and failed prints used to make molds for *Objects at Hand*

Silicone and Plaster Molds used to make *Objects at Hand*:

- Test casts for *Objects at Hand*

Production Sketches:

- For Entrée Interior
- For *Secret Support*

Sculptures made from leftover materials, not exhibited at Oseana

Plants from my studio

Museum shop replicas of Lygia Clark's *Bichos*

Books including:

- The Abandonment of Art, Lygia Clark exhibition catalogue
- The Sites of Latin American Abstraction, Juan Ledezma
- Siria Aurdal by Eline Mugaas, Eline Mugaas
- Unthought, N.Kathrine Hayles
- How We Became Posthuman, N.Kathrine Hayles
- How We Think, N.Kathrine Hayles
- Conquest of Abundance, Paul Feyerabend
- The Problem of Universals, Charles Landesman
- Abstraction, Ed. Maria Lind, Documents of Contemporary Art
- Image Objects, Jacob Gaboury
- Contemporary Art and Digital Culture, Melissa Gronlund
- Contagious Architecture, Luciana Parisi
- Human Nature in an Age of Biotechnology, Tamar Sharon
- Franz Erhard Walter, Exhibition Catalogue
- The Craftsman, Richard Sennett
- Support Structures, Celine Condorelli
- Aristotele's Theory of Practical Cognition, Takatura Ando
- Innføring i Vitenskapsteori, Ragnar Fjelland
- Research is Ceremony, Shawn Wilson
- Specialism, Ed. Dabid Blamey, Occasional Table Open Editions
- Tool Being, Graham Harman
- The Crisis of European Sciences and Transcendental Phenomenology, Edmund Husserl
- The Wretched of the Screen, Hito Steyerl

2.1.3 Documentation from *Open Studio*



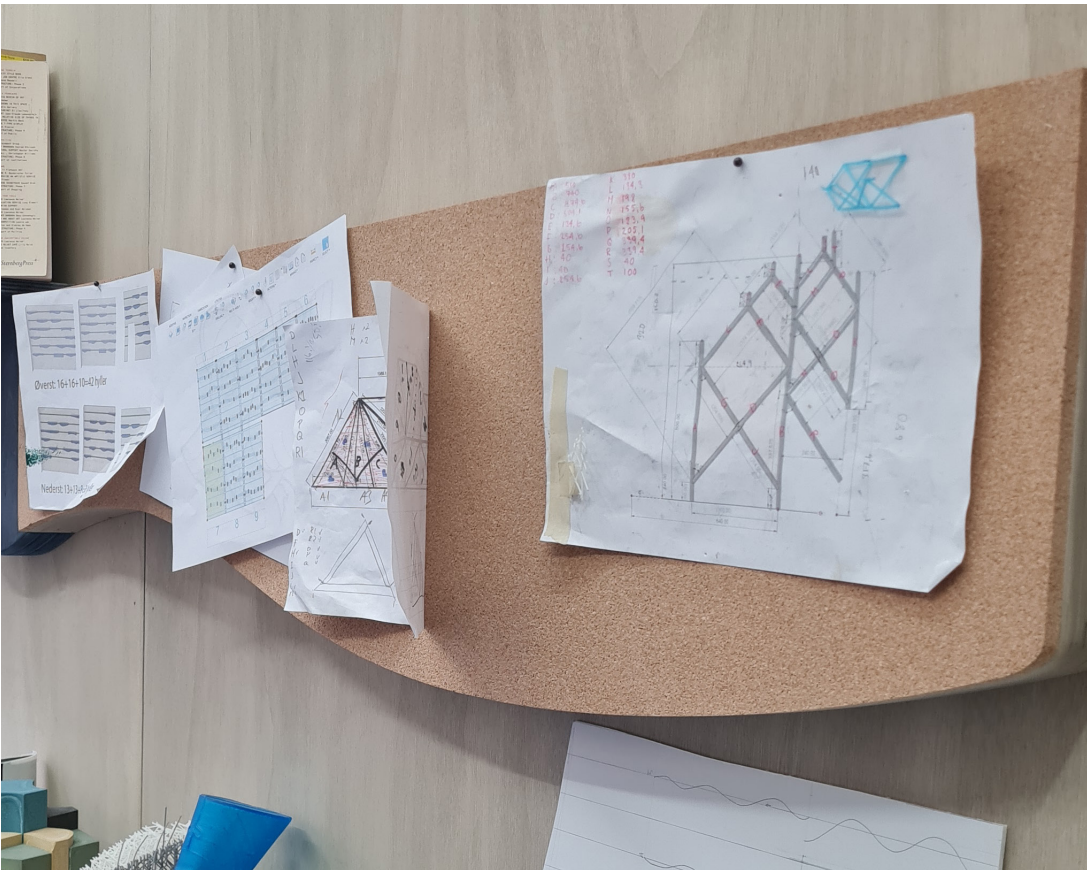
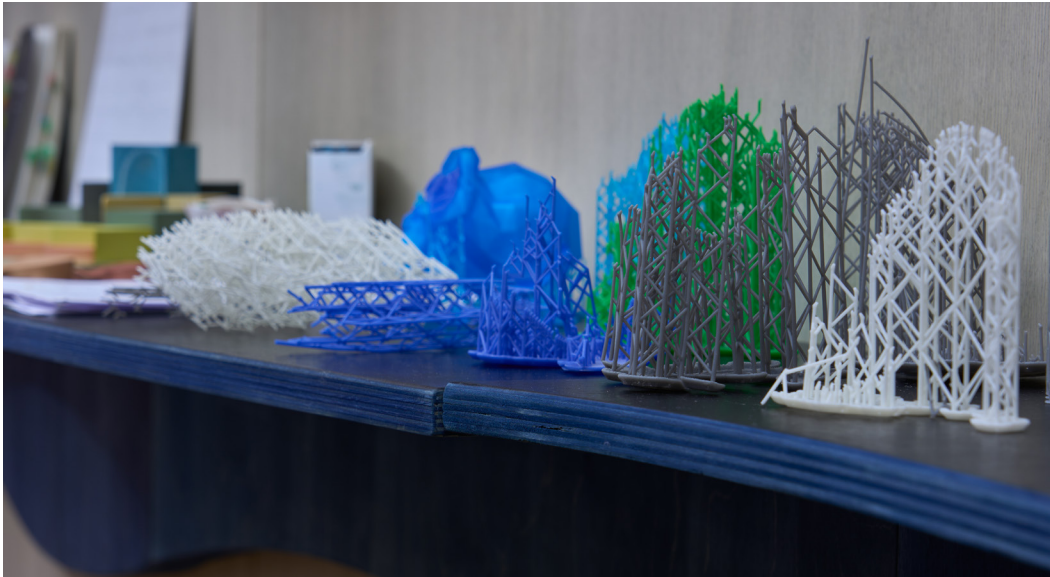


Entrée with interior during *Open Studio*. Photo: Bent René Synnevåg



Image for comparison, how Entrée looks as a whitecube gallery without interior. Works by Sara Wolfert. Photo: Bent René Synnevåg





2.2.1 Dissemination: *Open Studio* Event Program at Entrée

Events

05.02.2022

Exhibition opening for *Open Studio*.

12.02.2022

Workshop in parametric design by Patrícia Šichmanová

13.03.2022

Lecture by Gabriele de Seta

25.02.2022

Lecture by N.Kathrine Hayles

05.03.2022

Lecture by Felipe R Pena

10.03.2022

Performance lecture by Sidsel Christensen

Open studio with side program at Entrée

5. February — 13. March, 2022 (program under)

Exhibition at Oseana Kunst- og Kultursenter

5. February — 13. March, 2022

The exhibition Oppløyste abstraksjonar at Oseana Kunst- og Kultursenter is the final presentation of Bergen-based artist Magnhild Øen Nordahl’s artistic research PhD project that she has been working on at the Faculty of Art, Music and Design at the University of Bergen. The exhibition has been curated by Randi Grov Berger in collaboration with Entrée. (....) In parallel with the exhibition Øen Nordahl presents an open studio at Entrée, where we invite our audience to participate in a discursive program with invited guests who go further into the themes that the artist process sculpturally. The program consists of workshops and presentations by Patrícia Šichmanová, Sidsel Christensen, N. Kathrine Hayles, Gabriele de Seta and Felipe R Pena. See below for the full program.

Magnhild Øen Nordahl (b.1985, Ulsteinvik) lives and works in Bergen. She is based at Aldea Center for Contemporary Art, Design and Technology, which she co-founded in 2018, and which has produced many of the works in the exhibition. Øen Nordahl’s main artistic interest is how humans translate the phenomena we perceive through our bodily senses into abstract concepts, and how we use these simplifications to create new modes of understanding and to make new things. Chopping up, mixing and assembling different materials has become her method of dissolving abstractions and of understanding the world through her eyes, hands and feet. Previous projects have examined body-based measurement units, numerical systems, the formula for the shape of the Earth and other kinds of universal standards. Øen Nordahl has an MA in Fine Arts from the Royal Institute of Art in Stockholm (2014) and a BA in Fine Arts from the Bergen Academy of Art and Design (2010). She has exhibited her work at institutions including Bergen Kunsthall, Astrup Fearnley Museum in Oslo, Palais de Tokyo in Paris (FR) and Banff Center for Arts and Creativity in Alberta (CA). Her work is included in the collections of KODE Art Museums, The Sogn og Fjordane Art Museum and The Equinor Collection.

PROGRAM AT ENTRÉE

Saturday 12. February, from 12-16

Workshop in parametric design by Patrícia Šichmanová

Sunday 13. February, at 13.00

Lecture by Gabriele de Seta

Friday 25. February, at 19.00

Lecture by N. Kathrine Hayles

Saturday 5. March, at 15.00

Lecture by Felipe R Pena

Thursday 10. March, at 18.00

Performance Lecture by Sidsel Christensen

Excerpt from text available to gallery visitors at Entrée

Saturday 12. February, at 12.00
Entrée, Markeveien 4, Bergen
Workshop by Patrícia Šichmanová

Free Parametric 3D modeling workshop

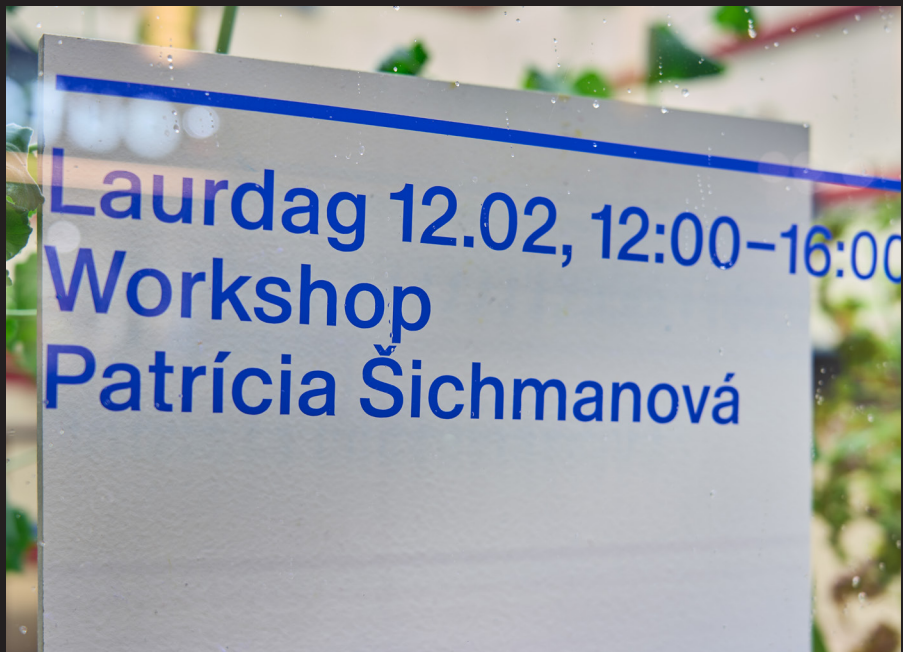
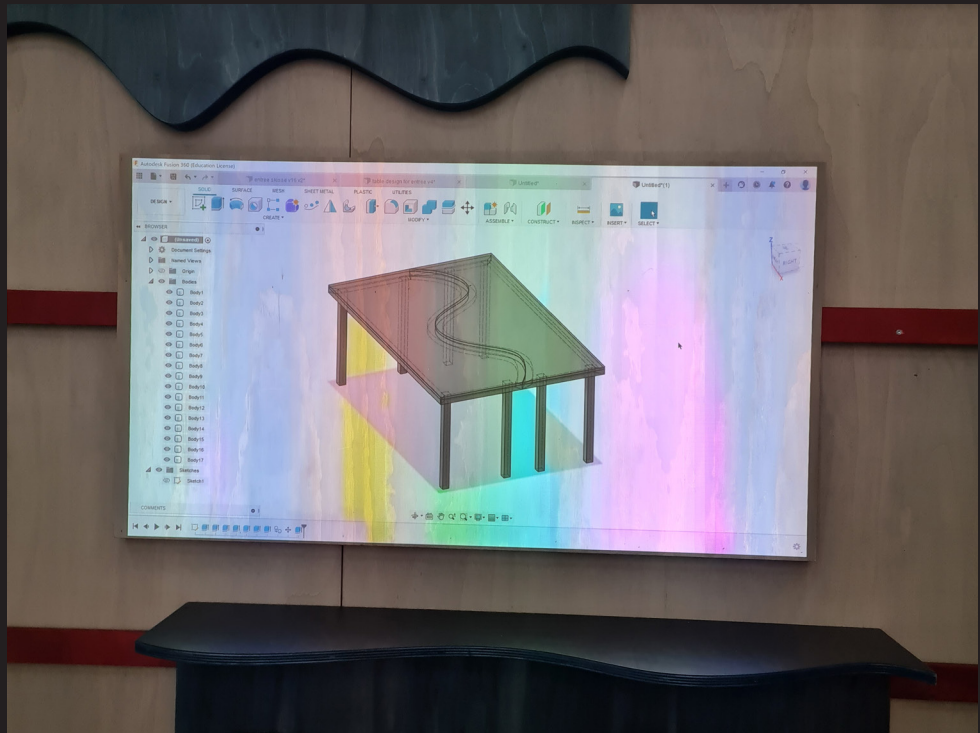
Patrícia Šichmanová is an artist and digital lab manager at Aldea Center for Contemporary Art, Design and Technology. She will give an introduction to the use of parametric design in the 3D-modeling software Fusion360.

NB. To participate in the workshop it is required to have installed Fusion360 beforehand and to have basic knowledge about the software. Due to limited seating, sign up via email to entree.randi@gmail.com.

The workshop is one of the events taking place in Bergen-based artist Magnhild Øen Nordahl's Open Studio at Entrée. Through a discursive program over the next weeks, invited guests Patrícia Šichmanová, Sidsel Christensen, N. Katherine Hayles, Gabriele de Seta and Felipe R Pena, will go further into themes that Øen Nordahl process sculpturally in her artistic research.



Announcement for event distributed via the gallery's communication platforms including newsletter and social media.



Sunday 13. February, at 13.00

Entrée, Markeveien 4, Bergen

Lecture by Gabriele de Seta

On infrastructural abstraction: Models, parameters, algorithms

We warmly welcome you to an open lecture by Gabriele de Seta. In his talk 'On infrastructural abstraction: Models, parameters, algorithms', de Seta will revisit Luciana Parisi's book 'Contagious Architecture' to speculate about the role of abstraction, modeling and algorithms in creative practices such as parametric design and music-making.

NB. Due to limited seating at Entrée, please sign up via email to entree.randi@gmail.com.

This lecture will also be live streamed.

Please click the link below to join the webinar:

<https://uib.zoom.us/j/67423180785...>

Meeting ID: 674 2318 0785

Passcode: u1eL7kwx

Gabriele de Seta holds a PhD from the Hong Kong Polytechnic University and was a Postdoctoral Fellow at the Institute of Ethnology, Academia Sinica in Taipei. Gabriele is currently a Postdoctoral Researcher at the University of Bergen, where he is part of the ERC-funded project "Machine Vision in Everyday Life". His research work, grounded on ethnographic engagement across multiple sites, focuses on digital media practices, sociotechnical entanglements and vernacular creativity in the Chinese-speaking world.

This lecture is one of the events taking place in Bergen-based artist Magnhild Øen Nordahl's Open Studio at Entrée. Through a discursive program over the next weeks, invited guests will go further into themes that Magnhild Øen Nordahl process sculpturally in her artistic research. The Open Studio with public program, in combination with the exhibition 'Oppløyste abstraksjoner' at Oseana Kunst- og Kultursenter, is Øen Nordahl's final presentation of her artistic research PhD at the Faculty of Art, Music and Design at the University of Bergen.



Announcement for event distributed via the gallery's communication platforms including newsletter and social media



Friday 25. February, at 19.00
Entrée, Markeveien 4, Bergen
Lecture by N.Kathrine Hayles

A Crisis of Representation: Abstraction and Materiality

The lecture will be live streamed online and at Entrée in Bergen, on Friday 25 February at 7pm. Sign up to entree.randi@gmail.com for a spot at Entrée or follow this link to watch online.

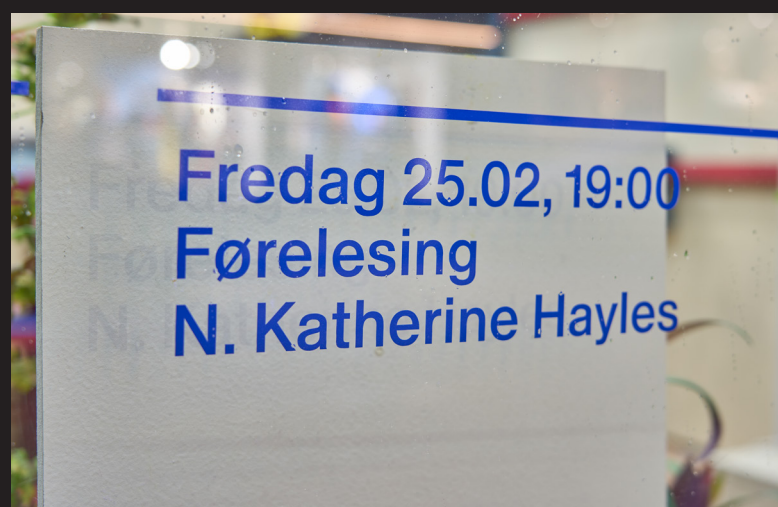
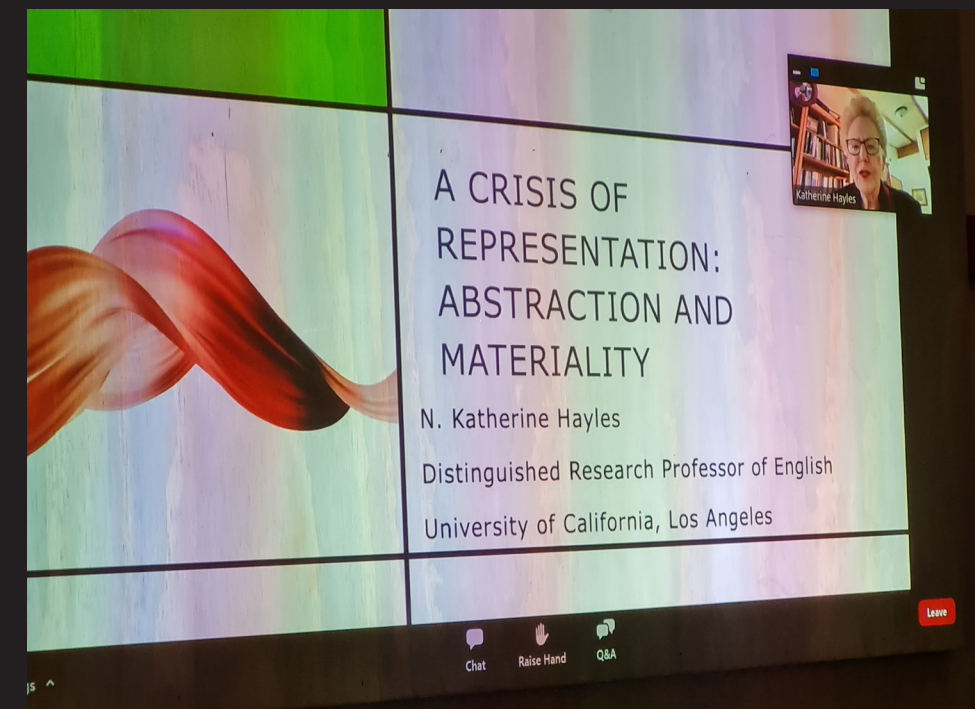
“As intelligent machines come closer to human abilities in reading and producing texts, simulating gestures, faces and expressions, and other simulative capabilities, the profound differences in embodiment between human and artificial intelligences create a yawning gap between machine representations and the meanings humans project onto them. It is a truism that abstractions from material phenomena always result in the loss of some information, which we can call the noise of the material real. Neural nets learn by abstracting inputs into indexical pointers with adjustable weights, which in the case of simulative text is then transformed back into semantic markers. These computations are radically different from the ways in which humans create and produce similar markers. What kind of reading practices and interpretive activities are appropriate for these machinic representations, and how should we understand the relation between materiality, abstraction and meaning?”

N. Kathrine Hayles is a literary critic and theorist. Her writing includes the books *How We Became Posthuman* and *Unthought: The Power of the Cognitive Nonconscious*. She is known for breaking new ground at the intersection of the sciences and humanities. In *Unthought*, she bridges disciplines by revealing how we think without thinking – how we use cognitive processes that are inaccessible to consciousness yet necessary for it to function.

The lecture is the third public event taking place in Magnhild Øen Nordahl’s Open Studio at Entrée. In a series of workshops and presentations Øen Nordahl invites guests and audiences to join her in unfolding themes connected to her artistic research project *Unmaking Abstractions* which is now coming to an end. In parallel with the open studio, Øen Nordahl is showing sculptures, videos and installations in the exhibition *Oppløyste Abstraksjonar* at Oseana Kunst og Kultursenter. The exhibition and open studio is the final presentation of Øen Nordahl’s artistic research PhD at The Faculty of Art, Music and Design at the University of Bergen.



Announcement for event distributed via the gallery’s communication platforms including newsletter and social media



Thursday 10. March, at 18.00

Entrée, Markeveien 4, Bergen

Performance Lecture by Sidsel Christensen

WHERE ARE WE NOW? WHERE ARE WE NOW? WHERE ARE WE NOW?

Sidsel Christensen is an artist and PhD candidate at KMD. In her performance lecture Christensen will activate the interior at Entrée and share elements of her artistic research project “Hyperspace as reflective tool: strange movements through spatial, digital and text-based media.” In this research project Christensen investigates how scientific/mathematical models of physical dimensions and their interrelationships, can be used as a generative tool in contemporary art.

For this evening at Entrée, Christensen will invite us into a conversation with the support structures that hold our world. What will our architectural contexts tell us if they are invited to step forward and have an active voice? Where will we end up then? What story will they make us into?

The lecture is part of a series of public events taking place in Magnhild Øen Nordahl’s open studio at Entrée, where she invites guests and audiences to join her in unfolding themes connected to her artistic research project 'Unmaking Abstractions'. The event program at Entrée runs in parallell with the exhibition “Oppløyste abstraksjonar” at Oseana Kunst og Kultursenter, and in combination the two venues present the final result of Øen Nordahl’s artistic research PhD at The Faculty of Art, Music and Design at the University of Bergen.



Announcement for event distributed via the gallery’s communication platforms including newsletter and social media

Laurdag 10.03, 18:00
Performance
Sidsel Christensen



Saturday 5. March, at 15.00
Entrée, Markeveien 4, Bergen

Lecture by Felipe R Pena

In his lecture Pena will speak about the artist Lygia Clark and the Neo-Concrete movement. Focusing on its participatory approach and relation to modernism in Brazil in the 1950's, Pena will consider how their legacy is affecting art and architecture in Latin America today.

Join us at Entrée or follow the link to watch the online lecture from home.

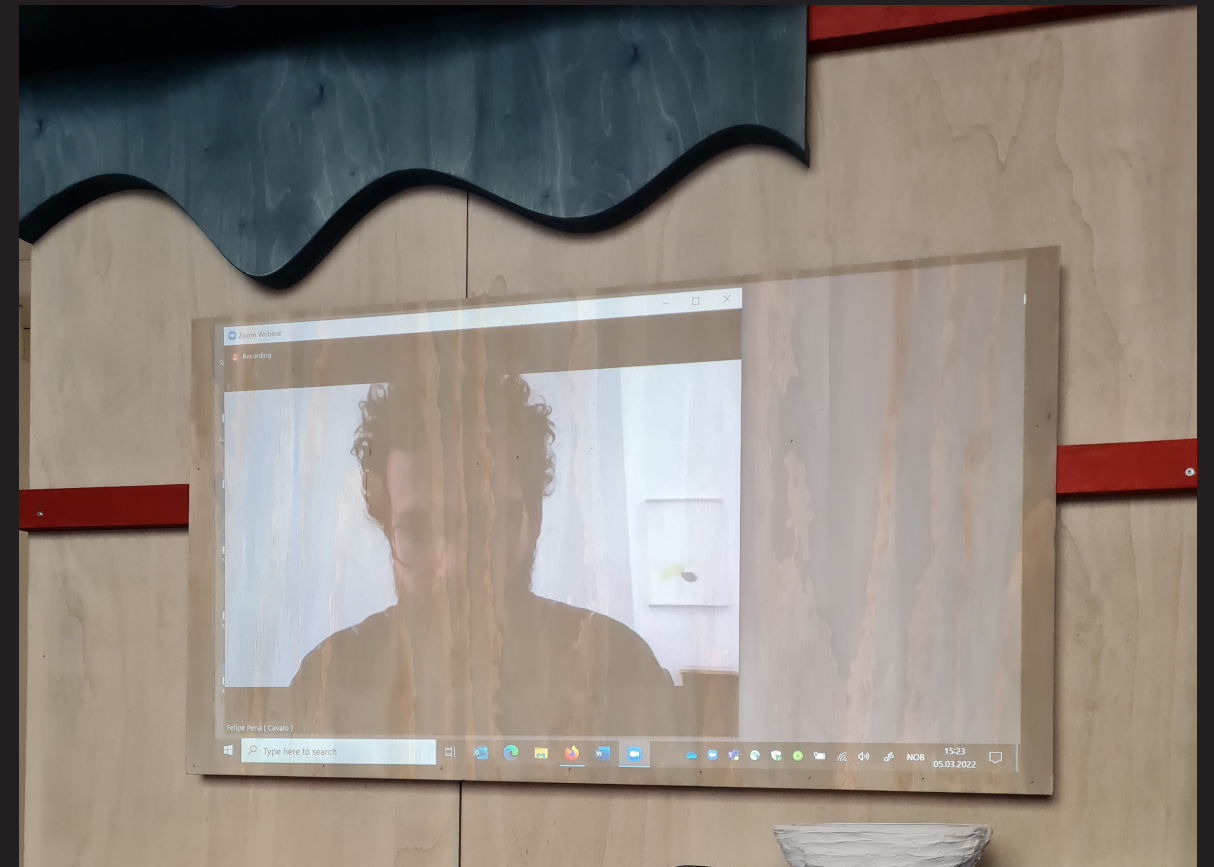
Link:

<https://uib.zoom.us/j/68018399784...>

Passcode: 3VKBewNL

Felipe R Pena is a Brazilian curator based in Oslo and Rio de Janeiro where he runs the gallery Cavalo.

The lecture is part of a series of public events taking place in Magnhild Øen Nordahl's open studio at Entrée, where she invites guests and audiences to join her in unfolding themes connected to her artistic research project 'Unmaking Abstractions'. In parallel with the open studio, Øen Nordahl is showing sculptures, videos and installations in the exhibition 'Oppløyste Abstraksjonar' at Oseana Kunst og Kultursenter. The exhibition and open studio is the final presentation of Øen Nordahl's artistic research PhD at The Faculty of Art, Music and Design at the University of Bergen.



Announcement for event distributed via the gallery's communication platforms including newsletter and social media



2.2.2 Other exhibitions and events at Entrée using the interior, 27.11.21–13.11.22

Project mention at Kunstkritikk.no in the article The Jazz of Spring published 26.01.22

Kunstkritikk

Nordic Art Review

▼ english/nordic

The Bergen-based gallery Entrée has been transformed by Magnhild Øen Nordahl from a white cube to a flexibly furnished room suitable for social and discursive activities. From February to March, the repurposed gallery will constitute the backdrop for a presentation of parts of Øen Nordahl’s doctoral work at the Faculty of Fine Art, Music, and Design at the University of Bergen (KMD). For the rest of the year, it will house other projects, such as Marco Bruzzone’s “underwater protest” in April. The gallery also has a film programme curated by Tatiana Lozano, which includes a screening of Mai Hofstad Gunne’s latest film at the Cinemateket in Bergen.



Bergen Art Book Fair, 23.03–18.04.2022. Photos: Mario de la Ossa.





SIGLA BINDA, art book exhibition and workshops, 27.11.2022–23.01.2023. Photo: Randi Grov Berger



Photo: Bjarte Bjørkum



Photo: Bjarte Bjørkum



Artists in residency at Entrée Tuda Muda, Sigrún Hlín Sigurðardóttir and Unn Devík, June–July 2022

Book launch of artist book by Karoline Hjort and Riitta Ikonen, 15.05.2022





Exhibition by Marco Bruzzone, 21.06–28.08.2022. Photo: Mario de la Ossa



Exhibition and events by Andrea Spreafico, 03.09–13.11.2022

Exhibition and events by Andrea Spreafico, 03.09–13.11.2022. Photo: Bent René Synnevåg



3 *Two Rocks Do Not Make a Duck*

This section documents the artwork *Two Rocks Do Not Make a Duck*, an interactive augmented virtuality work made in collaboration with Cameron MacLeod. The main presentation of the work took place at the MUNCH triennale *The Machine is Us* from 01.10–11.12.2022.

3.1 *Two Rocks Do Not Make a Duck* p. 100

3.1.1 List of parts in installation p. 101

3.1.2 Documentation from exhibition at MUNCH. p. 102

3.1.3 Logbook excerpt from museum hosts p. 112

3.2 Dissemination of *Two Rocks Do Not Make a Duck* p. 113

3.2.1 Mediation and exhibition reviews p. 114

3.2.2 Texts about artwork p. 116

3.2.3 Presentations of work in other venues p. 117

3.1.1 *Two Rocks Do Not Make a Duck* – list of parts in installation

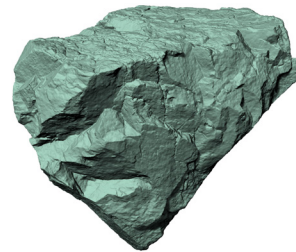
Interactive sculpture

Rock #1

AcrylicOne, styrofoam,
VR-tracker

36 × 32 × 23 cm

7,8 kg



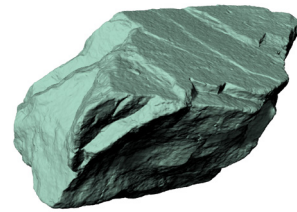
Interactive sculpture

Rock #2

AcrylicOne, styrofoam,
VR-tracker

35 × 27 × 15 cm

5,7 kg



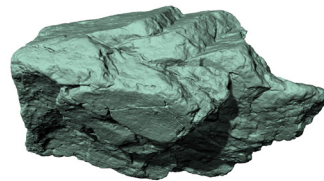
Interactive sculpture

Rock #3

AcrylicOne, styrofoam,
VR-tracker

42 × 30 × 18 cm

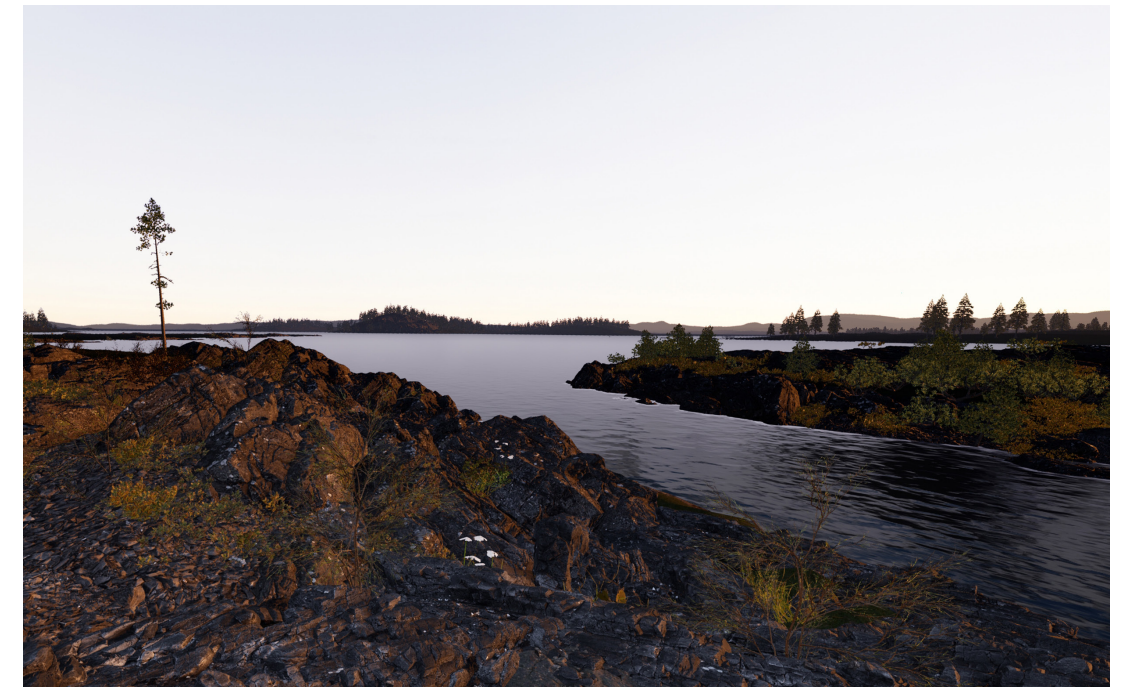
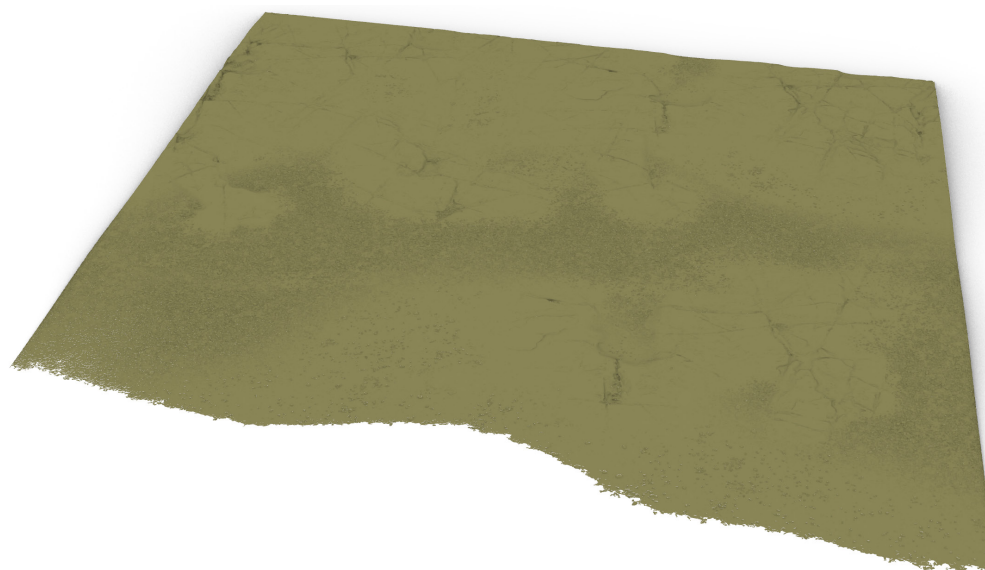
5,6 kg



Floor

MDF, AcrylicOne

467 × 478 × 12 cm



Dynamic Virtual Environment

Environment and interaction design by Cameron MacLeod, Jonathan Nielssen and Jørgen Steinset.

The VR environment changes according to the user's interaction with sculptures. The environment is a virtual recreation of the geographical area surrounding the exhibition venue. This means the VR scene was recreated each time the work was displayed, ensuring it corresponded with the current location.

3.1.2 *Two Rocks Do Not Make a Duck* at MUNCH



Video recording of *Two Rocks Do Not Make a Duck*, inside VR and of person in installation. Documentation by Jan Marius Nilsson / Kunstdok.



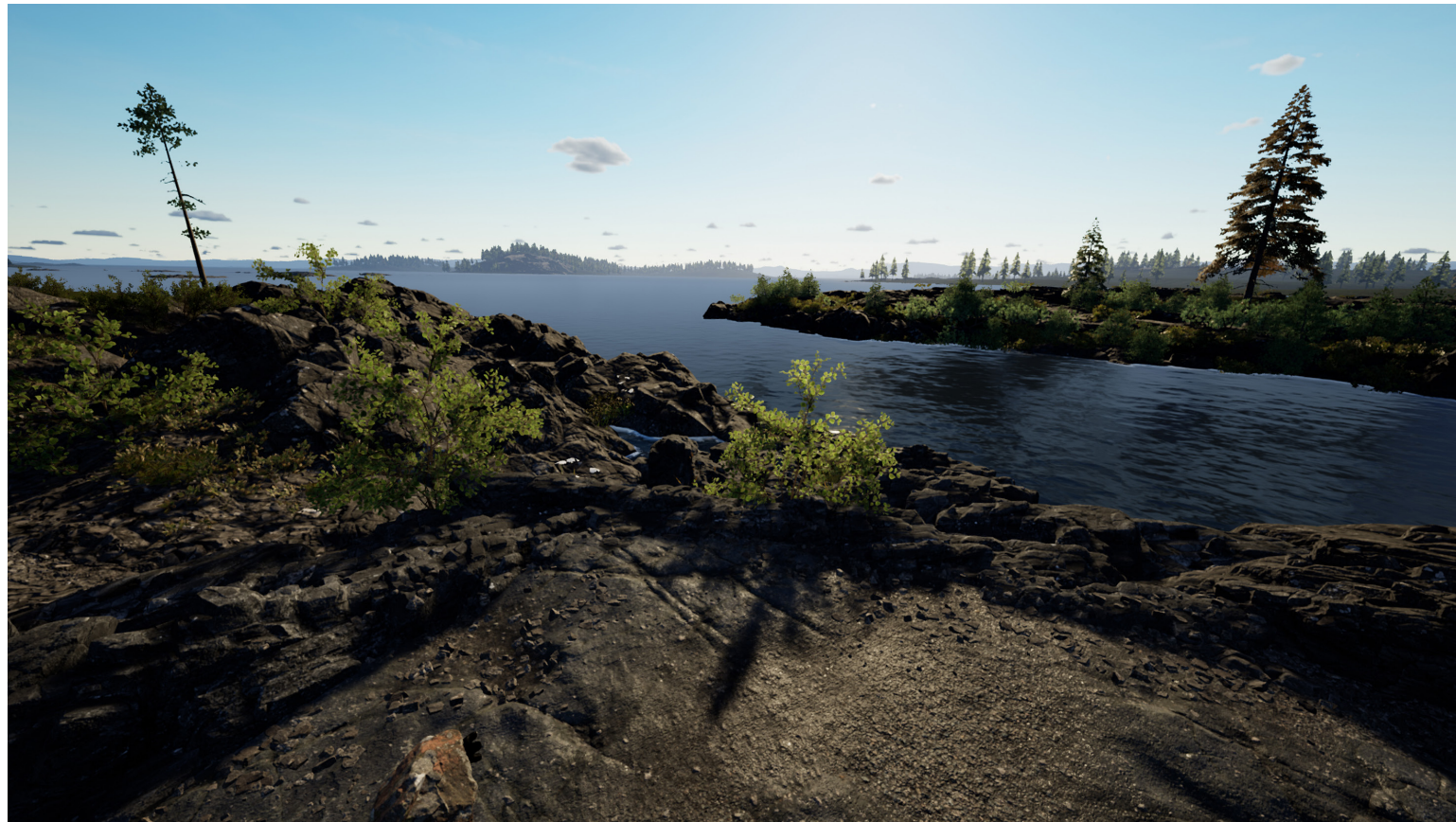


The work was installed on the ground floor of the museum in a room built for the presentation of the work. The space had windows overlooking the downtown area of Bjørvika and the rivermouth of Akerselva going into the Oslo fjord.



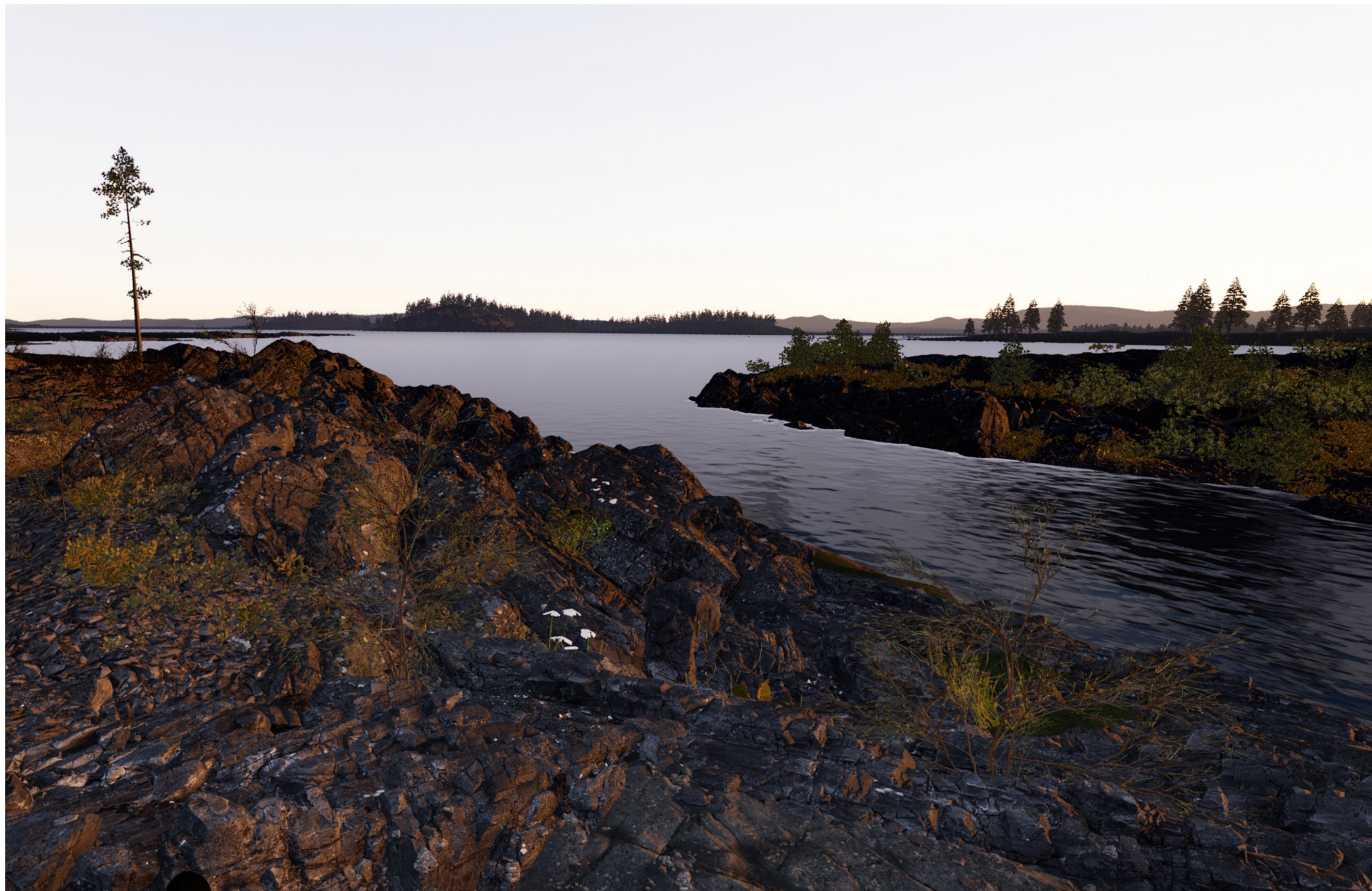






Screenshot from VR environment.





Screenshot from VR environment



Screenshot from VR environment in different season

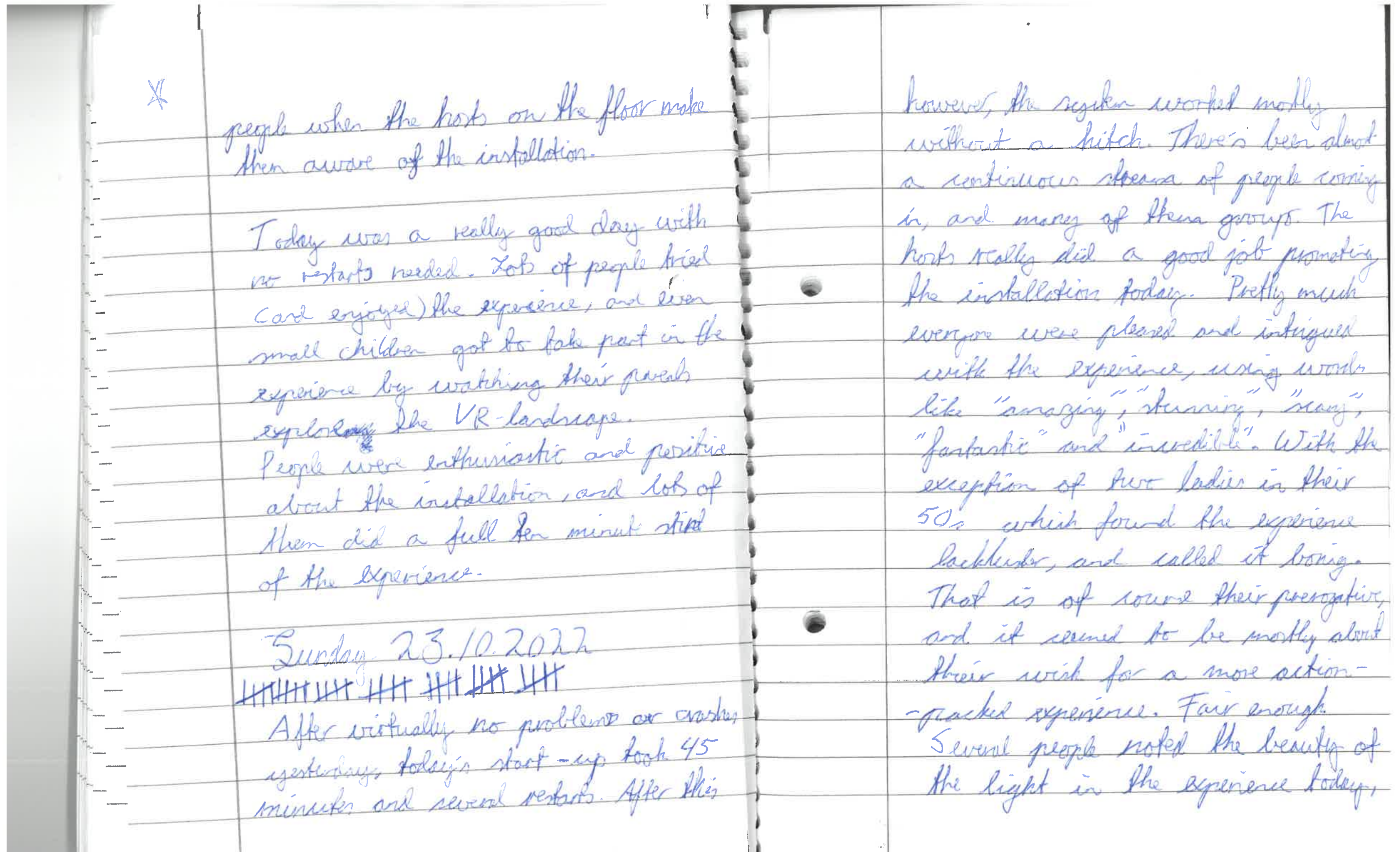


Screenshot from VR environment

Image of sculpture



3.1.3 Log book excerpt



Excerpt from logbook written by museum hosts

3.2 Dissemination and mediation of *Two Rocks Do Not Make a Duck*

The exhibition at MUNCH had 104.688 visitors. *Two Rocks Do Not Make a Duck* was also presented in other venues and disseminated to the public through texts written by myself and Cameron, reviews, mediation materials, workshops and guided tours.

List of dissemination and mediation of work presented on the following pages:

- Presentation on MUNCH's website
- Mediation text for the Triennale *The Machine is Us*
- Exhibition walkthrough video
- Excerpts of exhibition reviews
- Text in S. Bremer & A. Wardekker (eds.) *Changing Seasonality: How Communities are Revising their Seasons*. De Gruyter: Berlin
- Blogpost on Varjo.com
- Exhibition of artwork at Banff Center for Arts and Creativity
- Exhibition of artwork in group exhibition at the UiB University Gardens
- Opening event at University Gardens including participation in panel talk and presentation at guided tour
- *Two Rocks Do Not Make a Duck* presented and used as a workshop module during CALENDARS symposium at the arboretum the week following the exhibition opening
- Presentation of work for Fana Folkehøgskole art students

3.2.1 Mediation materials from MUNCH and exhibition reviews

03/10/2023, 11:24

Cameron MacLeod & Magnhild Øen Nordahl - Munchmuseet

CAMERON MACLEOD & MAGNHILD ØEN NORDAHL

Two Rocks do not Make a Duck (2022)

MUNCH

TICKETS

≡

https://www.munchmuseet.no/en/munch/the-machine-is-us/cameron-macleod--magnhild-oen-nordahl/

1/7

03/10/2023, 11:24

Cameron MacLeod & Magnhild Øen Nordahl - Munchmuseet


Photo: Courtesy of the artists

From the lobby of MUNCH you can look out over the Oslo fjord and the river Akerselva river. Wearing a virtual reality headset, you can see this view being transformed into an alternative reality. In this virtual fjord landscape there are no buildings or anything made by humans. By lifting rock-like sculptures, you can experience the way the scenery changes in different weather conditions, seasons and times of day.

Where: Downstairs lobby of MUNCH, to the right hand side of reception.

When: Opening hours are Wednesday to Sunday, 14:00–18:30. One person can experience the work at a time. The work is accessible on a first come, first served basis. Maximum 10 minutes per person.

A commission for [The Machine is Us](#).



MUNCH

TICKETS

≡

https://www.munchmuseet.no/en/munch/the-machine-is-us/cameron-macleod--magnhild-oen-nordahl/

2/7

03/10/2023, 11:24

Cameron MacLeod & Magnhild Øen Nordahl - Munchmuseet

well as alternative pasts. He is the inventor of Curatron, a digital tool that turns artists into anonymous co-curators of the exhibitions they are part of themselves. He is the co-founder and director of the artist-run sister organisations Platform Stockholm and Aldea.

Magnhild Øen Nordahl (b. 1985 Norge, based in Bergen, Norway) uses sculpture to examine how the complex sensory world is translated into abstract concepts. She is interested in how abstractions in science, technology and 3D modelling shapes the way we look at the world and how we build it. Together with MacLeod, she is co-founder of the artist-run space Aldea Center for Contemporary Art, Design and Technology in Bergen.

Software development and virtual environment design by Jonathan Nielsen and Jørgen Stolt Steinset


Realised with support from:

The City of Bergen

Vestland County Council

The Nordic Culture Fund

MORE ABOUT THE EXHIBITION



MUNCH

TICKETS

≡

https://www.munchmuseet.no/en/munch/the-machine-is-us/cameron-macleod--magnhild-oen-nordahl/

4/7

03/10/2023, 11:24

Cameron MacLeod & Magnhild Øen Nordahl - Munchmuseet

Photo: Kjetil Smedal

MUNCH

TICKETS

≡

https://www.munchmuseet.no/en/munch/the-machine-is-us/cameron-macleod--magnhild-oen-nordahl/

3/7

Presentation of work on the museum’s website.

The Machine is Us

Curator Tominga O’Donnell outlines some of the themes that emerge in the first MUNCH Triennale – *The Machine is Us*. The exhibition features 25 artists exploring society’s digital transformation using fresh perspectives and subversive approaches.

A museum triennial is more than a traditional group exhibition. In addition to being a recurring format with the promise of a subsequent edition in three years’ time, the MUNCH Triennale is a site of contemporary artistic production, where artists are invited to develop new projects. Consequently, almost half the works in the Triennale are commissions, which sit alongside existing artistic production from recent years.¹ The expectation of newness or ‘recentness’ from a museum triennale might pose a challenge to an exhibition that has been delayed for almost two years due to the global pandemic and the subsequent late opening of the new museum building. Nonetheless, as curator of this exhibition, I would argue that the works in it have lost none of their relevance. The advantage – and challenge – of collaborating with artists on developing new works is that they can be altered right up until the public opening. Some of the commissions have, therefore, changed while the project was on hold, whereas others have taken on renewed significance. After all, most people’s existence has become even more entwined with machines as a result of social lockdown conditions.

Cyborgs, glitches and queer potentiality

This first edition of the Triennale takes its title from Donna Haraway’s *A Cyborg Manifesto* from 1985, which contains the following quote: ‘The machine is not an *it* to be animated, worshipped and dominated. The machine is us, our processes, an aspect of our embodiment.’² I was reminded of this sentiment when I stood in line for airport security behind a teenage boy, who had put all his possessions in the tray to be X-rayed and was surprised to discover that his phone was deemed separate from his body as the alarm went and he was pulled aside. For his generation – and many others – the phone is not a discrete object, it is fully part of who you are; a corporeal extension of hat leaves a gaping hole when removed. The distinction between online and offline no longer applies. In *Glitch Feminism – A Manifesto*, curator and writer Legacy Russell proposes the acronym AFK to describe the temporary absence of the digital native of being ‘away from the keyboard’. In the conception of the exhibition, the curatorial team have sought to bring together works that transcend any artificial division between humans and the digital devices that increasingly permeate our lives.³ In fact, it is in between these two that some of the most interesting things can happen.

Inspired by queer methodologies, the curatorial premise of *The Machine is Us* has asked ‘what if?’ in the sense of ‘what could be’ or ‘what is the alternative’ after Jose Esteban Muñoz’s definition of queerness as a horizon, ‘a longing that propels us onward, beyond romances of the negative and toiling in the present’.⁴ The way I define ‘queer’ is not limited to issues of sexual orientation, but rather refers to a critique or rupture of an existing order that is not only heteronormative but

¹ The artists who are contributing new work to the MUNCH Triennale include: Agnieszka Kurant, Ayatgali Tuleubek & Michael Rahbek Rasmussen, Bella Rune, Cameron MacLeod & Magnhild Øen Nordahl, Cory Arcangel, Frida Orupabo, Helle Siljeholm, Lesia Vasylichenko, Lu Yang, Salome Asega, Silje Linge Haaland, Toril Johannessen, Victoria Durnak and Zach Blas.

² Donna J. Haraway, ‘A Cyborg Manifesto – Science, Technology and Socialist-Feminism in the Late Twentieth Century’ in Donna J. Haraway, *Manifestly Haraway* (University of Minnesota Press, 2016), p. 65.

³ The curatorial team has shifted in the three years since the Triennale’s initial conception and I have at different times had the pleasure of working with Stefano Collicelli Cagol, Vilde Mortensdatter Horvei, Nora Ceciliedatter Nerdrum, Ilavenil Vasuky Jayapalan, Jon-Ove Steihaug and Liv Brissach.

⁴ Jose Esteban Muñoz, *Cruising Utopia, The Then and There of Queer Futurity* (New York University Press, 2009), p. 1.

1

Excerpt from exhibition mediation text written by curator Tominga O’Donnell.

Page 114

Two Rocks Do Not Make a Duck - MUNCH Dissemination

20:34

Aftenposten

Disse verkene er subtile og nære i sitt uttrykk, og de har det blikket på menneskene blant maskinene som jeg savner i en ellers usentimental utstilling.

Jeg kommer heller ikke utenom Cameron Macleod og Magnhild Øen Nordahls «Two Rocks do not Make a Duck», hvor kan du oppleve et naturlandskap i Bjørvika gjennom VR-briller. Alle bygningene er borte. Plutselig fremstår den digitale verden mer naturlig enn virkeligheten. Teknologien er komplisert, men budskapet er delikat og lavmælt presentert.

Artikkelen fortsetter under annonsen

Excerpt from exhibition review of *The Machine is Us*, written by Alma Holtvedt, published in Aftenposten 02.10.2022

QR-koder og VR-briller

Også Helle Siljeholms installasjon «web3» er interessant. Her forsøker hun å visualisere blokkjedeteknologien gjennom en stor installasjon.

Selv om jeg ikke kan si jeg forstår noe særlig mer av den abstrakte og komplekse teknologien som danner utgangspunkt for bitcoin og NFT, liker jeg trekrone metaforikken som hun bruker.



NETT AV TRE: I skulpturen «web3» gir Helle Siljeholm blokkjedeteknologi fysisk form.

Noen verk er ikke synlig for det blotte øye, men kan kun oppleves gjennom å skanne en QR-kode, eller at man tar på seg et par VR-briller. Ved å gjøre det sistnevnte kan en for eksempel oppleve Bjørvika fra tusenvis av år siden, før mennesker slo seg ned.

Exhibition review by Mona Pahle Bjerke, published on nrk.no 04.10.22.

Kunstkr/RIKK

Nordisk kunstdiskrift

Ny triennale på Munchmuseet

- Vi har lyst til å løfte frem digitaliseringen av samfunnet og hva slags implikasjoner dette har for folks liv, sier kurator Tominga O'Donnell.

Av Andreas Breivik 26.09.22 Nyhet

Det er en ganske teknologiløst utstilling, sier kurator ved Munchmuseet Tominga O'Donnell om den første utgaven av Munch Triennale, Maskinen er oss, som åpner torsdagskvelden 30. september.

- Vi har lyst til å løfte frem digitaliseringen av samfunnet og reflektere over hva slags implikasjoner dette har for folks liv. Slik som endringer i våre sosiale relasjoner, automatiseringen av arbeidslivet og kunstig intelligens i for eksempel straffedomstol. Når algoritmer er basert på massive datasett, kan det skape alvorlige konsekvenser, sier Tominga O'Donnell til Kunstskrift.

Del

Skriv ut

Exhibition presentation on kunstskrift.no by 04.10.22.



Exhibition walkthrough video. Documentation credit: Jan Marius Nilsson / Kunstdok.

3.2.2 Texts about *Two Rocks Do Not Make a Duck*


Magnhild Øen Nordahl

17 Simulating seasons in virtual reality

Two Rocks do Not Make a Duck is a sculpture and Virtual Reality (VR) artwork made by the artists Cameron MacLeod and Magnhild Øen Nordahl. It was first shown at the Munch Museum in Oslo and will later be presented at the Arboretum in Bergen in connection to an art exhibition and research symposium on seasonality. When a person puts on the VR headset, they will see a simulation of the landscape outside the space where the artwork is exhibited. In Oslo, the river, the fjord and other geographical landmarks were there, but no buildings or objects made by humans. A simulated nature-version of the cityscape remained. In Bergen the scene will be recreated to immerse the users in a virtual version of the Aboretum gardens. The user can move through this simulated landscape by moving around in the space where the piece is shown, with the walls of that physical space functioning as movement boundaries also in the virtual world. By lifting and moving around rock-shaped sculptures the user can experience changes in the virtual environment, such as different weather conditions, different times of day and times of year. We called the rocks the weather-rock, the day-rock, and the year-rock. In this text I will describe parts of the process, challenges and some of the technological affordances and limitations in developing a virtual landscape where seasonal changes occur.

We realized early on that to make a virtual environment which *looks* real is something quite different than trying to simulate the complex natural world in a scientifically accurate way. Our knowledge, budget, time, and the point of view from where the user was standing limited what was possible and meaningful to simulate. We had to simplify, to make abstractions, to choose which environmental events to simulate, and to build a whole from those parts with the added building blocks and tools provided by the VR technology.

The exercise of trying to imitate something made us look closer at and learn about what we were imitating. First, we had to think through how the environment changes during a year, what these changes look like, and which changes were possible to simulate. We became aware of things we had not thought of before, such as how the sun makes an analemma (a figure eight shape) on the sky, when observed regularly at the same time of day from the same location. I realized that I knew very little about how the night sky changes throughout the year, and the developers who were tasked with simulating all these things were surprised at how irregular and complex tidal variations are. We were able to include some of these intricate movements and changes in the simulation for free, by using existing software functionality and plugins. Others required more work.

 Open Access. © 2023 the author(s), published by De Gruyter.  This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. <https://doi.org/10.1515/9783111245591-017>

Excerpt from a text I wrote about the work, published by De Gruyter as a chapter in the open access book *Changing Seasonality*, edited by Scott Bremer and Arjan Wardekker.

VARJO
[NS]DER

How to Create an Immersive VR Art Experience

May 30, 2023 by Cameron MacLeod, Visual Artist and Director, Magnhild Øen Nordahl, Visual Artist | Design

A showcase of cutting-edge VR art, *Two Rocks Do Not Make a Duck*, is an augmented virtuality artwork made by artists Cameron MacLeod and Magnhild Øen Nordahl. In this blog post the artists will describe how they made it and some of their thoughts behind it.



The VR art installation at [the Munch Museum](#) features a 3D floor, interactive rocks, and a simulated wilderness environment altering the perception of time in virtual reality upon user interaction. Photo: ©Jon Marius Nilsson/Kunstdok

Excerpt from a text written together with Cameron MacLeod, published on the VR-headset producer Varjo's blog.

3.2.3 Presentations in other venues



Work in progress presented to the public at the Banff Center for Arts and Creativity in Canada, 2019



Screenshot from VR landscape at nighttime. The environment was a virtual recreation of the surroundings of the exhibition space at the Banff Center.





Screenshot of VR environment, for this exhibition recreated as a simulation of the surroundings in the university gardens.



Presentation of work in the exhibition *En sti er en tanke utsterkt i tid og rom* at the University Gardens at Milde outside Bergen. 09.09–24.09.2023

Participation in panel talk about the exhibition and our work as part of the exhibition opening event.
Photo: Anna Jakobsson



The work used as a workshop module in a symposium organized by CALENDARS research group, 12. 09.2023



En sti er en tanke strekt ut i tid og rom

– En utstilling på Arboretet
9-24 september 2023

Kunstnere:

Silje Figenschou Thoresen
Simon Daniel Tegnander Wenzel
Eamon O’Kane
Magnhild Øen Nordahl og
Cameron MacLeod
Øyvind Novak Jenssen

En tanke er en sti strekt ut i tid og rom

I september 2023 er Arboretet vertskap for en utstilling hvor seks samtidskunstnere skal gi publikum en ny og annerledes opplevelse av Arboretet - fra en virtuell gjenskaping av hagen til luktopplevelser skulpturer i landskapet.

Utstillingen En sti er en tanke strekt ut i tid og rom er en gruppeutstilling på Arboretet hvor seks kunstnere på ulike måter lager kunstverk på forskjellige måter forholder seg til årstidene. Gjennom ny teknologi som VR, så vel som gjennom nedarvete og revitaliserte håndverkstradisjoner, nye blikk på kulinariske tradisjoner og urfolks sesongbaserte arkitektur og teknologi.

Menneskelige samfunn og liv har alltid vært rammet inn av årstidene, som både gir forutsigbarhet, utfordringer og muligheter. Utstillingen er inspirert av forskningsgruppen CALENDARS ved UiB, som har sett på hvordan klimaendringer endrer rytmen og intensiteten for årstidene.

Utstillingen åpner 9. september 2023, og det vil være busstransport til og fra Bergen sentrum. På åpningsdagen vil det være en kunstnersamtale og omvisning i utstillingen.

11-12. september arrangerer CALENDARS et symposium på Arboretet med foredrag, innlegg og kunstnerbidrag med utgangspunkt i forskningsprosjektet.

Utstillingen er kuratert av Arne Skaug Olsen, og de deltagende kunstnerne er Magnhild Øen Nordahl og Cameron MacLeod, Øyvind Novak Jenssen, Eamon O’Kane, Silje Figenschou Thoresen og Simon Daniel Tegnander Wenzel.

Utstillingen er støttet av:
CALENDARS, Norsk kulturfond,
Vestland fylkeskommune, Arboretet
og Arboretets Venner.

