



Rūta Spelskytė

oscillation on rational and not

DOI: <https://doi.org/10.37522/204nhg94>

measurement, perception, geomagnetism, analogue devices, scientific instrumentation, Arctic fieldwork, experimental recording, geological processes

Summary: The article explores encounters with analogue measuring devices and planetary-scale scientific instruments, questioning the boundaries of rational and intuitive perception. It investigates how Earth's magnetism can be sensed and recorded. Through experiments conducted in field sites and laboratory contexts, it tests how instruments extend or fail human perception of the world. The oscillation lingers between what can be measured and what is felt.

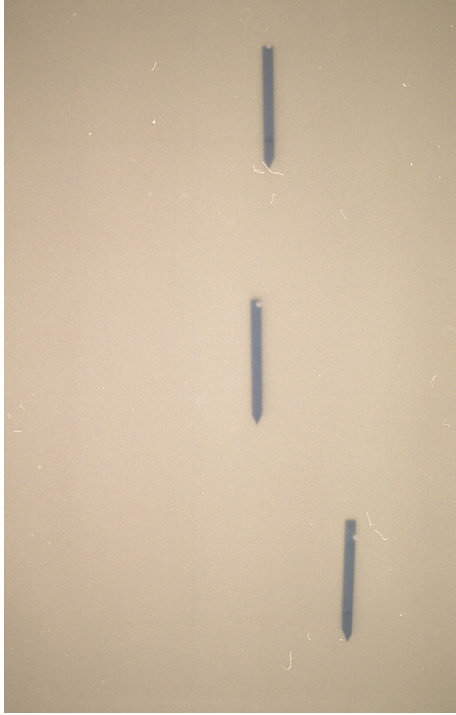
Dr. Rūta Spelskytė holds a PhD in Arts and has completed postdoctoral research on magnetite and human magnetoreception. Her practice centers on ferromagnetics, navigation, material composition, and scientific instrumentation to investigate invisible and hidden forces. Working with sensory perception and esoteric knowledge, she creates experimental encounters in speculative, extro-sci-fi-inspired registers. She finds joy and balance in solitary fieldwork in extreme environments, most preferably in cold and snowstorms of the remote Arctic. She teaches at the Vilnius Academy of Arts and is a visiting lecturer at the Umeå Academy of Fine Arts.

oscillation on rational and not

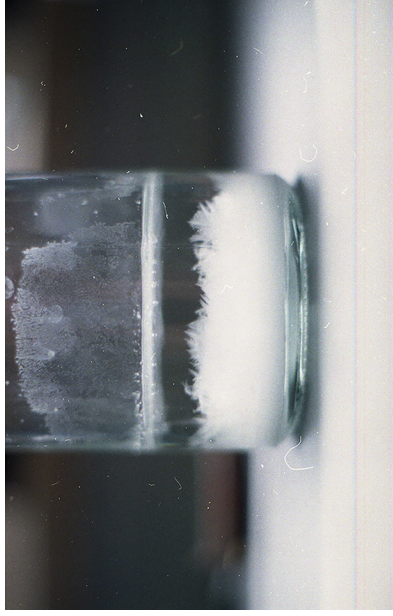
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The aim of the following text is to describe encounters with analogue measuring and recording devices and planetary-scale scientific instrumentation. Magnetite is used as compass material to compare scientific data with human ability to sense the pull.

hygrometer at the Measurements of the Space 2021



I pin a hair with a paper arrow at the end of it onto the wall. When it rains, the hair gets longer and the paper arrow pulls down. That's a hygrometer, an instrument that measures the humidity of the air.



storm glass at the Measurements of the Space 2021

After mixing ammonium chloride, potassium nitrate, camphor, distilled water, and alcohol, I seal the container. During the 19th century it was believed that Storm Glass could predict the weather. Clear liquid—clear skies, flakes—snow or rain, cloudy liquid and flakes—thunderstorm.



Magnetite is the only rock that is both ferromagnetic and capable of becoming a magnet if struck by lightning. This means that while this black, glittery mineral can be pulled to a magnet, it can also begin to attract iron itself. So, all you do is secure the rock to the lightning rod and wait for the right storm.

magnetite rock from Kiruna attached to a lightning bolt at Mending what's not Broken 2023-2024



microscope at Kilpisjärvi biological station 2022

For the last several years, my focus has been on the micro-level of measurement and perception. I work on the fine line between objects composed of elements that can be detected by scientific instruments but are invisible to human senses, and the possibility that something might be present, as we intuitively feel, yet remains unseen under a microscope.

It all began with a single sentence of I. Kant that I found in a book by Q. Meillassoux. It discussed the possibility of extra-sci-fi worlds where our existing scientific instruments and human senses are useless. I thought, well, then you need a new sense to install, or train yourself somehow differently to navigate such, or basically any, world.

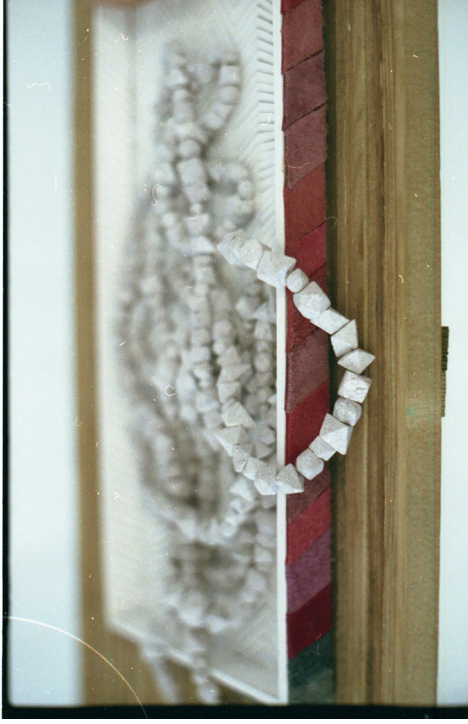
During my postdoc research, I have been concentrating on human magnetoreception and magnetite. I was exploring minuscule particles crystallized in the human brain (as well as in the cells of many other living organisms on Earth), and fantasized about them as an instrument residing in the cerebellum and brain stem that functions as a tiny compass, an instrument not utilized by us, although it could be.



in search for magnetotactic bacteria, lake Kilpisjärvi 2022

When you look through the microscope, you can identify magnetite by its sharp, flat surfaces that reflect light. So, the first thing you notice is this bright flash hitting you, and then it's something almost unnatural, a triangle, cube-like shape, as if carved by a machine, somehow sculptural.

The cells of living organisms crystallize magnetite into necklace-like strings of octahedral beads, which are then aligned due to Earth's pull.



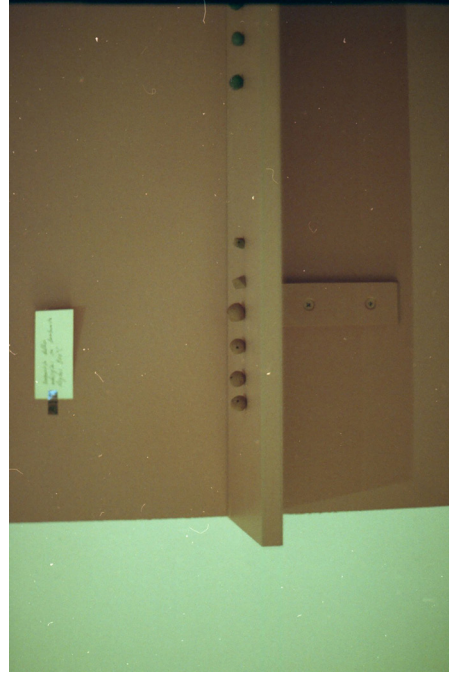
shaped necklace, at My Bittersweet Frankenstein Body, Tiianik, Turku, Finland 2022

magnetite on Salomon mountain, Kiruna, Sweden 2023



Magnetite as a regular rock exists almost everywhere on Earth, the Moon, and Mars (so far).

sensory-training device, octahedral



I went to Kiruna where it is mined, and later ground to dust grade, magnetically separated, mixed with bentonite and heated to 800°C to make iron pellets. Those are later shipped worldwide and used to make steel.

Original iron pellets from the Kiruna mine: on the right. An attempt to replicate the same results in my studio resulted in an unexpectedly reddish coloration: pellets on the left. At Mending What's Not Broken

In medieval and early modern European thought, it was believed that Rupes Nigra, a mountain of lodestone (magnetite struck by lightning) at the North Pole, pulled compass needles toward it. Even knowing this is no longer true, the North Pole has remained a direction of my trips.

The closest
so far is
Svalbard



Longyearbyen, where I'm staying, and its surrounding area is a culmination of measurement devices. Cliffs and steep slopes, rock walls, moraine, and valleys are outfitted with instruments that record temperature, sunlight, wind, earth movement, glacier melting, auroras, and more.

SvalSat satellite ground station, Platåberget, Svalbard 2025





SvalSat satellite ground station, Platåberget, Svalbard 2025

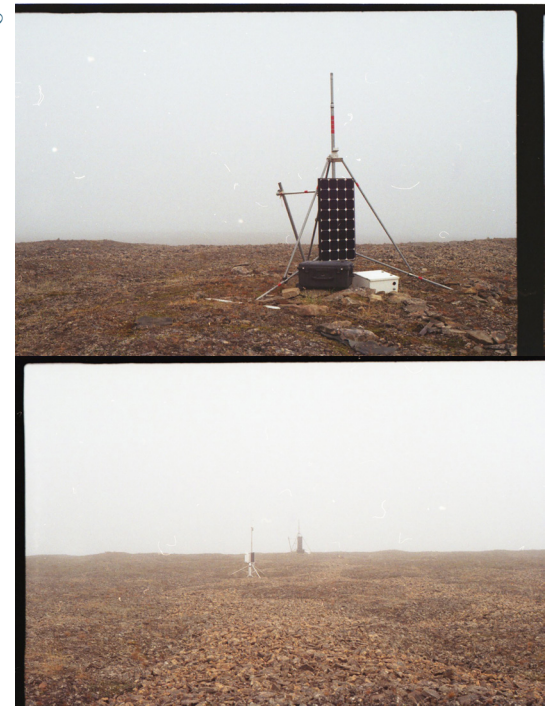
The EISCAT Svalbard Radar, located near Longyearbyen, is situated along the road leading to the Foxfonna glacier. It monitors the shift of auroras due to the movement of the Earth's magnetic north pole. While the geographic pole sits on an ice sheet floating on the Arctic Ocean, the magnetic pole takes a forty kilometres per year trip from Canada towards Siberia. Aurora follows this pattern, and it can be measured.

You cannot enter the area around the parabolic dish antennas when they are operational. You can't even land a plane at the airport fifty kilometres away. There's a button at the facility and at the airport, red, like in movies, that switches off the radio waves each time a plane arrives and departs. So, it's three times a day here in Longyearbyen this August of 2025.



The EISCAT antennas, Svalbard 2025

UNIS equipment on top of Gruefjellet, Svalbard 2025



"You have a thirty-six-hour shift, and every three hours, you check the measurements. It means you never get more than two hours of sleep for days at a time. After your shift, your colleague takes over, but then it's back to you again. And this we continued for the whole year." I see a humble Polish woman later telling me about the flat surfaces of Mars dust, which act like sails as light pushes them off their trajectories at near-vacuum.

We are both on record while she speaks, stupidly enough, I am the one being interviewed, even though I am just trying to stay conscious of my breathing while in awe, respect, and admiration.

It takes us almost four hours on the boat to hit the shore at the Copernicus Polar Station. I climb the hill, take a shot of their measuring devices, and think of myself staying somewhere distant forever. At the same time, one of the scientists tells me that life is happening here too, with full force, dear.



Nicolaus Copernicus Polar Station, Kaffiøyra, Svalbard 2025



Nicolaus Copernicus Polar Station, Kaffiøyra, Svalbard 2025



Pit-firing

experiment as analogue recording of the Earth's magnetic field. Longyearbyen, Svalbard

31.07.2025



It took me quite a while to dig a pit in the rocky permafrost ground using a flat shale. Less than a meter deep, with rocks piling around it in a curved tower, which will later hold the heat of burning firewood until the next morning.

pit firing process, Longyearbyen 2025





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pit firing location, Longyearbyen 2025

The magnetite crystals in clay align with Earth's magnetic force. During the firing process, after reaching at least 800°C, the clay transforms into ceramics, solidifying the alignment of magnetite and keeping it fixed. It's a sealed measurement, a record of Earth's magnetic field at a particular moment.



pit firing instruments, Longyearbyen 2025

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As I wait for more than twelve hours until I can take the finished pieces out, the sun circles the sky but never lands lower than the mountain tops. After six hours, I make the mistake of covering a still-simmering fire with cold rocks, which then start to explode and continue doing so for another hour. The massive sounds echo in a valley while I feel exposed and get ready to deliver a valid explanation if somebody approaches this ongoing project of mine.

pit fired ceramic plate, Longyearbyen 2025





Vilnius
Academy
of Arts

The next morning, I burn my fingers trying to
dig the clay plates out of the pit, inhaling ash,
clothes muddy and black, and all, oh.

To my surprise, one end of the ceramic plate
repels the compass needle, while the opposite
end attracts it. It worked, and I have no idea
what or how.