



WEST

In a speculative fiction
about relationship and dependence
between digital objects and material substrates,
the Eternal Return series is an investigation
of virtual reality,
not as technology, but as a developing sensibility
toward a relationship with surroundings,
other life forms, and processes.

The Memor (2019 - Ongoing)

Eternal Return Series*

Lundahl & Seidl + ScanLAB Projects

Medium: Single visitors choreographed perception via memory, movement, touch, and scent in friction with spatialised sound and sight via VR technology, stereolithography-resin-prints on steel scaffolds, fossilized cyanobacteria, microbial mats and sponges.

Duration: 17'

[link to Documentation](#)

The Eternal Return series consist of three artworks, each 6x6 meters, consisting of fifteen stereolithographic-resin-prints. Every object in the physical installation align with digital lidar scannings from found environments stored inside pointclouds.

The Memor, involves VR technologies in friction with objects and the human ability to organize perception to build a world.

Every new visitor, every return to the Memor changes it. Inside the installation, visitor's senses are triggered as an active medium to produce, experience, and become aware of the workings of memory and time within their own body as a wetware repository, composed of minerals, bacteria, and traces of ancient energy systems. Inside the headset, reality is reversed. Inside and outsides seem more permeable. We experience a world - when we reach out for an object, it touches our skin – but we do not see our hand that touches it. From the perspective of the digital world, our body is a ghost.

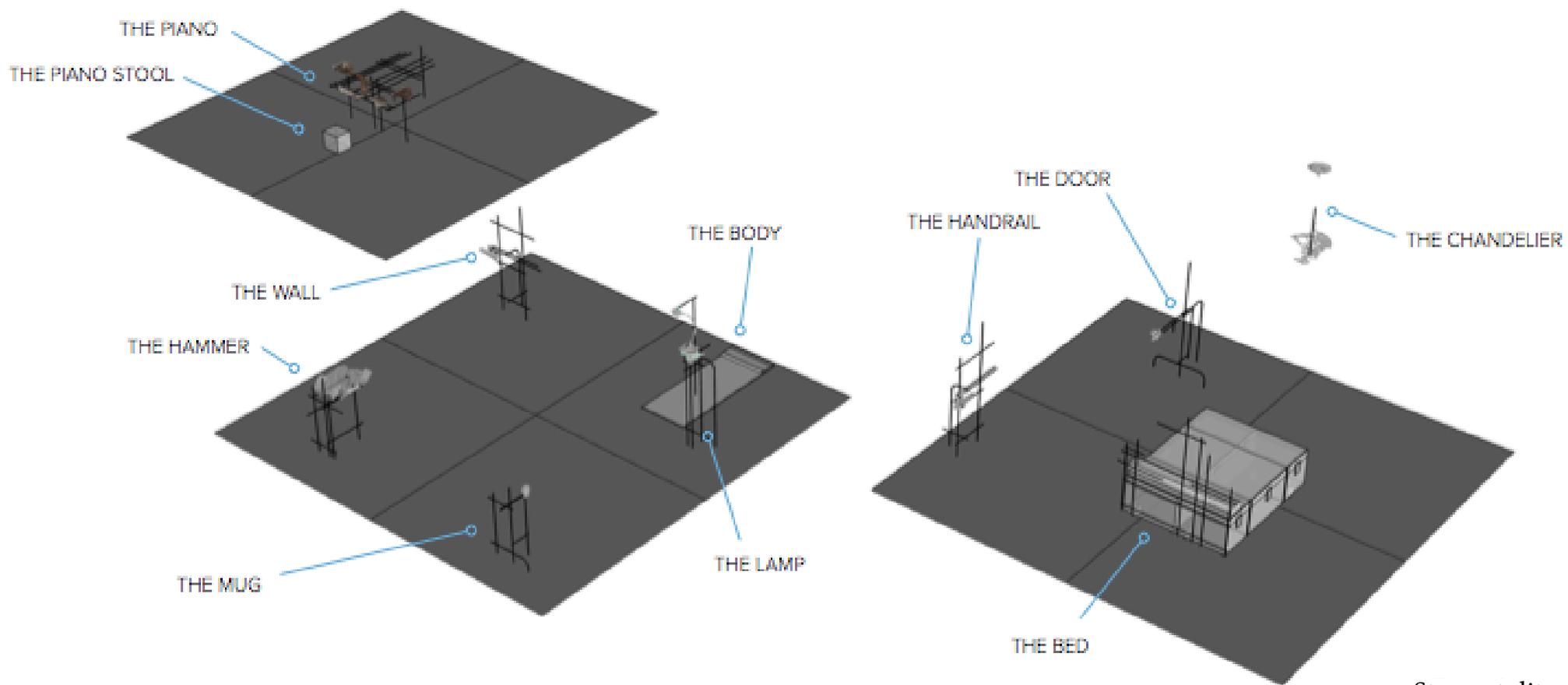
▶
PLAY



Eternal Return series: Memor / Stromatolites / The Fugue

The exhibition is accompanied by
[The Memor, a speculative fiction](#) novelette
by Malin Zimm.

Fugue



The Memor

Stromatolites

The Other works in the series:

STROMATOLITES (the second piece in the Eternal Return series) is an encounter with a digital entity modelled after the first form of memory, the single-cell bacteria, the oldest trace of life on earth, predating human experience by 3.7 billion years. Stromatolites become a human's companions in this speculative fiction about deep-time co-dependence, within the cyclical nature of the universe.

Stromatolites explores the relationship and dependence between digital objects and material substrates by revealing the tight connection between geology, life and digital worlds. It involves VR technologies in friction with objects, and the human ability to organize perception to build a world via touch, scent, sight and sound. Visitors become witnesses to the capacity of memory within their bodies.

THE FUGUE / "Memory allows us to die from something new every day, until we don't..." Inside The Fugue, pianist Cassie Yukawa-McBurney performs J. S. Bach's Fugue in A Minor BWV 543, written for the organ, arranged by Liszt for piano.

In the time theory of the speculative fiction novel: The Memor, exhibited as a companion to Eternal Return, the unbodied human consciousness is the disturbance travelling from the old world to the new. Echoing Nietzsche, Eternal Return is an existential waveform, sending humans into cyclic patterns of life and death, moving the energy from one world to another while the matter stays behind.

Fugue or Fugue State is the psychological term for when the brain does not find where memory is. For the pianist, the fugue played is like a process of remembering. For her audience, the electromagnetic waves of sound carry information to our senses.

Remember - only the disturbance is travelling, not the air.

Choreography and Physical Installation

The virtual can be a lonely endeavour.

The first encounter with the Eternal Return series is witnessing other visitors with headsets already immersed, being physically guided by experienced performers who facilitate an improvised choreography.

A relationship of curiosity, trust, and attention forms between the onlookers and those who are immersed in the work.

The visitors to the installation have total freedom to move throughout the 7x7 meter area of each artwork in the Eternal Return series. But as this freedom is only relative to the curiosity, trust, and attention of each visitor, an unseen performer steers the visitor's perception and movement through the installation. A tracker on the performer's hand is visible in the visitor's headset as a liquid cluster of particles. It becomes the visitor's companion inside the new world.

At times the cluster materialises as the touch of the performer's hand, attuning to each visitor's needs to support them to enter the artwork.

The installation engages with the visitor's senses as a means for the digital objects to take place within their perceived, corporeal reality. For example, haptic vibration technology on the performer's hand makes the brain accept touch as an integrated part of the virtual.

High-end headphones cancel out all sound from the external world, and the immersed visitors are accompanied by a voice emanating from inside the virtual space. Augmented by the analogue touch of the unseen performer and digital code, the visitor follows the cluster as it leads the way. The cluster also listens and responds with touch, vibrations, spatialized sound, scents, movement, and other sensory stimuli to conjoin the virtual and physical worlds. Physical fragments of stereo-lithographic-resin-prints, align with lidar scanning from found environments: a piano tuners' workshop once located in London W1, a possibly melted arctic ice floe, a benevolent abyss, a pianist playing Bach's Fugue in A minor.

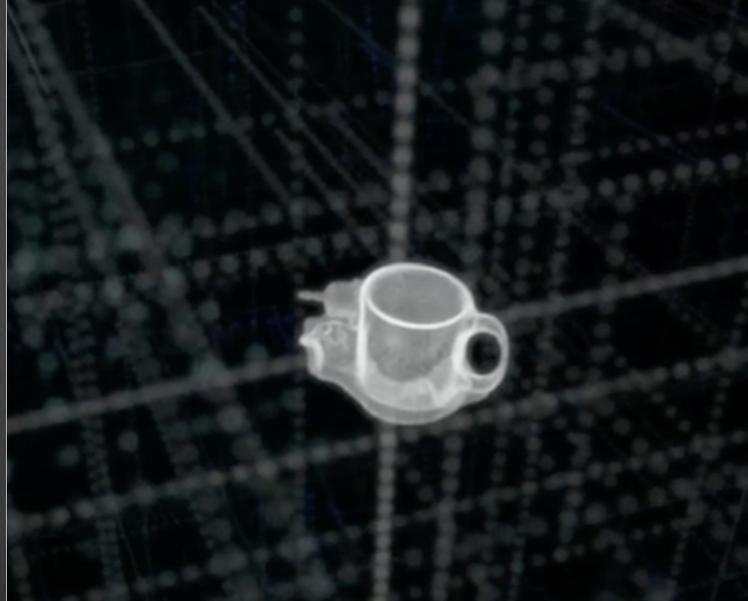
The capacity of memory allows the human mind to experience music rather than perceiving one tone after another. The Memor is a choreographed room that passes through the visitor's body like a song.

The artwork intentionally leaves structural and narrative gaps and thus invites visitors to temporarily lend their consciousness and body where the artwork can take place.

The artwork and the technology that is part of it have no autonomy. There is no story. Like life itself, the piece relies on the visitor's ability to receive, relate and be present in the world of the artwork. In *Eternal Return* both time and space are destabilized and called into question on a phenomenological level through the VR experience.

The visitor's body and senses are used as an active medium to produce, experience, and become aware of the workings of memory and time within the artwork and within themselves. The visitor does not have a digital counterpart, yet they are a wetware repository - composed of minerals, bacteria, and traces of ancient energy systems which enables this experience of digital spatialization in VR. Inside the headset, reality is reversed. We see a world - when we reach out for an object, it touches our skin - but we do not see our hand that touches it. From the perspective of the digital world, we are ghosts.



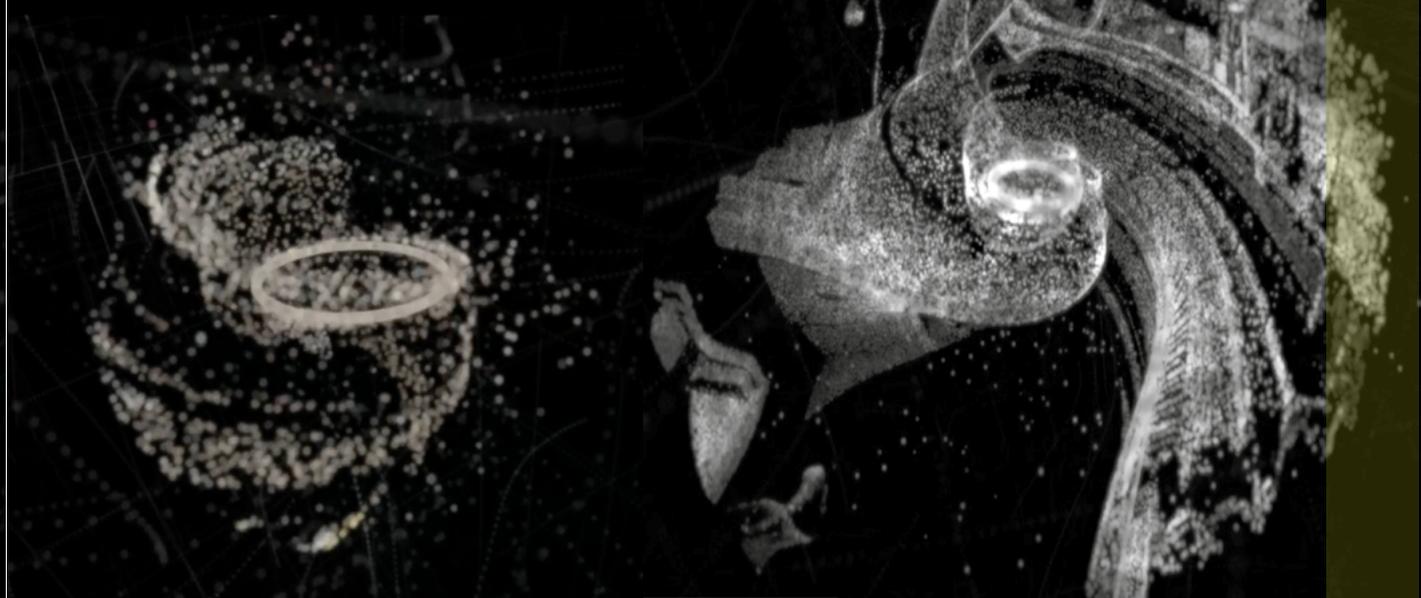


When the visitor first puts on the headsets their perspective is just a single point in a Euclidean grid.

A digital fossil record, whose objects are created with high-definition digital point-cloud data, emphasizes that we are inside a world of representation. Contacting anything in this world seems impossible. But when we move inside, the grid deconstructs in close proximity to an object.

It dissolves, implodes, or spurts out a room - solid interiors of digital buildings that the visitor can walk inside. A piano tuners' workshop emerges from a teacup. The point-cloud spirals around the visitor until fully immersed.

The point-cloud is stabilized, for now.



In digital online space, things that happened ten years ago are equally present to that which was added today. For the digital user they are both rendered as the "Digital Now."

In the physical world we tend to see the things happening now - right at this moment - as "real," not the things that have existed in the past or that will exist in the future. We say that those experiences or events "will" or "have been" "real." In philosophy, this is called presentism and suggests that reality only develops in series of "nows." Yet this obviously only works if that present is defined as Prae sense: before our senses, in close proximity and in approximate terms.

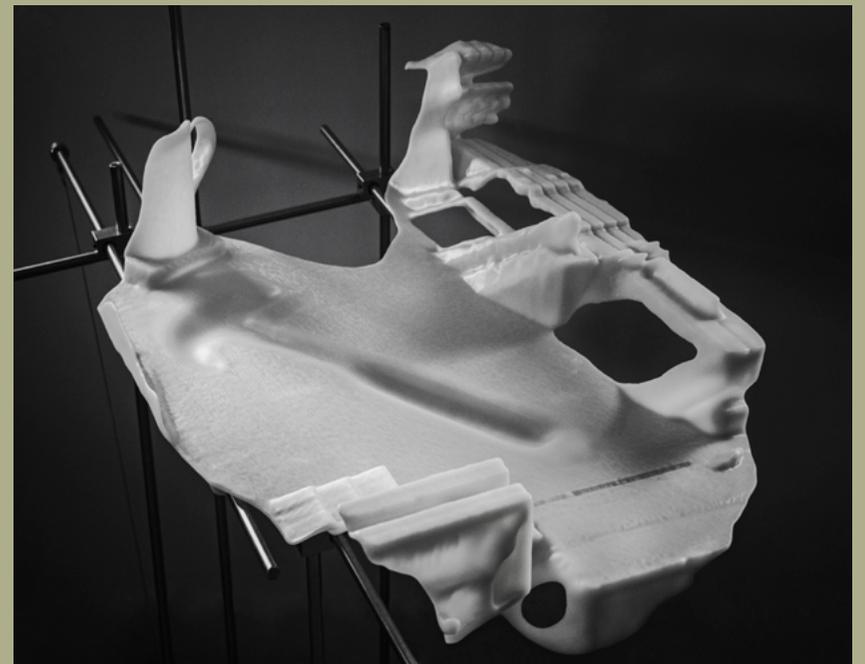
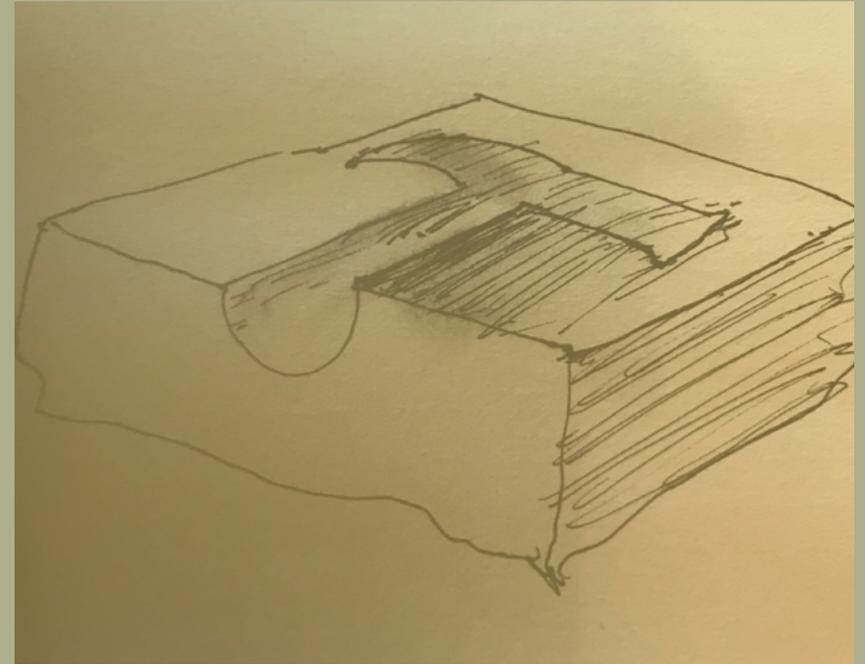
As soon as we speak of a "now" that is undefined and far from us, it falls apart. For example a star that died lightyears ago but still keeps shining. Spacetime after Einstein - the merging of Newtonian, Aristotelian and Augustinian time - is both experienced and called into question on a phenomenological level in this VR-experience where both time and space are destabilised.

When the visitor touches the workshop interior, onlookers see from the outside how they touch the sculptural abstractions in the physical installation of the work.

The object materializes in the surface contact with the visitor's hand. When the immersed visitor lets go of an object, the piano workshop collapses into a dark void where the small points of sea-dust particles rhythmically move with the movement of underwater currents until it re-forms back into the building. Inside the dimly lit workshop, the visitor will discover an abandoned tool: a hammer. The hammer appears visually complete within the virtual environment, but if the participant tries to pick it up, it will feel physically incomplete: a negative empty space is cast from the hammer.

The negative cast is carved out in the workshop table, which is visible in the physical exhibition. In this manner, a bifurcated sense of self compose the visitors presence, where the physical and virtual conflict with each other.

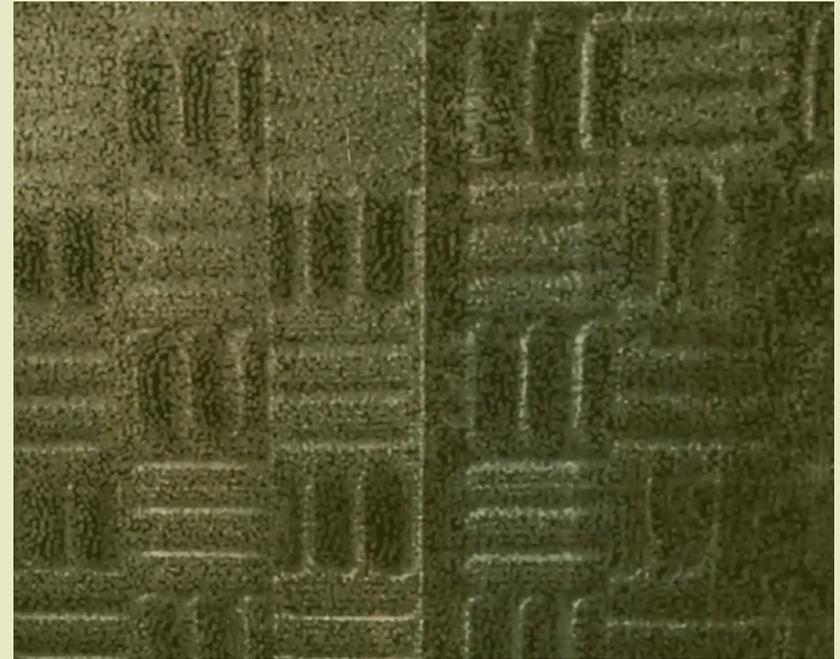
The visitor participates in evoking a world that, without them, would be incomplete. If the visitor fails to synthesize the conflicting input (of the hammer in the virtual, and the negative cast of the hammer in the real), that is to say if the visitor fails to create a coherent temporal experience, then they are challenged to embody a metaphysical concept somewhere in between what the philosopher Heidegger describes as 'ready-to-hand' (picking up the hammer - assuming we know how to use it) and 'present-at-hand' (trying to make sense of the hammer as an object through intellectual analysis).



Another example how human comprehension is tested through conflicting embodied experiences is when the visitor can hear the sound of a piano composition being played. When tracing the the sound with their ear, they locate the room behind, what appears to be a sound isolated wall. Guided by the voice they are encouraged to walk through the door into the room of the sound. As they pass through the wall they see a single pianist playing (recorded with a Lidar scanner) on a grand piano, but the room is mute.

Passing through the door the visitor seem to disrupt the flow of time as if the room existed on a quantum scale and the two pieces of information: hearing her play (the speed of a wave) and observing her (location in space) cannot coincide.

She is here in this room, but you are not.





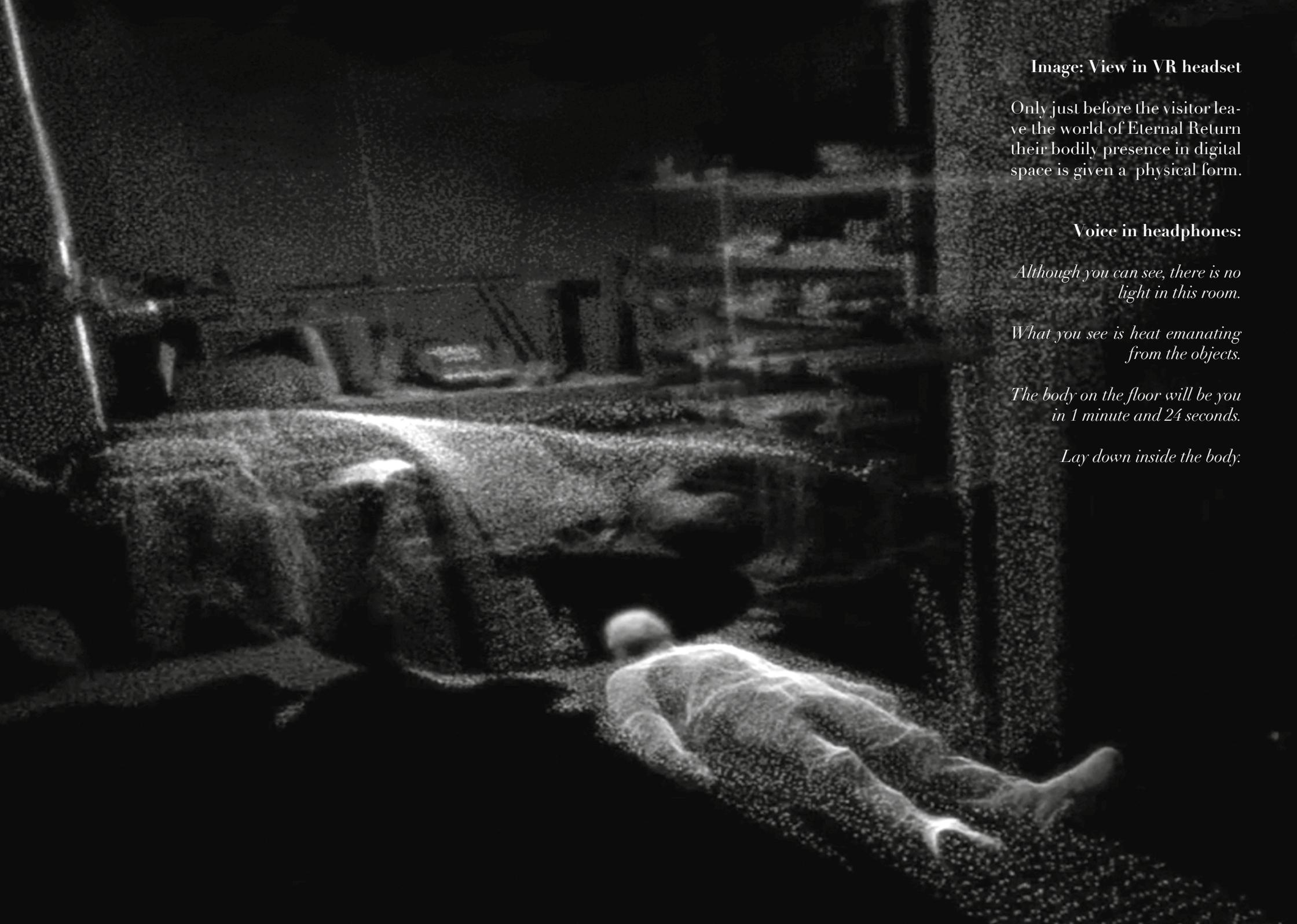


Image: View in VR headset

Only just before the visitor leave the world of Eternal Return their bodily presence in digital space is given a physical form.

Voice in headphones:

Although you can see, there is no light in this room.

What you see is heat emanating from the objects.

The body on the floor will be you in 1 minute and 24 seconds.

Lay down inside the body:



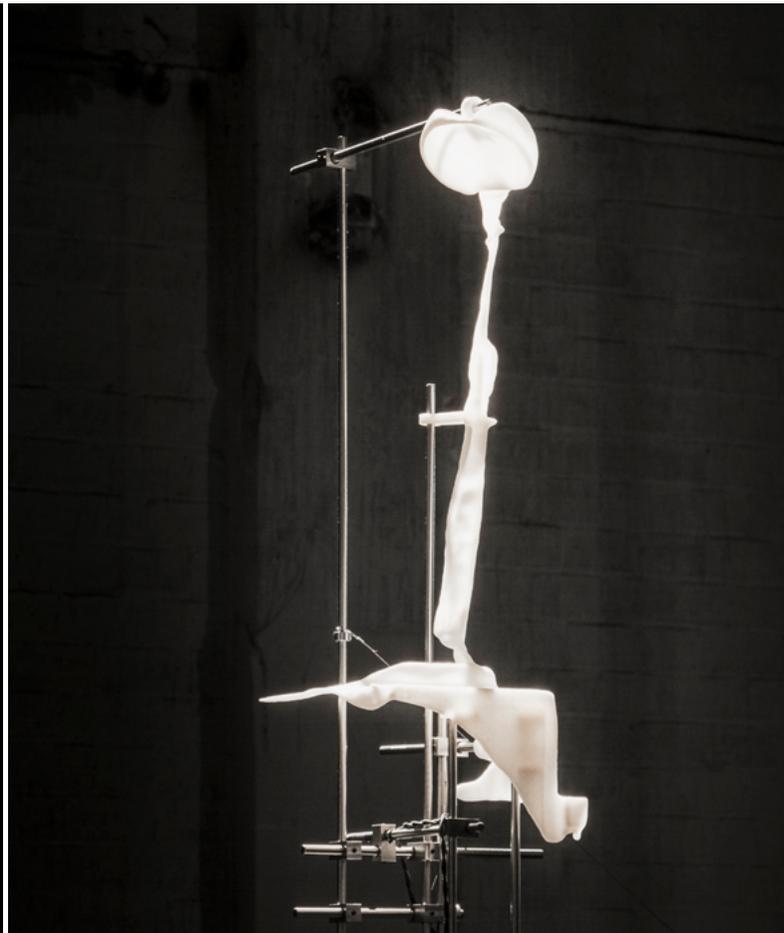
When they lay down inside the body they fall through the floor of the digital space and enter a digital void.

When pulled up again on their feet, they stand on some kind of surface: an arctic ice floe
See next page.



Terrestrial Laser Scan of an arctic ice floe 2012
Courtesy ScanLAB Projects





Above image: Stereolithography-resin-prints
on steel scaffolds, fossilized cyanobacteria,
microbial mats and sponges.



Biography

Lundahl & Seidl.

Live and work in Stockholm.

Their immersive solo projects reinterpret the medium of the exhibition as interpersonal processes via choreography, matter and time. Presented around the world, notably at the Royal Academy of Art in 2014, Gropius-Bau in 2016, and Kunstmuseum Bonn in 2017. Group Exhibitions include the 8th Momentum Biennale of Nordic Contemporary Art 2015 (NO), 'An Imagined Museum' Centre Pompidou Metz 2016-2017 (FR), the 3rd Kochi Muziris Biennale 2016-2017 (IN), and a recent commission: Echoes of Alternative Histories at Staatstheater Kassel, which coincided with Documenta Fifteen. In the fall of 2022, the duo was visiting artists at the ACT Programme at MIT.

The duo Lundahl & Seidl have developed a method and an art form comprising staging, choreographed movement, instructions, and immersive technologies, juxtaposed with material objects and the human ability to organize perception into a world. Notions of freedom, autonomy, and what is real, imagined, and perceived are negotiated in an investigation of virtual reality, not as a form of technology but as an ability or sensibility to a relationship with surroundings, with increased insight into how technology makes 'us' and lays the ground for 'our' human umwelt – how it connects and disconnects us from each other and other life forms and processes.

Above image:

The Memor - Eternal Return series
Lundahl & Seidl and ScanLAB Projects
Kunsthall Charlottenborg, 2022 (DK)

ScanLAB Projects

A pioneering creative practice based in London.

ScanLAB digitise the world, transforming temporary moments and spaces into compelling permanent experiences, images and film. They Design online environments, immersive installations and objects.

ScanLAB's prime medium is 3D scanners. By critically observing these machines, a form of machine vision serving as the electronic eyes for billions of mobile phones and driverless vehicles, they hope to get a glimpse of the cartographers of the future

Founded in 2010, their work has featured in major TV documentaries and cinema screenings, been widely published and exhibited internationally including at; The Royal Academy, LACMA, The Louisiana, STRP, The Barbican, The New Museum New York, Southbank Centre, Ars Electronica, SXSW and CPH:DOX



Eternal Return / The Memor 2019 - ongoing
Lundahl & Seidl and ScanLAB Projects
Archenhold Observatory
Other Minds
Screen City Biennale 2022 (DE)



Eternal Return / The Memor 2019 - ongoing
Lundahl & Seidl and ScanLAB Projects
Kunsthall Charlottenborg (DK)

Credits:

Creators: Lundahl & Seidl & ScanLAB Projects*

Script collaboration and author of accompanying fiction novel: Eternal Return – the Memor: Malin Zimm

Dramaturge: Rachel Alexander

Pianist: Cassie Yukawa-McBurney performs J. S. Bach's Fugue in A Minor BWV 543 written for the organ, arranged by Liszt for piano.

Performers: Pia Nordin, Rachel Alexander, Sara Lindström, Lena Kimming, Helena Lambert

Production by Lundahl & Seidl (SWE) and ScanLAB Projects* (UK)

Co-production: STRP Festival of Art and Technology

Lundahl & Seidl producer: Emma Ward

Production Country: United Kingdom, Sweden

Year of Production: 2019

*ScanLAB Projects team: Matt Shaw, Max Čelar, Soma Sato, Manuela Mesrie, Reuben Carter, Jacques Pillet, Will Trossell, Dorka Makai.

Contact: Lundahl & Seidl, ScanLAB Projects Sweden & United Kingdom
(info@lundahl-seidl.com) (studio@scanlabprojects.co.uk)

Eternal Return – the Memor (book)

Layout and Design: Joakim Olsson

Images: Photographer Soma Sato, courtesy ScanLAB Projects and Lundahl & Seidl

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Preludium to the speculative fiction novellette,
The Memor: a companion to the exhibition Eternal Return

Terrestrial Laser Scan: Steinway & Sons Piano
W1 London
Eternal Return / The Memor 2019 - ongoing
Courtesy: Lundahl & Seidl and ScanLAB Projects

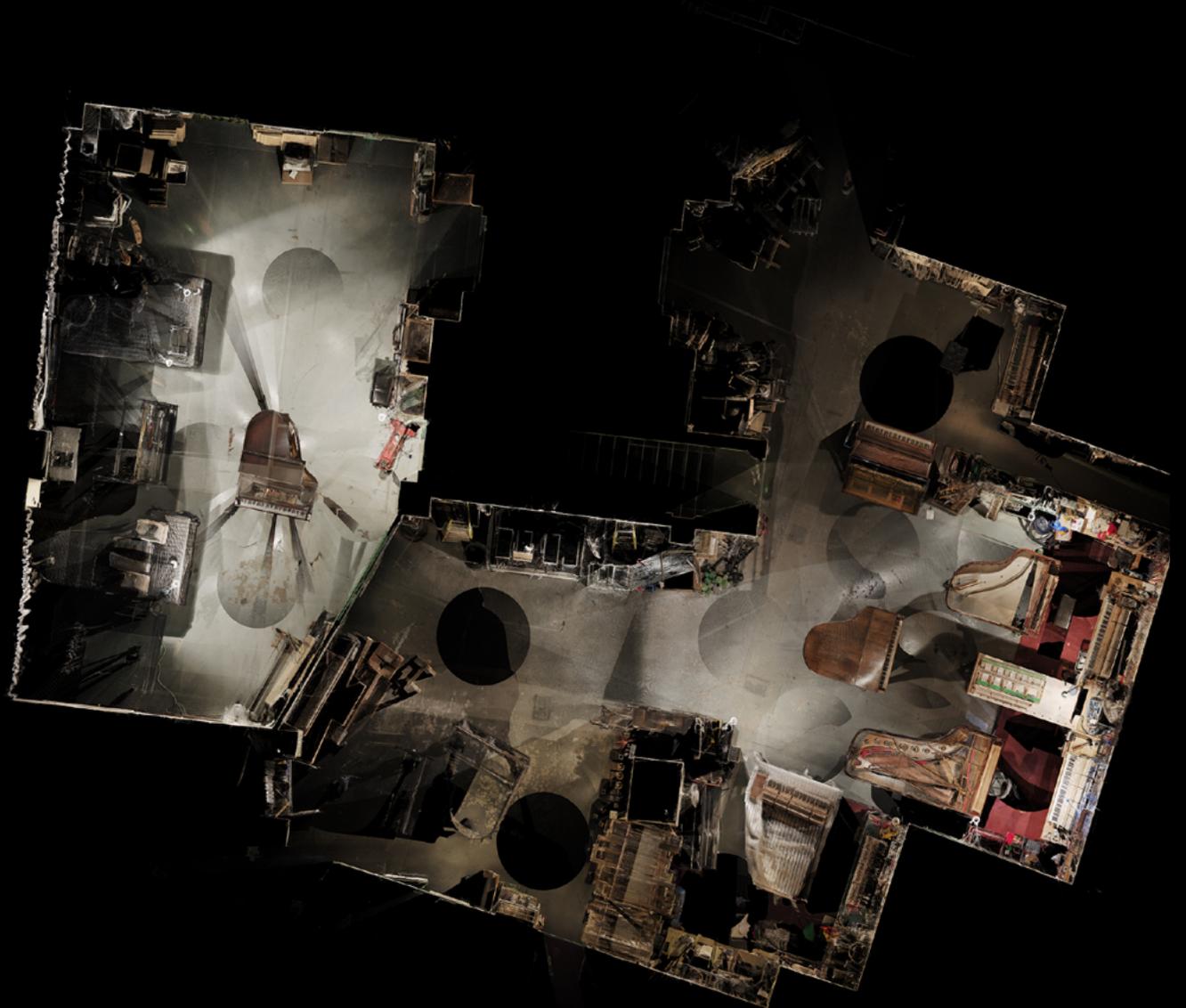
By architect theorist Ph.D Malin Zimm

Waves are the lingua franca of the universe, spoken in all frequencies and amplitudes.

Waves are what keep us together. From the wriggling vibrations of the quantum particles that constitute our physical existence, to the seismic movement inside earth, the ocean waves, electromagnetic waves of sound, light and heat carrying information to our senses.

Waves also keep us apart. Gravitational waves keep us grounded, making any displacement on earth an energy cost for all beings. Space and time are possible thanks to gravity; keeping them apart, stretching them out to “take place”, preventing everything from happening at once, in the same place.

A wave is, in science, defined as a transfer of energy. An ocean wave moves the energy, not the water. Sound is a disturbance travelling in air, not the displacement of air. In the waves of history, there will be the occasional ship, connecting the old world with the new. Energy will travel and build up to a point, followed by a release of power in a different place.



Tides will lay things bare and dry, as well as hiding everything under a forgiving veil of water.

With the arrival of the water, some lifeforms will populate the biotope, and with the withdrawal of the sea, other lifeforms will occupy the same place. The tide is time counted by the moon.

Over the years and decades, the sea will redraw the outline of land, reach and claim some structures, spare others. We will live in this interface and take it for granted, by virtue of its scale and age.

We will get used to the sounds and temperatures of this world and its cyclic wonders. We will admire its calming vistas and curse its unforgiving claims. The waves will keep coming, some of them will take us out, some of them will bring us back.

Speaking with Nietzsche, eternal return is an existential waveform, sending humans into cyclical patterns of life and death, moving the energy from one world to another, while the matter stays behind. In the exhibition narrative, eternal return is a wave that disrupts the social orders of the world, and an unexpected opportunity to contact the past and the future of earth.

The novel tells the story of how we got to know the universe around us as a resounding archive of life on earth, capable of putting us in touch with the past, as well as the future.



*Terrestrial Laser Scan: Steinway & Sons Piano
W1 London
Eternal Return / The Memor 2019 - ongoing
Courtesy: Lundahl & Seidl and ScanLAB Projects*