

NaCl (Drives)

Shoji Kato

14–31.10.2023

Solo Exhibition at PORIGINAL GALLERY (Pori)

NaCl (Drives)

2023

Mixed media installation

Unique, Size variable

Upper floor gallery at Eteläranta 6

x 6 Himalayan salt lamps purchased from previous owners

x 3 Salt and water colour paintings (35 H x 27 W x 2 D cm)

x 2 Handmade vintage wooden containers

Salt on windows, pillars and floor

Printed text

Salt Field

2023

Watercolour painting on primed linen canvas

35 H x 27 W x 2 D cm

Field of (Dis)assemblage #13

2021-2022

Watercolour and gold on Fabriano paper

Work: 135 H x 121 W cm

Frame: 147 H x 133 W x 4 D cm

Walnut frame with museum glass, mounted on conservation board

Field of (Dis)assemblage #14

2022-2023

Watercolour and gold on Fabriano paper

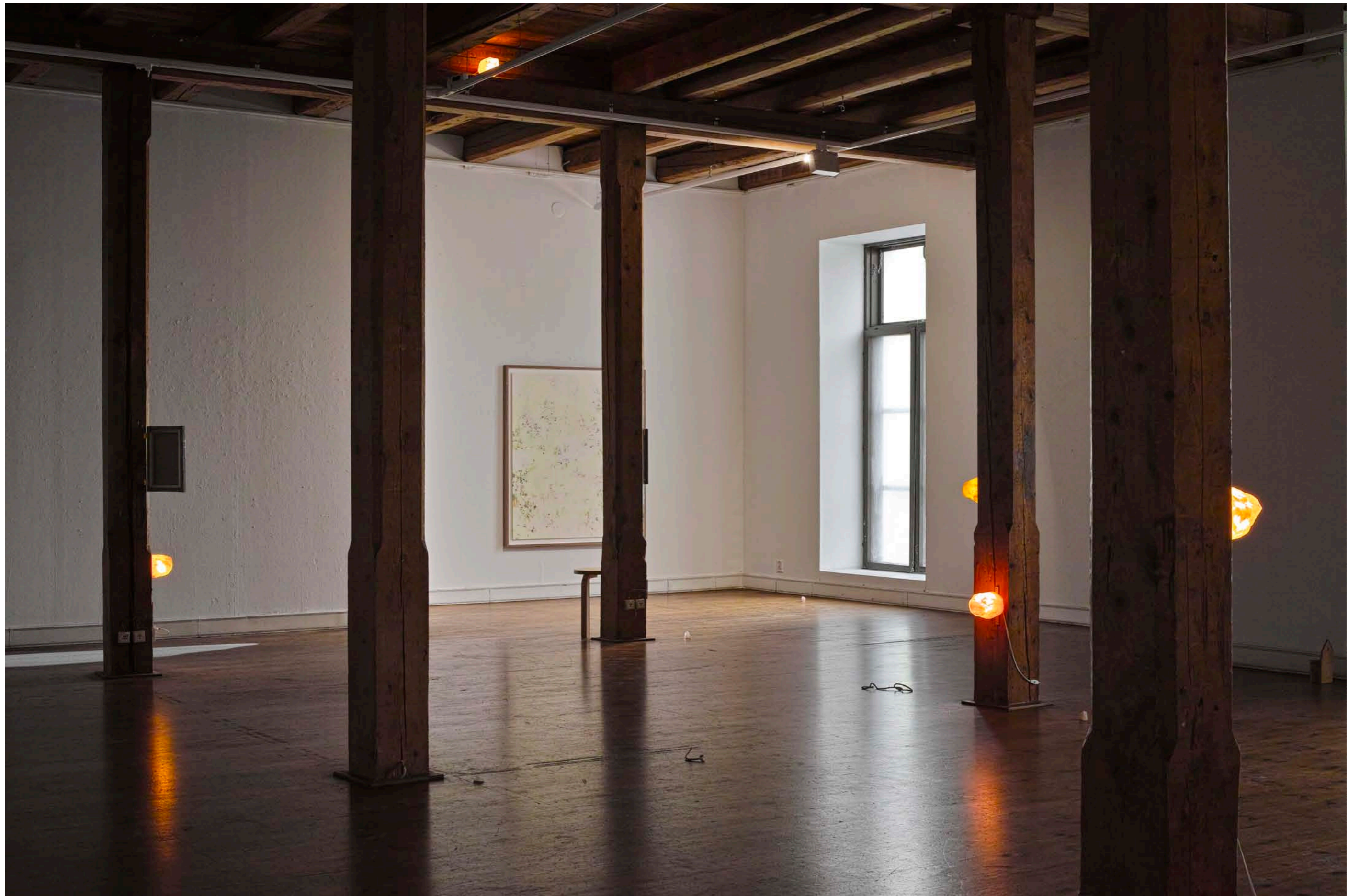
Work: 135 H x 121 W cm

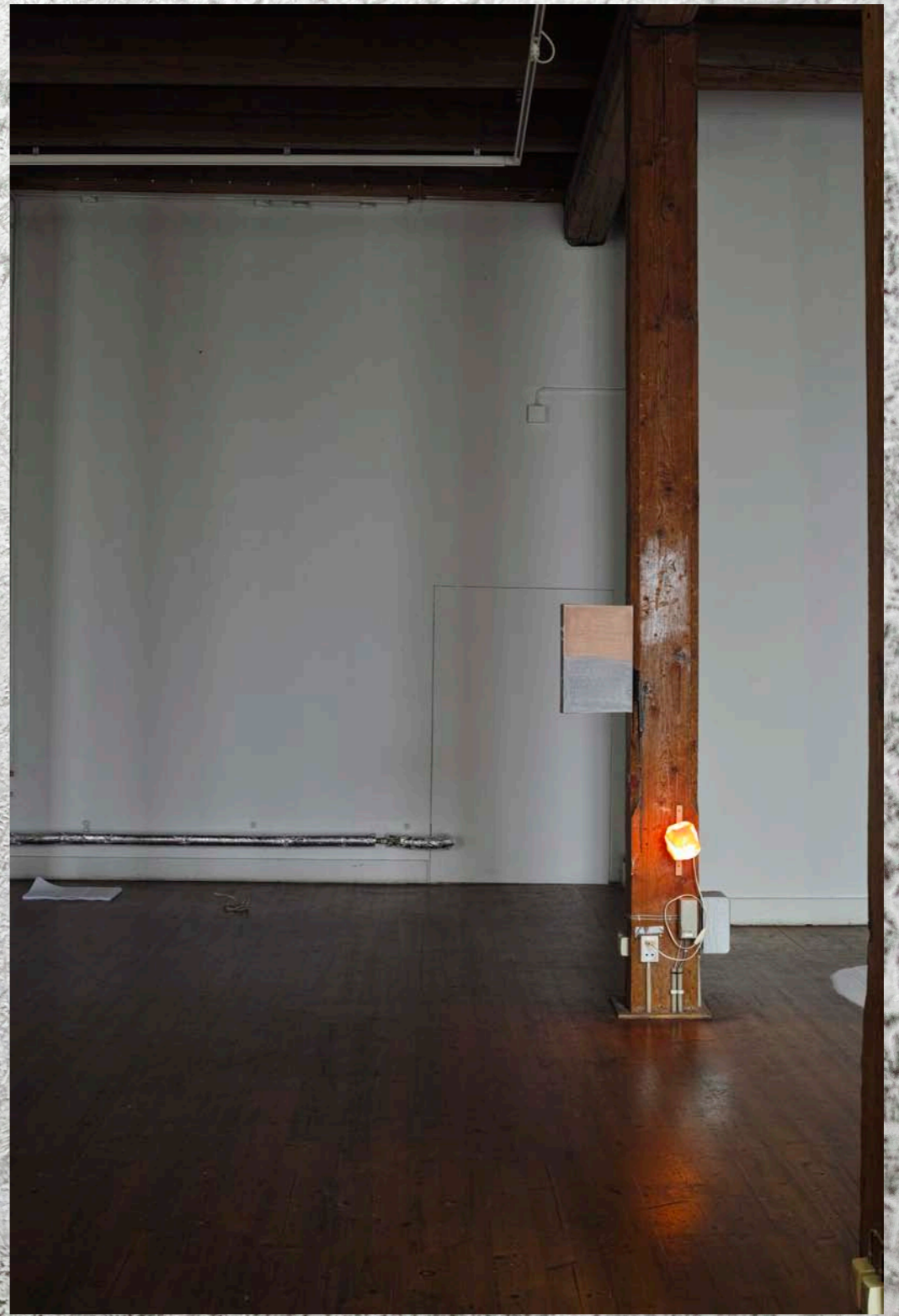
Frame: 147 H x 133 W x 4 D cm

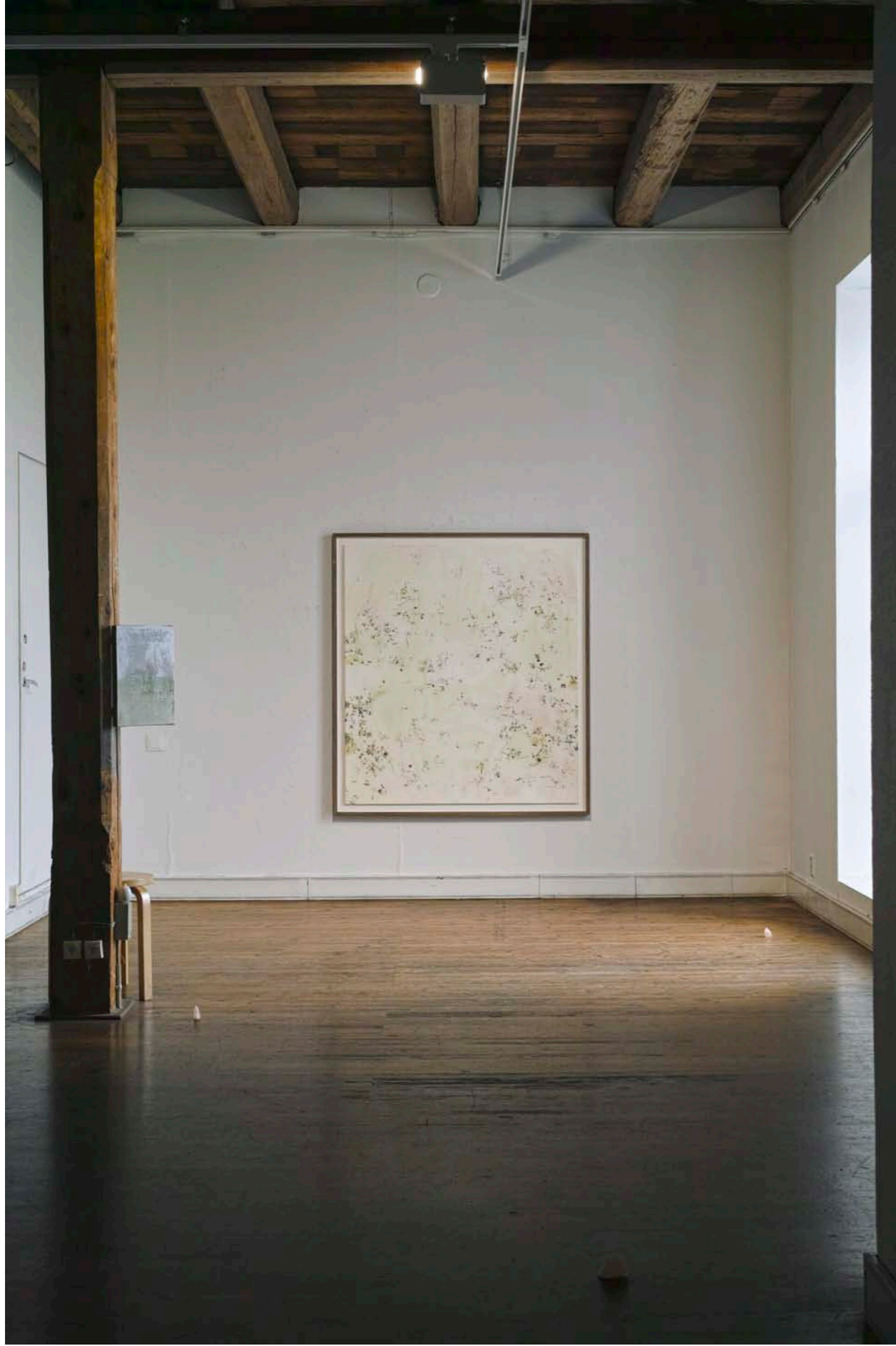
Walnut frame with museum glass, mounted on conservation board





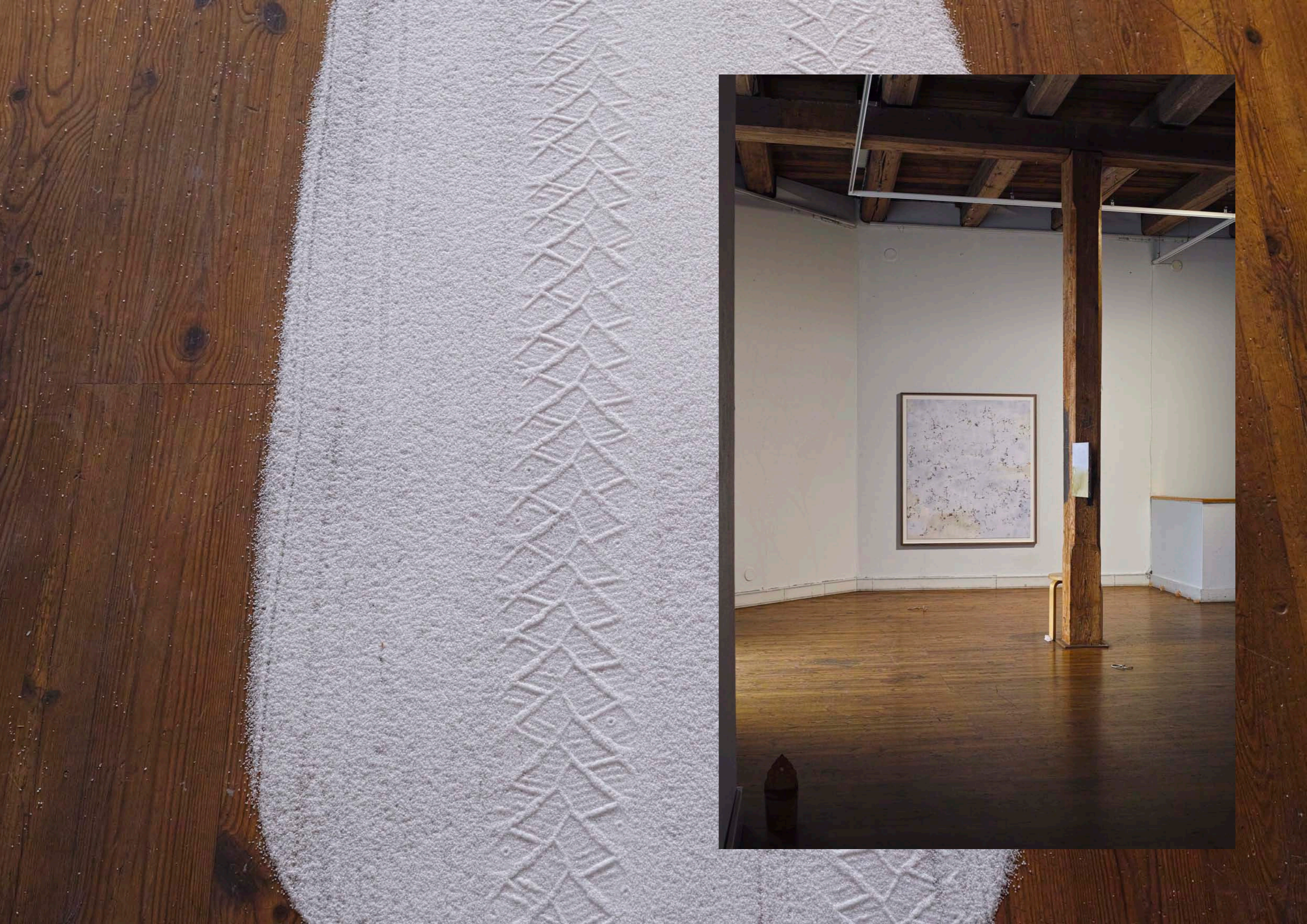








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NaCl (Drives)

Shoji Kato

2023

1

It was a very hot June in Paris. After a long walk back to the room I was staying in on a residency, I stopped by a grocery store and I was drawn to the green sheen of a cucumber. Soon, I cut it into sticks and sprinkled on French sea salt. At the first bite, I had a strong mixed sensation of the cucumber both quenching and neutralizing. Later, I found that this simple but widely loved combination is a delicious and efficient way to intake the elements of life in summer, when people tend to be sweating more and dehydrated.

It makes sense. I also tried gazpacho, on a hot day, with an extra pinch of salt, and I could feel the salt permeating my body.

2

When it comes to the atomic rules, the universe is in perfect order.

You can find it in a grain of salt – as an idea.

Salt (NaCl) is made of a pair of one atom of the element sodium (Na) and one atom of the element chlorine (Cl). No matter where we find it – even on moons, like Europa – we can see this pairing.

I imagined myself hovering over a plain of salt and looking at those paired building blocks on an atomic level. This cosmic vision is somehow calming, but at the same time, it is alienating.

After this vision, I asked myself: how does this universal order relate to our times, our future and the origin of life on Earth?

3

The food umeboshi [梅干し] consists of Japanese preserved plums that are extremely sour and salty. It is believed to have been introduced to Japan by the Japanese missions to Tang China, during the 7th–9th centuries. Umeboshi has many benefits for the human body because it is antimicrobial with its citric acid and polyphenols. (Accordingly, taking a piece of umeboshi quickly healed my son’s stomach pain and nausea when he was traveling in Korea.) Nowadays its high salt content makes traditional umeboshi less popular. Instead, there are less salty, and even sweetened, preserved plums at grocery stores.

The so-called Japanese Mother Theresa, Hatsume Sato (1921–2016), a welfare activist, would have not used those alternative ones for her omusubi (rice balls), with which she healed wounded hearts and weakened spirits. When she saw a teenage girl licking just salt, she understood why – the girl didn’t get enough salt when she was growing up and this had stunted her growth, so now she was making up for it. She was convinced that (rightly taken) salt is a source of life, and it is indispensable for the vigour and drive of people of all ages.

After salting her palms, she made her rice balls by cupping her hands around a handful of still-hot rice with salty umeboshi sunk into the centre as its kernel. One must be careful not to press hard when making omusubi – be gentle and use just the right amount of pressure to shape each omusubi. Allow each grain of rice to breathe. For Hatsume, each omusubi is a prayer.

At home, I sometimes make omusubi by following her instructions. My son loves it. He can easily eat three at a time. My wife enjoys it too, but is also concerned about excessive salt intake.

4

Salt is a magical substance.

In Japan, salt is associated with purity. When a place needs to be symbolically cleansed, salt is spread. Two sumo wrestlers spread moist salt onto the dohyo ring just before taking their positions for the imminent match. When you want to keep evil spirits away from your home or business premisses, you can place two tiny dishes with salt mounds at both corners of entrance doors. Two points of salt become a talismanic threshold or an invisible gatekeeper.

5

In England, 12 ceramic plates were found in coffins – on the bodies of the deceased or at their feet – at the 18th- and 19th-century burial grounds of St James’s at Euston (London) and Park Street (Birmingham). Archaeologists speculate that the plates are related to old traditions

associating with death and salt. One reference to these traditions comes from antiquarian John Brand’s writing from 1795 that stated that, in Northumberland, ‘a plate containing a little salt [was placed] on the corpse’ as a preservative for the body but also ‘an emblem of the immortal spirit’ and a deterrent to the devil: ‘the devil loveth no salt with his meat’. Another reference to the traditions comes from an anthropologist and folklorist, Sir James Frazer, who said that ‘Another custom, almost universal amongst the poorest classes in the country is the placing of a saucer of salt on a dead man’s breast’.

The plates that were found were said to be everyday tableware – Chinese-inspired delftware-like dishes, probably made in London, with a ‘willow pattern’ design. Looking closely at the design, the image of exotic scenery could have been thought of as a spiritual entrance to a beautiful and perhaps peaceful world. When I searched for more information about this design, I learned that it has associations with a romantic story of two separated lovers meeting once a year, only when certain stars align.

6

A presentation of salt and bread symbolises the spirits of hospitality, prosperity, respect and blessing. These positive spirits were given to new homes (as practiced in Finland), newly-weds and guests. In 1995, Russian astronauts welcomed the arrival of the first American astronaut to Mir, the Russian space station, with a feast of bread and salt. In Arab culture, the same pairing of bread and salt [شيع لحو زبخ or حلو زبخ] is an expression of friendship, the alliance of, or the reconciliation between, two persons – ‘There is bread and salt between us’ [زبخ اننيب or حلو شيع اننيب] is a common phrase.

I found this interesting.

Taking these connotations with a bond, tie or relationship relates to the derivation of the word omusubi. Musubi means ‘conclusion’ but also ‘ties’ and ‘knots’ (o- is a prefix indicating respect and courtesy; salt is shio and often called oshio). Both of these carbo-rich staple foods – bread and rice – denote connections and resolutions when they come with salt. This may link to the power of Hatsume’s omusubi.

7

The saltiness of ocean water correlates to the environment that nurtured the origin of life on our planet.

During the Archean period (from 4,000 to about 2,500 million years ago), saltier sea water made the Earth warmer despite the fact that the sun’s luminosity was weaker than it is today (it was about 30% weaker during the Archean period).

The warmer ocean, with the presence of an atmosphere and greenhouse gases, melted the ice in the ocean, and may have increased the habitability of planet Earth.

This scenario was speculated about and simulated results were given by using a planetary climate model (ROCKE-3D) – a simulation model that modelled macroscopic scenarios for how the environment of Earth (and similar types of planet) evolved. Salinity was one of the parameters that varied in silico, a parameter which the researchers sensitively tweaked (to make variations) in order to set the initial conditions for self-evolving climate systems over certain durations.

Given the correlation between ocean salinity and the climate system, I began to consider the role of ocean salinity in the current climate change and global warming.

8
The variation of seawater salinity is normal as the following data collected from within the Baltic Sea indicate: Rauma had 5.6‰ on 09.08.2021, Hailuoto had 2.2‰ on 28.08.2023 and the northern Bothnian Sea had 4.2‰ on 08.10.2023. The Baltic Sea is surprisingly less salty in comparison with the average salinity of global oceans, which is 3.5% (note that ‰ is 1/10 of %).

Different parts of seas and different oceans have different salinity. Ocean salinity varies because both the amount of evaporation due to heat and the amount of dilution due to fresh water differ depending on the location. A hotter climate near the equator with less freshwater flow tends to result in a saltier sea (I recall the intense sun and the salty sea of Jamaica). Rain falls, river runoffs flow, ice melts and freezes – with the different seasons, the salinity level keeps changing.

9
Salt takes moisture out of meat and makes the meat drier. This follows the principle of osmosis that has been widely used in the culinary arts. To different degrees, the moisture of salami and ham are minimized through being in contact with high salinity (which is able to keep them out of reach of bacteria and therefore preserve them). The same process even extends beyond the culinary arts to the preservation of Egyptian mummies and the 1,700-year-old Saltmen (discovered in salt mines in Iran).

When salt is in water, dense water pulls less dense water. The same osmotic principal can be found in use at a pilot osmotic power plant in Statkraft, Norway. In vegetation, every plant takes water from its roots and distributes it to saltier parts of their stems and leaves. And in our bodies too, sodium is essential to hydration. Salt helps the osmotic actions

and helps to keep the fluid balance that maintains the amount of water in body cells. But when one drinks too salty water, like seawater, the osmosis works in the opposite direction. The water in cells will be pulled out and we could become dangerously dehydrated.

I tried to imagine the fine balance of the salinity and osmotic water movement inside my body.

10
The biggest osmosis process on this planet must be that seen in oceanic currents. The denser/saltier water sinks deeper, and the less-concentrated body of water is pulled towards the denser area. This osmotic action drives the water movement and changes the density structure of the ocean – water constantly gets transported and the ocean is stirred. This is a crucial point in thinking about how the global climate behaves.

I found the following quote on NASA's salinity mission website: 'Salinity plays an active role in moving heat, driving Earth's weather and climate.' For this reason, far away in space, the monitoring satellites Aquarius (2011–2015) and SMAP (2015–) gathered salinity measurements of the ocean surfaces and mapped the salinity patterns of the entire Earth. Their sensitive radiometer sensors can detect the subtle changes of the microwave emissions that come from the varying amounts of salt and the electrical conductivity of seawater.

11
According to EUsalt, the EU Salt Producer Association, there are three major salt uses that benefit human life. They are its use as a nutrient, its use in the chemical industry and its use for road safety.

Food use only accounts for 7% of total produced salt. Other uses of salt include its use for the chemical synthesis of more than half of all chemical products. Chlorine, caustic soda and soda ash are widely used in manufacturing commodities such as paper, glass, plastic, steel, medicines and drinkable water. Another big application of salt is its use for de-icing. The EU uses from 5–17.5 million tons annually, and the US uses about 20 million tons annually. Because salt lowers the freezing temperature of water, we can drive automobiles safely on winter roads under temperatures as low as -15°C. However, this great benefit also comes with negative consequences. De-icing salt runs into water systems and possibly pollutes freshwater ecologies, farmland and drinking water. Additionally, when road salt is combined with pesticides in agricultural runoff, they have a synergistic effect, creating a potent toxic mixture for aquatic communities.

I couldn't find any information on if this toxin reaches the sea. I don't

know how much salt used by humans goes into the ocean. Are we affecting the ocean currents? Are the oceans big enough that the salinity changes caused by humans remain too small and are undetectable, even by the radiometer sensors?

12
Have you seen how mountain goats go up and down a rocky cliff and search for a spot of salt?

I saw an unforgettable video that was taken at a dam in the Pyrenees. On its almost-vertical, gigantic wall, young and adult ibexes were slowly but steadily looking for the spots of sodium seeping out of the mortar between the rocks. Licking, licking, licking ... up there so high. The goat's tongue takes and conducts the vital ingredient into their bodies. They show admirable calmness at what seems to be the edge of life and death.

13
Salt used to be called white gold. It was a precious and expensive commodity because there are such great distances between its sources and its destinations, and because of the labour-intensive production process of harvesting it from seawater and mines.

As suggested by the evidence of a prehistoric pickaxe found in Hallstatt, Austria, made with/from a deer antler, salt mining was probably essential and rewarding from at least 7000 years ago. The tools and methods of salt harvesting have been evolving, but humans still seek out good quality salt underground. In the past, the salt from mines in Wieliczka (Poland) and Lüneburg (Germany) could have been consumed in Finland. Some of that salt could have been kept in this gallery building, originally a salt storage building (built in 1885), as the city of Pori was once the Russian-occupied centre of foreign trading.

In the summer of 1566, the Swedish Navy attacked an entire Dutch fleet of 52 ships and seized 84,000 barrels of salt – enough to cover a year's supply for the populations of Sweden and Finland together at that time. This happened at a time when the Swedish royal stock of salt had become dangerously low.

The El Paso Salt War was a mid-19th-century American guerrilla war that evolved around the ownership of a remnant of ancient salt lakes – a playa salt flat – in western Texas. It was the forceful resistance to both the privatisation of the land by Anglo businessmen and the capitalisation of the communal land of salt for the Mexican American people in the valley. Their revolt was shattered by oppression by arms.

Pink Himalayan salt is carved out from Khewra, an underground mine

located between the Indus River and the Punjab Plain of Pakistan. Its distinctive pink colour is ubiquitous. Before the Pakistan president banned the salt's export to India in 2019, the pink salt was exported as a raw material to India (for 40 USD a ton), and then it was processed, labelled as 'Made in India' and widely distributed around the world.

14

In 1930, Mohandas Gandhi conducted a civil disobedience movement, Satyagraha. The so-called Salt March was a 'technique of non-violent public protest' involving 24 days of marching over 240 miles. They marched near the coastline, and he made some local salt and broke the law. It was social resistance (collectivised by millions of people) against the oppression of the British salt tax and British salt monopoly.

Gandhi said, 'Next to air and water, salt is perhaps the greatest necessity of life'.

It is said that Gandhi chose salt as it is essential and it could resonate the cause of the protest to all people, regardless of their different social classes and religious beliefs. Gandhi knew the power of salt – the power to ignite a spiritual catalysis – binding unity stronger and helping the march against the oppression and towards India's independence movement.

15

I saw in the news that Soledar (literally translated from the Ukrainian, 'gift of salt'), a small salt-mining town in Bakhmut, in the Donetsk region, Ukraine, was captured by Russian troops in January of 2023 after heavy combat and shelling. Since the strategic significance of the town wasn't clear for the rest of the world, it is speculated that the Wagner group's leader, Prigozhin, wanted control of the salt and gypsum from the mine for his personal enrichment. Another news item featured a photograph of him in a combat suit and helmet in the newly seized salt mine, surrounded by his fighters, wearing the same outfit and bearing firearms.

That mine was the source of Artemsil salt, the national salt with a 140-year history, but now it is gone with the destruction and the loss of access. 'A Symbol of Loss in Almost Every Ukrainian Kitchen [...] its salt is a national staple and a matter of pride', read a news headline and subheading.

In response to this loss, United24, the fundraising platform of the Ukrainian government, released 20 tons of pre-combat stock for sale with a new package design that featured the changes of the word Сіль (salt) to Міць (strength) and of the brand's iconic flower-like logo into the shape of trident – associated with the national coat of arms. What was unchanged

was the colour scheme of the package (using a Ukrainian sky-blue) and the cubic blocks (of salt crystals, perhaps) that compose the logo.

Many famous people endorsed this campaign – the profit from selling the 100,000 packages will be used for expanding Ukraine's drone programme.

16

The arrival of heavy construction equipment made salt mining faster and bigger. Balancing between economy, efficiency and engineering, the mining spaces are often cut in an architectural fashion. Some of the resulting empty chambers are turned into chapels, mass-gathering venues (for concerts and parties), spas, sports courts and storage areas. When it comes to this alteration of their purpose, everything has some degree of invention that speaks about human intentions and situations.

In Lower Saxony, Germany, between 1965 and 1995, the Asse II mine was a test site for radioactive waste deposits. Yellow painted barrels, canned waste, were stored there. Some of them were carefully placed in the chamber, but many others were just rolled down into its depths. Since the appearance of a local newspaper report reading 'Water in the Asse repository contaminated with radioactivity', this mine became a scandal and a new testing ground for humanity and civilization.

To stop the groundwater contamination by retrieving the barrels safely is extremely challenging. Because the mine is deforming with rock movement, some chambers are already filled with steeping groundwater. Also, the barrels might already be damaged and too dangerous to reach. Further we know that the nature of salt can be threatening – when salt's impure elements interact with moisture, salt can form a corrosive liquid that can quickly eat through metal.

17

Kitum Cave in Kenya became famous for being the birthplace of a deadly Marburg virus in the 1980s, but the cave has also been known for another reason. It is where elephants and other animals visit to lick the cave's salty spots.

I saw pictures of the cave with scratch marks and furrows, and an elephant licking the wall of the cave. It is believed that elephants' tusks, crushing the surface of the salty walls, have enlarged the cave. In order to lick the salty walls, they visit the cave at night – blindly walking in and often bumping their heads. In the deeper part of cave, inside of crevasses, the carcasses of young elephants are lying.

I imagine myself surrounded by the presence of death in the dark cave –

tracing those scratch marks with my fingers and listening to the arrival of those elephants – hoping that they don't smell my presence.

18

The wife of Lot became a pillar of salt by going against God's order (delivered by two angels) to not look back at her city, Sodom (סֹדֹם), being destroyed while she escaped from it. I read an interpretation of this biblical story that said it was intended to teach readers about the consequences of thinking back to one's previous life before achieving salvation. I try to imagine how she felt when her blood and muscles were turning into a body made of a mineral, becoming immobile and standing alone on a windy dry plain. There on the plain, she became a beacon for others. She became a body of vital matter that waits for others to come, to intake some of her mass and to chip away at her.

But what was the actual temptation that made her look back? What if she was tempted to look back because she was very compassionate for the suffering of the people trapped in the burning city?

Somewhat these questions inspired me to fancy that becoming a pillar of salt wasn't a punishment for her; rather, it could be an enchantment that absolved her from the confinement of herself and her time – disseminating the salt to other bodies and places.

These thoughts suddenly shed light on the two angels. Could they be the personification of Na and Cl – appearing together here and there, and looking for recruits, persons who are compassionate, and still doing so now and probably in the distant future?

19

My son was in Paris last summer too. There, he acquired the taste for eating cucumber with just sea salt.

His favourite salt now is the sea salt flakes geothermally harvested from Iceland (on the package a mermaid spreading her arms holds mounds of salt on each of her palms – like she is creating a magical threshold).

Will he visit the facility someday to link up his systems to the Icelandic sea and earthly energy? Tasting the salt, would he imagine the immense movement of oceanic currents reaching out to and going around the island?