

## Thinking Tide, Sensing Scale

Tuning into the tide forms an attunement of bodies and tide, and an opportunity to think about rhythmicity and time, and to think about scale and various entanglements.

The work of Signe Lidén, and in particular *The Tidal Sense*<sup>1</sup> – initially a 28 metre long "sounding canvas" stretched throughout the intertidal zone in Ramberg – inspires to think through certain human and more-than-human connections and entanglements. By paying attention to sensation, the human being is not put in a privileged position to other living beings.

## Sensing Scale

Our senses are transducers from the physical world to the realm of the mind where we interpret the information, and create our perception of the world around us. Sensation is physical when light waves hit the retina, or the pressure of molecules hits receptors in our skin or ears. Cells, the smallest and most basic form of life in organisms of every kind have membranes, a selective barrier that allows certain things to pass through. These barriers are also coordinated somehow, through inbuilt mechanisms or cycles, or through responses to environmental conditions. These processes can be scaled up, and they relate to examples of 'emergent behaviour' – in how bodies tend to cluster. Think about bryozoan communities on kelp-blades, where they spread out as colonies from cloning individual zooids, or think about the coordinated movements of shoaling fish, flocks of starlings, or crowds of people, how they move and 'are being moved'. Interdependent co-entities participate in multiplicities through external and internal forces in multiple layers.

"All movements are dependent on rhythmicity", says neuroscientist and musician Geir Olve Skeie, who in *The Tidal Sense*<sup>2</sup> podcast elaborates on how bodies automatically tend to synchronise into common rhythms: "humans tend to adapt to each other's movements – this is

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<sup>1</sup> Signe Lidén, *The Tidal Sense*, a 28 metre long "sounding canvas" stretched through the intertidal zone in Ramberg in Lofoten over six weeks. Equipped with audio recording and transmissive technologies it was an instrument for both auditory and visual research, and serving as a sculptural space for conversation and interaction. In September 2019 it was shown in an exhibition along with a textwork, photographs and a podcast. Part of Lofoten International Art Festival – LIAF 2019.

<sup>2</sup> In the podcast (<https://signeliden.com/uploads/tidalsense.mp3>), in which these comments appear, the artist is in conversation with four individuals on the relationship between tide, sensing and long-term thinking.

what makes us co-operate". Or, as the artist Signe Lidén responds: "The sense of rhythm is a kind of community sense".

### **The Tidal Rhythms**

How can we participate in the tidal rhythm, in the cyclic oscillations between high tide and low tide? In the intertidal zone, the suncentric rhythm – the shift between light and darkness which is the primary organisational parameter for humans – gives space to the lunisolar rhythm, the underlying rhythm that, in addition to the light-darkness cycle, acknowledges the influence that the gravitational pull has on the planet and its oceans. A lunar day operates in cycles of circa 25 hours, while the solar day is circa 24 hours.

When your body is lying on the surface of the sea and is being slowly pulled down by the tidal water, then it is "joined in the shared time-frame of the ocean". It rests on "a titanic marine rib cage". When the tidal wave presses the ocean towards the edge of the land, then you are "part of this breath [...] its rhythm penetrates you as your presence penetrates it", writes the artist Robin Everett.<sup>3</sup>

Another form for participation in the tidal time could be to think about the tide as inside the body. We know that a body consists mainly of liquid. Through the cyclic rhythms, our body is also affected by the astronomical movements that have the greatest impact on the tide. We are all "bodies of water, of different kinds," says the philosopher Astrida Neimanis. The gravitational pull of the full moon and the new moon gives the spring tide. Water circulates across bodies and through the body. In Neimanis's liquid phenomenology, we are all different bodies of water "arisen from the same primordial soup".<sup>4</sup>

### **Scaling: The Tidal Pull to the Tidal Pool**

In 2019 the difference between low tide and high tide was at its greatest on Monday 30 September in the Ramberg bay where *The Tidal Sense* had been installed; at 02:08 UTC +2 the high tide was 277.4 centimetres and at 08:30 UTC +2 the low tide was 12.6 centimetres<sup>5</sup>. Here,

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<sup>3</sup> Robin Everett, "Ancestrula: Rhythm and Rooted Lungs" in *The Kelp Congress*, NNKS Press, 2020.

<sup>4</sup> Astrida Neimanis, "Hydrofeminism: Or, On Becoming a Body of Water" in *Undutiful Daughters: Mobilizing Future Concepts, Bodies and Subjectivities* in Feminist Thought and Practice, Palgrave Macmillan, 2012.

<sup>5</sup> <https://www.kartverket.no/sehavniva/sehavniva-lokasjonside/?cityid=1102442&city=Rambergsvika#>

where the topography of the land allows for large expanses of shallow water, the intertidal zone can cover several hundred cubic metres.

Many of those living in the intertidal zone are among the hardiest critters on the planet –those that manage to live both under and over water and on a daily basis deal with fluctuations in oxygen levels, salinity, temperature, as well as the struggles and competition for space each time the tide ebbs away. In the intertidal pool you can see the barnacles in their active state rhythmically moving in a process of filter feeding. On land they can easily be dismissed as rock-like, or inanimate, but are merely resting or hibernating.

The primary circadian clock, which amongst other functions regulates our sleep, is located in groups of cells in our brains. However, recent research shows that cells in several of our organs contain a circadian clock<sup>6</sup>, and thus circadian rhythm does not only belong to mammals. The circadian rhythm is regulated by the light-darkness cycle. One could speculate on whether bodies in polar regions hold a stronger connection to the pulling force of the tide and the moon, as the shift between light and darkness does not take place for long periods of the year, and gravity is more powerful near the poles.

The smell of the seashore is the smell of seaweed and kelp and other living organisms that live, rot and evaporate in it. There is a lingual connection between the Norwegian words ‘tang’ or ‘tang og tare’ which in English is ‘kelp’. Kelp stems from the word ‘tangle’, the root to ‘entanglement’. Entanglement is a tangle of threads, tangled troll nets, intricacies of our time, intricate masses.

Tuning into the tide forms an attunement of bodies and tide, and an opportunity to think about sensorial, spatial and semiotic entanglement.

### **Scaling Time**

Geological as well as cellular events are measured in scales that can hardly exist within thought and language. A word in the Norwegian language that refers to the horizons of distant time is ‘ur’. In her *The Tidal Sense* text work, Signe Lidén writes that:

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<sup>6</sup> Mohawk JA, Green CB, Takahashi JS, “Central and peripheral circadian clocks in mammals”, 14. juli 2014. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3710582/>

[A] word for such a distant past in Norwegian is “*urgammel*”, *ur-* as a prefix adds a sense of deep time. *Ur* as a noun is a timepiece, but also means scree, landforms of broken rock. “Rocks are verbs”, says geologist Marcia Bjørnerud to her students, “a continuum of process”.

A plastic cup is compressed time in solid form, and when we drink from a crystal glass we are in contact with deep time. The use of geological material connects us to the memory of extremely slow processes of change. The geologist Øystein Nordgulen explains that the concept of deep time appeared in the 1800s when people working with rocks and minerals realised that the age of the Earth was many millions of years, and that the concept of time was hard to fit within the biblical sense of the word. Deep time was an analogue to illustrate the endlessness of the universe. Here, time and distance were connected.<sup>7</sup>

If there was a bandwidth of the Anthropocene, it would have been the frequency band of infrasound, the artist Raviv Ganchrow suggests in the demonstration of his work *Long Wave Synthesis*<sup>8</sup>. The low-frequency infrasound, that we humans cannot hear, but sometimes can feel if we are attentive to the vibrations, are connecting collapsing arctic glaciers, volcanic eruptions and auroras to anthropogenic activities such as debris from outer space re-entering the earth’s atmosphere (almost daily), aircraft sonic booms, nuclear testing and much more. Infrasound interacts with the scale of the topography or even of the atmosphere itself. Several fishes and mammals use infrasound and seem to be aware of its environmental properties. The human attention to large sound waves and their role in geo-physical perception extends far back in time, not least through listening to the running of hooved animals.

Tuning into deep time forms an attunement of bodies and bedrock, and an opportunity to think about colossal sound waves propagating through matter, water and air.

### **Sloshing Scales**

To stretch and pull the canvas into position each time, to spend time listening and talking within the large sculptural space it provided, packing it and storing it if storms were forecast, re-rolling

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<sup>7</sup> Cecilia Jonsson, *Prospecting: A Geological Survey of Greys I*: the artist in conversation with geologist Øystein Nordgulen in a podcast produced by Peter Meanwell, Dark Ecology Journey 3 (Sonic Acts & Hilde Methi), 2016. <https://soundcloud.com/sonicacts/cecilia-jonsson-prospecting-soundpiece-meanwell>

<sup>8</sup> Lecture and prototype demonstration in the landscape close to Kirkenes Airport, Dark Ecology Journey 1 (Sonic Acts & Hilde Methi), 2014.

it out at low tide again to fix it before high tide – *The Tidal Sense* is a work organized in tidal shifts.

The membrane is an instrument equipped with audio recording, transmissive and amplifying technologies custom-made by the artist. The tidal wave becomes sound waves propagating in the ear. The vibrations are, at the final stage, traveling in liquid along the basilar membrane where they are converted to electrical signals that make them audible to us.

We are permeable bodies, absorbents of our surroundings, and we exist and perform as embodied articulations of the aspects of what we are doing, whether we intend these gestures or not. With new insights, we discover new intimate connections between human and more-than-human actors and materials. We live in a time marked by many new discoveries in research and many rediscoveries of ancient knowledge, technology and cosmology. Intimate, tactile, or haptic ways of working and knowing produce a series of lasting enquiries related to places, practices, and ecologies.

Artistic productions are low-threshold practical explorations and respondents that can draw attention to various entanglements and encourage response. They can shift scales. As ‘thinking, emerging things’ they intersect different worlds of matter and meaning. As subjective cross-sections of various scales of existence, they ask us to fine-tune our senses and to listen to nuances. In encountering the constituents of the materials and media, we can discover less conspicuous material and semiotic connections in a world consisting of a series of events, processes, scales and movements.

### **Thinking Tide, Sensing Scale, Next Act**

“What the tidal surge thinks are the algae and animals that live there on the coast”, write Lidén and the biologist Arjen Mulder, “[t]he rhythms of the tide make them in a play of external forces and internal counterforces”. In the text the two authors suggest to make a “course in rhythmorphology” – a study of rhythm, form, and form finding in the intertidal zone. The course will start with a close study of the typology and design of the “filamentous green alga *Enteromorpha flexuosa*. These algae make carpets consisting of long, simple, branching threads, both incredibly strong and utterly flexible”.<sup>9</sup>

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<sup>9</sup> Signe Lidén and Arjen Mulder, “A Course in Rhythmorphology”, in *The Kelp Congress*, NNKS Press, 2020.

Tuning into the tide forms an attunement of bodies and tide, and an opportunity to follow rhythms and ruptures of rhythms within certain entanglements.