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Methodologies of Kelp: On Feminist Posthumanities, Transversal Knowledge Production and Multispecies Ethics in an Age of Entanglement

The numbers of living creatures of all Orders whose existence intimately depends on kelp is wonderful ... I can only compare these great aquatic forests of the southern hemisphere with the terrestrial ones in the intertropical regions. Yet if in any country a forest was destroyed, I do not believe as many species of animals would perish as would here from the destruction of kelp.

Charles Darwin 1839 in *Voyages*

I'm standing at the water's edge. My intension was to go for a walk, follow the shoreline, when I found myself caught by the receding tide and the sounds stemming from the slowly expanding zone. Listening, I stand, tangled up in kelp and cables from my recording gear, surrounded by sea oak and spiral wrack. A symphony of rhythms and temporalities.

I've never seen a tidal zone of this range before. The small shallow beach has gradually grown and exposed its bare skin during six hours and twelve minutes, and the rising tide will slowly cover its belly once again. An approximately twelve-hour breath.

Fieldnotes 2019

Introduction

'Kelp' (from Middle-English *culpe*) is a word of unknown origin, which entered English language in 1660s and describes large brown seaweeds¹, or macro-algae, later classified as the taxonomic order of *Laminariales*, and even more specific, the taxonomic genus *Laminaria*. Such kelp, of the cold and polar seas (North Pacific, South and North Atlantic, but lacking in Australia, Antarctica, and

¹ See: https://www.etymonline.com/word/kelp#etymonline_v_1804
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western South America), have been commonly known as the ‘tangle’ (English), ‘tang og tare’ (Norwegian), ‘kombu’ (Japan) or ‘hai-tai’ (Chinese), of great economic importance as food and algininate source (Guiry & Guiry 2020).

Kelp grows in large densities forming so-called kelp forests, which appeared for the first time in the Miocene epoch 23 to 5.3 million years ago, and which cover approximately 25% of world’s coastlines, particularly thriving in cold, nutrient-rich waters (Wernberg et al. 2019). Brown macro-algae grow very fast, faster than tropical bamboo. In the sunnier season their growth can reach over 30 cm per day, especially in turbulent waters, where nutrients can wash over the multicellular organisms that make up kelp’s plant-like structure. In their holobiont relationship with bacteria and other species, macro-algae provide a foundational function in many of the world’s sea ecologies. As detritus of decomposing kelp sinks to the seabed of the ocean, kelp offers nourishment and sanctum for all kinds of sea creatures. The biological conviviality of kelp ecologies is astonishing, and so are their atmospheric abilities too.

At the planetary level, algae appear as a force with terraforming powers, transforming the Earth into a breathable habitat; algae in the first place, provided this planet with most of its oxygen, and continue to do so. As we have come to learn throughout the events forming part of the Kelp Congress, macro-algae are immersed in a multitude of relationalities, hosting a range of benefits to various organisms, including humans. In fact, many biologists, like Charles Darwin in the quote above, may deem algae to be some of the most important organisms of this planet. With such formative powers for life on earth, we find it instructive *to think with kelp* in this age of great climatic and environmental insecurity. In particular, we aim here to rethink the tangled methodologies of posthumanities in the light of possibilities for multispecies ethics and feminist ambitions for conviviality.

Thus, in this short essay we look at kelp not only as an organism or material entity, but also as a ‘figuration’, that is, a material-semiotic ‘map of contestable worlds’ which encompasses entangled threads

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of ‘knowledge, practice and power’ (Haraway 1997, 11) in its local and global sense. With its remedial qualities of hosting so many species, kelp provides a sanctuary for both thought and action, offering curative tips for multispecies futures to come in the simultaneous affective vernaculars of both awe and deep concern. In this way, kelp and other macro-algae become *companions and navigational tools to think and reimagine the world with*. Drawing on our experience of working with kelp gathered during the workshops and the public part of the Kelp Congress, as well as feminist posthumanities and environmental humanities literatures (e.g. Alaimo 2016; Åsberg & Braidotti 2018; Sandilands & Erickson 2010; Iovino & Opperman 2014) – with a special focus on the so-called blue humanities/oceanic humanities (e.g. DeLoughrey 2019) – that unpack human/nonhuman relations in the context of the current environmental crisis and the accompanying ‘slow violence’ (Nixon 2011), we make a proposal for ‘thinking with kelp’ as a multi-faceted methodology of transversal and transdisciplinary knowledge production and practices: en-tangled, enfleshed, transcorporeal (Alaimo 2010), collaborative, and committed to an ethics of multispecies response-ability (Haraway 2008). This will be done by way of weaving conventional academic writing and poetic field notes (‘interludes’) through one another in order to open up a space for situated (Haraway 1991), multi-directional and practice-based processes of knowledge production.

Interlude I

When do you stop arriving? It is as if the landscape immediately sought anchorage in my body and what the mere sight of it has awakened from slumber is the smell of salty skin and stranded seaweed and the sensation of floating with hundreds of meters of black water beneath my body. Evoking neither harmony nor dread, this land exists on a different scale altogether. As every place, it is a habitat through which we act, are, and become. Here though, the illusion of being in control is quite matter-of-factly blown away. Arrival in Svolvær meant yet another departure, to Digermulen. The conversations in the car moved in swells and intensities in a sea of tiredness after

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long journeys. The senses tried to recalibrate to the new and unknown. Patterns, smells, textures, shifting scales are absorbed by the body in motion. I've been introduced to this journey and gathering through a fairytale written by Futurefarmers.² No fairies appear in the story, but wind, salmon that gives gold, a stick that strikes, a clever schoolmaster, and a magic tablecloth. Let's call it a documentary wondertale. A wonder-full way, I find, to extend an invitation and offer bearings for the temporary visitor. The tale weaves occurrences, intensities, and visible as well as invisible powers together. It is a knot that holds many sightlines, songlines, roles and stories together. What is caused by natural, magical or human forces in this piece of fabric(ation)? A wondertale has three beginnings, three tidal waves that each take away, bring offerings and unfold differences. At least three ribbons are needed to make a braid. Repetition causes patterns to occur. In a wondertale, the patterns could be said to be more important than the line.

Thinking in Troubled Times: on Posthumanities and More-than-human Practices

Thinking is hard in troubled times. It is hard to figure out the right kind of action in entangled times of mass species extinction, climate change and rampant societal injustice. Yet, these are also times open to new convergences and new practices of dialogue. It is a time to more closely examine the interdependencies that make life possible for diverse humans and nonhumans, such as the co-existences around kelp ecologies that once enchanted Charles Darwin on his journeys. Perhaps times of great concern and great loss also need to make for times of great wonder, curiosity, amazement and care in order to provide manageable solutions to curb the pervasive trends?

Posthumanities, in the critical and feminist registers of methodological postdisciplinarity, offers a wealth of suggestions in the human and more-than-human registers of thinking and acting. In refusing the old adage of science-doing-nature and humanities-doing-culture, posthumanities and other forms of more-than-

² See: <http://www.futurefarmers.com/projects/windtheater>. Accessed January 10, 2020.

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human humanities, provide clues to synergistic approaches for facing mass extinctions as well as co-existences on a planet haunted by ecological devastation and political polarisation.

The Anthropocene, a term famous and infamous by now in scholarly circles, indicates how humans and human culture (extraction, exploitation and consumption) have become a transformative force on climate, biosphere and lithosphere. By this, humans are suddenly the terraforming force of greatest magnitude on planet Earth, and contemporary scientists warn of a range of ‘tipping points’ about to be passed. For instance, despite the 2-degree Celsius goals on warming the planet’s climate, despite IPCC panels and COP meetings with the nations of the world, CO₂ and greenhouse gas levels in the atmosphere continue to rise, with emphasis. Such warnings from scientists meet up with reports on the lack of observed recovery in, for instance, marine environments. At this stage humanity has killed about 80% of all wild mammals, about 70% of all insects, and half of all plants, while new epidemics, zoonosis (interspecies diseases) and havoc-wrecking weather are suffered worst by the poorest and most disenfranchised people on the globe. Furthermore, 70% of the world’s bird population is poultry chicken and other birds cultured through industrial farming. Lab cultures have engendered synthetic biology and genetically modified organisms that very concretely defy the divide of nonhuman nature and human-made culture. Much debated, this term, the Anthropocene, points to how useless, if not detrimental, the modern ontological division of nature vs culture has become, where one is deemed resource to the other. Clearly, our practices of thought and action based on such divides need to change in art and activism, scholarship and everyday life.

Like kelp undulating in the waves, we need to meet the world for how it changes, not for how we wish it remained. Posthumanities, our suggestion for such recalibrations, and other similar forms of *new humanities*, retain from the old humanities the key emphasis put on the educational value of encountering the strange (see Cicero on ‘*studia humanitatis*’), on the formative value of expanding one’s horizon in the meeting with the strange, unhomely

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and foreign. In such view, the strange can even be encountered within the Self, in the overpowering number of nonhuman bacteria, cells and organisms that make up the human body we call our own. And posthumanities in the feminist traditions (of STS, biophilosophy, multispecies studies) are more than happy to admix science with philosophy, art with humanities and social science (e.g. Radomska 2017; Radomska & Åsberg 2020). Most importantly, posthumanities are not so much an academic exercise in theory prowess, or even in academic activism (collaborative transdisciplinarity across the presumed nature/culture divide), as they are responding to the big question of our times: what to do, when all forms of action seem tainted by complexity, tangled up with one another (Åsberg & Radomska 2019).

The pluripotent feminist registers of posthumanities are what we adhere to when we are bringing science to the humanities, and more-than-human arts to the people with The Posthumanities Hub,³ our networked platform. In practice, this translates into locally situated questions to the possibilities for care, concern and curiosity. What type of collaborative engagement might guide us in an era of degradation, loss, and migration at this particular site in time and place? We suggest in the following that the multispecies habitat of kelp forests can be instructive in this regard. At the edge of the sea, climate change and human-nature entanglement can be read off the littered shoreline ecologies and new curative experiences gathered. So we ask, can the environmental shelter provided by kelp forests and other forms of macro-algae, that also form piles of rotting seaweed on the beaches of Lofoten, provide object lessons for such practices of care, concern and curiosity, perhaps even treatments for the ailments of our time? The footsteps we left in the sand as we were gathering seaweed for our workshops in relation to the Kelp Congress at the Lofoten International Art Festival have longed disappeared. Waves of arctic sea water have kissed the beaches smooth. But the experiences we

³ See: <https://posthumanities.net/> (accessed January 10, 2020)

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had stayed with us, and kelp has literally grown on us,
philosophically and methodologically.

Interlude II

We settle in, joint lunch at the long table beneath a giant dried cod-head, with a Norwegian flag sticking out from its mouth. Then, a couple of hours to roam around on our own in the vicinity. The wind has arrived. Someone is collecting seaweed on the tiny beach; a kite can be seen far away together with tiny human figures on the cliffs. Microphones are installed as extended ears in the landscape. We all have different modes of taking it all in, grounding ourselves as visitors, of thinking with. Thinking is in this case a full-bodied affair, a method of following. My tactics of attunement is listening. In listening, I find, there is no inside-outside dichotomy, rather there is a mingling, a mutual touching, through which I can reclaim a sense of time and belonging in a resonant, non-linear space-time where relations emerge and reveal themselves as a fluctuating whole. I do not know for how long I remained listening. Well, I do, the recorder tells me 33 minutes and 28 seconds. But time folds, defying linearity as it swells and thickens, despite the display on the recording device. The ancient Greeks and Mesopotamians had a linear conception of time too, yet it seems as if they did not think of themselves as facing the future. They faced the past, as that is what can be shared and perceived. The future arrives from behind.

I'm standing at the water's edge, toes touching tide. I move backwards as it rises.

Thinking with, to me as an artist, implies a decentering of anthropocentric thought patterns, a sensorial estrangement as well as re-sensitisation, and a readiness to be changed by the encounter. We might also call it strategies for shaking the habitual, or dialogical field thinking. What can be unlearned through taking the environment and materiality seriously, in this specific location? Resistance against linearity maybe, or against certain measures. A coastline cannot be measured in definite terms, it folds in on itself. Its fractal dimension makes the line longer the smaller units you use to measure it. This is the coastline paradox, which occurs if you subject the coastline to cartographic generalisation. Add to this the tide. The line thickens into a zone, a porous, breathing, tidal dwelling. An extreme, yet diverse habitat.

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Kelp Sciences, Kelp Methodologies

As it became clear during the congress, recent sea farming (kelp farming) has gained particular attention. In contrast to fisheries or mussel farming, algae farming is not based on the use of fertile soil, irrigation systems or additional fertilisers. The cultivation of kelp for sea farming purposes basically manages itself until it is time for harvest, which makes for a far more sustainable use of aquatic resources. Unless, the scale or magnitude of the harvesting goes amok on industrial scale, of course. Simultaneously, the recent four decades have brought a postnatural *disappearance* of sugar kelp along the coastlines of Norway and Canada where it used to dominate the sublittoral rocky seabed. In fact, many kelp forests, scientists report, have vanished, globally, and been replaced by turf algae over the last decades (Filbee-Dexter & Wernberg 2018; Filbee-Dexter, Feehan, Scheibling 2016). This disappearance has been most severe in the Skagerrak region, creating a loss of habitat for invertebrates grazing on the kelp, fish seeking shelter, and thousands of sea creatures living on/in/around the anchoring holdfast of the kelp, such as brittle stars, sea stars, anemones, sponges and tunicates. Sea urchins, normally eating the sinking pieces of kelp that fall to the seafloor, have also found the warming waters of the Arctic seas more comfortable, and multiplied. They can feed on the growing stipes of kelp and even threaten to destroy entire kelp beds and forests as a sign of kelp ecologies out of balance. Scientists talk of a persistent regime shift, providing evidence of less and less favourable conditions for kelp, combined with a lack of observed recovery (Filbee-Dexter & Wernberg 2018). The Anthropocene can thus also be mirrored in the kelp ecologies, as human activities mediate these transitions by global warming, over-fishing and eutrophication, and by providing other species, like sea urchins, their drivers for new dark sea ecologies of kelp loss. Thus, kelp is indeed a figuration of planetary ecologies in crisis, but what can we learn from thinking with kelp?

First, kelp teaches us to abandon the humanist idea of a bounded individual, as kelp is done and undone in relation to whole ecologies of marine and extra-marine life, in relation to water

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salinity, ocean temperatures, sea urchins and other water creatures. This is relevant as the humanistic idea of the bounded individual so far has favoured politics based on identity (individualism, independence and disembodiment) and Western able-bodied white men, and disfavoured the relational and interdependent rest of us. Second, kelp instructs us on co-constitutive care and playfulness, on how nourishment is found in the movements and flows of unstill waters. Kelp forests, as outside the Canadian coast, can function as nurseries for sea otters, and as generous environment and food for both local and invasive species, be it human or sea urchin. Third, kelp teaches us about ecological entanglements as the co-constitutive elements of life and death in the planet's own economy, *oikos*.

Coda, or ethical holdfast to stipes and blades that multiply as more-than-human humanities

For scholars of the posthumanities, co-existence and co-constitution come with an inherent multispecies ethics of involvement, which is also the ultimate lesson kelp teaches us. As relations precede identities, in the ontological vernacular of feminist theorists Donna Haraway and Karen Barad, engagement, concerns for alterity, and care for others are prior to, and constitutive of, selfhood. That is why feminist posthumanities have no truck with identity politics, and thus complicate feminist identity as well (cf. MacCormack 2020). As Haraway writes, 'to recognize 'oneself' as fully implicated in the world, frees us of the need to root politics in identification, vanguard parties, purity, and mothering.' (1991, 176). In the kelpy sense of posthumanities, 'the very nature of matter entails an exposure to the other,' and responsibility for that encounter with the other is not an obligation that the subject chooses, 'but rather an incarnate relation that precedes the intentionality of consciousness.' (Barad 2007, 392). In other words, the material figuration of the kelp points us in the direction of the least we can do and simultaneously ought to do: take responsibility for and towards the relations we form part of and the ones we enter.

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Outro

At low tide in an intertidal zone, stand at the water's edge, toes touching tide. Sense, breathe, listen. As the water rises, slowly move backwards towards the highest point. Walk as slowly as your body allows you. While moving, try to listen to everything there is, simultaneously. Then focus and follow one sound that catches your attention. Again, listen to everything there is. Stay in this continuous breathing between global and local, as your body slowly moves backwards towards the highest point. When this point is reached, move forward and recede as the tide.

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