



Changing Weathers

Networked responses to geophysical, geopolitical and technological shifts across Europe



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Changing Weathers is initiated by the Arctic Perspective Initiative (API) and coordinated by Zavod Projekt Atol (Slovenia) in partnership with Sonic Acts (The Netherlands), RIXC network for art, science and cultural innovation (Latvia), Finnish Bioart Society (Finland), Curator Hilde Methi within Dark Ecology Project (Norway), Time's Up Laboratory for the construction of experimental situations (Austria) and Ljudmila Art And Science Laboratory (Slovenia).



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Dark Ecological Chocolate

Timothy Morton

Dark ecology starts off dark as in depressing. Then it becomes dark as in mysterious. Then it ends dark as in sweet dark chocolate. In this lecture I'm going to provide an experiential map of dark ecology—a phenomenology to be more precise.



What are the chemicals that make up ecological awareness? I'm going to argue that they form a very distinctive pattern and that we are traversing through this pattern right now, as if we were eating into a chocolate. But we are only on our first or second bite. There are two more big bites to go. On the third bite, all kinds of deliciously flavored liquids start to pour out, in a way that I like to think of in a very basic set theoretical way, a way that subverts the basic theistic hence patriarchal-agricultural belief we have that wholes are bigger than the sums of their parts, an idea that has no basis in logic at all.

Once we have a feel for the phenomenology, we can figure out what kinds of art process and practice we want to involve ourselves in with a much greater sense of power and accuracy.

Where we're going to land is, pleasure. Sexuality. Or to be more precise,

sexualities. I wouldn't dare to spell out everything in this region—but I think I found the airport, which is more than you can say for some pilots of some planes to Kirkenes, he hinted. That is, I think I found the airport where the ecological art lives. It's a pleasure airport. It's not an efficiency airport. I never ever want to visit the efficiency airport. Why? Because the efficiency airport is a petro-culture airport. If you think that ecological art is keyed to the denial and policing of pleasure then you are still messing around in petro-space and this is precisely the problem, no?

The basic chemical of pleasure space is intimacy and the basic chemical of intimacy is solidarity so let's explore that one for a moment. That feeling and more than a feeling of being-one-with.

Solidarity describes a state of physical and political organization, and it describes a feeling. This itself is interesting, because it cuts against a dominant, default ontological trend, default since the basic social, psychic and philosophical foreclosure of the human–nonhuman symbiotic real that we call the Neolithic. Let's think up a dramatic Game of Thrones sounding name for it. Let's call it *The Severing*.

Why this dramatic name? Well, I really do think that it's some kind of trauma, a trauma that we keep reenacting on and among ourselves (and obviously on and among other lifeforms). It creates a basic, in itself traumatic fissure between, to put it in those starkly cut and dried Lacanian terms, reality (the human–correlated world) and the real (ecological symbiosis of human and nonhuman parts of the biosphere). The cut and driedness of the Lacanian model is itself an artifact of The Severing, derived in large part from Hegel's defensive reaction against the shockwave sent by Kant's correlationist ontology. For Hegel, the difference between what a thing is and how it appears is internal to the subject, which in the largest sense for him is Geist, that magical slinky that can go upstairs all the way to the top, where the Prussian state hangs out. The thing in itself is totally foreclosed, thought only as an artifact of the strong correlationist thought space; strong correlationist as opposed to weak correlationist, which is Kant and OOO, where there is a gap but it's not inside the subject, it's in the thing (or things, however many there are—I'm not the object police so I can't tell you!).

I'm fonder of Lyotard's way of thinking about all this. For Lyotard, the real–reality boundary must be perforated, like a sponge. Stuff leaks through. (It makes better Freudian sense too.) There is a loose, thick, wavy line between things and their phenomena, expressed in the dialectical tension between what Lyotard calls *discourse* and what he calls *figure*. Figure can bleed into

discourse, by which Lyotard means something physical, nonrepresentational, "silent" perhaps in the sense that Freud describes the drives as silent. Figure can melt out of discourse like cherry flavored liquid melting out of a chocolate.

So solidarity in this light means human psychic, social and philosophical being resisting The Severing. This is not as hard as it seems, because the basic symbiotic real requires no maintaining by human thought or psychic activity—we have been telling ourselves that humans, in particular human thought, makes things real for so long that this sounds absurd or impossible. Solidarity, a thought and a feeling and a physical and political state, seems in its pleasant confusion of feeling-with and being-with, appearing and being, phenomena and thing, to be not just gesturing to this non-severed real, but to emerge from it, since in a way it is just the noise that symbiosis is already making. In this way, solidarity is not only the nicest feeling and political state (and so on) it's also the cheapest and most readily available! Precisely because it relies on the basic, default symbiotic real.

Solidarity is a word used for the "fact" (as the OED puts it) of "being perfectly united or at one." And solidarity is also used for the constitution of a group as such, the example given being the notorious notion of "the human race," aka species, aka the dreaded Anthropos of the dreaded Anthropocene, which we all need to be thinking in all kinds of ways rather than wishing this embarrassing seeming generalization seeming race, class and gender specificity-stripping Enlightenment horror, and lurking behind this, another transparent monster, the concept of species as such. And *solidarity* can mean *community*. In other words, solidarity presses all the wrong buttons for us post-68 New Left educated people. No wonder Hardt and Negri spend so much time finessing it into a diffuse deterritorial feeling of rhizomatic something or other, at the end of their magnum opus *Empire*.

We want something like solidarity to be as un-solid and as un-together as possible. We want something perhaps like the community of those who have nothing in common (Lingis), a community of unworking or inoperation (Nancy). On the other hand, we are obsessed with systems and how they emerge magically from simple differences that, in the Batesonian lingo, make a difference. In other words, we are either resisting an agricultural-age religion or we are promoting it by other means. In either case we are operating with reference to agricultural religion, which is the experiential, social and thought mode 1.0 (if you like) of The Severing. Houston, we have a problem.

What is the default characteristic of this thought mode? It is what I am now

calling *explosive holism*. Explosive holism is a belief, never formally proved but retweeted everywhere all the time, that the whole is always greater than the sum of its parts. Either you are down with that—because you are a traditional theist or you are into cybernetics (or any number of deployments of this concept)—or you are the kind who shows their behind to the political father, as Roland Barthes put it. You are in church or you are thumbing your nose at church. In either case, there is a church. And this is the problem.

Truly getting over Neolithic theism and its various upgrades would be equivalent to achieving ecological awareness in social, psychic and philosophical space. Because these modes of coexisting and thinking and feeling are artifacts of The Severing. It would be tantamount to allowing at least some of the symbiotic real to bleed through into human thought space, let alone human social and psychic space. So it sounds quite important. And I claim that what is blocking our ability to do so is in part a deep and therefore structural set theory that thinks wholes as greater than the sum of their parts. Such a theory turns wholes—community, biosphere (aka Nature in this case), the universe, the God in whose angry hands we are sinners—into a being radically different from us, radically bigger (transcendentally bigger, aka you can't get there from here), some kind of gigantic invisible being that is inherently hostile to little us. We are about to be subsumed, the drop is going to be absorbed into the ocean—Western prejudices about Buddhism perhaps are negative thoughts about explosive holism leaking into the thought space conditioned by that very holism, projected onto a so-called Eastern religion. It isn't very difficult to discern within this fear of absorption into the whole (along with its ecstatic shadow) the traditional patriarchal horror of the simple fact that (full respect to Levi Strauss) we came from others. The way contemporary Hegelian psychoanalytic prose seems to juice itself on the uncanny over and over again is an in some ways quite embarrassing Stockholm-Syndrome-like constant reassertion (needing to be reasserted to maintain the strong real-reality boundary) that we came out of vaginas. I mean, it shouldn't be that big of a deal. The moment at which it isn't a big deal, and so no longer uncanny in the sense of horrifying—though perhaps uncanny in the softer sense of being irreducibly strange, because it involves undecideable host-parasite symbiotic logics—is the moment at which imperial neoliberal “Western” patriarchal thought space will have collapsed.

The fossil fuel economy is a “culture of energy” that conditions us to hold incompatible, symmetrically flawed versions of alienation and not only do you lose something when you opt for one or the other, you are just messing about in petro-space. On the one hand, alienation means you are separated

from some identifiable essence of the human, from Nature. Appearances are fake. Or alienation means you are conditioned to think that there is some essence, precisely—the essence is fake.

Either way, you are deprived of the symbiotic real, the one in which appearing and being are deeply, irreducibly intertwined in a way that the Trickster-like beings of first peoples' cultures exemplify. You are stuck with fake appearance or fake reality. You can't get here—to the symbiotic real—from there—anthropocentric correlationist essentialist theories of alienation. You are stuck with some kind of severing of intimacy with physical being, with lifeforms, with pleasures, and I'm the kind of communist who thinks that it's about more pleasure than consumerism, not less, so that consumerism shows a not exactly clearly lighted but nevertheless lighted path to the exit. Sorry, eco puritans.

That's one of the big problems, actually. We think the ecological future in the key of oil, in other words, in the key of a restricted economy. We think about restraint. We think about guilt and redemption. We think about getting the A from the latest upgrade of the invisible patriarch, even if her new name is Gaia. So we're not going to go to explosive holism. We're going to go with *implosive holism*, which I call subscedence, aka the whole is always less than the sum of its parts. It's incredibly easy to understand if you accept that if things exist then they exist in the same way. A whole is one—the parts that comprise it are by definition more than one. They exist equally with the whole—so the whole is always less than them! I find this seemingly bizarre idea incredibly easy to think, like letting yourself slide down a water slide. It sounds daft but only because the patriarchal agrilogistical programming is telling you that it's daft, and that water slides are dangerous.

Sometimes it's useful in life to subtract the content of the thought and look at the attitude with which it is being held. It's not exactly what you think but *how you think* it that poses the problem. So we shall examine not the content of ecological thoughts but the attitude with which those thoughts are held, attitudes that are mutually constitutive of the reality they describe. These attitudes are all about how we relate to pleasure...

Each deeper layer of the chocolate is a phenomenological reduction of the layer around it. The outer sugar coating is guilt, a very low-resolution version of what we discover as we descend into the chocolate. Guilt is intimately connected with reification. It's pleasure upside down: Thou shalt not enjoy thyself—which is a fantastic way of enjoying yourself. We will find different kinds of laughter in layer of the chocolate. Laughter here is *guilty laughter*.

the uneasy laughter of someone who begins to feel complicit in what they are finding out; the laughter of secret enjoyment.

As we bite into the chocolate we'll see that each region has an upper and a lower bound. The upper bound of guilt proclaims that you can somehow get rid of the guilt. The lower bound tells you that guilt is irreducible: you will never be able to shake it off. Which brings us to shame.

The chocolate layer is shame, just as shame is chronologically prior to guilt in childhood and in human history. Shame does have some ecological functionality, because it's deeply connected to being-with: I feel it when I feel others looking at me. Yet I feel like killing myself or killing the other when I feel shame.[1] The upper bound of The Shame is a violent thrashing whereby I try to rid myself the stain. Here we find a shameful laughter that hides and reveals our deep physical complicity with other beings above and beyond the complicity of our enjoyment (guilt).

But the lower bound is just the trace of violence: abjection. Subjects are created when they force themselves to think that they are not made up of abject stuff, aka the symbiotic real starts to make itself felt.[2] As in the phrase "Shame *on* you." I can't actually wipe it off. At this boundary there is a recognition of trauma, an acknowledgement that we never wiped away the vomit and never could, and by extension our body, our ancestors in our bones, the fish swim bladders in our lungs, the bacteria in our guts, the phantasms. We think about toxic plastics dripping down our throat when we drink a innocent glass of water. We experience symbiosis as trauma.

Without explicit content what would the aesthetics of shame feel like? James Turrell is a minimalist sculptor of photons, and his works employ subtle gorgeous electronic light. Turrell is exquisitely attuned to the elemental, "a givenness without explicit content, vivid and intense, not blank." [3] One is immersed in vibrant color that seems to come all the way to the tip of one's nose, like rain or cold or tropical humidity. Abjection is *elemental*. It's not surprising then that modernity, capitalism and individualism have had trouble with the elemental, seeking to banish it from their easy wipe surfaces. The other word for this elemental givenness is *magic*. Let's jump further into the fog. It is hard to laugh here, overwhelmed and fascinated by the given. Perhaps just a nervous snicker, like the quiet chuckles as the laughter dies away at the haunting close of Pink Floyd's "Welcome to the Machine." [4] The room goes quiet. Everyone is looking.

The laughter dies down and we find ourselves in the space I call The Melancholy, the cherry-flavored center of the chocolate. We have been hurt

by the things that happened to us. But in a way to be a thing at all is to have been hurt. We are scarred with the traces of object cathexes. Trauma is not only human. The beautiful ridges in the glass are traces of the glass's own lost object cathexes. Things are printed with other things. Something about trauma is nonhuman.[5]

The upper bound of *The Melancholy* is an encounter with horror. Tragedy is the highest form of horror art: we become Oedipus putting his eyes out because he sees clearly, Oedipus from the lineage of weaponized agriculture. Here lives the maniacal laughter of horror. But for all our vivid awareness we are still very much in anthropocentric space: we try to straighten out loops and find the perfect meta position.

In *The Horror* we encounter the Uncanny Valley. In robotics design, it's common to note how the closer an android resembles a human the more disturbing it appears.[6] Zombies live in the uncanny valley because they ironically embody Cartesian dualism: they are animated corpses. The Uncanny Valley concept explains racism and *is itself racist*. Its decisive separation of the "healthy human being" and the cute R2D2 type robot (not to mention Hitler's dog Blondi, of whom he was very fond) opens up a forbidden zone of uncanny beings that reside scandalously in the Excluded Middle region. R2D2 and Blondi are cute because they are decisively different and less powerful.

As we descend through the abject realm of *The Melancholy* the Uncanny Valley smoothens itself out into a gigantic flat plain: *the Spectral Plain*. Ecological awareness takes place on the Spectral Plain whose distortion, the Uncanny Valley, severs the human and nonhuman worlds in a rigid way that spawns the disavowed region of objects that are also subjects. A rigid and thin concept of Life is what dark ecology rejects. A future society in which being ecological became a mode of violence still more horrifying than the neoliberalism that now dominates Earth would consist of a vigorous insistence on Life and related categories such as health. If that is what future coexistence means, beam me up Scotty.

In ecological awareness differences between R2D2-like beings and humans become far less pronounced; everything gains a haunting, spectral quality. The Nazi tactic of peeling off abjection while supporting animal rights isn't inconsistent at all. Scientistic speculative realism also lives in *The Horror*, the top level of the realm of abjection, the level where we have not yet discovered the Spectral Plain. A masochistic machismo reigns according to which I prove that my upside-down Satanic version of an Axial Age monotheistic god (perhaps it's called Cthulhu) who wants to kill me is much

more horrific than yours.

Depression can lead to an autoimmune syndrome just like an allergic reaction, cleansing the world of ghosts and spirits, the “pathetic” sensations and feelings.[7] That is what accelerationism is hoping for. The name of this hope is despair. The deadly seriousness of Justine in Lars von Trier’s *Melancholia* is evocative of speculative realist horror. “We are alone [in the universe]—I know things.”[8] This isn’t scientifically accurate, though it claims to be. We have become allergic to chocolate, to pleasure. But we are too far in. We can’t make our way back up to good old guilt. We need to find an alternative to horror as a host for intellect. Not aside from intellect, but inside.

We need to find within horror some form of *laughter*. The face of horror-knowledge is nothing but the face of the boy (underline boy) McCauley Culkin in *Home Alone*. The stereotyped behavior of someone locked into their style without knowing is inherently funny.[9] Laughter becomes *ridicule*.

Without quite realizing it at first we have entered a region called *The Realm of Toys*. And the first toy is the style of horror! We’ll shortly discover that the Realm of Toys provides the blueprint for an ecological polity, a polity that includes nonhumans as well as humans. An ecological politics based on guilt underlies “return to Nature” tactics. Basing politics on horror necessitates some kind of resignation tinged with Schadenfreude. The Realm of Toys is much more playful and pleasurable. A lifeform, an engineering solution, a social policy, another lifeform—they join together and become another type of toy, in a sort of ecological Lego. Because of interdependence, there’s always a missing piece of the jigsaw puzzle. There can never be The Toy, one toy to rule them all. Toys connect humans with nonhumans: a child’s hand with a robot’s arm, a piece of lettuce with a rabbit. And toys are nonhumans in themselves. An ecological future is toys at every scale without a top level that makes everything sensible, once and for all. Perhaps that was the problem all along. Suddenly, horror appears ridiculous and another kind of laughter breaks out.

In the middle of John Carpenter’s movie *The Thing*, when it couldn’t get much worse, the viral, morphing, oozing alien who imitates others, tricking and then devouring-imitating those who interact with it, has absorbed one of the characters in the Antarctic research station. The remaining crew are busy blowtorching most of the dripping Thing. But some of The Thing’s mass escapes their attention in the form of the head of its latest victim. Under the table the upside-down head sprouts spider-like legs and begins to crawl out

of the door, emitting weird breath-like distorted moans. It is at this point that one of the crew utters the immortal words, "You gotta be fucking kidding," upon which they torch the spider-head.[10] We are in the subregion of the ridiculous where we encounter the art of the absurd. In this subregion toys appear to be demonic puppets. There is a *toying around* at this level, a mistreatment. The Ridiculous is a realm of satire and sarcasm, comedy with something missing. A meta-ness lingers here.

At some point you stop wanting to apply flames to contradictory toys. You start to collect them. A less violent abjection broods here, like a pale mist. It is almost beautiful. We are in the subregion called The Ethereal. We discover the whimsical toys of kitsch. The Ethereal is suffused with a strange goth feeling, like the room of replicant designer J.F. Sebastian in *Blade Runner*. [11] "Goth" here means the abject (and highly popular) underside of Romanticism, slightly too melodramatic and dark, and inclusive of pleasure—but a weird pleasure. Baudelaire intrigued by his abjection, sitting alone and feeling weird without recoiling in horror and without contextualizing his experience, as if beauty were still possible, but only on condition that we drop the anthropocentrism and relate to a truly unconditional beauty, including the unconditionality of no (human) standard of taste—the fringing of beauty with fascination, disgust and fear without trying to airbrush them out of the picture.

Kitsch is others' (inevitably weird or disgusting) enjoyment objects, evoking the intrinsically nonhuman aspect of enjoyment as such. But this gives rise to a very valuable insight. Even when I am having it, enjoyment isn't "mine." It subscends my conceptual grasp. I'm sorry to break it to the avant garde but in an ecological age art will burst open into all kinds of funky pleasure, because there will be no single, authoritative scale from which to judge. The un-shocking idea that art should shock the bourgeoisie out of its complacency is what needs to be gently folded and put away.

As we melt into The Melancholy the difference some want to maintain between *interest* and *fascination* evaporates as the not-me object exerts its gravitational pull. The guardian of this region is Wall-E the garbage-collecting robot, who maintains a collection of gadgets and trinkets the humans have left behind on a trashed uninhabitable Earth.[12] There are no longer piles of trash because there is no longer anthropocentrism. Fascinated, I begin to laugh with nonhumans, rather than at them (horror and ridicule), or at and with my fellow humans about them (shame and guilt). The Melancholy doesn't know what the toys want. But it does know they want something. That there might be unknown pleasures (thanks Joy Division).

Something strangely beautiful lies in the region below, the boundary region between depression and the strange beauty. Trying to escape depression is depressing. We begin to recognize this loop as a hollowing out. The hollowing of depression in turn is recognized as a *thing*, which is to say a thing in all its withdrawn mystery. We are in a region called The Hollow. We are collapsing down, subscending into a throng of more and more real objects. By *real* I mean not reified, not depending on a subject, not undermined or overmined: not reduced to atoms or fluxes or processes, or reduced upwards to correlates of some Decider. A weird joke is in process. Perhaps its style is best caught by Syd Barrett, inventor of glam and goth and whimsical toys, out of his mind and depressed and sad and The Piper at the Gates of Dawn:[13]

And the sea isn't green
And I love the Queen
And what exactly is a dream
And what exactly is a joke?

Now you see me, now you don't. Fleeting laughter resounds. We begin to enjoy contradiction ("And the sea isn't green"). We begin to relax our defense against ontological paranoia ("And what exactly is a dream"). We relish in ambiguity ("what exactly is a joke?").

Inside the congealed Hollow is a liquid Sadness. This sadness is a liquid inside the wounds. It does not have an object, it is an object, and the best image for a this OOO kind of object is a liquid. This being-an-object is intimately related with the Kantian beauty experience, wherein I find experiential evidence without metaphysical positing that at least one other being exists. The Sadness is the attunement of coexistence stripped of its conceptual content. Since the rigid anthropocentric standard of taste with its refined distances has collapsed, it becomes at this level impossible to rebuild the distinction we lost in The Ethereal between being interested or concerned with (this painting, this polar bear) and being *fascinated by*... Being interested means I am in charge. Being fascinated means that something else is. Beauty starts to show the subscenent wiring under the board.

Take Björk. Her song "Hyperballad" is a classic example of what I'm trying to talk about here. She shows you the wiring under board of an emotion, the way a straightforward feeling like *I love you* is obviously not straightforward at all, so don't write a love song like that, write one that says you're sitting

on top of this cliff, and you're dropping bits and pieces of the edge like car parts, bottles and cutlery, all kinds of not-you nonhuman prosthetic bits that we take to be extensions of our totally integrated up to date shiny religious holistic selves, and then you picture throwing yourself off, and what would you look like—to the you who's watching you still on the edge of the cliff—as you fell, and when you hit the bottom would you be alive or dead, would you look awake or asleep, would your eyes be closed, or open?

When you experience beauty you experience evidence in your inner space that at least one thing that isn't you exists. An evanescent footprint in your inner space—you don't need to prove that things are real by hitting them or eating them. A nonviolent coexisting without coercion. There is an undecidability between two entities—me and not-me, the thing. Beauty is sad because it is ungraspable; there is an elegiac quality to it. When we grasp it withdraws, like putting my hand into water. Yet it appears.

Beauty is virtual: I am unable to tell whether the beauty resides in me or in the thing—it is as *if* it were in the thing, but impossible to pin down there. The subjunctive, floating “as if” virtual reality of beauty is a little queasy—the thing emits a tractor beam in whose vortex I find myself; I veer towards it. The aesthetic dimension says something true about causality in a modern age: I can't tell for sure what the causes and effects are without resorting to illegal metaphysical moves.[14] Something slightly sinister is afoot—there is a basic entanglement such that I can't tell who or what started it.

Beauty is the givenness of data. A thing impinges on me before I can contain it or use it or think it. It is as if I hear the thing breathing right next to me. From the standpoint of agricultural white patriarchy, something slightly “evil” is happening: something already has a grip on us, and this is demonic insofar as it is “from elsewhere.” This “saturated” demonic proximity is the essential ingredient of ecological being and ecological awareness, not some Nature over yonder.[15]

Interdependence, which is ecology, is sad and contingent. Because of interdependence, when I'm nice to a bunny rabbit I'm not being nice to bunny rabbit parasites. Amazing violence would be required to try to fit a form over everything all at once. If you try then you basically undermine the bunnies and everything else into components of a machine, replaceable components whose only important aspect is their existence. I assume you are sensitively aware of the ecological emergency we call the present—which has been happening in various forms for twelve thousand years. It is that there are logical limits on caring, a function of interdependence. Even the bodhisattva

Avalokiteshvara couldn't save all sentient beings at once. This is why his head exploded into a thousand heads. He subscends himself. His two eyes burst into a thousand. That's what compassion (which is the beauty feeling) feels like. It is here that we encounter a deeper laughter than the laughter of absurdity. The laughter is about feeling a thing but being unable to grasp it or of knowing something but of being unable to describe it. The style of a thing is always the slapstick impersonation of a thing. Toys in this region are *silly*. Here we arrive at a truly comic level, the breadth of coexistence. Giddy laughter begins to break out.

Inside that sadness liquid we reach a region called The Longing. In The Sadness we encounter at a certain point love for no reason, unconditional love. This is not different from longing, not a fullness denied by the supposed shallowness of longing. Why long for a polar bear or a forest or indeed a human? There is no good reason. The movement down here towards the center of the chocolate is from compassion to passion, the possibility condition for compassion. Longing is like depression that melted. The laughter of longing is a laughter of released energy no longer tied to a concept or an (objectified) object of any kind, free floating, amazed at its abundance.

And why longing? Because of joy. The basic toylike nature of things means that reality fundamentally is playful, dancing, raving, elemental. The laughter of joy is full on utter hilarity, accurately tracking ontological hilarity. Art begins to sound like dance music.

To locate the pathway towards The Joy we will need to examine how things can become too serious. When you are funny it means that you allow the irreducible gap between what you are and who you think you are to manifest, without tampering with it. You are radically accepting your finitude.[16] The "tears of a clown" form of comedic depression is when the the intellect can't bear mortality and finitude. It wants you to live forever. The "logical" conclusion to this path is the suicidal elimination of the host, like going into anaphylactic shock.

The agricultural logistics that now dominates Earth is depression manifesting in global space in an explosive holist form. The whole point is to fight one's way back from the brink (species-cidal and suicidal) towards the comedy. The neurologist Adam Kaplin asserts, "The worst part of depression is that it narrows the field of vision into a very small tube so they can't see the options." [17] Maximum tube compression as far as my experiences of depression have been concerned has consisted of five minutes into the future

and five minutes into the past. Humans find it hard to survive if their temporality is restricted to a diameter of ten minutes. Again, there is an ecological resonance here: agrilogistics compresses temporality to diameters that are dangerous to lifeforms, including humans, and how we inhabit Earth and coexist with other beings affects us too. Thinking that you or they can snap out of it is addiction speak akin to what Gregory Bateson calls the "heroic" style of alcoholism: *I can master myself*.^[18] The trouble is that this thought *is itself depression*.

Agrilogistics is a one-size-fits-all depression temporality, a sad rigid thin grey tube. We are living inside depression objectified in built space. With its tiny temporality window agrilogistical depression space has turned the surface of Earth into a fatal place. As we have seen there is a simple Freudian idea for a fatal compulsion that keeps on retweeting: death drive.

Now to think the Joy, we simply invert these parameters. Instead of the fatal game of mastering oneself, we realize the irony of being caught in a loop, and how that irony does not bestow escape velocity from the loop. Irony and sincerity intertwine. This irony is joy, and the joy is erotic. As Jeffrey Kripal says about gnosis, this is *thought having sex with itself*.^[19]

"Something" is "there": the elemental givenness of the arche-lithic. Relation "between a being"—relation between a being and itself—is the possibility condition for any other relating. The warm safety of The Sadness depends on the safety and care of The Longing, which in turn depends on the basic effervescence of The Joy, an uncontainable, subscendent welling-up. This attunement is itself ecological because Joy functions without me. This Joy is not despite the tree, the seagull, the lichen; it is the elixir of their finitude.

In a sense *all toys are sex toys* to the extent that they enable links between beings and between a being. In The Joy there is an excess of links between a being over links between different beings. Is it too ungrammatical to say *between the same being*? Between the being that is oneself, even between thinking and itself. Although cloning is chronologically prior to sex, perhaps sex is logically prior to cloning. We consider here certainly not a heteronormative sex but sex for its own sake, whose prototype is denigrated as narcissistic.

The Joy is logically prior to life, deep inside life, the quivering between two deaths. Deep in the interior of life there are dancing puppets. Something radically nonutilitarian, outside "Life," bankrolls evolution's utilitarian appearance with its play, empathy and mutual aid. Something radically nonutilitarian is a possibility condition for the "work" of evolution, culture and

agriculture, steam engines and the adult world.

In fully realized ecological awareness the chocolate has been turned inside out. A tiny crystal of guilt sugar is contained within a little ball of shame enveloped in a congealed sphere of melancholia swimming in a galaxy of sadness contained within a plasma field of joy. This plasma field is a Ganzfeld effect of affect, as in a blizzard or a light installation by James Turrell, where one's sense of distance evaporates. I find myself thrown out of my habitual sense of where I stop and start just as much as the curving walls and soft yet luminous colors melt the difference between *over here* and *over there*.

Abjection has been transfigured into what Irigaray calls *nearness*, a pure givenness in which something is so near that one cannot *have it*—a fact that obviously also applies to one's "self." [20]

The Joy is not abstract or uniform but so intimate you can't see it, and you can't tell whether it's inside or outside: the "cellular" experience of bonds tightening between beings. [21] The Joy is haptic, elemental: so close that you lose track of something to be seen. Here thought itself is a way of getting high: human attunement to thinking has been intoxicated into recognizing its nonhuman status. Not simply thinking ecologically (the ecological thought), but rather thought as susceptibility, thinking as such as ecology. The structure of thought as nonhuman.

Because of subscendence, there must be pleasure modes that can't be co-opted, but we have to get to them by embracing the world we are in now, rather than trying to fix agricultural society 9.0 via agricultural society 3.0 or whatever. Unfortunately, all that stuff about need versus desire, which also affects things like Marxist theory, is about that kind of fix. We have to drop the illusion of some unsullied straight-up need that got twisted into desire. We have to go all the way through desire. I think these excessive pleasure modes will definitely be found in the regions and edges where humans and nonhumans touch in all sorts of ways, social, psychic, philosophical, physical. This is because consumerism is anthropocentrically scaled and so when you get really up close to a thing, it stops being anthropocentrically functional and thus ceases to be functional for consumerism, which is agricultural religion 9.0 or what have you.

Percy Shelley writes:

Rise like lions after slumber
In unvanquishable number
...

Ye are many! They are few! (**)

He forgot to add: not just in an empirical sense having to do with bodies you can count; but in an ontological sense having to do with the structure of how things actually are. We are many all the way down, because we are wholes that are always less than the sum of their parts. We don't just combine into multitudes, we contain multitudes, as any self-respecting stomach bacterium will tell you.

We are many in the ontological sense too, and this implies that we can, should and will achieve solidarity with at least some nonhuman beings. The pathway towards this solidarity is at least partly about increasing and enhancing and differentiating more and more pleasures. Far from creating a restricted economy—that would be a disastrous repetition of the oil economy, where concepts such as efficiency and sustainability (both perfectly anthropocentrically, not to mention neoliberally, scaled) have wreaked havoc on happiness, whether one is human or not. Talk of efficiency and sustainability are simply artefacts of the relentless use of fossil fuels. In a solar economy, you could have a disco in every single room of your house and no lifeform would suffer—or at least vanishingly few, compared to simply turning on the lights in an oil economy. You could have strobes and decks and lasers all day and night to your heart's content.

The author gave this lecture at NIBIO Svanhovd in Norway during [Dark Ecology Journey 2016](#).

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Further reading: www.ecologywithoutnature.blogspot.com

Photo: Michael Miller

[1] For an extensive exploration see Ruth Leys, *From Guilt to Shame: Auschwitz and After* (Princeton: Princeton University Press, 2009).

[2] Julia Kristeva, *Powers of Horror: An Essay on Abjection*, tr. Leon S. Roudiez (New York: Columbia University Press, 1982), 5–6.

- [3] See page 000.
- [4] Pink Floyd, "Welcome to the Machine," *Wish You Were Here* (EMI, 1975).
- [5] One of the best meditations on this is Dylan Trigg, *The Thing: A Phenomenology of Horror* (Alresford: Zero Books, 2014).
- [6] Masahiro Mori, "The Uncanny Valley" (*Bukimi no tani*) tr. K. F. MacDorman and T. Minato. *Energy*, 7.4 (1970): 33–35.
- [7] Brassier, *Nihil Unbound*, xi.
- [8] Lars von Trier, dir. *Melancholia* (2011; Dallas, TX: Magnolia Pictures, 2011) DVD.
- [9] Henri Bergson, *Laughter: An Essay on the Meaning of the Comic*, trans. Cloudesley Brereton (New York: Macmillan, 1911), 10.
- [10] John Carpenter, dir., *The Thing* (Universal Studios, 1982).
- [11] Ridley Scott, dir., *Blade Runner* (Warner Bros., 1982).
- [12] Andrew Stanton, dir. *Wall-E* (Pixar Animation Studios, 2008).
- [13] Syd Barrett, "Jugband Blues," *A Saucerful of Secrets*, Pink Floyd, EMI Studios (1968).
- [14] Judea Pearl, *Causality: Models, Reasoning, and Inference* (Cambridge: Cambridge University Press, 2010), 78–85.
- [15] Again, see Jean-Luc Marion, *In Excess*.
- [16] See Trebbe Johnson's *Radical Joy for Hard Times*, <http://www.radicaljoyforhardtimes.org>, accessed May 16, 2015.
- [17] Cited in Lindsay Holmes, "Six Things Not to Say to Someone with Depression," *Huffington Post*, January 29, 2014, http://www.huffingtonpost.com/2014/01/29/what-not-to-say-to-someon_n_4675854.html, accessed April 30, 2015.
- [18] (Bateson, "The Cybernetics of 'Self': A Theory of Alcoholism," 309–337 (320–322).
- [19] Jeffrey Kripal, *The Serpent's Gift: Gnostic Reflections on the Study of Religion* (Chicago: University of Chicago Press, 2006), 125.
- [20] Irigaray, *Sex*, 31.
- [21] Deleuze's concept of smoothness could come into play here: something so granular that we lose track of detail. See, for example, *The Fold: Leibniz and the Baroque*, tr. Tom Conley (Minneapolis: University of Minnesota Press, 1993). I have also benefited from Kali Rubaii, "In the Path of the Witness-Perpetrator: Concrete and Chemicals in Anbar, Iraq," paper given at *Ethics, Agency and Aesthetics in the Anthropocene: A Symposium*, UC Berkeley, April 17, 2015.

Reflections on Soil Future(s), Past(s) and Present(s)

Andrew Gryf Paterson

Soil, and soil-like substrate such as compost, inspires this essay as a reflection on the art-ecology-heritage poetics that emerged from co-organising a trans-disciplinary workshop. Different temporal-foci are mixed within the text to elaborate upon the potential of soil future(s), past(s), and present(s), in relation to artist-led cultural heritage and innovation.



Photo: Andrew Paterson

The workshop event was designed and undertaken in collaboration with Latvian interdisciplinary artist Maija Demitere, for the occasion of iWeek International Study Week at Liepaja University in early November 2015. It used a 4-day process to explore with students and other interested persons various temporally-defined practical investigations into soils and our relationships to them.

It is contextualized by making reference to other artist-led soil works from art-science, bioremediation or compost-making perspectives. The activities

included making compost in the present; questioning the past histories of soil usage in a contemporary Latvian market-garden; and innovative integrative designs for compost in public-space.

Towards the end of the workshop process, our activity split into two foci, in which this author became involved in investigating geophagia—the traditions and practices of ingesting soil—and the making of ‘gourmet soil-cakes’. This rather unusual outgoing activity sparked unexpected thoughts and feelings, ranging from relations to tasting and remembering one’s displacement from childhood and to the land, as well as digging deeper into social-cultural history to suggest further exploration into suppressed Courland colonial history and dirt-based relationships.

The Ground Rules

Nance Klehm in her *The Ground Rules Manifesto* (2015) invites us towards a “new cosmology of community, economy, and consciousness”, a re-made focus on soil:

Like Marx’s proletariat, Soil, along with its partners air and water, is the foundation upon which modern industrial society is built and upon which it is utterly dependent. Soil is our dumping ground and our redemption. Ignored, contaminated, compressed, and dormant, the dirt that waits patiently in vacant lots—and that underlies our urban sidewalks, roads, and buildings—contains the potential not only for its own miraculous biological renewal, but for the regeneration of many of our depleted social, economic, and material structures. (Klehm, 2015) [1]

It is this fundamental *grounding*, pun intended, where increasingly ecological, ecosystem crisis and climate breakdown subjects mix up. It is life-work motivation encouraging artists, cultural workers, practice-based researchers and curators who have worked previously with media and experimental network culture, to learn about—and get involved with—permaculture design, agri- and aqua- culture growing systems and sustainability issues. Furthermore, in addition, many are exploring slower interactions, interdependencies and collaborations between human and non-human actors in networks. For example, consider also the things we cannot readily see, including the microbiota, defined by Joshua Lederberg to signify “the ecological community of commensal, symbiotic, and pathogenic

microorganisms that literally share our body space and have been all but ignored as determinants of health and disease.” (Lederburg, 2001). We can expand networks in this newer and wider context to be that which includes plants, these microbiota communities, biotic (living things that make up an ecosystem) and abiotic (non-living factors, such as water, light, radiation, temperature, humidity, atmosphere, soil, stone) systems as collaborators. For example, to offer interdependent lists of example cooperators: local plant communities and supporting pollinating species such as insects, birds and bees; meadows, orchards, forests, woodlands, grasslands; rivers, lakes, and watersheds; the species who populate these sites, as well as human-initiated growing plantations such as allotments and agriculture, urban interventions and guerrilla gardening, foraging, as well as the grassroots communities around these groups.

Having said that, this article is admittedly humanist and subjective in its references, focusing more on human collaborations involved with aspects of creative and cultural production of soil, or related soil-substrata such as compost. As a disclaimer, this author is, or has been, involved in much of the cultural work or organisations that is written about below. Hence, it is written mostly from my own point of view, an attempt at auto-ethnography reflecting upon my own artist-organiser practice [2], placing it within its context, nests of collaboration, as well as stretching potential interests into other research or practice disciplines (Jones, Adams & Ellis, 2015). My practical experience is as someone who has got his fingers dirty with allotment gardening for several years for 3 summers with parental and toddler support, and presently, at the time of writing, I have been maintaining a vermi-composting box indoors for the past six months. Note that the worms, small insects, and micro-bacteria have been composting slowly away at their own pace in the background, while I have been writing and composing this text.



Photo: Andrew Paterson

Geophagia that we no longer remember

I wish to throw the reader straight into what in my opinion is the intellectually tasty bit, to explore first something less practical and more conceptual: Cultural practices of soil that we no longer remember. My aim is to open up an emergent research-led branch of practice, and potentially pedagogy, which can be investigated further in the future. One late night research session after midnight in November 2015, I was directed and attracted towards the term 'Geophagia' in a web-search 'cultural heritage soil'. I learned that there was an ancient human relationship to soil and soil-like substrates, such as clay and chalk.. Something which has existed in oral and written literature from all around the world. The subject was one which was so straightforward, and yet also rather complex: Eating soil or dirt. Eating the Land (Callahan, 2003; Starks & Slabach, 2012). In other words, consuming, respectfully, a little bit of the Earth where one is from or nearby.

The most cited cases of geophagia was to remedy a lack of certain trace-minerals, often needed by pregnant women and children, especially in past history, but also in current sub-Saharan African countries, where modern medicinal practices encounter traditional medicinal practices and folklore (Mathee et al., 2014). It appears however that this practice is almost totally eradicated from the 'Global North'. Only toddler-kids and sick people eat dirt says mainstream Western medical and psychological professionals; and kids will grow out of this abnormal craving for non-nutritive items. Associated with

the related practice pica, eating dirt has been until recently a maligned and misunderstood practice, but is now being addressed by holistic biomedical research (Young, 2011). What is being discovered is that it is something we likely inherited from origin species before *Homo sapiens*, as our genetic cousins in the Apian communities also share the practice of eating clay, chalk and dirt as self-medication. Geophagia “is a widespread behavior in humans and other vertebrates that occurs during both vulnerable life stages and when facing ecological conditions that require protection.” (Young, Sherman, Lucks, & Pelto, 2011).

The ingestion of soil is something that we have been conditioned out of doing, either over decades, centuries, or possibly even over 1000s of years. Arguably, just as many have lost the taste for agriculture, or at least direct engagement in the practice of growing plants and food in recent decades, indeed out of touch with the land, directly, so too the majority have totally lost the taste for soil. As medical improvements and understanding of where sources of minerals can be found and how to process them, it is likely other sources were found to replace them. Mary Chamberlain in her book *Old Wives` Tales: The history of remedies, charms and spells* has charted the social history of (mostly Woman`s) folk medicine being replaced by mostly Men`s scientific knowledge, and so-called modern medicine—as well as by industrial, state-supported or Capitalistic products—over Western developmental history, and in England in particular (Chamberlain, 1981). I suspect eating small tablets of clay to ingest earth minerals has been subjected to the same fate. My own work in collaboration with Interdisciplinary Art Group SERDE from Aizpute, Latvia, in summer 2010, gathered oral testimony and practical knowledge about how mostly elders were still gathering wild plants, fungi and other natural materials from their local surroundings to self medicate and treat common or sometimes serious ailments. What we learned that midsummer expedition suggested that in some pockets of Northern European contemporary culture, folk pharmacy traditions prevail (Pucena, Smilgaine & Laizāns, 2010).

One of the most well-documented minerals sampled and eaten from the ground, according to anthropological and biomedical research, is Kaolinite [$Al_2Si_2O_5(OH)_4$] also known colloquially as kaolin, china clay, white clay or simply chalk. It is said to suppress hunger (Kamtche, 2010; Chen, 2014). Not surprisingly, contemporary geophagia is most commonly associated with extreme material poverty, lack of resources—where there is a lack of processed minerals available or money to buy dietary supplements—and disaster contexts, such as the infamous mud-cake production to suppress

hunger when Haiti was devastated by the 2010 earthquakes, although some reports suggest it has been going on for a long time beforehand (Worldfocus, 2009). There are various opinions and controversy around the topic where eating kaolin is still a relatively common practice in Africa, for example Nigeria or Malawi, where it is reported in media-journalism as being regularly eaten, and according to Afia Agyapomaa Ofosu is “killing [people] softly” (Ofosu, 2012); as well as widely within the specific studies of micro-nutrient malnutrition by geochemical health researchers (Dickinson, Macpherson, Hursthouse & Atkinson, 2009).

Furthermore, there were also reportage on the research of Professor John Strait at Sam Houston State University which notes that descendants of African-American slaves—who moved from plantations to the industrial Northern State cities such as Chicago—carried with them living-memories of consuming small portions of clay, suggesting a research-narrative connecting African-American histories of Deep South, soul food, slavery, poverty, dietary needs and ritual, one which is “expressing an attachment to home, literally and figuratively” (Gauntt, 2010). Indeed in my own travels, I remember in 2007 visiting a Soul Kitchen Café, an African-american heritage food-eatery in South-side Chicago, Summer 2007, and seeing clay-portions as a side-menu item. How popular is it still? What type of person is ordering this side-dish in the impoverished inner-city environment of a North American city, when food-poverty and access to fresh vegetables is an actual acute problem in such neighbourhoods? Additionally, even if this practice was still seen as acceptable or appropriate, where exactly would one find ‘clean’ soil or clay to eat nowadays? In the context of displaced and forced rupture of relationships with one’s own land, part of the socio-ecological crisis that already exists in many parts of the world, none of these Geophagic ideas should be so surprising to read about. But we shift now to another context and location, folding in the present with future imaginations back to North Eastern Europe, within the Baltic Sea Region.

Soil future(s)

RIXC Centre for New Media Culture (henceforth referred to as RIXC) in Riga have had a vested interest in supporting and engaging with a blend of art, ecology and science within their ‘Techno-ecologies’ curatorial concept, in collaboration with European network politics theorists and curators Eric Kluitenberg and Armin Medosch (Šmite, Kluitenberg & Šmits, 2013; Šmite, Medosch & Šmits, 2014). This process emerged out of mapping and developing the regional Renewable Network in North East Europe since 2009.

I have also held a significant role personally in this process, with various roles as artist, cultural producer, researcher and facilitator, including e-mailing list administration. [3] As an artist collective RIXC have also been involved in art+science collaborations for example 'Biotricity Project: Bacterial Battery' research since 2012- ongoing, and the 'Soil Battery' offshoot 2015, which has been successfully installed in several temporary international locations (Debatty, 2013).

To give another example within similar cultural networks, the pioneering network-culture artists Shu Lea Cheang and Martin Howse presented their live experimental performance 'Composting the City | Composting the Net', using electro-conductivity in soil as aural triggers presented within Transmediale Festival in Berlin, early 2013—and later in Riga in November the same year. The tables on which they were playing live glitch-noise with their laptops, was actually also piled up with soil, compost and rotting vegetables, with small wires plugged in into the middle of the heap. The biological and the digital differentials mingled, as described by Cheang, with the "degenerative process of fermentation and fragmentation of our daily food scraps and shared digital commons." [4] Meanwhile, the Finnish Bioart Society, operating in the same region and art+science overlap, and whose 'Hybrid Matters' programme of activities was awarded the prize Nordic Cultural Event of the Year 2015-16, has also treaded confidently into biotic-abiotic, synthetic biology cooperations. Relevant to the scope of this essay within that context is Swedish artistic-researchers Kristina Lindström and Åsa Ståhl's participatory approach to composting styrofoam plastics back into biodegradable matter—and potentially also a biotic soil ecosystem—using a particular species of grub worm. [5]

Arguably, these are all bright examples of future directions in artist-led innovation in sustainability issues, research and development between different disciplines, especially 'art+science' associational work, cooperation and creative entrepreneurship. To describe it in another way, they have emerged from—and within—the context of post-media research-led practice, and practice-led research. This is what Dominic Quaranta acknowledges as carrying on New Media Art world's destiny in filling gaps between one creative arena and another, between arts and science, arts and technology (Quaranta, 2011).

Soil present(s)

RIXC and Finnish Bioart Society—the reader will not be surprised to learn—are partners within the European cultural association network project 'Changing

Weathers' (2015-2016), which focuses around "a set of activities and actions reflecting the status of the changing cultural landscape of Europe, taking into account the shifting geophysical, geopolitical and technological vectors that are shaping it." and proposing a range of different cultural formats "with a goal of developing, discovering and re-shaping resilient and sustainable cultural practices challenged by climate, economic, ecological, technologic, social, political, cultural, artistic and geopolitical changes and tensions of past-, present and future- Europe." [6]

Furthermore, in another collaborative network, Scottish Sculpture Workshop and Interdisciplinary Art Group SERDE are associations included within the 'Frontiers in Retreat' project, a 5-year trans-disciplinary artist-residencies programme led by Helsinki International Artist Programme (HIAP), a concurrent EU Culture-funded 'art+ecology' focused process that supports the above-mentioned weave of new and urgent interactions. These two projects, and the persons between them mingle a bit also, myself included as a guest researcher or artist-facilitator in both. This essay is an example outcome of heritage and dirt and creative-innovative explorations mixing up. [7] From the perspective of artist-led investigations and practice in relation to everyday food-culture and participatory culture, an area I have been most interested in within recent years, artist-collectives such as Open Jar Collective based in Glasgow, Scotland, have exemplified with their recent 'Soil City' project how important it is to get to *under the surface* [pun intended] of the urban food topic and engage with the topic of soil, its health and quality for growing food locally and sustainably. [8] What is appropriate to grow? How do you get good soil or nutrients to do so? As Nance Klehm writes in *The Ground Rules*, this is our foundation upon which everything is based upon, reaching back in time, as far back as you might wish to dig, historically-speaking.

Again back to the Baltic Sea Region, the artist-activist interviews and articles featured within Bonnie Fortune's edited volume *An Edge Effect*, related to art and ecology in the Nordic landscape offer good example to the range of what Anne Sophie Witzke within described as "Hybrid Ecologies" of contemporary art practices in the Nordic region (Fortune, 2014, 41-56). I highlight the work and stories of Marie Markman and Nis Rømer who have worked separately and together on urban gardening and activism projects in central Copenhagen, Denmark; as well as Swedish Åsa Sonjasdotter who cultivated her *Potato Perspective* project to examine the cultural, political and economical implications of growing this plant in the Nordic region (ibid., 2014, 41-56; 118-129; 130-139). Furthermore, the work of Kultivator from Öland,

Sweden, focusing on the 'marriage of art and agriculture' is especially pertinent to this article, in which the ceremony event of Summer 2010 included the co-piling of handfuls of soil by each wedding guest onto a wheelbarrow of clay (ibid., 168-182). I know this, not because I read it somewhere in their interview. I was there, and I gave my handful of soil also. [9] The contemporary post-/media art and network cultural scenes of Northern Europe are to be honest relatively small, and we largely know of each other, more or less directly. We have both tacit and explicit influence on—and between each other—in our hybrid artist-organiser roles, making cultural events, actions and publications that can be communicated wider, further outwards. Every so often influences insert from further away.

One fine example is Brett Bloom, originally from Indiana and Illinois, USA, and based in Copenhagen with his family for a number of years, before returning back across the Atlantic in 2015. He is well-known internationally for his work with Temporary Services collective, and is one of the artists involved in the 'Frontiers in Retreat' project. He writes and publishes with urgency of imagination beyond what he calls "Petro-subjectivity". Bloom advocates for the contradistinction of practice by deep mapping into our ways of living, to examine and question the way we are rapidly consuming and travelling through our industrialized and globalized landscapes, based on a petroleum-fuelled economy (Bloom, 2015a, 2015b). I paraphrase his thoughts to write that we should do this so that we become aware of our inherited interdependencies, their influences, and discard the inappropriate ones to the present(s) and future(s) still possible. We ideally move to a way of acting critically in the world, with our feet on the ground. We need to loosen—and indeed discard by any means necessary—the failed plans of the past that we are carrying still along, such as petro-subjectivities. We need to learn from past unknowns and other cultures who have maintained a more balanced—and less exploitative—relationship to the land under our feet. We need new ideas for that which we have no idea about in the future, except that try to accept it will be influenced by what Donna Haraway calls the Anthropocene, Capitalocene, and the Chluthocene: human-influenced, Capitalism-affected, and possibly something terrible that we don't yet know (Haraway, 2016).

The Ground Rules Manifesto, excerpted above in the introduction is, in my humble opinion, an inspiring example of activist cooperative entrepreneurship which addresses these complex combination of connections, considerations, time-spans, but also disciplines. It's founder and author Nancy Klehm is a trained landscape designer, permaculturalist, forager, as well as an

internationally recognised expert on bioremediation, compost and toilet systems. She also calls herself sometimes an artist. [10] Klehm is by far the leading inspiration behind my involvement in this subject, and I have had the pleasure to benefit from several of her teachings in Chicago and through my invitation, via Pixelache Helsinki, in Tampere, Finland. [11]



Photo: Andrew Paterson

Soil as boundary object

A boundary object helps to mediate differences of understanding in a shared concern. I have assigned and employed boundary object status to something, an artefact, structure or place, in order to assist several participatory workshops and research-led practice occasions in the past, for example, a capital city railway-station and transport hub (Paterson, 2004, 2005, 2010). Furthermore, not the first time I have taken a particular species of nature as the trans-disciplinary focus for research-led practice, notably *Empetrum nigrum ssp. hermaphroditum*, aka Mountain Crowberry from the Arctic North (Paterson, 2013).

Soil or compost is itself a complex conglomerate of various matters—a mix of biotic and abiotic—but something which almost everyone who has lived on

the earth, over all times, has had a relationship to in some way or another. In reflection it was possible to design a workshop, as elaborated below, whereby soil is the boundary object for engagement, the focus for doing something together in a participatory workshop. Here I re-visit the practitioners` or researchers` notion of boundary object in this case:

Soil as "abstraction: it facilitates dialogue between worlds."

Soil allowing "multi-tasking: several activities or practices are possible."

Soil has "modularity: different parts of the object can serve as a basis for dialogue between actors."

Soil as a "standardisation of the information contained in the object: rendering the information interpretable."

(Wenger, 2000; Trompette & Vinck, 2009)

So far in this essay, I have shared conceptual and production background, as well as motivational context as introduction to you, the reader; a locus for creative practice within inter- and trans-disciplinary network culture, focused towards the making of *soil and soil-like substrata*, such as compost. I have introduced a framework for exploring the cultural heritage of how we engage with soil; as well as given example of experimental, ecological and activist practices related to soil. My contribution to the `Soil Futures` symposium at Liepaja University on the 2nd November 2016 offered the innovation-orientated post-media students, and the art+science practice-led researchers—or research-led practitioners—who were listening a perspective on cultural heritage as resource. [12] I presented an artist-led manifesto in relation to cultural heritage and natureculture, considering the past that we maintain, and fold into the present: We hybrid artists are encouraged into disciplinary-mingling with heritage professionals, learning from each other, and doing so with the hope of taking care of a better future.. One that includes not just human heritage, but non-human and natural heritage also (Paterson, 2015). I argue that it is a subject with much potential as participatory action research (Chevalier & Buckles, 2013), maybe something to conceptually smear into one`s skin and dreams.

A workshop called `Soil Present(s), Past(s),

Future(s)

The remainder of this essay introduces newer inter- and trans-disciplinary artist- collaborators also on the topic of soil. I refer to a collaborative, participatory workshop that took place in early November 2015, within the higher-education institution Art Research Lab, Liepaja University, in Courland, Western Latvia. Studies specialize within the inter-disciplinary fields of media arts, as well as encouraging the aforementioned 'techno-ecological' approach led by teaching staff from RIXC in Riga. The lab is also a pedagogical partner within the 'Changing Weathers' project.



Photo: Karlis Volkovskis

I was introduced by Anna Trapenciere, who was then Art Research Lab coordinator, to Latvian interdisciplinary artist Maija Demitere in the middle of October a priori to the workshop. Demitere was then a recent MA graduate of Art Research Lab, and we were given the opportunity by Rasa Šmite of RIXC to design a workshop within the context of the 'Soil Futures' themed contribution to the Changing Weathers project. We developed a workshop programme which focused on activities which were related to the three temporal positions of present (soil samples and composting); past (knowledge about our relationship to soil in the past) and future (new ideas and solutions related to soil and compost). Our initial planning meetings designed a course which focused on different temporal dimensions of

knowledge about soil—that what we can know about soil now, what we might have known in the past, and what we can imagine about the future—and spread it over a 4-day period. Maija had much experience she explained in this topic, recently focusing her emerging artistic practice and now doctoral research interests in “deep sustainability, slow media art, developing art research and presentation methods that could offer different lifestyles - promoting individual self-sustainability, using local culture and traditions (Latvian and Soviet cultural heritage) together with technologies to create a deeper understanding of true balance between urban and country environment and individual and communal lifestyle.” Maija’s Master thesis focused what she described as “Slow Media Art” (Hamilton & Kwastek, 2014), and her recent works for the ‘Virtuozī’ exhibition in Riga and Liepaja in 2015 included works “Kurzemes piekrastes arhīvs” (Courland coastal archive), an installation of sand-soil substrates, sea and groundwater in jars mixed with travel stories; “Ūdens dārzs” (Water Garden) an aquaponic installation for alternative food-growing, and “Ēdienu radio” (Food Radio), sonifying food-related data in each meal. [13] Maija’s inter-related subjects of interest reminded me of several hybrid artist-gardeners with soil-passions whom I had the good fortune to meet before, namely Nance Klehm who has already been introduced to you, and Jodi Baltazar-Kupsc from Warszawa. [14]

To return to the subject of workshop design, we assumed we might have 8-15 students sign up who would explore respectively foraging for compost-materials and make compost-soil. We anticipated making visual and tactile analysis of the soil clods gathered from different sites. We also arranged to take workshop participants to visit a market-garden salad and fruits grower about 40 minutes from Liepaja to ask her about her knowledge and historical relationship to her growing soil. Lastly, we planned to brainstorm new ideas and issues related to the future use and value of soil. We were allocated a 3rd-level room in Totaldobže’s conversion of ‘Muitas Māja’ (Old Customs House) in Liepaja’s old port. This location overlooked—both physically and administratively in the past—the port canal. Across from which on the other side, was the old Baltic-German cemetery among the clusters of trees on the hillside. The workshop, suffice to say, turned out different from our plans, [15] and for me at least, that cemetery became a cipher for something much deeper.

Foraging for participants, carbon and nitrogen contributions

We aimed to take our shovels, dig up clods of the earth, bring them into the

workshop space, put our hands in the dirt, and invite others to partake with us. We had small core-group with regular participants Paula Vitola, Anna Priedola, both graduates of Art Research Lab, and additional visiting-contributors Normunds Kozlovs, Ilva Skulte, Kaspars Goba, Albert van der Kooij, who were attending the accompanying symposium, and felt like joining us for a chat, and to collect soils or forage for organic materials. From the mix of samples, sandy or hummus-rich—as well as dirt of questionable urban quality—dry leaves, twigs and green leaves, provided both `dry` carbon and `wet` nitrogen respectively (Martin, 1992). From these mixes we made not only boxes of larger plastic-crate boxes of compost, but also a few samples of bonsai-scaled compost, with parts chopped with scissors and cutting knives, mixed up into appropriate layers. This part of the participatory workshop process was much more ad-hoc than planned, but created the demonstrable effect: A group of persons looking around impressed at boxes of newly constructed compost boxes. These boxes were left on the table for the whole week, and formed one display table at the exhibited demonstrations of process and production at the end of the workshop week.

Supermarket garden expedition

However, our field-trip to the supermarket garden producer raised curious questions about soil past and bio-dynamism on-site. The Second Latvian Independence -era which followed the collapse of the Soviet Sovhkoz collective-agriculture system 20 years ago is a new relationship to the land in many ways. With the fall of a decrepit and largely-disliked Communist State-planned system gone, so with it was a whole organisational-culture scraped off and thrown away, not just the socio-economic agricultural agreements and social-work protocols, but also the knowledge of the soil and the land (Karklins, 2005). New practices of measurement emerged gradually under difficult economical circumstances, and with joining the EU, a whole new regulation environment, experienced by the small-scale farmer in arguably no less top-down than previous regimes. Following our market-garden visit, we made some little sand-dune tourism, and reflected in our various ways on what to do next. With a need to focus towards exhibit-able outgoings in a way different from the pre-workshop plan, we intuitively split into two workshop group investigations. The following paragraphs elaborate upon what was done, and anticipates the further conceptual and practical developments of the `Soil Futures` concept.



Photo: Andrew Paterson

Aquaponics and soil-system scenarios

As a complement to the boxes of compost materials, Maija Demitere led the plan to collaboratively install an aquaponic growing vertical growing system in the workshop space, mirroring an installation she used in her family-home. Aqua- and Hydroponics are currently used frequently as an alternative to soil-growing, especially when root-based products are not the focus of the food-plant. The group of Demitere, Paula Vitola, and Anna Priedola was joined by Martins Mamish in constructing the water-based growing system. Swiftly the equipment was gathered and sourced from the local hardware store, fish transported, plastic-tubes and bottles gathered, then wire-frame screwed and tensed into place. Hence, an aquaponic system was built over the two remaining days to complement the dirt. The outgoing exhibit of process: A quick-`n`-dirty-*less* illustration of the potential of an almost-closed-loop nutrient system: The fish are fed, their excrement contains the nutrients, which is deposited in the bath of water, which is pumped around the framework of cut-bottle pots, through the roots of plants. Left in good conditions of temperature and with ample light, the seedlings or pre-grown plants would have grown salads, and other leaf-based plants in decent time.

[17]

In addition, following the meeting with the market-garden farmer, compost as a soil fertility material became—according to Anna Priedola—the main ‘Soil Future(s)’ topic to explore that her, Maija Demitere, and Paula Vitola wished to elaborate upon, was motivated by the words of the farmer which struck them deeply: that the quality of soil does not matter today because the [synthetic] fertilizers allow one to grow almost the same amount of crop in the poorly, sandy soil of sea-side in Courland (Kurzeme in Latvian), than in the rich soils of inland Zemgale. As a result of their brainstorming, the group produced excellent diagrammatic illustrations of future soil-system scenarios and designs, which elaborated the closed-loop aspects of the aquaponic example. Compost-heated urban furniture and greenhouses, collaboratively imagined by the trio, and drawn out on large brown-paper sheets, schematically planning out various potential soil futures, which with smart design and maintenance, could re-imagine pro- bio-dynamism not just for plant and root growth. For Anna (Priedola), she remembers her favourite proposition to be the Urban Compost-heated Shelter for people in need, where also some food can be grown. Hence in all, a range of promotions of innovative traditions and no-effort growing were spread around the workshop room for exhibit and display.



Photo: Andrew Paterson

Making gourmet soil-cakes

Other than the workshop co-design, my main content contribution to the 'Soil Present(s), Past(s), Future(s)' workshop, turned out to be the forgotten intangible and tangible cultural heritage of soil. The background 'night-time' research on Geophagia—outlined at the beginning of this article—led to experimental making of soil-cakes. Linda Strauta, then BA media art student of Art Research Lab at Liepaja University, joined me in intensive 1-day collaboration. I had wished for a least another who was willing to get their hands dirty on topic, and fortunately I found in her a kindred spirit for this curiosity. So we set about make soil-cakes, mixing up the foraged soil and sands, plant and seaweed organic matters, with the things you might normally find on your kitchen shelves, cupboards, and fridge. The 'wrongness' of soil on the table with food-products which one eats was palatable, and very curious root emotion: Where did we learn this feeling from? As toddlers and kids, perhaps, scolded by our mums and dads. What emerged from the process, as improvised outgoing products, was what I called 'Gourmet.Geophagia.lv', a mix of local and trans-local ingredients to make seductive-looking soil-cakes.



Photo: Andrew Paterson

In the process I recalled my experiences working in a professional kitchen in mid-to-late-1990s Merchant City, Glasgow: Café Gandolfi was where I learned the `zen` of salad-making and cold-food preparation. I like to think I know how to make something look well presented to eat. We created together over around a dozen different samples of `ingredients`, dark-blots in any menu. I did not imagine that I was making something for the viewer or audience to actually eat or taste—in fact I wouldn't encourage that at all, as I knew exactly where the soil came from, and it wasn't good—I was interested in creating the desire to taste them. For the viewer and curious one to say, "Mmm, it looks good enough to eat!".. But imagining ourselves as `undisciplined` scientists or cooks, we left all our ingredients and items spilled over the table, refusing to clean up. Beautiful arrangements in serving dishes, was contrasted nearby, with our process and `uncomfortable` combinations laid out on table for all to see, and feel a little disgust too.

Soil past(s)

After the workshop, I reflect and write now about how we—as hybrid artists—can engage appropriately with *soil past(s)*. Artists, artisans and

activists have always been involved in longer-time commitments with sites, species and socialites which are fostering and encouraging increasing adoption and re-learning and maintaining of fermenting and compositing practices (Martin, 1992), among other intangible and natural cultural heritage traditions.

I write this with confidence after the privilege of collaborating with Signe Pucena and Uģis Pucens of The Interdisciplinary Art Group SERDE for many years, who in my opinion are one of the leading examples in Europe and internationally for fostering a fertile mix of contemporary inter-disciplinary art practice and cultural heritage. SERDE have undertaken as artist-cultural workers many UNESCO Latvia fieldwork expeditions to gather oral testimonies from different cultural groups, traditional practices and regional stories. This small-scale association with big ambition were recently recognized with NGO advisor status to UNESCO, the only such representative from the Baltic States of North East Europe. [18] Their approach is complementary, I propose, with the curatorial lead of Nuno Sacramento, Director of Scottish Sculpture Workshop (SSW henceforth) between 2008-2016 at Lumsden, Aberdeenshire, Scotland. [19] SSW's residential artist workshop location has a long history of working with biotic and abiotic materials of an from the nearby rural Aberdeenshire landscape, and the relationships developed between artist, artisan, research and the soil or land. The Camp Breakdown break down event at that location in July 2015, for almost 2 weeks, brought together many speakers and examples of this approach among the practitioners gathered, focusing on critical insights into soil, land-ownership rights, and meaningful spiritual, cultural and plant-based relationships with the land. [20]

Nuno Sacramento, in collaboration with Brett Bloom, has promoted at SSW a 'Deep Mapping' approach to land and material relations with landscape, introduced to this author at the Camp Breakdown breakdown gathering at SSW. According to Bloom, "[m]aking a Deep Map is a way to be conscious of a place in-such a manner as to hold multiple layers of understanding of the present moment in a non-reductive and robust manner." He references William Least Heat Moon's *PrairyErth: a deep map* (1999), in which the author Least Heat Moon devotes years visiting and writing about one particular county, that is Chase County in Kansas, getting to know 744 square miles and meeting 3000 residents, while learning deeply about its landscape, history and people, more than fleetingly, arguably, intimately. They each recall Clifford Geertz's 'thick description' method from *The Interpretation of Cultures* (1973), which proposes giving dense contextual meaning to a

cultural and ethnographic description. Archaeologically-minded performance art, and those related archaeologists exploring the theatre/archaeology overlap have also elaborated on this term (Shanks & Pearson, 2001; Holtorf/Piccini, 2009). I quote Mike Pearson, who describes his volume *In Comes I* (Pearson, 2006) as a “guidebook for a journey through a landscape imagined, the texts simulating and catalysing memories and reminiscences of similar times, similar places, similar experiences—and of other times, other places, other experiences—in acts of biographical wandering.” Pearson describes Deep Maps as:

“attempts to record and represent the grain and patina of a location—juxtapositions and interpretations of the historical and the contemporary, the political and poetic, the factual and the fictional, the discursive and the sensual; the conflation of oral testimony, anthology, memoir, biography, natural history and everything you might ever want to say about a place.” (Pearson, 2006: 15)

These are references that I very much sympathize with also in my own investigations with human relationships over longer time to harder, stone matter. [21] The ‘Deep Mapping’ approach of Bloom and Sacramento emphasises the critical environmentalist art and activist angle, as well as recognition of the accumulative layers of narratives, agencies and actions at a particular site over time. This quality I reflect and argue is increasingly significant—and growing necessity—in our complex and complicating topic: that is cultural practices related to the topic of soil, one of the biotic foundations of life along with that of water, which nourishes us in health and sustenance.

Soil is now whole-heartedly spread out on the hand in front of me, under my nails, worn into the creases in my hands, filling my mind with hopeful thought. The philosophical and political science contribution of Ernst Bloch’s writings in the 1930s invites us into consideration especially of the continual fold of the past in the present, what he names as *non-contemporaneity*. This blend has its dark sides which he acknowledges in *Heritage of Our Times*, especially in regards to the promotion of ‘our soil’ and wellbeing by the then National-Socialist/Nazi German State when he was writing this volume in the 1930s Germany. However, on the flip-side, recognising the role often the *past-in-the-present* holds great utopian potential for change also: “The revolutionary knotted line, in which contradiction finally tangles up at a single

point and rapidly presses for the revolutionary unravelling, can accordingly occur only in contemporaneous contradictions which are themselves the growing child Future or differentness, not in non-contemporaneous ones whose greatness is long past..” (Bloch, 1991, 110). Vincent Geoghegan has reflected more recently upon the influence of Bloch, carrying on his spirit in his article *Remembering the Future*, where he reminds us that that act of remembering is far from innocent activity: “What we desire will play a role in the act of memorizing”, and in the case of remembering, “hopes and anticipations will play an important role in the invention, distortion, selection, and framing of memory. What is most desired is missing in the often uncontrollable present but can be present in a controllable, if, in varying degrees, mythic past. Harmony, warmth, and belonging can live in the supposed golden days of long ago.” (Geoghegan, 1997, 17). I continue by paraphrasing Geoghegan—who wrote the following in first-person—by converting his words into third-person as a collective voice in my imagination: Our past memories will have a constitutive role in the forging of my present and future perceptions. Since we are not a blank sheet or piece of blotting paper, but rather a dynamic, constructive perceiver, we enter the future with a body of assumptions and preoccupations located in memory. The infinite range of possible futures is winnowed down to my possible futures through this interactive process. In this we can be said to be “remembering the future.” (ibid., 17-18).

I summarize in arguing that heritage as a discipline of practice and research focuses our attention on the care and concern for the material and immaterial things that humans share in our environment, and as well as the passing on of living traditions. It is sensitive to the sustainability of cultures and practices of value over longer durations of time. Conservation and stewardship provide ethics of responsible planning and management of resources, accepting or assigning responsibility to shepherd and safeguard the valuables of others. There is much scope for inter-, trans-disciplinary practice, research and development that crosses over many boundaries to focus on the task of engagement, renewal and regeneration at hand and at feet: In this case, soil.



Photo: Amanda McDonald Crowley

Conclusion

The combination aspects of Soil Present(s), Soil Past(s) and Soil Future(s) workshop raised many inter-mingled thoughts and practices, which can be localized, but also connect to much larger systems related to the management—and care—of soil ecosystem, both the biotic (living things such as bacteria colonies, insects and other ‘bugs’, seeds, worms, etc.) and abiotic (non-living factors, e.g. stone, mineral, other substrates, as well as water, radiation, temperature, humidity), all aspects which make up soil. And there are also things you might not expect to be there naturally. Things that humans are responsible for, including it’s quality or it’s degradation; it’s health or it’s pollution. One thing for sure, is that everything which is in the soil—part of the Earth that is under our feet—has always been there, in some atomic arrangement or other, since the beginning of material time. This eternal materiality is the context and locus for all that we put in it, as well as what we might in past, present or future, ingest into ourselves.

An archaeological, conceptual, practical excavation (or production even) of land and soils should focus then, not just on the artefacts held within, but

the surrounding contextual container—the locus, as it is referred to by archaeologists—which is also describing the characteristic and quality of the soil itself. This holds true also to understanding that in different places, different His- and Her-stories are going to adjust meanings of what is valuable in life, hunger, desire and death. Arguably an appropriate summary of our ambitions, the range of topics that could be explored within our workshop.

Rumour has it that across the canal from where we made our workshop, at the old Baltic-German cemetery, when construction workers dug away part of the hill—and so part of the cemetery as a result—to build the energy power-station next door, they found African jewellery. Most likely from the days when it was the port of the Duchy of Courland and Semigallia (*Ducatus Curlandiæ et Semigalliæ, Herzogtum Kurland und Semgallen*), in the later era of the Polish-Lithuanian Commonwealth. The Baltic-German Duke Jakob Kettler had held briefly a short-lived colony with fort named after him between 1651-1660 which was previously known as St. James Island, named, after the Portuguese, by the British Imperial colonialists. Now a UNESCO Heritage site, the island is known since 2011 as Kunta Kinteh Island. No mention of Courland or Latvia is in the official heritage site description, mapping out its historical precedents. Kunta Kinteh was the famously-narrated African-american slave who inspired many 'Roots' stories of cruel displacement, racism and forced labour, whose name re-branded St. James Island in The Gambia. What is there to be proud about on this land? What are you proud of on your land? These questions seem like a suitably complex ending to this essay. It may help explain why a part of something from African territory—bone or minerals—were mixed up in the rich hummus soils of what is now Latvian Courland. Just as we live in a mixture of non-contemporaneous present(s), past(s), and future(s), so do the things we and others make.

Q: Are there any #Dainas (Latvian folk songs) about #Mēslojums (useful shit;) or compost? A: There should be.

This article has also appeared in [Acoustic.Space #15: Open Fields – Art and science research practices in the network society](#), Rasa Smite, Raitis Smits and Armin Medosch (ed), RIXC 2016.

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Selected media documentation & related texts—including this one—can be accessed

here: <http://archive.org/details/agryfp-2015-soil-presents-pasts-futures>

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[1] Khlem, N. (2015). The Ground Rules: A manual to reconnect soil and soul. Chicago: Social Ecologies (self published). <http://www.socialecologies.net>

[2] This article is written as the last and latest contribution to an article-based Doctor of Arts thesis, tentatively titled `Auto-archaeologies /of an artist-organiser / (doing fieldwork) in Finland and Latvia`, anticipated to be defended in 2017 within the context of Media department, Aalto University School of Arts, Design and Architecture, Helsinki, Finland. Abstract can be accessed: <https://archive.org/details/paterson-2017-agryp-auto-archaeologies-da-thesis>

[3] RIXC Centre for New Media Culture. (2009-). Renewable Network. <http://renewable.rixc.lv>

[4] Cheang, S. and Howse, M. (2013). Composting the City/Net project. Presented at Transmediale Festival Berlin, 1st February. <https://transmediale.de/content/composting-city-composting-net-resource> | <http://compostingthecity.mobi/>

[5] Lindström, K. and Ståhl, Å. (2015). Composting plastics – Öresund. Presented within Hybrid Matters project,

4th and 18th November. <http://invitations.hybridmatters.net/events/composting-plastics-oresund> | <http://www.bioartsociety.fi>

[6] 'Changing Weathers' project is initiated by the Arctic Perspective Initiative (API) and coordinated by Zavod Projekt Afol (Slovenia) in partnership with Sonic Acts (NL), RIXC network for art, science and cultural innovation (LV), Finnish Bioart Society (FI), Curator Hilde Methi within Dark Ecology Project (NO), Time's Up Laboratory for the construction of experimental situations (AT) and Ljudmila Art And Science Laboratory (SL), and funded by European Union Creative Culture programme 2015-2016. <http://www.changingweathers.net>

[7] Frontiers in Retreat is a 5-year international collaboration project (2013-2018) constructed around artist residencies. Operating slowly over an extended period of time to foster artistic and multidisciplinary research, production, discussion and exhibitions around ecology, to consider complex co-dependencies between human and other forms of life, as well as post-fossil [fuel] subjectivities, societies and aesthetics. Led by project coordinator Helsinki International Artist Programme (HIAP), the project includes partners Interdisciplinary Art Group SERDE (LV), Jutempus (LT), Skaffell Centre for Visual Art (IS), Mustarinda (FI), Centre d'Art i Natura (CAT), Scottish Sculpture Workshop (SCO), Cultural Front Grad (RS). Further information: <http://www.frontiersinretreat.org>

[8] Open Jar Collective (2016). 'Soil City' project. Glasgow, Scotland. <https://soilcity.org.uk>

[9] Thomas Gunnar Bagge was commissioned by Kultivator in making a very fine video documentary of the occasion, 'The Wedding Between Art & Agriculture' (2011, full version, 39 min) which can be accessed here: <https://vimeo.com/24644320> | <http://www.kultivator.org>

[10] Nancy Klehm is one of the most recognized artist-horticultural specialists, forager, composter, dry-toilet and bio-remediation experts in the United States, based in Southside Chicago, due to her local and international projects and activism. Last year she self-published the manual *The Ground Rules: A Manual to Connect Soil and Soul* based on her experience of working with soil and composting (Klehm, 2015). Further information about Klehm's work here: www.spontaneousvegetation.net

[11] Disclaimer: I had the pleasure to stay at Klehm's apartment in Little Village, Chicago, for 2 weeks in Summer 2007, and was responsible for inviting her to Tampere, Finland in Autumn 2012, for 'Coop Camp: Food-based Cooperation' unconference event, in collaboration with Pispala Contemporary Art Centre 'Hirvitalo', where she made a keynote presentation and compost-improvement workshop. Jodie Baltazar-Kupsc is a film-maker and urban activist, coincidentally also from Illinois USA, but based in Warszawa, Poland. Around 2011-2012, she contacted myself and Pixelache introducing her work there with urban allotment-gardens, making large piles of free compost 'commons' for fellows to take and use. Baltazar-Kupsc was a co-operator in the process of inviting Klehm to Finland and Poland, hence in the end we sent Nance also to Warszawa as part of the same cultural travel, as demonstration of shared value and mutual-aid in composting.

[12] RIXC-organised 'Soil Future(s)' Symposium programme info during iWeek 2016, November 2, in the context of 'Changing Weathers' project, Muistas Māja (Customs House), Liepāja. Accessible from <http://www.changingweathers.net/en/episodes/26/soil-future>

[13] Maija Demitere's work is presented on her online home-pages accessible here at arkaadija.mplab.lv. If you are reading Latvian, there are several paragraphs written by her on her work on the 'Virtuozī' exhibition website at virtuozim.plab.lv.

[15] Jodie Baltazar-Kupsc is a film-maker and urban activist, coincidentally also from Illinois USA, but based in Warszawa, Poland. Around 2011-2012, she contacted myself and Pixelache introducing her work there with urban allotment-gardens, making large piles of free compost 'commons' for fellows to take and use. Baltazar-Kupsc was a co-operator when we brought Nancy Khlem to Tampere, Finland in 2012, as we sent her also to Baltazar-Kupsc's Pixxe project in central Warszawa to demonstrate shared value of specialists and mutual-aid in composting. See: <http://pixxe.org/>

[15] Our harmonious-seeming schedule of Present(s), Past(s) and Future(s) activities for groups of students was rudely put out of action due to a lack of advance student sign-ups, and we had to change our strategy. Instead a small core-group of participants was involved, and we 'foraged' for short-term participants among the other more-mediated workshops of iWeek. We were most grateful to those who joined us for a chat, to collect soils or organic materials, or later get involved in intensive making of an aquaponic growing system, or soil-cakes in addition to their other activities.

[17] For further information about aquaculture and soilless farming, I recommend the United States Department of Agriculture's Alternative Farming Systems Information Center's web-portal on Aquaponics. National Agricultural Library. Accessible from <http://afsic.nal.usda.gov/aquaculture-and-soilless-farming/aquaponics>

[18] The Interdisciplinary Artist Group SERDE (2002-). Aizpute, Kurzeme, Latvia. <http://www.serde.lv>

[19] Scottish Sculpture Workshop (1979-). Lumsden, Aberdeenshire, Scotland. <http://www.ssw.org.uk>

[20] Sacramento, N., Bloom, B. and Billimore, Y. (2015). *Camp Breakdown breakdown*, Scottish Sculpture Workshop, Lumsden, Aberdeenshire, Scotland. <http://www.breakdownbreakdown.net/>

[21] Paterson, A. G. (2007-2011). *Clackmannan stone-(person)*. Clackmannan, Clackmannanshire, Scotland. <http://archive.org/details/agryfp-2011-2007-clackmannan-stone-person-early-research>

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Nikel – The City as a Material

An interview with Tatjana Gorbachewskaja

Tatjana Gorbachewskaja is an architect who grew up in the Russian town Nickel, located in the far North near the Russian border with Norway. For Dark Ecology Project she researched the materials of her hometown together with Katya Larina, resulting in Nickel Materiality, which consists of a small publication, a presentation and guided walk through Nickel.



How did you start researching Nickel?

Katya Larina (KL) / My interests come from two sides. One is the research I did for my studies in Landscape Urbanism at the Architectural Association in London, which is about understanding the city as a complex interconnected ecology. The other is my practical experience as an advisor and expert on strategies for industrial cities, closed cities, mining cities, or cities with heavy industry in Siberia. In the research into Nickel I managed to combine both interests.

Tatjana Gorbachewskaja (TG) / My curiosity stems from my background: Nickel is my hometown. I also teach at the University of Art and Design in Offenbach, where we investigate various experimental design methodologies relating to the topic of 'new materiality'. In August 2015 I returned from a research

residency in Nikel with a huge collection of material samples. Then Katya and I realised that the material phenomena and artefacts from Nikel could be structured using certain motifs relating to the idea of an ecological material system.

Nikel has a dynamic political history. Can you connect the dots for us?

TG / The town emerged solely because of the nickel smelter. It's a young settlement, established around 1935. From the beginning, the town was a centre of advanced and innovative industrial production. American technologies were used for the construction of a chimney—apparently the tallest one in Europe at that time. Only Canadians had the construction technologies suitable for Arctic climatic conditions, so all the smelting plants projects were developed in Canada. The general plan was designed by Finnish architects and further developed by Soviet urban planners after the Second World War. The mining technology was the most advanced for its time. Life in Nikel was highly subsidised and therefore quite appealing to the residents. Nikel was built in an area of extreme living conditions. It materialised as an artificial organism covered by a top-down 'protective dome' of vital infrastructure provided by one supplier—the state. Nikel and the region have been maintained by the state for many years, but after 1991, due to more volatile economic and political circumstances, the town was left without central control. As a result the artificial ecology of the city collapsed, and had to adapt to survive.

KL / I've worked with several Soviet industrial cities. They typically have separate districts which reflect different political epochs of Soviet and post-Soviet times. You can have a very distinguished Stalin or Khrushchev town. They are characterised by completely different ideologies and aesthetics. But Nikel, with its special Arctic weather conditions, is structured more rationally. At the same time, in Nikel, one epoch is resisting another one. The architectures use more varied resources and interact with each other. It's more about respecting what has been done, learning from others. In Nikel the epochs all exist simultaneously.

TG / That is really rare for a Soviet city. For example, the first eight Finnish buildings in Nikel were integrated into the Soviet Promenade Axis. That's why they're still in good condition. Other early buildings were destroyed because they weren't fully integrated. Not being integrated means dying off.

You are working within a framework of 'new materiality'. Can you elaborate on the methodology and how you applied it to Nikel?

TG / New Materialism is about rethinking relationships between object and subject, people and nature; moving from a focus on the human experience of things to things themselves. New Materialism is about acknowledging nonhuman forces in events. Important theorists in this field are, for instance, Jane Bennett, Manuel DeLanda and Graham Harman. In the case of Nikel, the methods of New Materialism help us to trace non-material social processes and transformations through the material agency. Technology and material fabrication can reveal very specific aspects in this context. We have explored different logics of material assemblies of the town's construction in different political epochs. Each epoch reveals its own sensibility to the fabrication of a material. The sources of energy used for construction also changed over the decades, depending on whether the town's relationships were externally regulated or self-sustaining. Through this perspective every piece of the town's construction can explain a lot on many different levels of interrelations.

KL / The name of the city itself already suggests this. Nikel as a real material and a symbolic notion penetrates all levels of the existence of this settlement, manifesting the evolution of the artificial ecology the town has created. 'Nickel' as a non-physical entity provided an artificial immunity to the city in the form of high subsidies and pensions, twice the holiday time, earlier retirement, and good facilities for sports and education. The products of nickel have become unpredictable. We started looking into the variety of materials that make up the city on a micro level and expanded its qualities to social, economic and environmental processes on a large scale. For instance, an exciting part of the research was to trace a representation of larger processes, which were shaping the city in one material, such as the slag, a by-product of the nickel ore smelting. The pressure from the artificial and natural environment gave this material many shapes and forms: it became a building material, an agent of damage, it is also present as a component of the natural ecosystem. It has penetrated into the surfaces of the buildings and accumulated in cracks and dark corners. This dust mixed with the brightly painted surfaces in the city creates a specific texture typical of most of the buildings in Nikel.

So we could see this city as a living system?

KL / Nikel was initially set up as a very artificial system, controlled top down by the state. But in time it started behaving and expressing itself as a real living organism. All of its components, including the materials from which it is built, are changing and evolving to adapt to the transforming conditions. All materials behave dynamically in Nikel. They degrade faster than elsewhere. Nature is quite aggressive. It's all about the energy the city shares with nature and for which it competes with nature.

TG This city is slowly opening up to its environment. And this process is a self-organising process. No one controls it!

What about the pollution from the smelter?

TG / The main ecological damage happened in the 1980s, when the company started smelting a non-local material, the nickel ore imported from Norilsk (the mining city further to the East in Russia), with a high concentration of sulphur dioxide. It killed almost all the vegetation around the town within just a couple of years. Another cause of major damage was the collapse of the Soviet Union in the 1990s. That had an even worse impact on Nikel. The city lost its source of social security and its future perspective. People started leaving the city. It's still possible to trace the scars of these processes in the material tissue of Nikel. It's a city fighting to survive. Nature is slowly recovering because the company now mostly processes local ore. The city is also starting to take on its proper size. So it is stabilising. Let's hope!

You said in your lecture in Nikel during the second Dark Ecology Journey that one of the most interesting parts of your research was the perception of the city as an infrastructural element. Could you elaborate on that?

KL / Infrastructures create comfortable spaces for people. An example is the heating infrastructure. Nikel needs such a comprehensive life-support infrastructure because it's located in such a hostile environment. It was supported by an infrastructure for a long time but at some point in the 1990s, when it stopped functioning properly and had to interact with nature, it began falling apart, it transformed, and developed another life. In other cities these

life-support infrastructures are not visible, they are hidden below the surface, but here their presence above the surface emphasises the city's artificiality.

TG / In the Arctic, the most important thing is the artificial energy network. Nickel's energy infrastructure requires very high maintenance; it is a high resource-consuming component of the city. For example, in Soviet times, buildings were regularly painted in bright colours so that the residents did not suffer from colour starvation. Now, because of the low maintenance financing and the harsh climatic conditions, all the layers of paint on the façades have cracked to expose the surface beneath them. Also, heating pipes are not underground in Nickel, they are built above the ground because of the permafrost. It's like an exposed artificial organism. You see the flow, the veins. That's how we set up our map of Nickel—we tried to show the infrastructure veins of the city.

You made a very elaborate and different map of the city, with several interesting structural elements. What was the framework you used for mapping?

TG / The original idea was to create an alternative map of the city. Instead of mapping the classical city's highlights, we tried to map a material agency representing the power of the city. We took material artefacts as witnesses that are able to describe the history of natural, political and social processes of the settlement. The artefacts we found were extraordinary and very expressive. Through the map and catalogue of the artefacts we present Nickel as a 'material system', as a multi-scalar expression of new materials that appeared and evolved while embedded in the town's fabric. We organised the artefacts into four sections.

KL / As said, the material entity of Nickel has been shaped by successive ideological paradigms of the Soviet and the Post-Soviet political context. In the first group (Historical Clash) we presented artefacts and materials related to the history of social and political rhythms which structured the physical territories of the town. The second group (Energy Infrastructure) is related to the organisational concept of the ecosystem which is a function representing a 'flow of energy and materials'. Here, we perceive Nickel as an infrastructural element for the resource-development industry, a life-support mechanism of a large industrial machine. In the third group of materials (Self-Organising Boundaries) we draw the boundaries of 'competing patterns of existing ecosystems'. This part of the research reveals the fragmented

character of the city and traces boundaries and borders that evolved naturally in the town as a response to the overlay and resistance of different elements of Nikel's artificial ecology. In the last group (The Slag), we consider a physical representation of a new material that has appeared in Nikel, copper-nickel dust. For this section we created a wind simulation map, which helped us to understand how the environmental forces spread slag and pollution through the city. It shows how the urban tissue reacts to it.

Did you present your insights about Nikel to locals?

KL / Yes, we had a presentation in Nikel for the local people. For us, the process of the environmental degradation indicates an evolutionary process of the city's artificial system, revealing its qualities. For inhabitants, it's mostly a personal tragedy. We were worried that we would be misunderstood, but surprisingly, we had quite a positive response.

TG / A teacher from the art school pointed out one more important energy resource in Nikel, another important resource of Nikel materiality: the people. And that is true: they really are the driving force of the city.

Interview: Mirna Belina

Photo: Rosa Menkman

This interview has also been published as part of Living Earth – Field Notes from Dark Ecology Project 2014 – 2016. The publication is available at www.sonicacts.com/shop.

What Is Dark Ecology?

Timothy Morton

In this essay, which draws on his book *Dark Ecology, For a Logic of Coexistence*, Timothy Morton – who originally coined the term dark ecology – explains what dark ecology is. He also argues how agrilogistics underpins our ecological crisis and our view of the world.



Lighten up: dark ecology does not mean heavy or bleak; it is strangely light.

“Progress means: humanity emerges from its spellbound state no longer under the spell of progress as well, itself nature, by becoming aware of its own indigenusness to nature and by halting the mastery over nature through which nature continues its mastery”. – Theodor Adorno

“Dark is dangerous. You can’t see anything in the dark, you’re afraid. Don’t move, you might fall. Most of all, don’t go into the forest. And so we have internalized this horror of the dark”. – Hélène Cixous

The ecological era we find ourselves in – whether we like it or not, and whether we recognise it or not – makes necessary a searching reevaluation of philosophy, politics and art. The very idea of being ‘in’ an era is in question. We are ‘in’ the Anthropocene, but that era is also ‘in’ a moment of far longer duration.

What is the present? How can it be thought? What is presence? Ecological awareness forces us to think and feel at multiple scales, scales that disorient normative concepts such as ‘present’, ‘life’, ‘human’, ‘nature’, ‘thing’, ‘thought’ and ‘logic’. I shall argue there are layers of attunement to ecological reality more accurate than what is habitual in the media, in the academy and in society at large.

These attunement structures are necessarily weird, a precise term that we shall explore in depth. Weirdness involves the hermeneutical knowingness belonging to the practices that the Humanities maintain. The attunement, which I call ecognosis, implies a practical yet highly nonstandard vision of what ecological politics could be. In part ecognosis involves realising that nonhumans are installed at profound levels of the human – not just biologically and socially but in the very structure of thought and logic. Coexisting with these nonhumans is ecological thought, art, ethics and politics.

We can trace the ecological crisis to a logistical ‘programme’ that has been running unquestioned since the Neolithic. Ecological reality requires an awareness that at first has the characteristics of tragic melancholy and negativity, concerning coexisting inextricably with a host of entities that surround and penetrate us; but which evolves paradoxically into an anarchic, comedic sense of coexistence. Ecological awareness has the form of a loop. In this loop we become aware of ourselves as a species—a task far more difficult than it superficially appears. We also grow familiar with a logistics of human social, psychic and philosophical space, a twelve-thousand-year set of procedures that resulted in the very global warming that it was designed to fend off. The logistics represses a paradoxical realm of human–nonhuman relations. The realm contains trickster-like beings that have a loop form, which is why ecological phenomena and awareness have a loop form. The growing familiarity with this state of affairs is a manifestation of dark ecology. Dark ecology begins in darkness as depression. It traverses darkness as ontological mystery. It ends as dark sweetness.

I

The Arctic Russian town of Nickel looks horrifying at first, like something out of Tarkovsky's *Stalker*, only on bad acid. A forest devastated by a nickel smelting factory. Soviet buildings stark and bleak. Mounds of garbage sitting on hills of slag. A solitary tree, last of the pines destroyed by the sulphur dioxide. We were a small group of musicians, artists and writers. We had travelled there in late 2014 to start a three-year art and research project called Dark Ecology.

Then Nickel becomes rather sad and melancholic. A collection of broken things. Past things. Garages repurposed as homes. Broken metal structures in which people are living. Holding on to things for no reason. Peeling paint tells stories of decisions and indecisions and non-decisions.

And then for some strange reason it becomes warm. There is a Palace of Culture, full of wonderful kitschy communist art, Terry Gilliam sculpture-like lampshades, hauntingly luminous pale blues, pinks and yellows, the building grooving as hard as a Tibetan stupa. And on the outskirts the reality of death is so explicit. It's a charnel ground almost identical to the one on Mount Kailash, another very friendly place where offerings (or are they huge piles of garbage?) litter the space at the top and nuns meditate in a land strewn with bits of corpses like an emergency room. People are dying, or are they going to live, or are they already dead? There is a lot of blood, severing and severed limbs. A lot of care.

It's even a little bit funny. A drag queen poses for a photographer outside a metallic building. Some kind of joy is here. The demons and ghosts aren't demons or ghosts. They are faeries and sprites.

II

What is dark ecology?[1] It is ecological awareness, dark-depressing. Yet ecological awareness is also dark-uncanny. And strangely it is dark-sweet. Nihilism is always number one in the charts these days. We usually don't get past the first darkness, and that's if we even care.

What thinks dark ecology? *Ecognosis*, a riddle. Ecognosis is like knowing, but more like letting-be-known. It is something like coexisting. It is like becoming accustomed to something strange, yet it is also becoming accustomed to strangeness that doesn't become less strange through acclimation. Ecognosis is like a knowing that knows itself. Knowing in a loop; a *weird* knowing. *Weird* from the Old Norse, *urth*, meaning twisted, *in a loop*. [2] The

Norns entwine the web of fate with itself; Urd is one of the Norns.[3] The term weird can mean causal: the spool of fate is winding. The less well-known noun weird means *destiny or magical power*, and by extension the wielders of that power, the Fates or Norns.[4] In this sense *weird* is connected with *worth*, not the noun but the verb, which has to do with *happening or becoming*.^[5]

Weird: a turn or twist or loop, a turn of events. The milk turned sour. She had a funny turn. That weather was a strange turn-up for the book. Yet *weird* can also mean *strange of appearance*.^[6] That storm cloud looks so weird. She is acting weird. The milk smells weird. Global weirding.

In the term *weird* there flickers a dark pathway between causality and the aesthetic dimension, between doing and appearing, a pathway that dominant Western philosophy has blocked and suppressed. Now the thing about seeming is that seeming is never quite as it seems. Appearance is always strange.

Though the web of fate is so often invoked in tragedy, that default agricultural mode, words such as *weird* and *faerie* evoke the animistic world within the concept of the web of fate itself. We Mesopotamians have never left the Dreaming. So little have we moved that even when we thought we were awakening we had simply gathered more tools for understanding that this was in fact a lucid dream, even better than before.

Ecological awareness is weird: it has a twisted, looping form. Since there is no limit to the scope of ecological beings (biosphere, Solar System) we can infer that all things have a loop form. Ecological awareness is a loop because human interference has a loop form, because ecological and biological systems are loops. And ultimately this is because to exist at all is to assume the form of a loop. The loop form of beings means we live in a universe of finitude and fragility, a world in which objects are suffused and surrounded by mysterious hermeneutical clouds of unknowing. It means that the politics of coexistence are always contingent, brittle and flawed, so that in the thinking of interdependence at least one being must be missing.

What kind of weirdness are we talking about? Weird weirdness. Weird means *strange of appearance*; weirdness means the *turning* of causality. There are many kinds of loops. There are *positive feedback* loops that escalate the potency of the system in which they are operating. Antibiotics versus bacteria. Farmers versus soil, creating the Dust Bowl in the Midwestern United States in the 1930s. Such loops are common in human 'command and control' approaches to environmental management and they

result in damage to the ecosystem.[7] Some of them are unintended: consider the decimation of bees in the second decade of the twenty-first century brought on by the use of pesticides that drastically curtail pollination.[8] Such unintended consequences are *weirdly weird* in the sense that they are uncanny, unexpected fallout from the myth of progress: for every seeming forward motion of the drill bit there is a backwards gyration, an asymmetrical contrary motion.

Then there are the *negative feedback loops* that cool down the intensity of positive feedback loops. Think of thermostats and James Lovelock's Gaia. There are *phasing loops*. We encounter them in beings such as global warming, beings that are temporally smeared in such a way that they come in and out of phase with human temporality.[9]

Yet there is another loop, the dark-ecological loop. Ecognosis is a strange loop. A strange loop is a loop in which two levels that appear utterly separate flip into one another. Consider the dichotomy between moving and being still. In Lewis Carroll's haunting story, Alice tries to leave the Looking Glass House. She sets off through the front garden yet she finds herself returning to the front door via that very movement.[10] A strange loop is weirdly weird: a turn of events that has an uncanny appearance. And this defines emerging ecological awareness occurring to 'civilized' people at this moment.

III

The Anthropocene is the moment at which we humans begin to realise that the correct way to understand ourselves as a species is as a hyperobject. This is a truly non-racist and non-speciesist way of thinking species, which otherwise is a problematically teleological concept: ducks are for swimming, Greeks are for enslaving non-Greeks...that's the traditional Aristotelian mode in which we think species. In a twisted way it's fortunate that the Anthropocene happened, because it enables us to drop the teleology yet preserve the notion of species, upgraded from something that we can point to directly (*these* beings rather than *those* beings). The Anthropocene enables us to think at Earth magnitude. Unless we try this, unless we endeavour to think the concept species differently, which is to say think humankind as a planetary totality without the soppy and oppressive universalism and difference erasure that usually implies, we will have ceded an entire scale—the scale of the biosphere, no less—to truly hubristic technocracy, whose 'Just let us try this' rhetoric masks the fact that when you 'try' something at a general enough level of a system, you are not *trying*

but *doing* and *changing*, for good.

The concept of species, upgraded from the absurd teleological and metaphysical concepts of old, is not anthropocentric at all. Because it is via this concept, which is open, porous, flickering, distant from what is given to my perception, that the human is decisively deracinated from its pampered, ostensibly privileged place set apart from all other beings.[11]

Anthropocene` is the first fully anti-anthropocentric concept.

The Anthropocene is an anti-anthropocentric concept because it enables us to think the human species not as an optically given thing I can point to, but as a hyperobject that is real yet inaccessible.[12] Computational power has enabled us to think and visualise things that are ungraspable by our senses or by our quotidian experience. We live on more timescales than we can grasp.

We are faced with the task of thinking at temporal and spatial scales that are unfamiliar, even monstrously gigantic. Perhaps this is why we imagine such horrors as nuclear radiation in mythological terms. Take Godzilla, who appears to have grown as awareness of hyperobjects such as global warming has taken hold. Having started at a relatively huge fifty metres, by 2014 he had grown to a whopping one hundred and fifty metres tall.[13] Earth magnitude is bigger than we thought, even if we have seen the NASA 'Earthrise' photos, which now look like charming and simplistic relics of an age in which human hubris was still mostly unnoticed; relics of, precisely, a 'space age' that evaporates in the age of giant nonhuman places. We have gone from having 'the whole world in our hands' and 'I'd like to buy the world a Coke' to realising that the whole world, including 'little' us, is in the vice-like death grip of a gigantic entity—ourselves as the human species. This uncanny sense of existing on more than one scale at once has nothing to do with the pathos of cradling a beautiful blue ball in the void.

IV

Global warming is a symptom of industrialisation and industrialisation is a symptom of massively accelerated agriculture. Of what is this acceleration a symptom? We could say that it was capitalism, but that would be circular: accelerating agriculture and subsequent industrialisation are symptoms of capitalism, not to mention existing forms of communism. So we are looking for the problem of which these things are symptoms. What is it? Why, if so influential, is it so hard to point to?

Two reasons: it is everywhere, and it is taboo to mention it. You could be labelled a primitivist even for bringing it up. Yet foundational Axial (agricultural) Age stories narrate the origin of religion as the beginning of agricultural time: *an origin in sin*. The texts are almost shockingly explicit, so it's strange we don't think to read them that way. Pretty much out loud, they say that religion as such (was there 'religion' beforehand?) was founded in and as *impiety*. We witness the extraordinary spectacle of 'religion' itself talking about itself as a reflective, reflexive loop of sin and salvation, with escalating positive feedback loops. Like agriculture.

There's a monster in the dark mirror and you are a cone in one of its eyes. When you are sufficiently creeped out by the human species you see something even bigger than the Anthropocene looming in the background, hiding in plain sight. What on Earth is this structure that looms even larger than the age of steam and oil? Isn't it enough that we have to deal with cars and drills? It is the machine *that is agriculture as such*, a machine that predates Industrial Age machinery. Before the web of fate began to be woven on a power loom, machinery was already whirring away.

The term *agrilogistics* names a specific logistics of agriculture that arose in the Fertile Crescent and that is still plowing ahead. Logistics, because it is a technical, planned, and perfectly logical approach to built space. Logistics, because it proceeds without stepping back and rethinking the logic. A viral logistics, eventually requiring steam engines and industry to feed its proliferation.[14]

Agrilogistics: an agricultural programme so successful that it now dominates agricultural techniques planet-wide. The programme creates a hyperobject, global agriculture: the granddaddy hyperobject, the first one made by humans, and one that has sired many more. Toxic from the beginning to humans and other lifeforms, it operates blindly like a computer program.

Agrilogistics promises to eliminate fear, anxiety and contradiction—social, physical and ontological—by establishing thin rigid boundaries between human and nonhuman worlds and by reducing existence to sheer quantity. Though toxic it has been wildly successful because the program is deeply compelling. Agrilogistics is the smoking gun behind the (literally) smoking gun responsible for the Sixth Mass Extinction Event.

The humanistic analytical tools we currently possess are not capable of functioning at a scale appropriate to agrilogistics because they are themselves compromised products of agrilogistics. The nature–culture split we persist in using is the result of a nature–agriculture split (*colo, cultum*

pertains to growing crops). This split is a product of agrilogistical subroutines, establishing the necessarily violent and arbitrary difference between itself and what it 'conquers' or delimits. Differences aside the confusions and endlessly granular distinctions arising therefrom remain well within agrilogistical conceptual space.[15]

V

Agrilogistics arose as follows. About 12,500 years ago a climate shift experienced by hunter-gatherers as a catastrophe pushed humans to find a solution to their fear concerning where the next meal was coming from. It was the very end of an Ice Age, the tail end of a glacial period. A drought lasting more than a thousand years compelled humans to travel farther. It happened that in the Fertile Crescent of Mesopotamia, barley and wheat were growing wild beneath the trees. The same can be said for rice growing in China, corn, squash and beans growing in America, and sorghum and yam in Africa. Significantly, the taro of New Guinea is hard to harvest and low in protein, not to mention hard to plant (you have to plant taro one by one), and so the farmers in the highlands never 'advanced' from hunter-gathering. The taro cannot be *broadcast*. Incidentally, so many terms from agrilogistics have become terms in media (*field* among them), not to mention the development of that very significant medium, writing. How we write and what we write and what we think about writing can be found within agrilogistics.

Humans in Mesopotamia established villages with granaries. The storage and selection of grain pushed the harvested plants to evolve. Humans selected grain for its tastiness, ease of harvesting and other criteria favoured by the agrilogistical program. Scaled up the evolutionary pressure was substantial. Nine thousand years ago humans began to domesticate animals to mitigate seasonal variations in game, a modification to the agrilogistical programme that kept it in existence.[16] Several agrilogistical millennia later, domesticated animals far outweigh (literally again) the number of non-domesticated ones. Humans represent roughly 32% of vertebrate biomass. The other 65% is creatures we keep to eat. Vertebrate wildlife counts for less than 3%.[17] The term cattle speaks to this immensity and to a too-easy ontology humming away in its background.

Miserable social conditions were the almost immediate consequence of the inception of agrilogistics yet the virus persisted like an earworm or a chair, no matter how destructive to the humans who had devised it.[18] Private property emerged based on settled ownership and use of land, a certain house and so on. This provided the nonhuman basis of the contemporary

concept of self no matter how much we want to think ourselves out of that. Agrilogistics led rapidly to patriarchy, the impoverishment of all but a very few, a massive and rigid social hierarchy, and feedback loops of human–nonhuman interaction such as epidemics.[19]

The human hyperobject (the human as geophysical species) became a machine for the generation of hyperobjects. Precisely because of the sharp imbalance between the 'civilisation' concept and actually existing social space (which was never fully human), agrilogistics itself having produced this difference, 'civilisations' (the human structures of agrilogistical retreat) are inherently fragile.

VI

Three axioms provide the logical structure of agrilogistics:

- (1) The Law of Noncontradiction is inviolable.
- (2) Existing means being constantly present.
- (3) Existing is always better than any quality of existing.

We begin with Axiom (1). There is no good reason for it. There are plenty of ways to violate this law, otherwise we wouldn't need a rule. This means that Axiom (1) is a prescriptive statement disguised as a descriptive one. Formulated rightly Axiom (1) states, *Thou shalt not violate the Law of Noncontradiction*. Axiom (1) works by excluding (undomesticated) lifeforms that aren't part of your agrilogistical project. These lifeforms are now defined as pests if they scuttle about or weeds if they appear to the human eye to be inanimate and static. Such categories are highly unstable and extremely difficult to manage.[20]

Axiom (1) also results in the persistent charm of *the Easy Think Substance*. Agrilogistical ontology, formalised by Aristotle, supposes a being to consist of a bland lump of whatever decorated with accidents. It's the Easy Think Substance because it resembles what comes out of an Easy Bake Oven, a children's toy. Some kind of brown featureless lump emerges, which one subsequently decorates with sprinkles.

The lump ontology evoked in Axiom (1) implies Axiom (2): to exist is to be constantly present, or the *metaphysics of presence*. Correctly identified by deconstruction as inimical to thinking future coexistence, the metaphysics of

presence is intimately bound up with the history of global warming. Here is the field, I can plough it, sow it with this or that or nothing, farm cattle, yet it remains constantly the same. The entire system is construed as constantly present, rigidly bounded, separated from nonhuman systems. This appearance of hard separation belies the obvious existence of beings who show up ironically to maintain it. Consider the cats and their helpful culling of rodents chewing at the corn.[21] The ambiguous status of cats is not quite the 'companion species' Haraway thinks through human coexistence with dogs.[22] Within agrilogistical social space cats stand for the ontological ambiguity of lifeforms and indeed of things at all. Cats are a *neighbour* species.[23] Too many concepts are implied in the notion of 'companion'. The penetrating gaze of a cat is used as the gaze of the extra-terrestrial alien because cats are the *intra-terrestrial* alien.

The agrilogistical engineer must strive to ignore the cats as best as he (underline he) can. If that doesn't work he is obliged to kick them upstairs into deity status. Meanwhile he asserts instead that he could plant anything in this agrilogistical field and that underneath it remains the same field. A field is a substance underlying its accidents: cats happen, rodents happen, even wheat happens; the slate can always be wiped clean. Agrilogistical space is a war against the accidental. Weeds and pests are nasty accidents to minimise or eliminate.

Agrilogistical existing means being there in a totally uncomplicated sense. No matter what the appearances might be, essence lives on. Ontologically as much as socially, agrilogistics is immiseration. Appearance is of no consequence. What matters is knowing where your next meal is coming from no matter what the appearances are. Without paying too much attention to the cats, you have broken things down to pure simplicity and are ready for Axiom (3):

(3) Existing is always better than any quality of existing.

Actually we need to give it its properly anthropocentric form:

(3) Human existing is always better than any quality of existing.

Axiom (3) generates an Easy Think Ethics to match the Easy Think Substance, a default utilitarianism hardwired into agrilogistical space. The Easy Think quality is evident in how the philosophy teacher in Stoppard's *Darkside* describes the minimal condition of happiness: *being alive instead of dead*. [24] Since existing is better than anything, more existing must be what we Mesopotamians should aim for. Compared with the injunction to flee from death and eventually even from the mention of death, everything else is just

accidental. No matter whether I am hungrier or sicker or more oppressed, underlying these phenomena my brethren and I constantly regenerate, which is to say we refuse to allow for death. Success: humans now consume about 40 percent of Earth's productivity.[25] The globalisation of agrilogistics and its consequent global warming have exposed the flaws in this default utilitarianism, with the consequence that solutions to global warming simply cannot run along the lines of this style of thought.[26]

VII

The Philosopher Derek Parfit observes that under sufficient spatiotemporal pressure Easy Think Ethics fails. Parfit was trying to think about what to do with pollution, radioactive materials and the human species. Imagine trillions of humans, spread throughout the galaxy. Exotic addresses aside all the humans are living at what Parfit calls *the bad level*, not far from Agamben's idea of *bare life*. [27] Trillions of nearly dead people, trillions of beings like the Musselmänner in the concentration camps, zombies totally resigned to their fate. This will always be absurdly better than billions of humans living in a state of bliss. [28] Because more people is better than happier people. Because bliss is an accident, and existing is a substance. Easy Think Ethics. Let's colonise space—that'll solve our problem! Let's double down! Now we know that it doesn't even take trillions of humans spread throughout the Galaxy to see the glaring flaw in agrilogistics. It only takes a few billion operating under agrilogistical algorithms at Earth magnitude.

To avoid the consequences of the last global warming, humans devised a logistics that has resulted in global warming.

The concept Nature isn't only untrue; it's responsible for global warming! Nature is defined within agrilogistics as a harmonious periodic cycling. Conveniently for agrilogistics, Nature arose at the start of the geological period we call the Holocene, a period marked by stable Earth system fluctuations. [29] One might argue that Nature is an illusion created by an accidental collaboration between the Holocene and agrilogistics: unconscious, and therefore liable to be repeated and prolonged like a zombie stumbling forwards. Like Oedipus meeting his father on the crossroads, the cross between the Holocene and agrilogistics has been fatally unconscious.

Nature is best imagined as the feudal societies imagined it, a pleasingly harmonious periodic cycling embodied in the cycle of the seasons, enabling regular anxiety-free prediction of the future. Carbon dioxide fluctuated in a

harmonious-seeming cycle for 12,000 years—until it didn't.[30] We Mesopotamians took this coincidence to be a fact about our world, and called it Nature. The smooth predictability allowed us to sustain the illusion. Think of how when we think of nonhumans we reminisce nostalgically for a less deviant-seeming moment within agrilogistics, such as fantasies of a feudal worldview: cyclic seasons, regular rhythms, tradition. This is just how agrilogistics feels—at first. The ecological value of the term Nature is dangerously overrated, because Nature isn't just a term—it's something that happened to human built space, demarcating human systems from Earth systems. Nature as such is a twelve-thousand-year-old human product, geological as well as discursive. Its wavy elegance was eventually revealed as inherently contingent and violent, as when in a seizure one's brain waves become smooth.[31] Wash-rinse-repeat the agrilogistics and suddenly we reach a tipping point.

The Anthropocene doesn't destroy Nature. *The Anthropocene is Nature* in its toxic nightmare form. Nature is the latent form of the Anthropocene waiting to emerge as catastrophe.

VIII

Let's now explore another key term, the arche-lithic, a primordial relatedness of humans and nonhumans that has never evaporated. Bruno Latour argues that we have never been modern. But perhaps *we have never been Neolithic*. And in turn this means that the Palaeolithic, adore it or demonise it, is also a concept that represses the shimmering of the arche-lithic within the very agrilogistical structures that strive to block it completely. We Mesopotamians never left the hunter-gathering mind.

What is required to remember is that this is a *weird essentialism*.

Earth isn't just a blank sheet for the projection of human desire: the desire loop is predicated on entities (Earth, coral, clouds) that also exist in loop form in relation to one another and in relation to humans. We are going to have to rethink what a thing is. We require a Difficult Think Thing. That I claim humans exist and made the Anthropocene by drilling into rock does indeed make me an essentialist. However, if we must attune to the Difficult Think Thing, such a thing wouldn't cleave to the Law of Noncontradiction, agrilogistical Axiom (1). Which in turn implies that while beings are what they are (essentialism) *they are not constantly present*. Demonstrating this would constitute a weird essentialism in the lineage of Luce Irigaray, whose project has been to break the Law of Noncontradiction so as to liberate beings from

patriarchy.[32]

As a performance of not seeming an idiot in theory class one is obliged to convey something like, 'Well of course, I'm not an *essentialist* (make disgusted face here). Compare the ridicule that greets the idea of creating social spaces that are not agrilogistical (so not traditionally capitalist, communist or feudal). Such reactions are themselves agrilogistical. Both assume that to have a politics is to have a one-size-fits-all Easy Think concept. If you don't, you are called a primitivist or an anarchist, both derogatory terms, and deemed unserious. Or you want to regress to some utopian state that 'we couldn't possibly even imagine'. 'Of course, I'm not advocating that we *actually* try a social space that includes nonhumans in a noncoercive and nonutilitarian mode.' Or its inverse, ridiculing 'civilisation': insisting that humans should 'return' to a pre-agrilogistical existence (John Zerzan, archivist of the Unabomber Ted Kaczinski). 'Eliminate the evil loops of the human stain. Anyone with prosthetic devices such as glasses is suspect.' [33] Once one has deconstructed civilisation into agrilogistical retreat it is tempting to think this way. But imagine the Year Zero violence of actually trying to get rid of intellectuality, reflection, desire, whatever we think is a source of evil, so we can feel right and properly ecological. The assertion that this problem has something to do with 'domestication'—which is how Zerzan and others frame it—avoids the genuine agrilogistical problem. 'Domestication' is a term from some kind of fall narrative: once upon a time, we let things be wild, but then we took some into our homes and unleashed evil. Neanderthals lived in homes. Primates make beds of leaves. Dogs were fused with humans hundreds of thousands of years ago. 'Domestication' is a canard that is itself agrilogistical, straight out of a theistic fall narrative.

The question of origins is complicated by the way in which that question is contaminated in advance by agrilogistics. We need to figure out how we fell for it, in order not to keep retweeting it. What seems to be the case is that a default paranoia about existing—an ontological uncertainty—was covered over as a survival mechanism, and the compelling, almost addictive qualities of that mechanism of covering-over has provided enough ontological comfort, until very recently, so as to go unexamined.

IX

To think in this new-old way, we will need to restructure logic. Nietzsche argues that logic itself is 'the residue of a metaphor'. [34] Despite the concept of logic 'as bony, foursquare, and transposable as a die', logic is saturated with fossilised social directives. Hegel had an inkling of this when

he distinguished between logic and thinking, that is to say between the mind's movement and the manipulation of preformatted thoughts. Nietzsche asserts that language is caught up in the caste system—and let's not forget that that system is a direct product of agrilogistics. With uncanny insight, Nietzsche himself seems to confirm this when he then asserts that logic as such is a symptom of caste hierarchies. Without doubt, these hierarchies oppress most humans. The human caste system, itself a product of agrilogistics, sits on top of a fundamental caste distinction between humans and nonhumans, a founding distinction wired into the implicit logic of agrilogistics.[35]

Recall, furthermore, that some of the most common words for thinking and apprehension—*gather*, *glean*—derive from agriculture.[36] What is required is no less than a logic that is otherwise than agrilogistical. A logic that is fully eco-logical. If you want ecological things to exist—ecological things like humans, meadows, frogs and the biosphere—you have to allow them to violate the logical 'Law' of Noncontradiction and its niece, the Law of the Excluded Middle. If we don't, then it won't be possible to explain the existence of vague, heap-like beings such as lifeforms and ecosystems, because they are not entirely self-identical.

According to the rigid agrilogistical logic format, there is no single, independent, definable point at which a meadow (for example) stops being a meadow. So there are no meadows. They might as well be car parks waiting to happen. And since by the same logic there are no car parks either, it doesn't really matter if I build one on this meadow. Can you begin to see how the logical Law of Noncontradiction enables me to eliminate ecological beings both in thought and in actual physical reality? The Law of Noncontradiction was formulated by Aristotle, in section Gamma of his *Metaphysics*. It's strange that we still carry this old law around in our heads, never thinking to prove it formally. According to the Law of Noncontradiction, being true means not contradicting yourself. You can't say *p* and *not-p* at the very same time. You can't say *a meadow is a meadow and is not a meadow*. Yet this is what is required, unless you want meadows not to exist.

X

First peoples don't live in holistic harmony without anxiety; they coexist anxiously in fragile, flawed clusters among other beings such as axes and horses, rain and spectres, without a father sky god or god-king. Yet because anxiety is still readily available—because agrilogistics has far from eliminated it—the divergence is an unstable, impermanent construct. We glimpse the

space of the *arche-lithic*, not some tragically lost Palaeolithic. The arche-lithic is a possibility space that flickers continually within, around, beneath and to the side of the periods we have artificially demarcated as Neolithic and Palaeolithic. The arche-lithic is not the past.

The arche-lithic mind is immersed in a non-totalisable host of patterns that cannot be bounded in advance: lifeforms, ghosts, phantasms, zombies, visions, tricksters, masks. The idea that we might be deceived is intrinsic to the agrilogistical virus. The possibility of pretence haunts arche-lithic 'cultures' of magic as a structurally necessary component of that culture: 'The real skill of the practitioner [of magic] lies not in skilled concealment but in the skilled revelation of skilled concealment.' [37] (I must put 'culture' in quotation marks because the term is hopelessly agrilogistical.) Skepticism and faith might not be enemies in every social configuration. In arche-lithic space they might be weirdly intertwined.

There is an *ontological* reason why the play of magic involves epistemological panic giving rise to hermeneutical spirals of belief and disbelief. The dance of concealing and revealing happens because reality as such just does have a magical, flickering aspect. It is as if there is an irreducible, story-like hermeneutical web that plays around and within all things. An irreducible uncertainty, not because things are unreal, but because they are real.

XI

What the Law of Noncontradiction polices most is the profound ambiguity and causal force of the aesthetic dimension. The aesthetic has been kept safe from something that looks too much like telepathic influence, though that is strictly what it is if *telepathy* is just passion at a distance. [38] Right now, visualise the Mona Lisa in the Louvre — see what I mean? Something not in your ontic vicinity is exerting causal pressure on you. So the aesthetic and its beauties are policed and purged of the 'enthusiastic', buzzy, vibratory (Greek, *enthuein*) energies that shimmer around its fringe, forever turning beauty into something slightly strange, even 'disgusting' (at least at the edges) insofar as it can't shake off its material embodiment, shuddery, rich, affective and effective.

This telepathic Force-like zone of nonhuman energy keeps nuzzling at the edge of modern thought and culture, as if with enough relaxed religious inhibitions and enough enjoyable products humans default to the arche-lithic.

There is something profound and perhaps disturbing about the

aesthetic-causal dimension. And about life: 'life' is not the opposite of death. The homology between cancer cells and embryo growth bears this out. The only difference is that an embryo becomes shapely through another death process, apoptosis: the dying-away of superfluous cells. There is no final resting spot: there is always something excessive about the pattern.[39] Life is an ambiguous spectral 'undead' quivering between two types of death: the machination of the death drive and the dissolution of physical objects.

And going down a level, this is because of the structure of how things are. Being and appearing are deeply, inextricably intertwined, yet different. This means that beings are themselves strange loops, the very loops that ecological awareness reminds us of. Much philosophical and cultural muscle has been put into getting rid of these loops, which are often decried as narcissistic, because they are self-relating, self-referential. But what is required for caring for nonhumans is precisely an extension of what is called narcissism! So attacking narcissism is something dark ecology won't do: 'What is called non-narcissism is in general but the economy of a much more welcoming, hospitable narcissism...without a movement of narcissistic reappropriation, the relation to the other would be absolutely destroyed, it would be destroyed in advance' (Derrida).[40]

We have to accept the disturbing excess of the aesthetic dimension as an intrinsic part of everything in the universe, and indeed as the part that has to do with causality itself.

XII

We think that existence means solid, constant, present existence. It is based on the fantasy that all the parts of me are me: that if you scoop out a piece of me, it has *Tim Morton* inscribed all over it and within it, just as sticks of English Brighton rock contain a pink word all the way through their deliciously pepperminty tubes. This is not the case. All entities just are what they are, which means that they are never quite as they seem. They are rippling with *nothingness*. A thing is a strange loop like a Möbius strip, which in topology is called a non-orientable surface. A *non-orientable surface* lacks an intrinsic back or front, up or down, inside or outside. Yet a Möbius strip is a unique topological object: not a square; not a triangle. Not just a lump of whateverness, or a false abstraction from some goop of oneness. When you trace your finger along a Möbius strip you find yourself weirdly flipping around to another side—which turns out to be the same side. The moment when that happens cannot be detected. The twist is *everywhere* along the strip. Likewise beings are intrinsically twisted into appearance, but the twist

can't be located anywhere.

So things are like the ouroboros, the self-swallowing snake. The Norse myth is pertinent: when Jörmungandr, the Midgard Serpent, stops sucking its own tail this is the beginning of Ragnarok, the apocalyptic battle. Agrilogistics has been a constant process of trying to un-loop the loop form of things. Finally to rid of the world of weirdness is impossible, as is devising a metalanguage that would slay self-reference forever. Violent threats can be made: 'Anyone who denies the law of non-contradiction should be beaten and burned until he admits that to be beaten is not the same as not to be beaten, and to be burned is not the same as not to be burned.' [41] You are either with us or against us. Torture isn't an argument any more than kicking a pebble is, and the threat of torture is no way to display intelligence, let alone proof. The violence of the threat is in proportion to the impossibility of actually ridding the world of contradiction. Beating and burning, something done to cattle and corn, witches and weeds, is not the same as thinking and arguing. Still, in the margins of agrilogistical thought, we cannot but detect the disturbingly soft rustling of the arche-lithic and its serpentine beings. Beings inherently *fragile*, like logical systems that contain necessary flaws, like the *hamartia* of a tragic hero.

The modern upgrade of the Cadmus myth is the idea of progress, for instance, the idea that we have transcended our material conditions. I'm Harold and the Purple Crayon, 'I am the lizard king, / I can do anything', 'I'm the Decider, goo-goo-ga-jooob.' [42] (Harold and the Purple Crayon is a US children's character who can draw whatever he likes with his crayon in the void. Say he is drowning: he can draw a boat.) But if things are nonorientable surfaces, philosophy had better get out of the mastery business and into the allergy medicine business. We need philosophical medicine so as not to have allergic reactions before we mow the allergens down and build a parking lot. To remain in indecision.

XIII

The more philosophy attunes to ecognosis the more it makes contact with nonhuman beings, one of which is ecognosis itself. The world it discovers is nonsensical yet perfectly logical, and that is funny: the sight of something maniacally deviating from itself in a desperate attempt to be itself should remind us of Bergson's definition of what makes us laugh. [43] And this is because, in a sense, to say 'Being is suffused with appearing' is the same as saying *being is laughing with appearance*. Ants and eagles cause philosophy to get off its high horse and smile, maybe even laugh. The name of this

laughter is ecognosis. You begin to smile with your mouth closed. To close the mouth in Greek is *muein*, whence the term *mystery*, the exact opposite of mystification.

We find this ecological smile within in the horror, disgust, shame and guilt of ecological awareness itself, because strangely, that joy is the possibility condition for all the other, more reified forms of ecological awareness. It goes like this. We have guilt because we can have shame. We have shame because we can have horror. We have horror because we can have depression. We have depression because we can have sadness. We have sadness because we can have longing. We have longing because we can have joy. Find the joy without pushing away the depression, for depression is accurate.

XIV

We live in a reality determined by a one-size-fits-all window of time, a window determined by some humans` attempts to master anxieties about where their next meal was coming from. As Agrilogistical Axiom (3) states, the logistics of this time window imply that existing is better than any quality of existing. So it`s always better to have billions of people living near to misery, than even millions living in a state of permanent ecstasy. Because of this logic industrial machines were created. The small rigid time tunnel now engulfs a vast amount of Earth`s surface and is directly responsible for much global warming. It`s a depressive solution to anxiety: cone your attention down to about a year—maybe five years if you really plan `ahead`. One of the most awful things about depression is that your time window collapses to a diameter of a few minutes into the past and a few minutes into the future. Your intellect is literally killing little you by trying to survive. Like a violent allergic reaction, or spraying pesticides.

We live in a world of objectified depression. So do all the other lifeforms, who didn`t ask to be sucked into the grey concrete time tunnel. No wonder then that we find mass extinction depressing and uncanny.

XV

Let`s have more time tunnels of different sizes. Let`s not have a one-size-fits-all time tunnel. Let`s get a bit playful. Which also means, let`s not have a one-size-fits-all politics. We need a politics that includes what appears least political—laughter, the playful, even the silly. We need a multiplicity of different political systems. We need to think of them as toy-like: playful and

half-broken things that connect humans and nonhumans with one another. We can never get it perfect. There is no final, correct form that isn't a toy. There is no one toy to rule them all. And toys aren't exclusively human or for humans. We don't have to get back to a mythical time of need as opposed to want. That binary is an agrilogistical artefact, which means that not everything about consumerism is bad, ecologically speaking. There are some ecological chemicals in consumerism, because consumerism provides an ethical pathway for relating to nonhuman beings for no particular reason (that is, for aesthetic reasons). The ecological future is going to be about *more* playful pleasure for no reason, not less. Think about it this way. I recently switched my power provider to 100% wind. For the first few days I felt efficient and virtuous and pure, until I realised that what was really the case now was that I could have a rave in every single room of my house and do no harm to Earth. Efficiency and sustainability, which is how we talk to ourselves about ecological action, are just artefacts of our oil economy version of agrilogistics. Change the energy system, and all that changes.

Lighten up: dark ecology does not mean heavy or bleak; it is strangely light. Lifeforms play ('This is a bite and this is not a bite'), because play is structural to reality, because things shimmer.[44] A disturbing imbalance and fragility haunts this play in order for it to be play. This is why play isn't just candy or glue but structural to reality. If you think of (agrilogistical) civilization as normative you have already decided that it is inevitable, and this means that you have decided that agrilogistical retreat is the only way to move across Earth.

XVI

The trouble with consumerism isn't that it sends us into an evil loop of addiction. The trouble is that *consumerism is not nearly pleasurable enough*. [45] The possibility space that enables consumerism contains far more pleasures. Consumerism has a secret side that Marxism is loath to perceive, as Marxism too is caught in the agrilogistical division between need and want. Consumerism is a way of relating to at least one other thing that isn't me. A thing is how I fantasise it. And yet...I fantasise, not onto a blank screen, but onto an actually existing thing, and in any case my fantasy itself is an independent thing. This thing eludes my grasp even as it appears clearly. *You are what you eat*. Doesn't the mantra of consumerism (concocted by Feuerbach and Brillat-Savarin, almost simultaneously) put identity in a loop? [46] Doesn't this formula hide in plain sight something more than (human) desire? That the reason-to-buy is also a relation to an inaccessible

yet appearing entity, to wit, *what you eat?* I imagine what I eat gives me luxury, or freedom, or knowledge. Yet there I am, eating an apple. *I coexist.* This can't be! The formula for consumerism *kat' exochēn* is underwritten by ecology! What a fantastic loop *that is*. Once we discover that what is called subjectivity is a cleaned, stripped, devastated version of something much vaguer and more spectral that includes the abjection that the idea of subject is meant to repress, then we are in the phenomenological space of ecological awareness. It is at first horrifying (to white patriarchy), because ecological awareness means noticing that you are profoundly covered in, surrounded by and permeated by all kinds of entities that are not you. That horror then becomes strangely ridiculous, like watching someone trying to escape the inevitable. This sense of the ridiculous is the first hint that at its deepest, ecological awareness has some kind of laughter in it. The laughter of ridicule subsides into a melancholic laughter in which we curate all the nonhumans that surround and permeate us without knowing exactly why, a bit like Wall E, the robot in an ethereal, goth-y realm of (other people's) toys, like J.F. Sebastian's apartment in *Blade Runner*. This not-knowing-why becomes beautiful and we sense the ungraspability of things. This sense in turn leads to a kind of joy. Abjection has been transfigured into what Irigaray calls *nearness*, a pure givenness in which something is so near that one cannot *have* it – a fact that obviously also applies to one's 'self'. [47]

This interview has also been published as part of Living Earth – Field Notes from Dark Ecology Project 2014 – 2016. The publication is available at www.sonicacts.com/shop.

Photo: A whale bone on top of the hill overlooking Nikel. The bone was left there when the nearby museum closed down. Photo by Rosa Menkman, 2015.

[1] In 2013, Paul Kingsnorth published an essay called 'Dark Ecology: Searching for Truth in a Post-Green World' in Orion magazine (January–February 2013). Dark ecology is a term I coined in 2004 and wrote about in *Ecology without Nature* (2007).

[2] Oxford English Dictionary, 'weird', adj. <http://www.oed.com>.

[3] S.N. Hagen, 'On Nornir 'Fates'', *Modern Language Notes*, vol. 39, no. 8 (December 1924), pp. 466–69.

[4] Oxford English Dictionary, 'weird', n. 1.a., 1.b., 2.a. [oed.com](http://www.oed.com).

[5] Oxford English Dictionary, 'worth', v. [oed.com](http://www.oed.com).

[6] Oxford English Dictionary, 'weird', adj. 1, 2.a., 3. [oed.com](http://www.oed.com).

[7] C.S. Holling and Gary K. Meffe, 'Command and Control and the Pathology of Natural Resource Management', *Conservation Biology*, vol. 10, no. 2 (April 1996), pp. 328–37.

[8] Michael Wines, 'Mystery Malady Kills More Bees, Heightening Worry on Farms', *New York Times*, 28 March 2013, http://www.nytimes.com/2013/03/29/science/earth/soaring-bee-deaths-in-2012-sound-alarm-on-malady.html?pagewanted=all&_r=0. Brad Plumer, 'We've Covered the World in Pesticides: Is That a Problem?', *Washington*

- Post, 18 August 2013,
<http://www.washingtonpost.com/blogs/wonk-blog/wp/2013/08/18/the-world-uses-billions-of-pounds-of-pesticides-each-year-is-that-a-problem>.
- [9] Suzanne Goldenberg, 'Americans Care Deeply about "Global Warming"—But Not 'Climate Change', *The Guardian*, 27 May 2014,
<http://www.theguardian.com/environment/2014/may/27/americans-climate-change-global-warming-yale-report/print>, accessed 2 June 2014.
- [10] Lewis Carroll, *Alice Through the Looking Glass* in *The Annotated Alice: The Definitive Edition*, ed. Martin Gardner, New York: Norton, 2000, p. 157.
- [11] This idea is occurring to a number of people simultaneously. See for instance Charles C. Mann, 'State of the Species: Does Success Spell Doom for Homo Sapiens?', *Orion* (November–December 2012),
<http://www.orionmagazine.org/index.php/articles/article/7146>.
- [12] I use the term 'ontic' as Martin Heidegger uses it in *Being and Time*, tr. Joan Stambaugh, Albany, N.Y: State University of New York Press, 2010, p. 11.
- [13] I'm grateful to my talented Ph.D. student Toby Bates for pointing this out.
- [14] Timothy Morton, *Dark Ecology*, New York: Columbia University Press, 2015.
- [15] There are far too many texts to mention, but two reasonably recent ones that have stood out for me have been Geoffrey Hartman, *The Fateful Question of Culture*, New York: Columbia University Press, 1997; and Terry Eagleton, *The Idea of Culture*, Oxford: Blackwell, 2000.
- [16] In New Guinea, native pigs can't plough, so agrilogistics was stymied there again.
- [17] Jan Zalasiewicz, 'The Geological Basis for the Anthropocene,' *The History and Politics of the Anthropocene*, University of Chicago, 17–18 May 2013.
- [18] Jared Diamond, 'The Worst Mistake in the History of the Human Race', *Discover Magazine* (May 1987), pp. 64–66. Derek Parfit, *Reasons and Persons*, New York: Oxford University Press, 1984. He offers a slightly revised discussion in 'Overpopulation and the Quality of Life', in *Applied Ethics*, ed. Peter Singer, New York: Oxford University Press, 1986. Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, Stanford: Stanford University Press, 1998.
- [19] On the patriarchy aspect insofar as it affects philosophy as such, Luce Irigaray is succinct: woman has been taken 'quoad matrem... in the entire philosophic tradition. It is even one of the conditions of its possibility. One of the necessities, also, of its foundation: it is from (re)productive earth-mother-nature that the production of the logos will attempt to take away its power, by pointing to the power of the beginning(s) in the monopoly of the origin.' *This Sex Which Is Not One*, tr. Catherine Porter and Carolyn Burke, Ithaca: Cornell University Press, 1985, p. 102.
- [20] See, for instance, Pedro Barbosa, ed., *Conservation Biological Control*, San Diego: Harcourt Brace, 1998.
- [21] Rebecca J. Rosen, 'How Humans Invented Cats', *The Atlantic*, 16 December 2013,
<http://www.theatlantic.com/technology/archive/2013/12/how-humans-created-cats/282391>. Gerry Everding, 'Cat Domestication Traced to Chinese Farmers 5,300 Years Ago', *Washington University St. Louis Newsroom*, 16 December 2013, <https://news.wustl.edu/news/Pages/26273.aspx>. Carlos A. Driscoll, 'The Taming of the Cat', *Scientific American*, vol. 300, no. 6 (June 2009), pp. 68–75. Yaowu Hu et al., 'Earliest Evidence for Commensal Processes of Cat Domestication', *PNAS*, vol. 111, no. 1 (7 January 2014), pp. 116–20.
- [22] See, for instance, Donna Haraway, *When Species Meet*, Minneapolis: University of Minnesota Press, 2007.
- [23] For arguments in support of this hypothesis, see Terry O'Connor, *Animals as Neighbors: The Past and Present of Commensal Animals*, East Lansing, MI: Michigan State University Press, 2013.
- [24] Tom Stoppard, *Darkside: A Play for Radio Incorporating The Dark Side of the Moon* (Parlophone, 2013).
- [25] Richard Manning, 'The Oil We Eat', *Harper's Magazine*, 4 February 2004,
<http://www.wesjones.com/oil-weeat.htm>. See Richard Manning, *Against the Grain: How Agriculture Has Hijacked Civilization*, New York: North Point, 2005.
- [26] Gardiner, *Perfect Moral Storm*, pp. 213–45.
- [27] Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, Stanford: Stanford University Press, 1998.
- [28] Derek Parfit, *Reasons and Persons*, Oxford: Oxford University Press, 1987, pp. 433–41.
- [29] It is well accepted that concentrations of O18, an oxygen isotope, track climate stability. O18 concentrations were remarkably stable from the start of agrilogistics until the start of the Anthropocene.
- [30] Jan Zalasiewicz, presentation at 'History and Politics of the Anthropocene', University of Chicago, May 2013.
- [31] I am grateful to Jan Zalasiewicz for discussing this with me.
- [32] See also Hélène Cixous, *The Laugh of the Medusa*, tr. Keith Cohen and Paula Cohen, *Signs*, vol. 1, no. 4 (Summer, 1976), pp. 875–93 (882).

- [33] See, for instance, John Zerzan, 'The Catastrophe of Post-modernism', *Future Primitive Revisited*, Port Townsend, WA: Feral House, 2012, pp. 64–90. The first demon named is the loop of 'Consumer narcissism' (64). In contrast, Neanderthal mind was fully present to itself and to its environment in a pure, non-deviant circularity, compared to which even the pre-Neolithic divisions of labour and cave paintings seem like original sin: 'Running on Emptiness: The Failure of Symbolic Thought', *Running on Emptiness: The Pathology of Civilization*, Los Angeles: Feral House, 2002, pp. 1–16 (2–3).
- [34] Friedrich Nietzsche, 'On Truth and Lies in a Nonmoral Sense', *The Nietzsche Reader*, ed. Keith Ansell Pearson and Duncan Large, Oxford: Blackwell, 2006, pp. 114–23 (118).
- [35] Cary Wolfe, *What Is Posthumanism?*, Minneapolis: University of Minnesota Press, 2012.
- [36] Oxford English Dictionary, 'gather', 4.a., b., c.; 'glean', v. oed.com: '1. To gather or pick up ears of corn which have been left by the reapers.'
- [37] Michael Taussig, 'Viscerality, Faith and Skepticism', in Birgit Meyer and Peter Pels, eds., *Magic and Modernity: Interfaces of Revelation and Concealment*, Stanford: Stanford University Press, 2003, pp. 272–341 (273).
- [38] See, for instance, Nicholas Royle's magnificent *Telepathy and Literature: Essays on the Reading Mind*, Oxford: Blackwell, 1991.
- [39] George Johnson, 'A Tumor, the Embryo's Evil Twin', *New York Times*, 17 March 2014. http://www.nytimes.com/2014/03/18/science/a-tumor-the-embryos-evil-twin.html?_r=0.
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- [41] Avicenna, *Metaphysics I.8*, 53.13–15.
- [42] The Doors, 'The Celebration of the Lizard', *Absolutely Live* (Elektra, 1970). The Beatles, 'I Am the Walrus', *Magical Mystery Tour* (EMI, 1967).
- [43] Henri Bergson, 'Laughter', in Wylie Sypher, ed., and intro., *Comedy: 'An Essay on Comedy' by George Meredith and 'Laughter' by Henri Bergson*, Baltimore: Johns Hopkins University Press, 1956, pp. 59 – 190.
- [44] Gregory Bateson, 'A Theory of Play and Fantasy', *Steps to an Ecology of Mind*, foreword Mary Catherine Bateson, Chicago: University of Chicago Press, 2000, pp. 177 – 93.
- [45] Kate Soper 'Alternative Hedonism, Cultural Theory and the Role of Aesthetic Revisioning', *Cultural Studies*, vol. 22, no. 5, Taylor and Francis, September 2008, pp. 567–87.
- [46] Jean-Antheleme Brillat-Savarin, *The Physiology of Taste*, tr. Anne Drayton, Harmondsworth: Penguin, 1970, p. 13. Ludwig Feuerbach, *Gesammelte Werke II, Kleinere Schriften*, ed. Werner Schuffenhauer, Berlin: Akademie-Verlag, 1972.
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Mapping Hybrid Ecology – Encounters In a Layered Landscape

Antti Tenetz

This is an exploration of the landscape around Kilpisjärvi lake. Part of the focus is to find and study the layers of Hybrid ecology; where biological, technological and cultural layers are coexisting and influencing each other in the landscape. Our team is set out on several days of fieldwork in the surroundings. Each group member is uncovering layers of the landscape through their own perspective and practice, exploring the sonic, political, microbial, visual, and invisible aspects of the layers.



On the first day, the group's host Antti Tenetz guides us on a walk through sites that show traces of human influence in what we would normally perceive as pristine nature. We start at the site with debris of German barracks from WW2. From there on as the group climbed up the slope of Saana fjell, we crossed a border of habitats, from the arctic to the alpine. In the alpine biome above the tree-line, the metabolism of vegetation is so

slow that a WW2 Junker's air-plane crash site remains clearly visible almost 80 years after the event. The black scarred soil looks almost as fresh as if it happened weeks ago. Sifting through the molten pieces of aluminium and steel raised ethical questions about taking samples home. Somehow they seem to have blended in with the natural surroundings, merging artificial and biological layers into a hybrid site.

Anssi the composer in our group was immediately drawn to this site. All physical objects have their own sonic resonant frequency, which is attributed to the size and volumetric mass density of the object. This would make the Junker's site an ideal spot for recording percussive metallic sounds of different pitch and tone.

Anssi recorded over 90 different audio samples from various fragments of aluminium and steel on the site. The samples were later processed to become one of the sonic layers of the interactive sound art installation that he exhibited at the Biological station on the last day of our visit there.

Our explorations in the land were enriched by a discussion on broad interpretation of mapping including local oral traditions. We talked about mapping practices and motivations behind mapping, both for our own artistic work and historically. In his presentation at the biological station, Antti showed us the Olaus Magnus' Carta Magnus (AD1529), describing it as a martially and politically motivated economical map of Scandinavia. A map as a hybrid geography overlaying actual locations of the time, with highly subjective and even mythical layers. With this beautiful example Antti guided our discussion towards the subjective scaling and data selection process inherent in map-making; what to present and how does that relate to the background it is presented on. We also discussed the invisible layers in the landscape.

Representing invisible layers of Hybrid ecology were the two very high frequency antenna field arrays we visited. The KAIRA (Kilpisjärvi Atmospheric Imaging Receiver Array) site is like a small neighbourhood of mysterious rectangular structures beyond a wire fence, physical access tantalizingly forbidden (but breached by Antti's overhead drone photography). We also explored the still-in-use older precedent of KAIRA, just down the road, a field of dozens of antenna poles one can wander freely amongst, under a canopy of guy-lines somewhat resembling an overdesigned clothesline.

Due to standing interests in electromagnetic activity of all kinds, Peter was particularly attracted to the two VHF antenna arrays. KAIRA studies the ionosphere from the ground, receiving "incoherent scatter" radar beams sent

by a sister station in Tromsø, bounced off electron fields in the upper atmosphere. The idea of using a "randomly perturbed" field to indirectly coax valuable information from something distant and nearly inaccessible while remaining grounded is an apt metaphor for many research methodologies in the arts and incoherent scatter ought to be co-opted as buzzword/ personal mantra.

Peter also created a makeshift loop antenna from a reindeer antler and copper wire. One windy afternoon he and Maia climbed to the top of Saana fjell and used the "Antlenna" to record electromagnetic waves.

Our group visited the three country cairn, where Finland, Sweden and Norway meet. On our hike to the cairn we could see a fence, built to stop the movement of reindeer, from Finland to Norway and Sweden.

Maia became interested in the border and how that single line causes the cultural, political and biological realms to meet, interact, clash, and change. In the Arctic the knowledge of the traditional reindeer herding Sami culture gave her a clear insight of how the borders have influenced people's cultures and the ecosystem.

Maia interviewed Oula, a Sami reindeer herder, who said "reindeer is a very high tech animal." Oula explained that traditionally in the summer reindeer moved to the North, to the sea, where there are less insects and the vegetation is rich in nutrition. In the winter they moved to the warmer south where they fed on pine trees. Both the reindeer and the ecosystem's health depended on this large movement. Sami people had started following the reindeer and were dependent on them for survival. Oula recounted some of the political events from the last 200 years and how they led to the establishment of more firm country borders which restricted the Sami and consequently the movement of the reindeer. After leaving Kilpisjärvi, Maia edited Field Notes: Borders a video with people's interviews and a watercolour animation that illustrates her findings. (link of video coming soon)

Piibe's personal inquiry had quite narrow shift - to take water samples from different water bodies and to explore them later in the lab with a microscope. She had planned to study the arctic waters, since they would be an interesting addition to the studies she had done before. The microorganisms could also be seen as one of the invisible biological layers of an area. She collected the water samples from creeks and marsh pools, by putting them in water bottles and exploring them more precisely later.

When she returned to Tallinn and went to the Lab of TUT Marine Institute (Estonia) to explore Kilpisjärvi waters, she got to know that there has been

very long and thorough research done by Estonian scientists about Kilpisjärvi waters recently. Piibe met one of the scientists that participated in the project and had the great opportunity to share her fresh memories, pictures and feelings with her, since the scientist did her work without being in Kilpisjärvi herself.

Theun mapped the landscape linguistically into several categories starting with Actions through which the landscape and organism expresses itself, then moving into Textures, Shapes, Viewpoints and finally into Realms. The process made it clear how crucial it was to have local knowledge such as Antti's in the mapping process. Without that the mapping would remain superficial. This list of words was recorded by Peter and became an _abstract geographic poem_ <https://soundcloud.com/encounters-175905074/theun-list-kota> describing the Kilpisjärvi area.

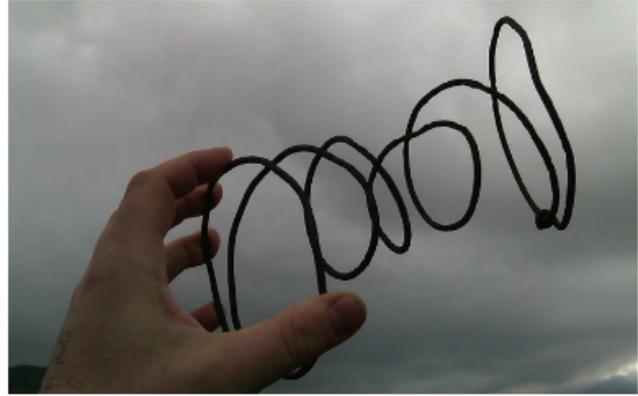
When our group sat down to discuss the possibility of artistic collaboration based on what they had experienced in the Arctic, Theun shared his list of words about the landscape. The list was a point of departure for Lori to use her LEDs to light paint Theun's words into the landscape. Theun's list of words was converted into handwritten digital images in order to play across the LED array that Lori uses in her practice. The next day, Peter and Lori took off for the sauna, hoping that the sauna's porch would protect the technology from weather, while also being able to photograph in the landscape. When the misty morning turned out to be too bright for the LEDs, they moved to the kota.

Using the pine-paneled interior of the hut was a great backdrop to light-paint the text across. Over the next few hours, Lori, Theun and Peter took turns using the LEDs to draw all of the 307 text files across the kota, which resulted in photographs where the people disappear and the words are left floating across the space. The group plans to continue collaborating in order to combine the images and audio into a video piece that might also include other layers of content from our group.

This blog post is a reflection on [Field_Notes - HYBRID MATTERs that took place on 14.-20. September 2015.](#)

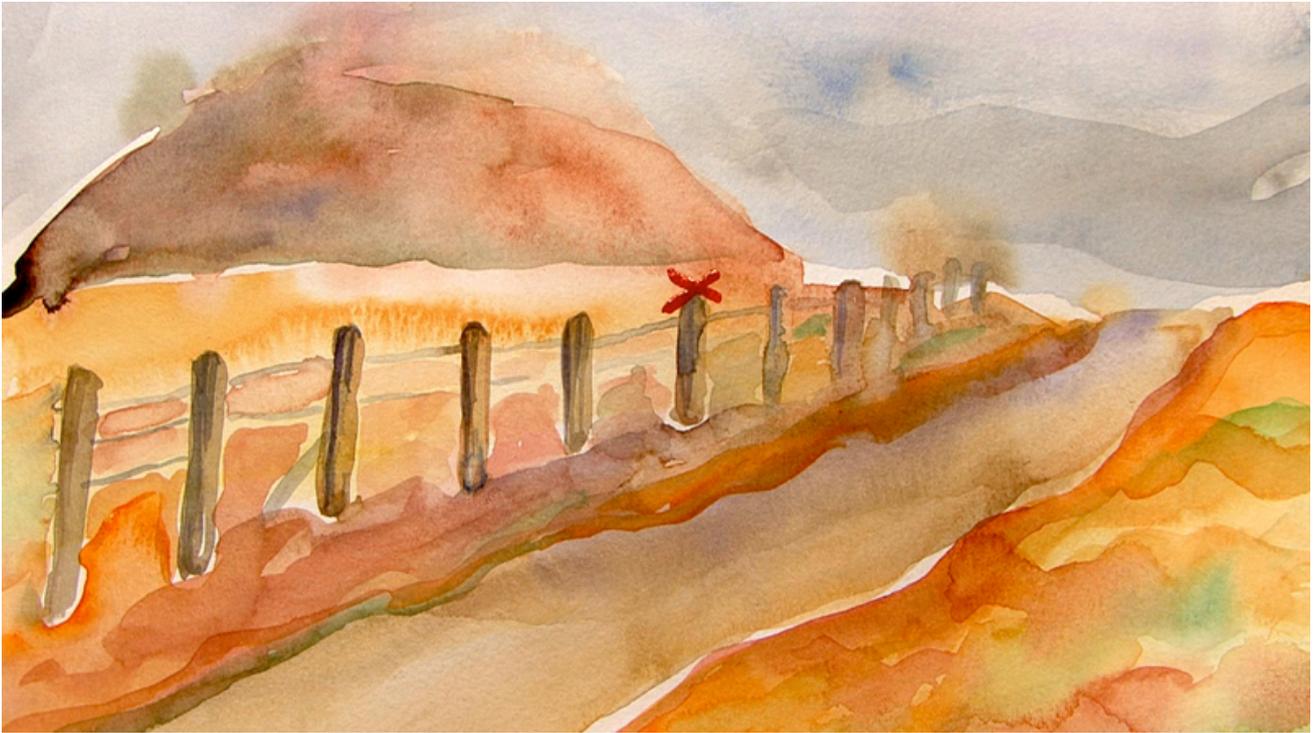
[Field_Notes - HYBRID MATTERs](#) is an art&science field laboratory organized by the [Finnish Society of Bioart](#) at the Kilpisjärvi Biological Station in Lapland, Finland. The project is in search of artistic and scientific responses to converging ecologies. The local sub-Arctic ecology and environment, as well as the scientific research and infrastructure of the Kilpisjärvi Biological

Station will act as fields and catalyst for the work carried out.



Photos: The group

From upper left corner: 1. The crash site. 2. Potentially resonant object? 3. "Carta Marina" by Olaus Magnus. 4. Peter at the older antenna array. 5. Piibe taking water sample from a stream 6. When the misty morning turned out to be too bright for the LEDs, they moved to the kota.



Watercolour study of the hike to the three country cairn by Maia Iotzova

The team

Antti Tenetz (group host)

Antti Tenetz is intermedia artist, adventurer and naturalist. Tenetz's works are situated on the interface between media arts, bio arts and urban art. In his works he combines and fearlessly uses different forms of expression, media and technological platforms from stone age hunting systems to satellite tracking. He concentrates on studying the relationship between man and nature, with themes changing from the Siberian bear cult to the digital representation of animal sensory systems. Tenetz focus is on multi-disciplinary and multi-artistic cooperation between art and science. He has co-funded and worked with international artist groups such as Subzero, and Grafting Parlour and recently in The Finnish Society of Bioart. Tenetz's works and collaborative projects have exhibited in Finland and internationally. His work was shown at the Venice Biennale 2013, X-Border 2013, Pan-Barentz 2009. <http://www.tenetz.com>

Peter Flemming

Peter Flemming is a Canadian artist based in Montréal working mainly in installation and performance. His research interests include incident energy

reclamation, solar powered lazy machines, and designs for open-source hardware. Current projects involve improvisational and intuitive building, resonance and electromagnetically activated materials, and modular neuromime networks. Exhibiting extensively at galleries, festivals and museums both nationally and internationally, Flemming has garnered numerous grants and awards to support both his research and creative practice. He serves as Vice President of Oboro in Montréal and is also an occasional curator and writer. Flemming has taught experimental electronics internationally and is a professor in studio arts at Concordia University.

<http://www.peterflemming.ca>

Lori Hepner

Lori Hepner is an interdisciplinary artist working primarily in conceptually based photography, Arduino/LED device artworks, and social media art. A recent body of work, Status Symbols, is a series of portraits that are studies of identity in the digital age of social media. The portraits focus on visualizing text-based tweets into abstracted visual portraits by using the on/off signature of the computer's native language, binary code. #Crowdsourced #Landscapes: Beyond the North Wind, her current project, creates experimental landscapes surrounding personal landscape, memory, and climate change. Lori is associate professor of integrative arts at Penn State University's Greater Allegheny campus in Pittsburgh, PA.

<http://www.lorihepner.com>

Maia Iotzova

Maia Iotzova is a filmmaker and a media artist who grew up in Sofia, Bulgaria and is now based in Montreal, Canada. She completed a BA in Fine Arts at the University of Guelph in Canada. Maia's work explores our relationship with nature in the urban setting. She often looks at a subject from an intercultural perspective. She mixes traditional documentary film with experimental cinema and subverts traditional mapping techniques to explore our subjective connection to the landscape. In 2014 she formed the Wild City Mapping Collective to create an open source based on-line map of the wild green spaces in Montreal. <http://www.wildcitymapping.org>

Theun Karelse

Theun Karelse studied art at the Sandberg Institute in Amsterdam before joining FoAM a translocal platform for artistic research. Currently Theun leads the MidWest Experimental Station which features experiments and artistic

expressions related to horticulture, urban ecology and restoration ecology. He initiated Machine Wilderness, a program investigating technology aimed at participating holistically in natural cycles and foodwebs.
<http://theunkarelse.net>

Anssi Laiho

Anssi Laiho is a sound artist/ electronic music composer. For the last 10 years he has established himself as a freelance sound artist. In his acousmatic works Laiho creates constantly evolving sound structures that require the full attention of the listener. Main emphasis of these works is on psycho-acoustics, musical structure and the theoretical concept behind a piece of art.

In his works for theatre, Laiho uses live-electronics in order to create real life live event. In these works Laiho's emphasis is on the social function of a performer as a interpreter of an message envisioned for the audience by the composer.

Piibe Piirma

Piibe Piirma is media artist, curator and teacher based in Tallinn, Estonia. She was initiator and main organizer of conference 'Art&Science - Hybrid Art and interdisciplinary Research' and exhibition 'Rhizope' (2014, Estonian Academy of Arts). She has worked as designer and visual artist since 2002 and curated several new media art exhibitions since 2006. Piibe's current activities are related with PhD studies at EAA since 2009, the title of the thesis is 'Hybrid Practice. Art and Science in Artistic Research'. <http://www.piihipiirma.com>

Further reading on the topic

Field_Notes – HYBRID MATTERS <https://fieldnotes.hybridmatters.net>

Finnish Society of Bioart <http://bioartsociety.fi/>

KAIRA-antenna array <http://kaira.sgo.fi/p/about.html>

Green Dream <http://www.greendreamfilm.com>

Wild City Mapping <http://www.wildcitymapping.org>

Machine Wilderness <http://fo.am/machinewilderness>

Sonic Layers

http://soundcloud.com/anssi-laiho/sets/field_notes-hybrid-matters-2015

Research by Estonian scientists about Kilpisjärvi

http://www.researchgate.net/publication/280931237_Factors_affecting_the_chemical_composition_of_snowpack_in_the_Kilpisjärvi_area_of_North_Scandinavia

Para-artistic Ethnography – or Becoming a Spy in Lapland

Lea Schick & Hannah Rogers

This conversation is a story of 'becoming together'. Becoming ethnographers collectively and in relation to the informants we studied. This is what we have come to label 'para-artistic ethnography'.



Act one / Dialogue

Lea: How do you spell spys?

Hannah: Like spices – like seasoning?

Lea: No!

Hannah: Like species?

Lea: No! Like Sherlock Holmes, a spy, – but a collective of spys!

Hannah: Ahhh, SPIES!

Lea: YES, like us, in the Second Order Group. Like we have been labelled spies, by our informants, the artists. That is their best way to translate ethnographers into a language they understand. They have recast/transformed us from social scientists into fictive characters in a crime novel.

Hannah: Yes, but the real crime here is that we don't even know what we are doing in the Second Order Group.

This little dialogue is a re-enactment, based on field notes from a conversation that took place in September 2015 at Kilpisjärvi Biological station in Lapland, Finland. 350 km north of the Arctic Circle 40 people, mainly artists of various kinds, but also researchers and curators were gathered on the bi-annual Field_Notes Trip organized by the Finnish Society for Bioarts.

Divided into four groups, (sonic) Wild Code, Seven Senses of the Land, Encounters in a Layered Landscape, and Postnatural, the participants ventured out into the field in order to "develop, test and evaluate specific interdisciplinary approaches in relation to the notion of Hybrid Ecology." [1] A fifth group called Second Order was doing "research on the rest of the groups, and ... act[ed] as subversive agents to introduce counter perspectives" [2]. What was this Second Order? A second order logic? A higher level of complexity? An interventionist ethnography?

The dialogue above captures the essence of confusion in the Second Order Group. The conversation below is an edited version of a subsequent email correspondence that we (two members of the Second Order Group) had trying comprehend/figure out we were actually doing in Kilpisjärvi. The conversation is a story of 'becoming together'. Becoming ethnographers collectively in the second order group and in relation/adjacent to the informants we studied. This is what we have come to label 'para-artistic ethnography'.

Act two / Subject: [Email correspondence]

Dear Hannah,

Thank you so much for a wonderful time at the Field_Notes trip in Kilpisjärvi last September! It was truly amazing to work with you. I have just received an email from Eric who says that they are looking for short experimental

essays for the Changing Weathers publication. Now I am trying to think through what actually happened there and I'm hoping to get help from you!

It has been 1/2 year now and so many moments and encounters - encounters among others with many different people and disciplines and with reindeers, an owl and a fox[1] - are so very vivid in my memory and I have the sense that I can still tell you moment by moment what happened up there. However, making sense of what happened is quite another task! After all, as members of the Second Order Group, it was our job to observe and reflect upon the work of the other four groups of the Field_Notes Trip.

Starting to think through the trip I naturally looked for my notebook, but anxiously realized that I misplaced it at the last night at Kilpisjärvi as we made our presentation and let the others spy on us - it was such a stressful but fun night. Now I 'only' have our collaborative Google docs fieldnotes document to rely on. Being 'the manager' of the Second Order Group was quite an exciting and challenging experiment in doing collective ethnography with a heterogeneous group of people with very little or no training in ethnography. We had with us two curators, an artist, a philosopher, an environmental activist and the you 'the real ethnographer'! It was quite amazing and quite challenging to see how these brilliant and creative people had each their way of doing ethnography, gathering material, writing field notes, and interesting ways of making sense of and intervening in the field. For such an experimental and collective endeavour, I believe that there is no other way to write about it than to use a collaborative tool - would you like to engage in an email dialogue with me trying to think through our adventures at the Arctic Circle?

Best wishes,

Lea

Dear Lea,

It has been too long! I would be excited to take a look at all we learned about how artists and other disciplines approached the environment and the institutional channels at the Kilpisjärvi Station. Figuring out what happened in the Second Order Group is, I believe, very much intertwined with the way the other groups conceptualized us (as spies) and how they build their own identity. Actually as I write this I can already feel the performative aspect of trying to write this and it does what stages do: raises the stakes!

Luckily, I still have my little notebook but I can readily imagine how yours

would be misplaced: being the leader for a group ethnography leaved you hardly any time to observe since you constantly had to organize where your group members should be at what times! I know the logistics were tremendously complex because our group set out to make observations of every group, every day. Our own meeting time was so diminished that it was up to you simply to hand out assignments! I like the way you managed the Second Order Group by assigning one 'group ethnographer' to each of the four groups and had Jens Hauser and I as "third order" observers moving between the groups. Therefore my fieldnotes are a true mix of observations. In the sense of being a linear narrative, your lost and thus imagined notebook may therefore be more linear than my actual time/date stamps in my field-notebook. To tell the truth, however, this is always my experience of fieldwork: that I am writing a novelistic account of my experience and that my notes and images may help to recall specific details but memory's impressions are just as much of a factor.

The benefit we both have in this task is one another and it seems to me that this difference between mass/collective an individual ethnography is not trivial. As I see it there were two methodologically interesting issues in play in the Second Order Group. Firstly, there was the challenge, as you write, of how to do ethnography with people with very little experience in ethnography. Secondly, there was the challenge of how to do a group ethnography of four moving groups in a way that allowed us to study both the specificity of groups and to see things across groups – how to share ethnographic experiences and find patterns across them. Do you remember the first meeting we had in the Second Order Group where we discussed how we could agree on looking at/for specific things when going out with the groups. We talked about how it would be good to have some coherence in our material in order to be able to compare. And we discussed whether there would be specific things we should look for in order to give rigor to our ethnographic work. This picture from the end of the week gives an interesting insight into our messy method for knowledge exchange of ethnographic observations.

In fact, we were just thrown into the work without really knowing how to study and what to study – I guess you could call this a flash ethnography because we not only did not know our subject but had very little time to find out what it was. We had to invent ourselves as a group. Simultaneously with the groups we also had to invent

themselves. This created a rather unsettled field ground. Is this what they call an ethnographic challenge?

Best,

Hannah

Dear Hannah,

You are so right about the wobbling field. We were situated in an amazing and very stable arctic landscape of short birch trees and yellow-red [what is the name of the small berry bushes vegetation?]. Our study objects were the other four groups: (sonic) Wild Code, Seven Senses of the Land, Encounters in a Layered Landscape, and Postnatural. Though the groups had predefined themes they were also very much in-the-making.

I just found some of my notes from when I prepared for the trip (another notebook which did not get lost in the wilderness), where I write:

How are realities, or worlds, being done and undone in the various groups?

How can we as the Second Order Group intervene in these worlds?

In Science and Technology Studies (STS) there is a long tradition of making ethnographic studies of the onto-epistemic realities/worlds existing and emerging within scientific communities e.g. in laboratories and other kinds of knowledge practices. The production of knowledge and reality is happening through socio-material practices involving scientists, their instruments; the technological and 'natural' environments. Going to the biological station, including labs and eco-systems environments to study, with a group of practitioners within 'art and science' I wanted the Second Order Group to study the identity and the shared knowledge-practices of the four groups.

However, compared to more classical labs where the social researcher go to study an 'already existing' reality where scientists are working on somewhat more defined problems, the assignment in Kilpisjärvi was very open:

"Field_Notes – HYBRID MATTERs is in search of artistic and scientific responses to converging ecologies. The local sub-Arctic ecology and environment, as well as the scientific research and infrastructure of the Kilpisjärvi Biological Station will act as fields and catalyst for the work carried out."

We were studying groups of people who did themselves study a yet 'undefined' and 'unbounded' field. Also, the people in the groups did not

know each other beforehand (except from most of the people in the Postnatural group) and I quickly realized that a challenge (compared to more classic lab studied) was that there was no 'reality' to study. The field we studied was only in the midst of figuring out its own existence. The groups were (including our group) in a constant practice of 'inventing' themselves, which made it very difficult to figure out what we were studying – not least how to intervene into something yet entirely unstable...

In STS there has recently been an emerging interest in how we as (social) researchers can intervene in the realities they study – how they can show how things 'could be otherwise' (ref). In the description for the Second Order Group it was written that the group should act as subversive agents to introduce counter perspectives." and I had prepared various inventive methods for intervening such as 'sami yoiking'. However, we quickly realized that this kind of intervention did not work. How to introduce 'counter perspectives' when there was nothing established and taken-for-granted to intervene in? This, however, was not the same as we did not intervene! Quite the opposite, I had the feeling that the group ethnographers' very presence in the groups was parts of constituting the groups and of building their identity. Thus, studying, field and intervening was co-constitutive to one another.

What we studied, how we studied, and on which grounds we studied it, was never really stable. To sum up this situation I will quote cultural anthropologist Kim Fortune: "figure and ground continually oscillated", (2009, p. 172). Fortune is describing a feeling familiar to many ethnographers, however I believe that this was brought to another level as we had to do with a group of people not used to do ethnography studying and intervening in a field in-the-making.

I will end this long email leaving you with this ethnographic complexity, but I also want to ask, what it did to the other groups that they were observed by the Second Order Group – what they labelled 'the spies'?

Best wishes,

Lea

Dear Lea,

Thank you for your email. I think you are on to something here. Let me start with your last question.

It was really funny that we had only been at the biological station for a couple of hours before the Second Order Group were proclaimed 'the

spies`! I don't remember who said it, but it was in the dining hall at the very first Field_Notes gathering, and the label stuck with us the whole week. Though this was a joke, I believe that it did something very important, both for the making of the identity of the other groups and for the identity of our group. The way that the artists turned our magnifying lens into a mirror through their labeling is surely interesting, especially given that it was hardly neutral: "spy" is by definition not neutral.

Labeling us as spies is naturally a way of 'othering' us (not in in the post-colonial inferior sense, but rather in the act of making a difference between us and them) – making us into an imaginary enemy that one should be wary of. But along with the 'enemy status' came also a 'family status.' It was interesting to see how the groups included the 'group spies' into their new-born community. And there is the matter of how the group spies identified and took part in the groups. At several occasions you even had to remind them that they were not part of the groups, but they were there to study them. We were spies who did not know what we were looking for and more importantly as you say, did not know how to look for it.

As one of the so-called migrating ethnographers it was my impression that being observed and the observations that the second order people shared was part of making the groups' identities. Talking in a general way about patterns across informant groups is interesting, but the whole reason we do ethnography is to capture the particulars and the context of lifeworld so it is worth nuancing who our informants are and who they think we are when we think about how to analyze our data.

In the (sonic) Wild Code Miguel's observation that "the sonic group is silent" seemed to become a label for them. For Miguel, who is trained as a photographer and researcher, working with sound artists who were moving silently through the landscape recording sounds and listening through earphones was challenging his sensory apparatus. Coming from the talkative south (Portugal) being quiet was quite a challenge for Miguel. I was with him and the sonic group for one day and it was a really interesting ethnographic experience to observe people listening to things you cannot hear. The sonic group played music on all kinds of things they found in the landscape like rocks and reindeer fences. Besides being an ethnographer and a spy Miguel also came to function as the group's traveling audience.

In the PostNatural group Anna Katharina 'went native' and her

participation in the group went way beyond intervention. With her social personality and her philosophical sensitivity she was included as a member of the group. The subject of the PostNatural group – human effects on ‘natural’ environments – was indeed a rather philosophical topic and it was my sense that her study of the group was through personal and philosophical conversations with the group members as they hiked over the sub-arctic landscape. Making distinctions between ethnographic observations and participatory interventions and between group and spy/ethnographer seems impossible here. I wonder if this is always the case when you send a philosopher out to do ethnography – she ends up in conversations?

In the group Seven Senses of the Land (SSOTL) Tiina was much more of a modest and distant observer. Compared to the sonic groups the SSOTL group was much more centered around the group leaders who inhabited the space as ‘experts’ and authorities. The local Sami reindeer herder and the drone experts (the group explored augmented senses of the land through drone technology and local, traditional knowledges) called for a more centralized group dynamics and thus made way for a more traditional ethnography. However, Tiina is an activist and she intervened in the group dynamics – not with a planned intervention but as a reaction to some social conflicts in the group. This ‘intervention’ turned out to be pivotal to the further work of the SSOTL group.

For example, if we take Maren and her group Encounters in a Layered Landscape, I really sense how Maren’s profession as a curator mattered for her engagement with the group. From the beginning she was very eager to intervene in her group, and I loved the way she made the group create small exhibitions of the objects they had gathered. It is my impression that Maren’s curatorial practices was indeed part of co-constituting the group’s identity.

From these four ethnographic observations two important points emerge. Firstly, the fact that the ‘spies’ were neither trained as spies nor as ethnographers mattered for the kind of studies and interventions they made. Due to their different professions and of course their personality they approached the job with methods and sensibilities very different from a more classical ethnographer and very different from one another. Secondly, it was my impression that the groups were not left untouched, but they were partly co-constituted/transformed by their spies.

I will end this email with a question for you: what may we call such odd

studies of artist made by people who are maybe more looking more like their informants than like ethnographers?

Best wishes,

Hannah

Dear Hannah,

What a great question – it somehow resembles a question raised in ethnography/anthropology and STS: what do we do when our informants are similar to ethnographers. Thinking about how to frame and write about our 'experimental ethnography' in Kilpisjärvi I came across the text *Practitioners as Theorists: Para-ethnography and the Collaborative Study of Contemporary Organizations* (Islam, 2015). Here Gazi Islam presents a review of newer experimental developments in ethnographic methods. I find the concept of para-ethnography very interesting to think with. It refers to the move among anthropologists and ethnographer to study environments such as organizations and work places where the informants they study are oftentimes educated as sociologists, anthropologists and even ethnographers.

A lot of the work that the informants such places are doing is very similar to that of the researcher, namely to analyze and reflect upon people-organization interactions. Oftentimes the informants are using same theories and methods as the people who study them and they are often partaking in doing the reflexive and analytical work. It therefore becomes difficult to distinguish between informants and researchers, and to distinguish between field and analysis. It creates more fluid temporal and spatial researcher-participant boundaries; "para-ethnography decenters the ethnographic authority from researcher to the interface of researchers and informants." (Page 238).

Involved in the para-ethnography lies a question about what it means for ethnographers to loosen their hold on ethnographic authority. This is not only interesting to the way in which we had to let go of our ethnographic authority as this was distributed out among our group members, but I also see an interesting issues around the way the groups/ artists turned our magnifying lens into a mirror, as you wrote in an earlier email, and labeled us spies. I have the feeling that the field and the 'observers' could not be kept apart in Kilpisjärvi and that groups were partly co-constituted by the presence of the 'spies', just like the Second Order Group was co-constituted by the fields we studied.

In Kilpisjärvi the case was not that the informants looked like the 'ethnographers' but vice versa. Instead I believe that because the members of the Second Order Group were not ethnographers but instead held jobs/backgrounds/practices somewhat similar to the people they studies they had entirely different possibilities for engaging and intervening in generative ways.

So, thinking about what it did to the artist at the Field_notes trip to be observed and thinking about what kind of experimental ethnography we were doing, I will propose the concept 'para-artistic ethnography.' By this term I suggest that the artistic practice and the ethnographic work was co-constitutive of one another. How does that sound to you? I know you have done ethnography on artists before. Do you think this concept can do any good?

Hope to hear from you soon.

Best wishes,

Lea

Dear Lea,

I am excited to see your quick response in my inbox, and am immediately captivated the Islam text.

My first thoughts about this concern participant-observers. I think this classical idea bears both on the kinds of interventions (you describe as possible personal or possibly professional in nature but certainly the two are un-sortable for us and probably for anyone) since generally participant-observers stop thinking of their roles as being interventionist and begin thinking of them as contributory and also on the issue of reflecting on reflectors, as Islam does.

Alongside the concept of para-ethnography we could also think about the 'parasite' as figure. Miguel circulated the parasite text by Michel Serres (2007), which we also talked quite a bit about on the trip. Could we rework the idea of para-ethnography as one where the ethnographers are becoming ethnographers in a parasitic relationship with its informants?

In a strange way the parasite text and your suggestion of the Kitchen Stories film, which struck my imagination – and I think Jens too – given his later interest in recreating the kitchen for our final presentation as a way to think about what we had done and display it for our informants.

Both point to stereotypes of ethnographers.

There are so many other issues I'd like to cover here. When is this piece due again?

Best,

Hannah

This discussion is a reflection on [Field_Notes - HYBRID MATTERs that took place on 14.-20. September 2015](#). It followed a blog post [The Owls are not what they seem – second, third and fourth order observations](#).

[Field_Notes – HYBRID MATTERs](#) is an art&science field laboratory organized by the [Finnish Society of Bioart](#) at the Kilpisjärvi Biological Station in Lapland, Finland. The project is in search of artistic and scientific responses to converging ecologies. The local sub-Arctic ecology and environment, as well as the scientific research and infrastructure of the Kilpisjärvi Biological Station will act as fields and catalyst for the work carried out.

Acknowledgements: This essay owes a deep thanks to the other five [group members](#): Miguel Santos, Jens Hauser, Tiina Prittinen, Anna-Katharina Laboissière, and Maren Richter, and to our wonderful informants from every group.

[1] For more on these human and nonhuman encounters please see a blogpost written by the Second Order Group: [The Owls are not what they seem – second, third and fourth order observations](#)
<http://fieldnotes.hybridmatters.net/posts/second-order>

[2] <http://hybridmatters.net/pages/field-notes-hybrid-matters-group-descriptions>

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Arctic traverses – Atmospheric Heritage

Judith van der Elst

Walking. Traversing the land in the Arctic and Sub-Arctic, lichen underfoot, no tree in sight. Did PreCambrium land look like this?



The appearance of fungi and plants millions of years ago resulted in a rise in percentage of oxygen in the Earth atmosphere, and lichens are believed to have been the first fungi to team with photosynthesizing organisms that made this, and life on Earth possible (Hedger et.al). Walking through the Arctic/sub-Arctic landscape feels like the edge of our world, a place where life is, or seems emerging and fresh (www.hedgeslab.org) .

In September 2015 I participated in the Hybrid Matters Field notes workshop as part of the Seven Senses on the Land (SSOTL) group. The workshop, organized by BioArt Society was held at the Biological Fieldstation in Kilpisjärvi, Finland. The initial work of the SSOTL group, led by Marko Peljhan, Matthew Biederman, and Leena Valkeapää, comprised drone mapping of cross-border vegetation patterns, working towards different ways to address

the problem of restricted movement of reindeer herds, dictated by geopolitical forces. The seventh sense refers to new technologies with which we can go beyond the human sensing range.

From Oula Valkeapää (Leena's partner), who is a Sami reindeer herder in this region, we learn that traditionally/naturally the reindeer move to summer lands in present day Norway and return to Finland during the winter. During their migration, the reindeer forage on different foods available in the different seasons, and in winter they feed on lichen from the trees or from the ground beneath the snow cover. Their sense of smell guides them in the darkness, through the snow. Nowadays, it is no longer possible for Oula and other herders in this region to take the herd across the Finnish-Norwegian border and the reindeer's natural habitat is truncated.

Being able to experience this incredible landscape in the Arctic region in which the biological field station is located, makes you aware of the human adaptations to the unique spatiotemporal patterns: the light and the dark, the dynamic of geophysical, biological and atmospheric processes, creating color spectacles and 'scented trails' to navigate the darkness during the winter months. The close relationship between 'man and animal' allows humans to sustain themselves in circumpolar landscapes, which is now impacted in multiple ways.

One year later I return. Even though I am only one week later in the season, the landscape is very different from last year, the intense autumn colors are already replaced by frosted vegetation and snow capped mountaintops. My travel to Kilpisjärvi is a project in itself, exploring the trail from Norway to Finland. I am curious about the trail that was traditionally taken to summer pastures in an effort and wish to continue my work on sensory stimuli as critical sources of knowledge and communication. Trying to understand communication between and among organisms (biosemiotics), health and aesthetic experience and explore new ways to expand or re-learn our sensing limitations.

Interfaces

As humans we physically connect to the Earth's surface mostly through the soles of our feet. With the remainder of our bodies we are in touch with the Earth's atmosphere through our skin. This sphere, the atmospheric boundary layer in which we move around, is incredibly dynamic and holds for instance the magnetic shield that protects us from harmful cosmic rays. At either pole, the deflected rays spiral around where they ionize atoms and recombine with

electrons to give off light, visible to us as spectacular colored swirls, the Auroras. So maybe the atmospheric boundary layer is also an interface of sorts, 'translating' cosmic energy into interpretable patterns and resources. The arctic environment around our current north pole is particularly sensitive. Light and temperature patterns result in a short growing season, creating a surface layer of wetlands, rocks and rock covered with lichen, a delicate forest underfoot, most of the year covered in snow.

The present day (forced) change in Sami lifestyle is not the only thing that is changing in the Arctic region. Even though the landscape looks wild, unspoiled and desolate, the Arctic region is severely impacted by human induced climate change. The complexity of climate feedbacks are difficult to understand, yet it is already known that the Arctic is extremely sensitive to climate change and a "major receptor region for long range transport of both persistent organic pollutants (POP's) and mercury (Hg) which can accumulate particularly in the Arctic environment due to low temperatures, snow covered surfaces and extended conditions of darkness. Air pollution, it turns out, is a major driver of climate change in the Arctic; toxic substances arrive and settle at 'lung' level from sources far outside the region, especially during dark times (Arnold et.al, 2016)

Atmospheric heritage – understanding ephemeral relationships that connect us all

I am trained as an archaeologist and to work as an archaeologist means using a myriad of methods for understanding human-land relationships and changes in the land: rainfall patterns that can be 'read' from tree-rings; determining the age of organic material by using the properties (half-life) of a radioactive carbon isotope, to name a few. We mostly stick our head in the sand, literally. What I have learned though over the years is that the ephemeral qualities and (their) flow are crucial principles in spatial thinking of many human groups, underpinning design of the human sphere through time. It is now more important than ever to pay attention to life sustaining flow, spirit, breath or whatever names we can give it.

The oscillating patterns of the materials mediated by the flow within and among organisms, between organisms and their surrounding, permeate and connect. Some of these patterns have left their mark in the land; striations in the arctic rock are a remnant of ancient wind forces. Others are more difficult to understand from our current perspectives, but new fields such as biosemiotics, biochronology, biometeorology and bioart offer portals to

transcend conventional boundaries, intellectually and technologically. For instance, the light-dark cycle is one of the main biological Zeitgeber. In the Arctic, this pattern is at its extreme, creating unique ecosystems and interactions. It also deviates from the human internal diurnal pattern. To better understand how the changing atmosphere influences the mind, I set out to explore 'embodied information gathering', starting in the Arctic desert.

From a distance or in a photograph this land looks smooth, but hiking across it turned out to be much harder than anticipated, demanding careful attention of where to place the feet, to avoid sliding, slipping and sinking into the ground. The surrounding air feels good though, and the only sounds I am consciously aware of are the gurgling sounds of running water across and sub-surface. Aware that while moving through this vast landscape communication takes place at all times. Aware that the lichen that cover the surface are engaged in a similar activity, taking up and emitting chemical compounds from the ambient sphere to survive. Connecting the human with the lichen is the reindeer.

Sight however may be deceptive, recent research shows that the chemical substance of the surrounding sphere is likely contaminated and I begin to wonder if I can still find uncontaminated air, air that is made life possible and incredible potent. The idea of TOP AIR fills my head as I set out to go in search for lost air as my new archaeology endeavor to develop sensing technologies to understand our atmosphere. My trail starts in the Arctic.



Captions from upper left: 1. Norway, September 2016, 2. Mapping the land, Hybrid Matters, September 2015, 3. Colors of the land, 4. Atmospheric processes.

Text and photos: Judith van der Elst, PhD, www.asthecrow.net

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Imagining the Changing Weathers – Physical narratives (Part I)

Time's Up

The white paper in your hands is our attempt to summarise our activities within the Changing Weathers project in the light of previous developments and where we are aiming to develop in our next stages.

When I talk about today, I am planning for the future.

When I talk about the future, I am thinking about today.

We have been drawing together ideas, expertise and experience in the fields of futuring, design, physical narratives, facilitation and a whole range of related topics. These have bundled themselves into a collection of practices that leave us in a very interesting position with regard to the development of new projects. While we are enjoying this position, we hope that others might gain from some of our experiences and have thus collected them into this document.

The first chapter is an explanation of why we think that physical narratives and futuring work well with one another. This chapter emerged from an article we wrote with our friends and colleagues Maja Kuzmanovic and Nik Gaffney from FoAM Brussels and contains significant overlap.

The second chapter is a summary of our data gathering process in the form of four transiencies, i.e. residencies in motion that we undertook in 2015 and 2016. This is perhaps most specific to the themes that we developed for the background for the development of our experiential futures installation *Turnton*.

The third chapter is a short narrative of the development process for *Turnton*, explaining some of the steps we took and showing how the ideas mentioned in the first chapter were applied.

The audience for this document is probably threefold. There will be people interested in the use of physical narratives for futuring, who will be

interested in the first chapter and the third as a case study. A second audience will be people interested in the emerging practice of sail and fair cargo, who will find many ideas from the loose community in the second chapter and ways that some of these ideas landed in an exhibition in the third. The third group of readers might well be those interested in what we did in Turnton and wanting to understand some of the background to the project.

We welcome feedback and questions, as this work is by no means concluded, as is apparent by the piece meal nature of the Trasiency chapter. We are continuing to develop in all the fields that we touch upon in this document and look forward to hearing about other ways of approaching these themes.

Stumbling into a Possible Future

Exploring possible futures is a fundamental skill in periods of disruption and change, which many indicators imply ours is. Whether this is the emergence of Ziauddin Sardar's *Post Normal Times*, another cycle in one of the many cyclic models of society or the mere perception that we are special, makes hardly any difference. While we have many ways to think about the future, from speculative fiction to family planning, too many of them are filled with implicit expectations and allow the importation of propaganda and other elements that undermine any sense of objectivity, or moreover introduce anything other than what we expect in the first place. While futuring can never be truly objective, attempting to break out of the subjectivity that traps us into thinking about only certain futures is vital, as is attempting to escape from propaganda, wish fulfilment and pre-ordained perspectives.

The academic and professional area of futures studies attempts to work around this by developing formal methods to examine computed prognoses in order to include as many influences, expert points of view, ways of knowing and specialist knowledge bases as possible. Of course there is no accurate prediction possible, but techniques allow the exploration of scenarios, systems of structures that, together, allow the creation of multiple viable plausible futures, spanning a wide collection of intermediate possibilities. A less academic approach to futuring, which we have found to be of value in our developments, involves bringing together a disparate group of participants in order to examine the possibilities that they, together, can create. Building upon techniques such as Art of Hosting and

Unconferencing, we regard those present as the relevant experts and examine possible futures that are of importance to those participants. By gathering many possibilities, participants are made aware of the vast range of possible futures that they can prepare for, aim at, or work to avoid. By working with diverse groups, further restrictions in the development are removed. These techniques are derived from relatively technical and formal expert futuring techniques that allow a relatively non-expert group to explore possible futures in a structured way, this opening the exploration of futures to a wider audience.

One of the more important techniques, developed and disseminated by Peter Schwartz and the group at Global Business Network, takes the ideas of a possible future and creates not only parameters but a complete *scenario*, a view of the world that includes not just some of the effects of possible future developments, their repercussions and interactions at a societal level.

We have been working with futurists, artists, cultural workers, social activists, entrepreneurs and others in order to explore the ways in which these techniques can be used to explore near future possibilities on a human scale. We observe that the mere creation of a scenario is not enough. We think that more insight into possible futures can be obtained by the creation of entire worlds and then detailing slices of them containing the necessary systems, institutions, social groups, fears, hopes and other social changes. Breaking this down to the effects of possible futures on everyday life, we arrive at the fields of *everyday futures* or *small storyworlds*, where we look at characters and their stories within these fictional possible futures.

We choose a particular way to then develop these storyworlds for the public, the so-called *Physical Narrative*. A physical narrative is an explorable installation that builds a fragment or slice of a possible world, inviting the public to enter and explore it. The fragment is immersive and character based, filled with the materiality of the possible futures and the actions, reactions and everyday life of the characters to be found within it. By creating these fragments, inviting the public in and then letting them explore, this technique invites and even demands the inquisitive discussion of the objects, actions and atmosphere of the space. The public is invited to conjecture, to make and then question assumptions, to share their feelings, hopes and reactions to this possible future.

One of the hopes is that such embedded experiences then imbue the public

with a feeling of the possibilities and the fact that there are things in everyday life in which they are involved, that the changes in them are not immense and impersonal and unavoidable, but are part of their lives, their actions and their world, to create as they see fit.

Futures Literacy

There is an anecdote that cuts to the core of our issue. Working with a group of students, futurist Alvin Toffler led a discussion about the developments that the students expected to observe in the next decade or two as they became adults. He was impressed with their understanding of global politics, the rise of terrorism and political actions, potential conflicts about resources and technological developments from materials science through to space exploration. When he then went on to talk about their personal futures, the students talked about the size of their family, the locations of their houses and whether they would have a cat, a dog or both. He was surprised at this disjunction between the awareness of immanent and immense change and its effect on the everyday life of the students. This is one of the issues that we seek to explore, as we compose situations that explore the possibilities for the influence of possible futures on everyday life.

As the world enters something that has come to be known as *Post Normal Times* and many of the existing cultural and intellectual references fail to apply, it might be reasonable to strive for new ways of understanding, discussing and working with possible futures. As our intuitions and conceptions have been formed by what is thus known as normal times, many of these pre-conceptions will no longer hold. As with the children in the Toffler story, it will not suffice to think about the same issues that immediately concerned our parents as to what the future might bring, nor is it enough to fall back on the intuitions developed with our experience before the post normal times. We need to apply techniques that break with these preconceptions and ingrained ways of thinking in order to more widely explore the range of possibilities before us, to perceive, explore, adapt to and even benefit from the turbulence.

Such a period of turbulence will bring both constructive and destructive elements to the surface. In crisis, alongside the problems, we can see opportunities to create new tools, new cultures of thinking and acting, new structures for individuals, groups and communities to orientate and navigate.

We need tools to enhance hindsight, insight and foresight in order to better understand the consequences of our decisions and actions. The future is uncertain, but some rough shapes can be perceived in the present. We can indulge in conjectural imaginations, tell stories about our current situation and imagine how things could be otherwise. We cannot convince one another that we are right because we cannot be right, right now; the future has not yet happened. The future must remain doggedly uncertain. Being prepared for uncertainty may appear paradoxical, yet this mindset could be exactly what is needed in contemporary global turbulences. The tools and knowledge of futures studies and other fields dealing with uncertainty may help people to make sense of the weak signals, trends and tangled forces felt from the personal to global scales. While the process of developing such a futures literacy does not make one immune to the effects of these forces, the process of developing everyday scenarios within possible futures reminds us that there will be an everyday within this and other possible futures, reinstating our capacity to respond and shape our reactions to the possible future, perhaps even to be part of shaping it, to read, decode and respond to the weak signals and emerging trends.

One set of tools that we have become aware of is that of *Futures Literacy*. We need some skills in order to decode these signals, a way of thinking out loud about the future. Futures literacy is the capacity to be able to think, speak, test, learn and share ideas about alternative and preferred futures. Futures literacy is a skill set that enables practitioners to investigate possibilities about the future, to disassemble monolithic future visions and look at variations and adaptations. Futures literacy is a necessary skill in fast moving times when the sureties of the past no longer hold. Futures literacy enables and motivates informed action in the present.

Physical Narratives for Futures

A physical narrative can be described as a theatre without actors, where spectators become engaged visitors, playfully discovering futures by exploring physical spaces, objects and (interactive) media. A physical narrative is an experiential world, rather than a singular story, to be explored and interpreted rather than consumed. Physical narratives take the form of immersive installations where entangled fragments of scenarios can be examined through all the senses as a self-contained, aesthetically coherent reality. Direct experience of scenarios presented as physical prototypes can engage visitors with alternatives to the status quo, and

suggests that futures can be proactively influenced by all. Scenarios that are closely tied to everyday life bring the visitor's perceptions to a comparison with their own, experienced everyday, further inviting action and the conscious co-creation of a preferred future.

We use a physical narrative of a possible future to make the scenario more relevant than the bare facts of a combination of emerging trends, more life like and life relevant than the shininess of a science fiction movie.

As there are no human guides in a physical narrative, visitors gather meaning and interpret situations in the same way they would in unfamiliar environments. They are invited to observe, investigate and discuss what it might be like to be a part of a possible future, in physical situations that can be freely explored. Reading a scientific foresight report or watching a design fiction video assumes a distance between the scenario and the reader or viewer. In physical narratives, the visitors are surrounded by the scenario, as if they landed in a parallel universe. The important difference being the *lack of distance*, which allows the visitors to inspect the scenarios using all their faculties, including somatic, intuitive and cerebral. Such immersive experiences can be intense and disorienting, especially with near future scenarios, where the slip between fact and fiction can be subtle. The future can feel quite up-close-and-personal, eliciting a strong emotional response or a desire to reflect on the repercussions of the experience for the visitors' own lives. Incorporating social spaces with physical narratives to decompress and share experiences is crucial for their critical assimilation. The visitors can exchange insights and extrapolate to their own aspirations and projections, thereby developing their capacity for (ambient) foresight and contributing to the spread of futures literacy.

We would like to note a particular terminological choice that we have made. While a performance will often have an audience or a spectator, we avoid these terms as they imply not only a certain passivity but also a restriction to an audible or visible perception. This passivity remains when we use the term *observer*, which can be construed to include all forms of observation including olfactory and tangible perceptions, but maintains its anthropological distance. Two terms that are often used to involve a person in the space are visitor and participant. The term *visitor* implies a certain form of hosting on our behalf, that a person is welcomed into a space and given some freedoms, but is expected to behave as a visitor, not creating the world. The expression *participant* indicates a further level of involvement, even co-creating the storyworld. This term is valuable when speaking of such practices as pre-enactments and pre-rehearsals, as

practised by our colleagues at FoAM. For this essay, as we are focussing on physical narratives, we will remain with the term visitor as a way of describing the interaction. One comparison that can be used to describe a physical narrative is to imagine visiting someone in their office, but the host must leave for 10 minutes urgently, “take a seat, make a coffee, feel at home” as their parting comment. In the time available, our eyes scan the bookshelves and the hung paintings and a photo with a national politician, the coffee cups on the desk, the freshly used wine glasses on the coffee table and we begin to combine these traces to form an idea of the personality and the story of the office inhabitant. However, as a visitor in real life, we do not open the top drawer of the desk or unfold the hand written letter on the table. The artificiality of a physical narrative allows and encourages such snooping behaviours. As such we like to talk about the public in a physical narrative as a visitor, a particularly snoopily one.

Some approaches we have taken

We would like to share some of the approaches that we have used for composing physical narratives that we find to be particularly relevant when using them for constructing explorable possible futures. In the next section we will share some observations.

Strangeness and Familiarity

Like a good pop song, we like to understand the structures of what we perceive, but enjoy the small deviations that come along with it. Familiarity comes from many sources, encompassing the totality of our experiences and surprise comes from deviations that do not throw us off too far.

We sometimes think about physical narratives as a film set, where the experience of the visitor can be compared to the use and performance of a camera. Whereas film experts think of the opening or establishing shot as a reference creator, we use the first view in the same way, to give the visitor to the space an overview of what is to be found, to open their perceptions to what might be available, to allow them to explore and encourage them to dive in.

Our attempts to create multiple entry points for a visitor are part of this constructional basis. This uses the familiarity of the visitor, or their affinity

for certain themes, in order to attract them to investigate and explore a certain aspect of the space, a certain part of the room, a particular object or display, screen or surface. Once a visitor has invested some time, they obtain familiarity with the storyworld and can then begin to dive into another part, deeper into the story world. While this subsequent subject of their investigations might not be so familiar or immediately attractive, it is connected to the first and allows a deeper understanding of the world portrayed in this installation. Thus the visitor is drawn into the story, following interests and references, building an understanding of the world in much the same way that we do it in everyday situations: by developing a provisional understanding and building upon it.

In the media saturated early 21st century, we have found that an important question arises as we endeavour to create familiarity. Authenticity feels like it should be important, but for most of us, the media landscape is that which creates familiarity. Most of us have never seen a real murder crime scene nor worked in a fisher's workshop, but have ideas about what is to be found in both of these things as a result of media exposure. The realities of each of these places is secondary, inasmuch as we are not involving people who have some experience in the field in question. While the authenticity of an environment such as the mathematician's office in *20 Seconds into the Future* was confirmed by a number of visiting mathematicians, the overload of materials led to an unsatisfying dramatic and narrative experience due to the lack of clarity. The accompanying diagrams on the walls, something that a real mathematician regards as mere decoration, is familiar to visitors from series such as CSI and Numb3rs and feels thus more authentic as a mathematician's or scientist's workplace.



Familiarity and surprise, perhaps even cognitive dissonance, is further amplified in a futures based physical narrative, as there is less familiarity to be dealt with. In *Lucid Peninsula*, we approached this problem by using consciously atemporal technologies such as gridded monochromatic screens and oversized test tubes, creating an environment that was clearly not embedded in our current reality, but also not in the past, thus leaving some kind of future, but an unfamiliar one, as the only option. A similar situation has been part of the development of the physical narrative as part of our work within the *Changing Weathers* consortium. Dealing with issues of water pollution and ocean ecosystem collapse as we imagine responses to these and other challenges that have led to a structurally changed Europe, we are building a world that is emerging within the changes we are witnessing at the start of the 21st century. This world is filled with familiarity, being only a generation into the future, but also dissonances with a toxic ocean and high-tech sustainable transport with antique-seeming shipping alongside new cuisines and a vibrant migration-based social system with social wealth redistribution at its core. Please see the extended notes on the Scenario development and the storyworld in the next chapter.

The Everyday

Our media and mind landscapes are filled with possible and plausible visions of futures, spectacular technological advances and social change. These changes are often overwhelming and awe inspiring, sometimes to the point of being awful. In many cases, they lead to the response of deer caught in the headlights, stasis and panic. Or perhaps we “play possum” and pretend to be asleep, uninterested in the changes and letting them sweep over us.

By breaking the changes down and looking at effects on the leading of everyday life, futures-thinking becomes part of our everyday arsenal of ways of thinking. Big budget Hollywood science fiction films have teams that develop aspects of the everyday within their films, with details such as the slippers in the movie *Moon* relegated to the background, but creating a stronger feeling of depth in the world and the characters. Perhaps the most unsettling part of *Minority Report* is not the way that criminals will misuse power and technology to cover their own traces, rather the implications of retinal tracking to provide tracking of purchases and eliminating personal privacy on an everyday level.

By bringing the scenario developed in a futuring workshop down to the level of the everyday, we investigate implications for “the rest of us” and avoid the feeling that the future is something that is done to us by experts and higher powers. We feel strongly that Jose Ramos` comment about abstract futures can be well dealt with by considering everyday futures.

“... the future shouldn't be an overly abstract concept lacking relevance, but rather an inspirational call to action with traction.”

By translating to the everyday, we deliver our efforts into seeing what can be done to respond to and shape the effects of current and emerging trends. We can remove ourselves from the headlights and regain some perspective on what is possible, plausible and probable, thinking about how it will affect us.

Some things we have done and things we have noticed

With physical narratives we design speculative situations and scenarios (future, present or parallel) as tangible environments. Physical narratives generally incorporate several key aspects in their design: playful exploration, tactile/immersive experience, the mixture of familiarity and strangeness and social interaction. The following paragraphs provide a brief overview of our rationale and several examples from our practice.

Explorable Spaces

In a physical narrative, scenarios become ambient narratives, with no predefined beginnings or endings, and no linear progression from one story fragment to another. As the scenarios are scattered across the space in hints and fragments, it is impossible to experience a physical narrative as a clear-cut, singular future: there are many possible stories hidden within. Characters and storylines are implicitly discovered, rather than explicitly described. Like a good horror film, physical narratives affect the viewer just as much by what is left unseen as by what is presented. The physical narratives invite the visitors to actively discover, interpret and co-create a range of possible scenarios; to weave the story-fragments together from physical artefacts, media snippets and dispersed segments of the characters' stories. They create meaning on-the-fly, akin to free play (Kane), where the making and breaking of rules and hypotheses about the world simultaneously creates the world itself.

In *Stored in a Bank Vault*, visitors take on the role of a detective, stumbling into the underground lair of a group about to rob a nearby bank vault. As they explore the basement, they uncover various aspects of the story - in hacked computers, tapped surveillance cameras, architectural plans, sedatives, by overhearing a character's phone conversation behind a locked door, or chancing on a plan of attack. Dedicated investigators discover that the heist may not be just about cash, but some enigmatic seeds. They may find a trail of the group's previous exploits that reveal deeper layers of motivation. Just like in a good thriller, this leads to surprises and unexpected plot-twists, seducing the visitors to delve deeper into the story.

Multisensory Spaces

Physical narratives are interactive environments in which fragments of scenarios are transformed into physical spaces, objects and tangible media. When people explore possible futures by touching, standing on, handling or smelling speculative artefacts, they rely on their mental, emotional, as well as somatic faculties. Engaging all senses allows for multimodal learning and stimulates imagination. The immersive, interactive nature of physical narratives invites visitors to “fill in the blanks” between scenario fragments presented as tactile media. As in the adage “I hear and I forget, I see and I remember, I do and I understand”, in physical narratives the visitors can relate to abstract concepts as experiential phenomena, which makes them more approachable and easier to understand. Rather than read and analyse, or watch and absorb, they inhabit the scenario and learn by doing.



In *Lucid Peninsula*, visitors find themselves in a hotel room, in a future where pollution and environmental degradation have led to peculiar developments in medical and consciousness technologies. An airtight window is fitted with the *OrganoClean* air purification system, the room breathing mechanically, as the air bubbles past plants growing in oversized test tubes. The buzzing of a detox shower can be heard through the locked bathroom door. Clothing items are tagged as having been decontaminated.

The bed is flanked with a *General Infection Negation* blood cleansing device and a *DreamNet* system for "sharing dreams with friends and colleagues." Upon entering the room, visitors are absorbed in the hypnotic breathing rhythms; many lay on the bed with their eyes closed, while others pensively investigate the copper-tubed breathing apparatus and brass window viewer, showing an overlay rendering of the outside world.

The creation of a physical, haptic space enables not only a heightened form of immersion, but also authenticity. Instead of developing complex models of hair movement or a simulation of velvet curtains, instead of the creation of a simulation of the scraping of a chair across the floor, we can simply take the object itself, with all its intrinsic features including weight, smell, light reflections and material stiffnesses. Building a possible future is however difficult, as many of the technologies do not exist or do not work as they should. However as we are not concerned with the actual use of such future technologies, rather in the effects of their use on the culture and everyday life in that future world, we can avoid the object and only include its effects, embedded in artefacts, reports, narratives and processes. For instance we do not need to create ultra light steel in order to discuss the implications of such materials, as the visitor to a physical narrative will see steel and read about the ultra light properties, not hefting it to test its actual mass.

The design and creation of a physical narrative can be a complex and involved task, with all its advantages of becoming explorable and tangible, also carries with it the downsides: there is typically precisely one version of the space, it must be maintained, transported and repaired, the functionality of a machine or system must be made believable, rather than just simulated. A downside that again can be seen to be of value. The visitor to a physical narrative recognises the uniqueness of the piece and the effort that has gone into the hand crafting of the space. In this age of ubiquitous visualisation, the creation of physical objects carries a lot more impact, and with that, the preparedness of the visitor to invest time in exploring the space and its possible meanings.

Social Spaces

Physical narratives provide a shared experience of speculative scenarios. Before and after experiencing a physical narrative, the visitors pass a "threshold" between their present and a possible future. A period of

“compression and decompression” can help relate this experience more closely to people’s lives. Like people who have shared an intense situation or peak experience (e.g. a natural disaster, mountain climbing, punk rock or psychedelics) visitors often have a need to spend time together sharing, comparing and learning from their experiences. They may re-enter the physical narrative after discussing it with others, looking for details which others alerted them to, things they missed the first time around. Social interaction can enrich the story and the experience for all involved. This can be facilitated by surrounding the physical narrative with familiar social situations, such as a lounge, a bar, or a waiting room. It can be as simple as including a pair of period chairs on a carpet in *Unattended Luggage*, where the visitors would sit and closely examine elements of the story together. A more extensive approach was the bar of the *Sensory Circus* or the *SubCity* environment for *BodySPIN*, where visitors reclined and quietly conversed over drinks. They were surrounded by small screens and other “windows” into the physical narrative, keeping them connected to the actions taking place in the installation, only a few meters away.

While these spaces are thematically linked to the physical narrative scenarios, they are obviously in the here-and-now. By “holding space” and informally engaging with the visitors, we do not leave people “hanging” after experiencing (sometimes disturbing) futures. If we are interested in experiential futures affecting thoughts and behaviours in the present, hosting the visitors’ conversations and reflection is as important as creating a compelling futures narrative. This allows the experiential insights to echo in the visitor’s work and life, raising ambient awareness of possible future repercussions, moving away from consuming futures as entertaining speculative fiction and towards a more widespread futures literacy.

We have had similar experiences with entrances. A classical entrance to a media enhanced space is often not much more than a doorway or a light trap in order to ensure darkness inside. We have observed that situations in which the visitor is momentarily held up immediately before entering the space, perhaps to engage in a short conversation, or to sign a disclaimer, can help with a mental resetting and a preparation that the following experience will be distinct from current everyday. By making the moment of entry special, we are making the experience special. By crossing a threshold, the visitor is made aware that something is there, a place to be explored with somewhat more depth than the usual experiences. Expectations are enhanced, reduced or shifted, allowing a stronger experience of the details provided. By requiring the visitor to answer some

short questions, they are reminded that this is not normal, a disclaimer heightens the awareness that the following experience is not only not trivial, but possible also dangerous and requires significant attention paid to it. A negative example of such an experience is allowing a visitor to take a written description of the piece as they approach the entrance: as a result, the visitor uses this writing as a bridge into the space and does not engage with a conscious shift. On the other hand, we have had positive experiences with devices applied to the body, especially ones that act to separate social groups, where the visitor is left alone to have an initial experience of the space rather than experience it within a social context that will often buffer their immediate reactions.

As we begin to formulate our contributions to the Maltese European Union Presidency in 2017, we are looking at ways to integrate the social into the appreciation of possible futures and the ways that Malta's "colours of the Mediterranean" can contribute to this and co-create "a citizen's Europe" as we move out of this European crisis. We will be working closely with our partners at FoAM, building upon their experience with Food Futures in a number of their projects. For instance, in *Godsheide Futures*, fragments of scenarios concerning the future of a residential neighbourhood were experienced at a reception. While visitors engaged in the usual mingling and networking, the scenarios began to enter their conversations via recipes and menu design. Translating scenarios into "edible futures" created an informal atmosphere that encouraged conversation between the policy makers, urban planners and the inhabitants. One of the key points raised both in the scenarios and while socialising was the need to create more communal and shared public spaces in Godsheide. Over food and drinks, almost imperceptibly, the first commitments were made to bring some of the scenario elements into reality. A year after the reception, the inhabitants have successfully repurposed a local church into a community-supported school and plans are underway to form a co-operative for more ambitious projects.

It is precisely this tactic of developing and presenting speculative culture, embedded in physical narratives and the possible futures of the everyday, that allows and encourages a playful but still inspired interrogation of futures and what they can mean in the creation of today's everyday.

Uncertainty and Hope

Physical Narratives help us create futures in all the rich detail of corporeal reality, futures that are tangible and approachable. Touching and thus experiencing a fragment of a possible future demands speculation about what it is and what it means, instigating a process of thought and reflection. Visitors are encouraged to think about future possibilities and invited to deepen their involvement. The exploration of futures through physical experience could be seen as an entry into futures literacy, where talking about the future is thinking about today. By thinking about today, we aim to create hope.

“Hope is not a lottery ticket you can sit on the sofa and clutch, feeling lucky. It is an axe you break down doors with in an emergency.... To hope is to give yourself to the future - and that commitment to the future is what makes the present inhabitable.”

Rebecca Solnit

Hope is not meant to deny or remove uncertainty, hope is one of the tools that we can use in order to be prepared for those things that remain, regardless of planning, efforts and luck, uncertain. We cannot deny uncertainty, we must inhabit it. Inhabiting uncertainty can be seen as a counterpoint to strategy, which tends to focus on risk assessment and careful adherence to a plan. However, inhabiting uncertainty does not imply indecision nor does it eliminate the need for planning and analysis. Instead, it offers different types of adaptive, real-time and experiential decision making processes. It invites us to hope, anticipate and openly explore possible futures.

Working with physical narratives as a means to experience future scenarios has taught us the importance of bringing futures to a human scale, connecting them to mundane, personal and social aspects of everyday life. By refraining from spoon-feeding the visitors with a singular future vision, but diffusing fragments of futures in physical spaces, we aim to stimulate a sense of agency – while experiencing the physical narrative, as well as long after the experience ended. Freedom to play with and interpret scenarios in

physical narratives invites the visitors to uncover the multiplicity of possible futures, and their capacity to co-create them. Without succumbing to the illusion of control, the freedom to interpret a future scenario, to imagine the many ways that it could pan out and how one would react to and act within the situation, allows and encourages a process of inhabiting uncertainty and learning to accept this uncertainty as a challenge but not necessarily a threat. Embedding physical narratives in social interaction aims to reflect on the ability to change things in the present, thereby cultivating the futures people prefer. Futures that encourage wonder, hope and engagement. Leading away from monolithic dystopian visions towards something more malleable and elastic.

Continued in Part II: [Imagining the Changing Weathers – The experience behind Turnton](#)

Imagining the Changing Weathers – The experience behind Turnton (Part II)

Time's Up

In the transiencies journeys we aim to collect and amalgamate ideas, experiences and dreams, from those who are involved and/or influenced in alternative practices of transporting goods.

Transiencies – Intro / general

We have chosen "transiencies" as our tool for investigations - a residency in motion. In common with the residency, transiencies should offer a concentrated and immersive engagement with the field and environment in which it takes place, without being stuck in one physical location.

Fair transport is the buzzword, slowly becoming more relevant as climate change gets closer to our everyday life, the destruction of the oceans becomes more obvious and the façade that "business as usual" can continue crumbles. Away from the distractions of everyday life, embedded into other everyday lives, the transiency will help us explore the manifold whys and wherefores of cargo, the ocean, biology, ships and the various kinds of weathers that influence these things.

This section aims to bring together the experiences of the transiencies. The text is based upon various blog posts that were made through the transiencies, enriched with further investigations.

Background

The initial stages of our research had led us to be interested in the ocean and the ways that current changes in the way things are working will play out in various ways upon the ocean. The two main threads that we were following were the use of the ocean's surface as a transport field and the abuse of the volume of the ocean with fisheries and toxic effects. To this end we visited a collection of groups in northwestern Europe, mainly focussed around transport and trade issues and a number of ocean research groups in the Canary Islands.

As we expected, the shortest summary of the situation could be reduced to “it’s complicated” with all the simplification that that phrase entails. The initial interest in ocean plastics lead to the variations in plankton, coastal dead zones, the “rise of the slime” and fisheries collapse, taking in byways through climate change, sea level rise, acidification and a few more disaster scenarios. Meanwhile the investigations into sail transport led to discussions about small and regional production, farming, corporate takeovers, volunteering, social security, regulatory systems and sustainable fisheries.



Planning

We spent the initial three weeks visiting specialists and practitioners involved in a myriad of activities. We had been in contact with many of them, others arose in conversation and exploration. Working with people, visits and discussions, serendipity and plain good luck helped us find interesting and compelling story elements. This group expanded as we went and was then extended by the second round of transiciencies in July. In order to reduce name fatigue, we introduce the main names here so that there is less distraction in the text.

Ben, Klaus, Charlotte, Cornelius and the rest of the *Timbercoast* group, at that time in Elsfleth, Germany, now at sea. The *Timbercoast* project has started as a reaction to the destruction of reef systems by the effects of

climate change. Cornelius Bockermann has initiated the project, having invested something like 700,000 Euro and two years into it. The vessel was still being refurbished when we visited it. It undertook sea trials in July 2016 and made its first public appearance at Hanse Sail in Rostock in August, 2016.

Arjen van der Veen from *Tres Hombres* and Lucy Gilliam from *New Dawn Traders* in Workum, Netherlands. Arjen, along with Jorne Langelaan and Andreas Lackner, all working on the tall ship *Europe* at the time, started the *Fair Transport* group as a way to attempt a detoxification of the transport industry. Lucy has been a soil scientist before leaving academia, had been involved with a discontinued sail transport project with a smaller group and has since also been part of *New Dawn Traders* as well as the *eXXpeditions* dealing with ocean poisoning and women in science.

Javier Aristegui at IOCAG in Las Palmas, Canary Islands. The Oceanography and Global Change Institute (IOCAG) is part of the University of Las Palmas de Gran Canaria . IOCAG has been created to structure and coordinate a number of consolidated and interdisciplinary research groups at the University of Las Palmas de Gran Canaria, and it is intended to assess the ocean's role in the Climate Change, while investigating how this change affects the planet in the singular marine and coastal ecosystems.

Madadh Maclaine at *Fair Winds Trading* in Oban, Scotland. She is also tied in with the *International Wind ships Association* and their project looking at small harbours around the North Sea region.

Freya and Marcus Pomeroy-Rowden, co-skippers of *Grayhound* lugger, Cornwall. The *Grayhound* is a replica of a 1784 privateer, built new, transporting organic produce between Brittany and southern UK.

Alex Geldenhuys and Fluffy from *New Dawn Traders*, Bristol. The *New Dawn Traders* are a group that works closely with the *Fair Transport* group to bring rums over from the Caribbean, which they then market themselves, as well as sourcing cocoa beans and coffee beans.

Kate Rich, artist dealing with trade, value and other issues under the name *Feral Transport*. Kate's interests revolve around trade and commerce from a cultural perspective, where she was part of a group that reverse engineered and then published an open source version of Coca Cola, called *Cube Cola*. Kate has worked closely with *New Dawn Traders*, for instance presenting presenting Cube Libre at the *V&A* in London.

Gavin Allwright at the *International Windship Association*, Kent. The *IWSA* is

a industry lobby group for the sail transport and wind transport areas. The *IWSA* aims to bring sail and wind based transport out of the romance of tall ships to the modern practicalities of high tech solutions.

Guilliam De Grande and Diana Mesa have run *Trans Oceanic Wind Transport (TOWT)* for several years, building a base of regional transporters of goods between Portugal, northern Spain, France and the southern UK.

FoAM Kernow is a studio in the FoAM network, run by Dave and Amber Griffiths, based in Falmouth, Cornwall.

Anton Mann runs *Xisto Wines*, bringing wines directly from the Porto region of Portugal into Bristol as fairly, cleanly and effectively as possible.

Robbert van Hasselt ran the *North Sea Region (NSR) SAIL* project together with *Fair Transport* and other partners, developing the *Ecoliner* together with Dijkstra naval architects.

Tim Dennis and the crew at the *Quetzal Shipping Company*, an arts and cultural community based in southern Scotland.



This is merely a list of some of the people and groups with which we had a significant conversation. There were many more, some of which have infiltrated themselves into this text, the scenario and world building for the

exhibition or the exhibition itself. But they help give us a few standing points with which to navigate the following ride through the rugged terrain of several weeks of intense conversations.

Romance and tradition

The sail cargo movement is, in general, filled with images of traditional vessels, complete with archaic looking rigs, wooden hulls and some degree of disdain for motorisation, alongside renderings of modern, high tech naval architects plans that would be built if only someone could get the funding together. It is clear from the branding of most of the products transported by ship that this traditional image is part of the entire marketing ploy. Classic ships and piracy resonate well with rum drinkers, coffee, whisky and chocolate are also open to some maritime marketing.



Many of the sail cargo vessels use traditional rigs for a simple reason; traditional rigs were developed over centuries for power and reliability. Contemporary sailing rigs, as seen on pleasure and racing vessels, are designed primarily for speed, ease of use and the ability to sail close to the wind. This is not the qualities that a sail cargo vessel needs. Powerful gaff or lug rigs are used in coastal transport, where contrary winds are likely. For trans-oceanic sailing, ships use the regular trade winds, following courses that keep the winds mostly astern. Square-rigged vessels remain useful for precisely this type of sailing. Thus the interest in the Dynarig, developed by Wilhelm Prölls in the 1960s. This modernisation of the square rig, with curved spars and remote controlled furling, melds classic practicality with contemporary efficiencies. The rig has been implemented on the millionaire's yacht *Maltese Falcon* to acclaim. The *Ecoliner* has been developed by Dijkstra naval architects, the *B9* by B9 Energy in order to use this rig for larger transport capacities in the thousands of tonnes. Currently, the most high profile ship in the fair transport circuit is the *Tres Hombres*, a 32-meter ex minesweeper, rebuilt to a brigantine between 2007 and 2009, sporting a brigantine rig with four square sails on the forward mast. *Tres Hombres* and her sistership the *Nordlys* are both engineless, in order to emphasize the cleanliness of their transport, as well as making more space for cargo. As a result, they cannot be registered in a European country, even though they operate out of Den Helder. Initially running under a Sierre Leone flag, they now operate under a Vanuatu flag. The use of these "flags of convenience" is widespread in the shipping industry. Usually they are used to optimise (i.e. avoid) taxation, have lower safety standards avoid liability payouts and for other convenient profit maximisation strategies. For *Tres Hombres* and *Nordlys*, the Vanuatu flag allows them to operate without a motor, underlining their intentions, rather than indulging in some financial foul play.

Chatting with Marcus and Freya from the *Grayhound* has been inspiring and surprising. Their boat, or probably one should say ship, looks like it fell through a hole in time straight from the 18th century. It is, however, a new build and meets the most stringent requirements for UK registered global passenger travel.

While some vessels might take advantage of the lack of strictness that might be given them by resorting to "maritime heritage," the *Grayhound* is built with only the most elementary of technology above deck, but is high tech below. Watertight bulkheads, stability calculations, 12 tonnes of lead ballast, all necessary requirements for Category Zero. This is the standard

to which a UK flagged vessel below 22m waterline length needs to be kept to be allowed to take paying passengers on travel to any oceans. To my surprise, this was not the most expensive thing to do either. While they do not calculate their own cost of time, they have a build cost of 300,000 GBP over one year. They were able to fund this by selling their own small boats, a house and taking on 18 months of paid cruises. With this gargantuan effort, they paid for the entire vessel and were debt free. Not to say they were cost free. Ships, especially traditionally rigged ones, must be permanently maintained, with daily salt water deck washing to keep the wood moist and rot away. The *Bessie Ellen* calculates around a thousand pounds per day that is necessary to keep her operating year round. As Marcus says, if the vessel isn't earning money, it's costing money. And they cannot afford that.

Strangely enough for me, the bilges were to be dusted, not pumped. Expectations are that wooden boats are, if not wet, at least damp. That need not be the case and can be traced back to the building of the ship. The most mind numbing job on a wooden boat build is probably caulking, but that is what keeps her dry. So it is not the job for a rank amateur, unpopular as it is. The repetitive and mind numbing job of hammering loose cotton rope into the gaps between planks and covering them with tar to keep water out is one of the most important jobs of all.

A strange inversion of approaches. An old boat style built new to the highest standards, no flag of convenience, the most irritating job carried out by the skipper: and for it they have a low cost vessel that is paid for already and is carrying on supplying home and livelihood for the whole family, with paying passengers and 6-weekly cargo voyages to Brittany. That sounds future proof.

Perhaps this is a perfect example of how we can move forward, with simple living, with economics that are sustainable, with old technologies married to new, with safety a priority but without making everything banal. Neither flags of convenience nor hard hats on deck are necessary and sometimes the most important job is the most annoying, or vice versa.

Clean shipping is not just sail cargo. There are many other projects such as the speculative use of waves as propulsion or the obvious introduction of natural gas as a fuel, which is e.g. becoming mandatory in Chinese waterways. A middle road emerging technology are electric motors combined with effective battery systems, alone or as auxiliary power for wind powered vessels, piggy backing on the developments of better and

better motors and batteries for electric cars and other applications. This combination of technologies and approaches, from traditions to high tech, can also be found in the third stage developments being planned by the *Fair Winds Trading Company* with their imports from the Casamance in Senegal. Because the Casamance is a shallow, ever changing river delta system with villages often accessible only by scrappy dirt roads or water, the export project will stick with the water approach. Thus the cargo vessel needs to be able to navigate shallow waters and be manoeuvrable without another ship. Their plan is to take the Pacific island tradition of a Proa, the use of twin assymmetric hulls with the driving sail on the main hull, the mast doubling as a loading crane. The test construction of a 12-meter version in 2015 showed that the design works, the full version should be around 60 meters. This construction is using fibre-reinforced plastics, high technology materials for sails and a regenerative power system to use the motion of the hulls to maximise power available for the electric drive systems.



Trade and ways

In Bristol, I enjoyed a frenzied series of conversations with Kate Rich and Anton Mann. Both are strongly interested in the way that businesses and trade are built and expand, social connections emerge, individuals and groups create niches, build relationships and carry on doing interesting things.

There was much discussion of the middleman, the person between, the maker of connections. Anton related the anecdote of a *Sail Cargo Alliance* meeting where one of those present called loudly to “eradicate the middle man” as a way to deal with some of the inequities of trade. “But that’s me!” replied Anton. He is taking on that role as the purchaser, the freight

arranger, the distributor. As are, it must be seen, the freight carriers. The middleman, whilst possibly being the person who profits from trade in a strange way, being neither the producer nor the consumer, is nevertheless necessary. We conjectured that the middleman might be a necessary evil. Portugese wine will not be delivered by the producer to Bristol wine bars. If we remove the middleman, then we will only trade food with the crusty farmers at a local market and never see a book from further away than we can walk.

One possible counterexample to this claim are the Onion Johnnies. Before lorries became ubiquitous, French farmers, after the season, would load fishing boats with Roscoff onions and bicycles, then head off to visit the harbour towns of England, selling strings of onions directly to consumers. The trade has existed for well over a century, but became almost nonexistent in the 1970s until recently. There has been a small revival of the Onions Johnnies recently, with groups using the way of life as a working holiday of sorts.





The discussion then turned to the type of middleman that is most common today: the supermarket, whose short supply chains made the long lived Roscoff onions from Brittany irrelevant. Many primary producers, whether it be carrots or wines, are approached by the supermarket purchasers in order to find new and interesting products for the supermarket shelves. Anton related this process, based upon his experiences, as follows. A producer develops a good product, selling enough to get by to some local markets. A supermarket or other large distributor finds out about it and develops a plan for much larger production, offering lower prices per unit but a much larger volume of sales, so that the deal is great for the producer. The producer needs to ramp up production, expanding their infrastructure in order to "make it big." A few debts later, the supermarket starts pushing the price down further as well as introducing extra costs from the fine print, which the producer needs to accept in order to keep repaying their debt, and the spiral continues. Quality is probably not the result of this pressure.

The explanation reminds us strongly of an article written by Steve Albin, producer, engineer and musician, written at the height of the early 90s

independent rock music boom. The article, originally under the line "Some of your friends are already this fucked" but renamed "The Problem with Music," was a detailed description of the way that a "record deal" or "signing with a major" actually played out for most musicians. Moving from a small label, decent sales and a continuing live music career, the process was pretty much the same: expansion, debt and desperation. The functioning ecosystem of the small musicians was being plundered by the big players, burning people out, breaking trust, incentivising and capitalising until the system was broken. This used to be called "selling out" and was regarded as problematic. These days it has been re-titled as having an "exit strategy" and is expected of all start-ups. This seems to ignore the idea that, perhaps, just perhaps, the reason you are doing something is because you like it, because you think it is valuable. It is something of value to people and society and really, it should be possible to keep on doing it.

The conclusion that Kate and Anton espoused was not the elimination of the middleman, but "befriending the middleman" – make them one of us. If you know the string of connections, if you know that they are all okay, then it is okay that they are all making a cut, living from the process. *Feral Transport* lists every stage of the delivery chain, as well as the costs involved in the production of each bag of coffee, on the bag. You do not need to dominate the people in the chain, to exert price pressure on them, rather to exist with them. Instead of expanding, the process of emulation as reproduction was again raised: ways of living and working can be copied, adapted and expanded, generating an ecosystem of multiple small enterprises, people doing things and living from it, developing a community of practice and working out more ways to do it better. As Kate comes from an arts context, she related it to arts practice. Rather than developing large works under one name, she was more in favour of the ecology of practitioners, each developing their own pieces, but engaged in a continual process of discussion and reflection, taking ideas, techniques, approaches and methods from one another and extending them to develop new pieces. This community is perhaps as large as the studio of a single name artist, producing as much work, but with so much more diversity and development than a monolithic studio will have. Studies have shown that cultural homogeneity produces bad decisions (Phillips). We need diversity, not quantifiably optimal monolithic production.

Shipping Facts

coffee El Volador shipment FER-1807 Finca El Volador, Mexico to Feral Trade, UK

import costs: purchase & freight	gross	500g bag
Total to farmer for 4 sacks/280kg green beans at \$85 pesos/kg, 18.51 MXN to GBP, a top market price. However due to farmer error, 5 sacks totalling 350KG were accidentally delivered to port. Faced with the options of high-priced transport back to farm or alternately incineration, trader & farmer agreed to ship all 5 sacks at the pre-agreed price	£1286.00	£2.21
Price paid by trader for coffee delivery to Grupo Soher in port of Veracruz 2366 MXN, a subsequent dispute over documents meant farmer was charged extra for port storage by the shipping company	£128.00	£0.22
Currency transfer fee with HiFx to transfer UK pounds to MXN	£9.00	£0.02
Freight handling and Customs at Veracruz port with Grupo Soher \$350 USD at 1.55 USD to GBP	£226.00	£0.39
Port clearance UK Felixstowe with UK freight agent Jag UFS	£35.00	£0.06
Terminal clearance Felixstowe	£86.94	£0.15
UK Customs documents	£64.00	£0.11
Port levy	£16.70	£0.03
Port security	£6.50	£0.01
Disbursements & Roe Diff at £11.30 / £12.42	£23.72	£0.04
2 days port storage after the initial 1 week grace period expired, due to Grupo Soher delay in releasing the shipment, Grupo Soher refused responsibility so trader minus any leverage was forced to cough up.	£119.23	£0.20
Road transport to roaster in Littlehampton	£105.00	£0.18
Coffee Compass roasting at £2.40 per kg green beans	£672.00	£1.15
Road transport, roaster to feraltrade at £7.80 per 20.5KG roasted coffee	£88.00	£0.15
Metalised coffee bags at 36p+ VAT per unit	£241.92	£0.41
total	£3108.01	£5.33

Coffee farmed by Álvaro Soberanes at sky high altitude of 1500m, under old growth leguminous trees which pump nitrogen back into the soil, nothing more needs to be added. The farm is called El Volador which means the Flying One. The Cerro de la Campana area near Coatepec, Veracruz provides almost perfect conditions for coffee growing, producing one of the best coffees in Mexico if not the World.

Feral Trade (Import-Export) is a grocery business trading over social networks. Feral Trade runs freight using the spare baggage space of friends, colleagues and passing acquaintances; for product requests or courier offers contact kate@feraltrade.org

feral trade since 2003 www.feraltrade.org

Or at least this is the idea that was supported by Amber Griffiths from *FoAM Kernow* in Falmouth. Amber is a former ecosystems scientist who left academia a few years ago to develop new projects with FoAM and elsewhere. We talked at length about models of ecosystems and the value

of diversity in times of change. Interestingly she also underlined the need for caution in the application of scientific knowledge, for instance in population and ecosystem science, to human society. However she had no doubt about the applicability of diversity and liminal zones as valuable in human social structures.

Ecosystems build complexity, taking advantage of their substrate, modifying it to suit their needs to create a better niche. Perhaps movements like sail transport are doing the same. Cornelius Bockermann, the instigator of *Timbercoast*, is not to be dissuaded from their approach. Asked what he thinks needs to happen in order for sail cargo to expand he says "nothing." We will build it and they will come. He says that the problem with sail cargo is not the lack of demand, but the lack of tonnage. By creating the possibility of transport, cargoes will make their way to the available ships because people want to.

Timbercoast have found the *Avontuur*, a 1920 steel gaff schooner with a cargo capacity of 70 tonnes. Since 2015 a crew of volunteers have been rebuilding her. Volunteer welders, carpenters, plumbers, painters and all sorts gathered in Elsfleth to bring *Avontuur* back to work. She was active in the Caribbean, the northern Atlantic as well as in the Baltic as a cargo ship under Paul Wahlen until 2005. More recently she was turned into a party boat filled with fridges and a kitchen with a bar filled with nautical kitsch in the deckhouse. In August 2016 she set out with the goal of reforming clean cargo in the seas east of Australia, celebrating her centenary around the Great Barrier Reef.

The vessels currently plying the sail cargo routes suffer from a lack of tonnage. *Avontuur* can carry as much cargo as all three of the main ships combined (*Tres Hombres* 35 tonnes, *Nordlys* 30, *Grayhound* 5) and as much as the *Undine* 70, which operated only between Hamburg and the island of Sylt until bankruptcy hit in April 2016. Asked whether it would not be more sensible to integrate the *Avontuur* into the north Atlantic trade, with their larger ship doing the main cycle with a single stop in Europe (Douarnenez in France), West Africa (Cape Verde or Canaries) and the Caribbean and smaller vessels acting as feeders, Cornelius replied that their goal is not to stay in Europe. The *Timbercoast* crew are aiming for Australia. They are here to go.

They are also here to spread. They do not want to build an empire. Rather, in the flavour of the Transition Town movement, they are desiring to grow by empowering people to emulate their process. The crew of *Timbercoast* do

not strike us as the type that wants to develop a fleet of ships that are guided around the world from a head office somewhere. Rather we see them as people who want to be working hard to make something good happen, to meet with and work with like-minded equals, to have a long chat in harbour and to carry on with their work. This expansion was discussed in the kitchen of the volunteer house in Elsfleth as a spawning; rather than growing bigger, the company grows by supporting people going off on their own.

The process of developing many small businesses resonates well with the technique developed by the *Fair Transport* group, with an umbrella company, a shipping company, the rum company and the two companies that each run a ship, plus other companies that are using the *Tres Hombres* name for chocolate, for instance. An ecosystem of businesses, enterprises, small enough to be nimble, big enough to work, not too big to fail. The *Fair Transport* group helps crew members at the *Sailing School EZS*, encouraging the appearance of competent shippers who can expand the network. This counteracts comfortably with the current modality of commerce that we see around us: expansion for its own sake, profit as the only directive, growth at all costs. Perhaps these sail cargo companies are not only good for the oceans, but good for commerce and the way we trade as well. Trade, done properly and not as some kind of colonial extraction, is perhaps the most effective and long lasting social lubricant we have. Not the trade of market share and stock market perceptions, but exchange of value between equals.

The multistage plan of the *Fair Winds Trading Company* fits precisely in this idea of a network of trading partners. Madadh has developed the personal network of connections within the communities in the Casamance and 2016 was the year that several larger companies took notice and several dozen kilogrammes of Touloucouma oil were delivered to their labs in Western Europe. The next stages have several tonnes of oil being delivered, the proceeds of which should be used to provide oil presses in the Casamance region so that the production can be controlled by the communities rather than the remote powers in Dakar.

It is worth noting that not all of the players in this ecosystem are ships. There are lobbyists and organisers such as Kevin Alwright at *IWSA* and Robbert van Hasselt, pushing for changes and drumming up support. Perhaps more immediately important, there are the providers of infrastructure and logistics support such as *TOWT*. After a maritime festival in Brest, France, I had the pleasure of crewing on the *Grayhound* for a day

as we sailed to the small city of Douarnenez. Travelling from Brest to Douarnenez were the two initiators of *TOWT*, Guillaume Le Grand and Diana Mesa. They were using this opportunity to move the centre of their lives from the hubbub of Brest, a town with a venerable maritime tradition and a huge naval harbour, to the smaller town of Douarnenez on the south side of the same bay where Brest lies. They have spent the past few years using a small warehouse in Douarnenez as the nexus for their expanding network of Wind Transport, serving a number of French vessels as well as the *Tres Hombres*, *Grayhound*, *Lun II* and the *Nordlys*. It has recently become clear that the continued growth of their organisation requires systematic support, which was not forthcoming in the large city of Brest, but was to be found in Douarnenez. So the entire business, with office, shop and warehouse, but also their home, was moving to the smaller town.

It is interesting that the peripheries are the places that such ideas can get a grip most effectively. With *Fair Transport* based in Den Helder, *Timbercoast* in Elsfleth, *Grayhound* in Plymouth and the other emerging groups equally scattered around the peripheries, it would seem that the smaller centers are offering the necessary infrastructure for these developments. Such niches, Amber would contend, emerge best in these Randzonen, the edge habitats between one environment and another, the liminal zones of cross pollination, far from the normalising effects of the centers. There is talk of ecovillages to supply and offer infrastructure to the emerging sail cargo fleet, with agroforestry, permaculture, clean transport, fair trade and equitable communities forming a network of practice that provides a basis for more. Douarnenez, Den Helder, Palnackie and the emerging community around the *Ceiba* ship in Monteverde, Costa Rica.



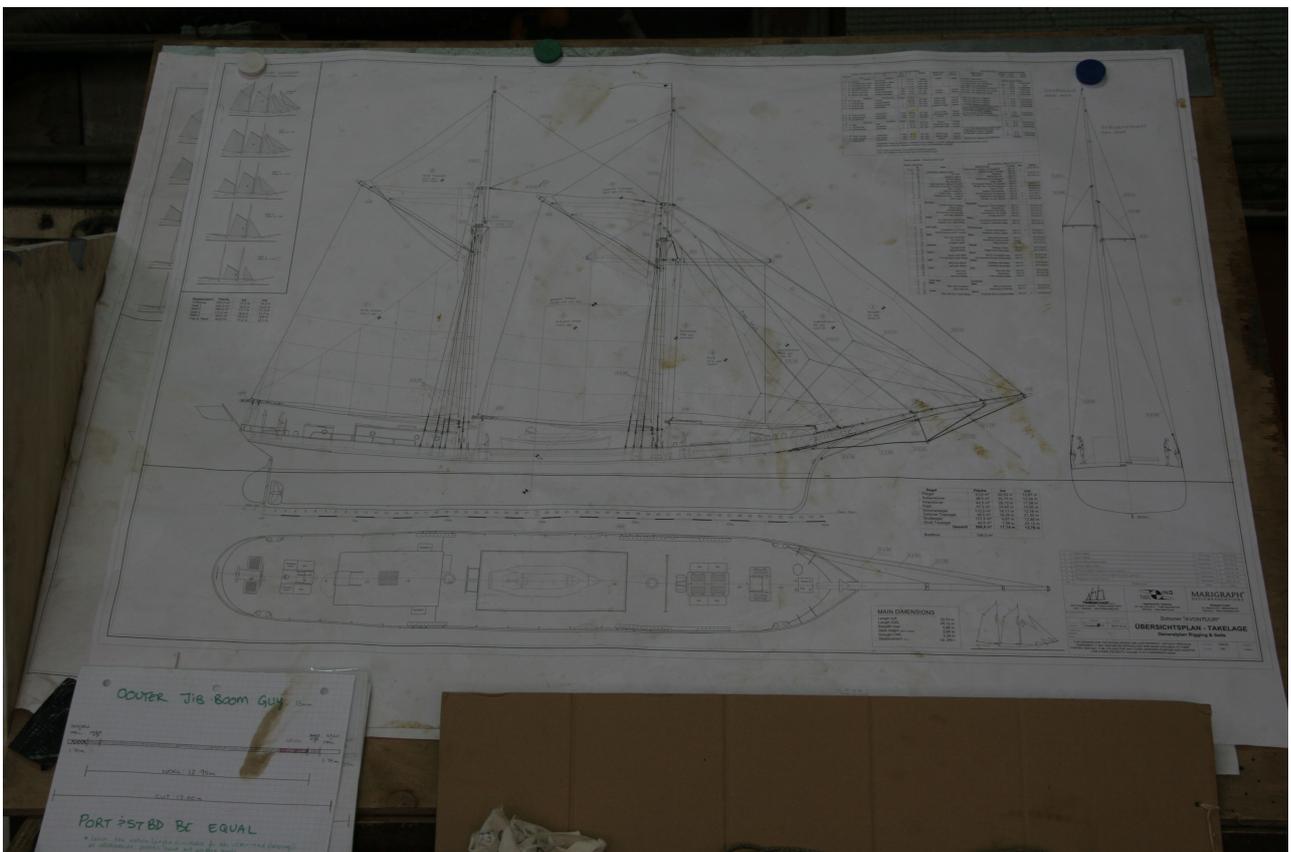
Regulations

Travelling through and talking extensively with the practitioners of Sail Cargo, one recurrent theme is the existence, necessity, impossibility and flexibility of regulations. The word 'regulations' is used here explicitly as it is not just about legalities, there is not just one law, or even set of laws, to abide by. At minimum, there are regulations dealing with ship building and licensing, employment, liabilities, crew competencies, import, stowage, immigration and food laws. These vary from one jurisdiction to another, from one import type to another, from one business model to another. It might be interesting to look at some of them to get an idea what is going on.

It is probably worth saying that no one has even murmured the idea of complete liberalisation. It is clear that regulations are necessary, that all the developments in safety and technology, from the Plimsoll line to EPIRBs, are not to be dismissed and a return to scurvy suffering behaviour condoned. So the consensus is generally agreeing upon the necessity of regulatory frameworks, other than some small detours into discussions about smuggling.

There is also much talk about laws and legality, some of which is not entirely accurate. The various codes for building ships are not so much laws

as guidelines. What are regarded as good building practices, what are bad? How strong must something be, what are the bulkhead requirements? These are thankfully not always written in law, but are rather ensconced in sets of guidelines that are then checked by certification agencies. Because shipbuilding is not a science, but rather a mixture of engineering, systems and survival; discussions arise. Certain guidelines will, in any given build, contradict one another. Cornelius from *Timbercoast* reported that, in order to get Germanisches Lloyd certification, they would need to spend in the order of 140,000 Euros on having plans drawn, with about the same costs again for checking, with no guarantee that the ship would be accepted, even if it apparently met all the requirements. Marcus from *Grayhound* talked about discussions with the certification authority that wanted bilge stringers installed (for structural integrity) that would interfere with the bulkheads so that it would be impossible to make them watertight. After much discussion, the surveyor and Marcus were able to find a solution involving thicker planking that solved the internal contradictions. This was not guaranteed: it could well have been that the contradictory requirements were insisted upon and the ship would have ended up compromised as a result: abiding by certain regulations and thus unsafe.



Similar comments have been made about life jackets and other "obvious" safety gear. If you do go overboard, it might save your life. If it makes you

act unsafely, then it is endangering you. Many people with whom I have had the pleasure of speaking have reiterated the concept that it is much better to have good seamanship rather than good regulations. As was recently seen in Hamburg, where the container ship CSCL *Indian Ocean* ran aground because of a failure in the steering system, a motor is no guarantee of manoeuvrability. A sailing vessel has redundancy: a motor or two, two or more sails, anchors and a competent crew able to use them all. Unfortunately, too many of the regulations are based upon non sail vessels. Thus the guidelines become ridiculous. It is not feasible to have the exhausts of the ship's motor 4.5 meters above deck, as required by Germanischer Lloyd, with a boom sweeping each way. While that would be important for a vessel running under motor for weeks at a time in order to protect the crew, for the few hours the motor runs on a sail cargo vessel, the requirement creates more problems than it solves, and thus more danger.

There has also been the observation that many of the commercial ship regulations are based upon a size of ship that is far larger than any reasonable small cargo sailing vessel. In the same way that many organic farms cannot afford the certification that they are organic, but happily sell their produce at farmer's markets, there is an expressed need for smaller trader / cargo certification that is less costly. The UK Maritime and Coastguard Agency (MCA) requires their graduates to have hours on board vessels in order to gain experience and hands on expertise. For some reason, the regulators decided that the minimum size for a training vessel is 300 tonnes. Vessels such as *Grayhound* has 60 tonnes, *Tres Hombres* has 128, so the graduates are finding that they have to gain experience doing menial work chipping rust on a large cargo vessel rather than actually running a smaller ship such as one of these. Thus the smaller ships are starved of competent internees and the graduates are starved of valuable experience, a lose-lose situation caused by some unfortunate tonnage line in the sand.

Fortunately, these are not problems that are in danger of killing off the industry. However they are creating all sorts of issues. There are massive fixed costs in order to be active, so there is a strong necessity to be large enough that these costs can be met. There are few regulations that seem to be let out for smaller vessels, it almost seems as if there is only one solution. This led to Kate Rich suggesting that it would be of immense value to have a ship based peddler's certification in order to support the trades. In fact it might be argued that, as long as the ship is not the place of

trading, but only the means of moving, while trade is undertaken on foot, then perhaps this is already covered by current UK legislation, perhaps similar to the Onion Johnny practices. There is value in allowing many small flowers to flourish.

For those not interested in direct sales, but rather in trans-oceanic transportation, the growth of the sail cargo network is making many things easier. Whereas *Tres Hombres* has to deal with duties on every importation, trade within the EU is being looked after by *TOWT* in Brest. They have warehousing facilities in Douarnenez and, more importantly, they have set up arrangements with various duties organisations so that cargo vessels can deliver directly to their clients without having to go through bonded warehouses and similar complications. There have been few problems with such things, but difficulties such as a narrow "escape" by one boat when they anchored temporarily off the Irish coast and a more serious situation when another vessel had some apparent importation issues and the ship was nearly impounded. However it seems that such bureaucratic details need to be dealt with and by having a central office dealing with the details on a consistent basis, there is the simplicity of repetition and the trust built up that allows things to happen faster, simpler and with less complication. There is a somewhat interesting temporal issue that the ongoing discussion about a British exit from the EU has been met with a pretty solid statement that Brexit will kill off sail cargo, or at least make the process overly complex, with an important and strong border right off the European mainland coast. As Brexit has come to pass, or at least the vote has happened, there is quite some speculation about what can and should happen.

Talking with these practitioners, it rapidly becomes clear that the paradise of the Schengen countries is very local. This degree of legal correctness that is necessary for cargo professionals dealing in sea trade seems to be the reality. After Cornwall's history of smuggling, we had a long discussion about VAT cheats and other trickeries. It seems that this sort of behaviour is almost impossible these days. In fact, it is perhaps the opposite. Skippers are so wary of any possibility that there might be something illegal happening, leading to a possible impounding of their ship and thus not only their, but the whole crew's home and livelihood, that they are extremely correct. There is a strong desire for sail cargo to be part of the system, not to be underground or part of a drop-out culture. However there is an equally strong desire, at least in those practitioners who I have met, not to give in to big business, to avoid the Tesco-isation of sail cargo.

This quandary, this tension between two strong, valid and internally consistent desires, is one of the core themes re-encountered throughout the journeys. The Sail Cargo Alliance as well as the other organisations and partnering arrangements between activists and groups seems to help find and share solutions, building structures to avoid work duplication, to avoid unnecessary effort and frustration. They want to work within the regulations, but to do something that is commonly regarded as backward and no longer safe. As if poisoning the air and the ocean would be safe.

How to start a Shipping Company

Discussing the pros and cons of clean shipping, a question arose early about starting a shipping company on the Danube, which we thought was a preposterous idea and promptly forgot about it. But one thing led to another, discussions were had and we found that, at least in principle, a sustainable shipping company on the Danube is not to be regarded as impossible. How does one make it happen?

- Option 1: Do it anyway. Find a boat, register it as a sport boat and start carrying things. If it works for smugglers, why not?
- Option 2: Do it "properly" with all the documentation. This is strangely interesting.

The first thing that is needed is a Konzession, i.e. the permission to operate a transport company. Under 200 tonnes freight, it is not necessary to provide evidence of expertise (fachliche Eignung) or financial backing (finanzielle Leistungsfähigkeit). This means that you only need to show citizenship, of any EU or EWR country or Switzerland, as well as your dependability (Verlässlichkeit) with a current police report (Strafregisterauszug). In order to reduce costs, the forms to show that you are starting a new company (Neugründung) are of value, if you have never been self-employed. You will get a Konzession für Güterbeförderung mit Fahrzeugen mit einer Tragfähigkeit von nicht mehr als 200 metrischen Tonnen bei höchstzulässigem Tiefgang auf österreichischen Wasserstrassen, ausgenommen in die Landesvollzeihung fallende, einschliesslich des grenzüberschreitenden Verkehrs. That means, in wonderfully bureaucratic German, permission for freight transport with

vessels with not more than 200 tonnes loading at the maximal draft on Austrian waterways except those controlled by the states, including international transport.

Once the Konzession has been given, you can register your vessel. For small vessels, it seems that the restrictions are the same as for sport vessels. Once the vessel has been registered, you need to inform the BMVIT which vessel is being used. If you have a motor over 50HP, this vessel also needs to be registered in the österreichischen Schiffsregister.

So far we have obtained the Konzession. It was remarkably painless, the administrators responsible for it are remarkably helpful. The sum of 272 Euros is not cheap, but not awful. The next step is to get two things happening: things to transport and something to transport them in. We managed to get the second of these processes one step further.

A clean shipping company, sustainable in all ways, will have to take various factors in to account: emissions, social issues, energy issues. Based upon Schumacher's "Small is Beautiful" book and the strangely phrased ideas within there, the smallest (and thus most beautiful) business is a person or two. So our transport vessel must be small, to be handled by one or two people. We have taken an early 1960s sailing vessel, weighing in at 500 kg, and adapted it for freight. The floor and the floor beams have been made more solid, the sail replaced with a powerful gaff rig. But more importantly, we need back up power for negotiating small corners and adverse currents. The *Tres Hombres* and the *Nordlys* fight through with no motor of their own, *Grayhound* and *Avontuur* have motors on board to be used when needed. Each has their advantages. We have chosen, because we are not crossing oceans, to go with a very simple solution: electric propulsion.

As has been claimed by many, sometimes the best way to save money is to spend some, we have taken on a 4kW *Torqueedo* system with four huge batteries. Just shy of 200 kg of high quality deep cycle battery is embedded in the bilges of the boat. Interestingly enough, this is pretty much exactly the same amount of ballast bolted to the keel. The motor brings around 9 HP of power on the propellor, far in excess of what is recommended for this type of boat. But this is a safety issue: on the Danube there is a shoreline within 100m on each side, with barges underway incessantly. There is no room for faffing about with some underpowered solution.

The next stage in this propulsion issue will be finding clean energy sources to re-charge the batteries. But for now we are happy and the engineer who surveyed the vessel has given it a clear thumbs up. This process of getting

certification is also not uncomplicated. There are only three ship engineers in Austria entitled to certify vessels, so one must take the effort to find one and get the necessary approvals. Then the appropriate documents are sent to the state government, a wait of several weeks ensues and finally the papers arrive. Not too late for test sails but too late for any cargo transport. As it turns out, there are several more layers of freighter law that could be applied in order to make the process of sail cargo on the Danube more or less difficult. It remains to see what parts of these laws will be applied.

The last, and probably the most difficult, stage of getting a shipping company running is to have something to ship. This is perhaps the central question of fair transport. What is worth transporting? By emphasising the value, complexity and thus the cost of transport, the whole question of local production arises. While the *Fair Transport* and other sail cargo people are trying to find better ways of doing what we are doing and perhaps working out what we might be able to not do, there is the more extreme streak. A few of them have been known to say, "It's not fair transport. It's fuck transport." Transport has brought us colonialism, over fishing, global slavery and ocean pollution. Maybe we don't need that. Maybe we do not need strawberries in the midst of winter or roses flown in from Ghana on a daily basis. Do we in Europe even need sugar from cane rather than from sugar beets? There are less extreme views here too. One figure that has been tossed around is 80/10/10. Meaning 80 percent of our consumption should be local, 10 percent regional and 10 percent outside that. Translating to transport, where 90 percent of what we consume comes by ship, it would mean that we would only need around one ninth of the currently operating ships. Strangely enough, according to Gavin Allright from *IWSA*, this corresponds to the level of shipping that could easily be converted to wind assisted.

We are looking into our own possibilities and have had conversations with a local publisher to deliver comics, a local brewery to deliver a ginger beer and have a few other avenues open. Another conversation looked into the framework that would make the ship based cellaring of drinks more widespread. Several barrels of good French wine were transported on the *Tres Hombres* in 2015, making a complete loop of the northern Atlantic. The wine makers were amazed at the improvements in the wine over the five-month journey. This is possibly also one of the reasons for the quality of the various *Tres Hombres* rums. *Linie Aquavit* sells itself based upon the process of cask aging on a journey across oceans, often to the south Pacific. When will we be able to obtain an amazing sail-travelled cask

Aquavit, Genever, Obstler or Whiskey being created? As we speak, a barrel of Black Mountain whisky is being seasoned on the deck of the *Grayhound*. Perhaps, even if it does not objectively improve the spirit, it may still give it a better story. And stories are what make a lot of the world go around.

Volunteers, adventurers, exit strategy

The oldest organisation we visited is the *Enkhuizen Zeevaarschool* (EZS) in the Netherlands, one of the few places globally to offer professional sailing competency certification. They offer two main courses, running larger and smaller sailing ships, the *Grote Zeilvaart* and the *Kleine Zeilvaart* (also in English) which run off-season, from October through March. In addition, they offer a Bosun's Course, a short course (6 weeks) intended to impart the skills needed to run the innards of a sailing vessel, the one who knows everything without being the skipper. Rope, rigging, safety; repeat. It is noteworthy that a considerable number of the *Zeilvaart* courses (running in parallel) were women, women made up precisely 50% of the bosun's course.

Unsurprisingly, a considerable part of the first day's effort was an introduction to rope work. Traditional vessels are nothing if not a rat's nest of lines and more modern vessels are only slightly less ropey. It is interesting that, no matter how long one does this stuff, there are always new things to learn, from a new, simple whipping technique to a sailor's short splice and the best grommet that has ever left my fingers and fid. One of the interesting things about this process of making things from rope is the creation of value from a combination of time, skills and some simple hardware, in stark contrast to the ever present spectre of expensive, stainless, industrial, irreparable, invisibly deteriorating boat hardware.

After lunch, I had the pleasure of having a longer conversation with Cosmo Wassenaar, the head of the school. Interestingly, the school is run more egalitarian than a pirate ship; everybody gets paid the same. It is not a money-spinner, but it is independent and has run for over three decades. Over that time, it has continued to be a place of learning for intended skippers and mates on commercial sailing vessels. As such, it has a possibly unique perspective on the state of the field.

The presence of sail cargo as a theme in students' thinking has been increasing, from nonexistence about five years ago to being relevant for around a quarter of all students this year. As the Dutch have a vastly larger

classic sailing fleet, it should be no surprise that this school exists in the Netherlands, and as the *Tres Hombres* is situated in the Netherlands, there might be a connection. Talking about certification and regulation, it was claimed that many of the vessels operating in France and the UK are using the "classic ship" exception to be able to do what they do. Cosmo claims that these and other countries could do this, as they deal with perhaps a few dozen commercial classical sailing vessels. The Dutch, in comparison, have hundreds of commercially operated classic sailing vessels and as such there is a strong need for regulatory systems for these vessels. It is perhaps to be expected that, with the current expansion of sail cargo projects, these regulations will start to be used in other countries, which may or may not be a good thing. Regulations are, as we mentioned above, no substitute for good seamanship. But even the best seamanship cannot replace life jackets and fire extinguishers. Sail cargo is in a fragile state. If a single vessel were to flounder in this early stage, the regulatory backlash might be strong enough to sink the whole industry before it even got beyond the startup stage.

The early stage is matched by the spectrum of ways that groups are finding to maintain their operations. Every one has its own mixture of freight, working charters, grants, volunteers, festival charters and direct sales in order to make ends meet. People, as with most businesses, are the most expensive part. With many members of the crew being paying guests, this alleviates much of the pressure on the crew, but most are being paid little more than room and board. For most, the payoff is the adventure, the experience and the learning that goes with the job. *Timbercoast* and *Fair Transport* are volunteer based commercial enterprises, a strange collision of approaches. Volunteers find themselves locked into positions, or desperately holding on to them, as a way to give structure to their lives. There were small murmurings that sometimes it is easier, and even cheaper, to pay for work to be done rather than use a volunteer.

There is a groundswell of development within the community, building from the idealistic and volunteer run building of various vessels and the ongoing desire to build high tech modern sail freighters such as the *B9* or *Ecoliner*. The other side of the coin is the temptation for more vessels to join the movement, without jumping through the appropriate regulatory hoops. Within the sail cargo community, there is a significant fear of the "threat of unlicensed ships" which cut corners, minimise costs and take advantage of the sail cargo buzz. However, if something goes wrong, all will be tarred with the same brush. It is widely regarded that the *Pamir* disaster in 1957,

with 80 lives lost as a result of a unsecured cargo shifting in a storm, is part of the background for the regulatory corset that makes European sail cargo so difficult.

The world of sail cargo is, of course, also a world of adventure and image. Participants, whether volunteer carpenters or sailors, rum drinkers or cartoonists, enjoy the romance and adventure. In an event organised in April 2016, we didn't get to see those perfect, polished or heroic images. Neither we heard the thrilling, impressive adventure stories. All this, according to Stefano Plank, can be found on-line anyway. Instead we got to listen to anecdotes, these nice, sympathetic stories between the lines of the "big stories". Tales, authentically and unagitatedly covering all sorts of smaller pleasures, complications, successes, challenges, flaws and treats. Reports on everyday life experiences with which one grows, without big fuss. And pictures conveying the joy of doing and crafting, images showing the daily routines of people, making the *Tres Hombres* possible.

Stefano was involved in *Tres Hombres* for several years as a volunteer builder and as a cook and is still in close contact with the operators and supporting their initial ideas as well as further projects such as *Ceiba*, which he was able to announce during his talk. It was a real pleasure following him, his way of introducing his very personal experiences, his impressions and his following considerations. Full of joy and energy one could feel his faith in projects shipping cargo between Europe, the Macaronesian Islands in the Atlantic, the Caribbean and America, driven by wind power only. *Fair Transport*, a term developed during the developments with the *Pierus Magnus* for such undertakings, with its prime intention to sail cargo emission free, was nothing a wide public, ten years ago, would have been aware of (at least not in the industrialized world). Trading goods and freight navigation around the world was and still is clearly associated with, dominated and operated by an enormous machinery based on an economic system only aligned to the maximization of profits and cost-efficiency. Nevertheless there is a growing community establishing and probing alternatives – and fair transport is slowly becoming more relevant as climate change gets closer to our everyday life, the destruction of the oceans becomes more obvious and the façade that "business as usual" can continue, crumbles.

Obviously, neither this single schooner, nor similar projects like *Grayhound*, *Avontuur*, etc., will turn around the cargo shipping system on a grand scale. These projects will not perceptibly lower the horrendous emissions spat out by the approximately 60,000 cargo-ships running on heavy oil, transporting

90% of all goods traded worldwide, enabling the way of luxurious consumption we are used to and playing a major role in destroying our planet.

Nevertheless – as Stefano puts it: “it might work at least some people as food for thought, as well as it gives these people, taking part in the undertaking a chance of great learning- and life experiences. And maybe the thought will grow into becoming a movement, similar to *Greenpeace* and start bigger scale communities”.

Continued in Part III: [Imagining the Changing Weathers – Climate and system changed world](#)

Imagining the Changing Weathers – Climate and system changed world (Part III)

Time's Up

Our current future scenario includes ocean system collapse, where we note that the collapse tends to be on the large predator end of things, while, to a larger degree, the smaller and less carnivorous parts of the ecosystem are less impacted. So unduly large amounts of energy and time are currently spent hunting bluefin tuna for high paying sushi aficionados, while carp, jellyfish and seaweeds are left, in general, alone and are even regarded as plagues. This is, of course not quite true.

Slow: Food, fisheries, transport

In his book *Unnatural history of the Sea*, Callum Roberts talks about the way that overfishing can lead to a population boom of sea urchins, which then decimate seaweeds, leaving less space for young fish to hide while growing, allowing more sea urchins, etcetera. Our actions have repercussions, things are complex in the networks of ecosystems.

This has resonated strongly with an older question, that of vegetarian seafood. As a good friend put it, the surface of the ocean is not a significant moral dividing line, so a rejection of meat should imply a rejection of fish, regardless of what the Catholic church says about flesh and fish on Friday. However sea vegetables are complex, hard to find and strange to cook with. Not as hard as jellyfish though.

Seaweeds play a background, but important, role in contemporary society. As a source for iodine and other chemicals, as animal feed and as a food additive. However it seems that there are reasons to increase seaweed forestation. One of our speculative characters will follow the line laid down by the innovator Bren Smith, who has restarted his ship-board life by becoming a seaweed farmer after the cod fisheries collapsed from overfishing. This has earned him, among other accolades, a Schumacher award. His example *Thimble Island Farm* is the basis for the *Green Wave* development, which aims to encourage many small sea farmers to emerge. In the Netherlands and the UK, many experts (such as Jan Kruisse) collect wild seaweeds, often for high end restaurants, while some small seaweed farms have been set up, feeding into the *Dutch Weedburger*.



We are unsure how seaweed farming may or may not help with the dead zones, the resulting algal blooms caused, in large part, by the surplus agricultural run-off from fertilisers that are used in overabundance. There is hope that the seaweeds will act as a recipient for the nutrients, absorbing them but not dying like algae and cyanobacteria, causing eutrophication and anoxic (i.e. oxygen free) water that suffocates fish, molluscs and anything else living there. Perhaps seaweed farms can act as a barrier, like the fertile hedges bordering fields and maintaining biodiversity or the free fences providing shade and wind breaks on Australian sheep farms. Perhaps they, as Bren claims, help reduce tidal surges from storms, perhaps they act as refuges for juvenile fish and molluscs, incubating the necessary changes for recovery.

It is interesting looking at the way that we, as a global population, are breaking things and how we might slow that process down, perhaps even to a point where collapse is not necessary. Within the scenario we are currently developing, we can take some guesses and look at ways that various strategies might play out. How will they affect everyday life? With fish and shellfish replaced by seaweeds and jellyfish in restaurant menus, with the ocean often poisonous from algal blooms and the beach unenjoyable, how is life in a coastal town? What are the everyday notices and decisions? How nice is it to live beside the seashore, to be beside the

sea?

Lucy Gilliam has set up *eXXpeditions* with Emily Penn in order to investigate plastics and other pollutants in ocean waters in female only research/sailing crews. *eXXpeditions* have undertaken to look not only at the presence of pollution in ocean waters, especially in the form of plastics, but also to look at the presence of pollutants in their own bodies. This action brings about a swing of perspective. The dreadful expression attributed to Stalin that the death of one person is a tragedy, the death of millions is a statistic, gets turned on its head. Mercury poisoning is a statistic until you are talking to someone who measurably has mercury poisoning and quite likely picked it up by doing ethnographical fieldwork and drinking water tainted by the run-off from gold mining that is poisoning the water of millions of people.

It has been conversations like this that have underlined the developments of future physical narratives, the breaking down of grand narratives and statistics to stories of fictional characters or even actual people. When we see the repercussions in everyday life, the statistics begin to be real.

Community

Arriving at the tiny station of Dumfries, I was welcomed by a fellow meeting his own description:

“You will recognise me from the bright Red Hat with feathers..If I am late don't worry yourself, your arrival is my utmost importance”

Tim Dennis, aka Captain Quetzal, is at the core of a merry, enthusiastic, dedicated band of activists, artists and practitioners, who are setting up a very interesting collection of projects in and around the small Scottish port of Palnackie. The central project is the *Quetzal Trading Company* with a gallery, studio space, carpentry workshop and other activities rounding it out. I had arrived at precisely the right time. The entire group had assembled in the local bar (it is a one bar town) for drinks while a few other finished the preparations. One month previously, the dynamics of the group had become complex, so the workshop was to be closed on the date

I arrived. Originally for one month, the planned closure was altered to one minute due to the departure of some of the complexity causes. The entire crew were dressed for the occasion, wonderful Edwardian regalia and feathers in hats, I was by far the most banally dressed of all present. Shortly afterwards we made our way to the workshop, where a small, short ceremony was undertaken, the workshop closed, re-opened, and we all trooped inside, accompanied by horns blasts and smoking incense.

Tim and the rest of the group have a wonderful ability to make people feel welcome. With the very short time of my visit, it was all they could do to get me around to visit some of the partners in their activities. We started before 8am enjoying a cup of tea with the (apparently typically Scottish taciturn) owner of the local truck and skip company who rented them the workshop space, then inspected the harbour, into Dumfries to meet some local boat liveboarders, a poet, the local chandlery, an ocean going yachtsman who is training them up and Alice Francis, a local artist who is getting a second boat ready for sail cargo.



The *Quetzal* approach is wildly different from that of the other groups I met. There is nothing international, no fine rums or fairly traded chocolate, no maritime traditions. The goal of *Quetzal*, at this stage, is to move stuff. Whatever is needed, however possible. Members of the group have experience transporting horses, building ships, driving and repairing trucks, building houses and generally being useful in their communities. They have local suppliers of animal feed and hardware that need deliveries to the Isle of Man, just visible on the horizon. Because there is no ferry service from Scotland, this must all go via Liverpool, a long detour. So the *Quetzal* approach is: let's get it there. Cheaply, with some adventure, in small boats using the wind and tide of the Firth of Solway to our advantage. The return trip from the Isle of Man will be used to bring supplies from the small breweries on the island to some local pubs. The group have already bought one building to use as a gallery and studio spaces, perhaps they will be opening Palnackie's second bar before too long.

The Quetzal is a central American bird that is beautiful but, if kept in a cage, will die. The *Quetzal Trading Company* is living up to their name.

Unrealised projects

Talking to a number of the *Fair Transport* practitioners, it has become apparent that their time at sea is one kind of paradise, but life requires a multitude of them. Echoing the words of the founder of the *Slow Food* movement, who apparently wanted to be a sailor or a shepherd, a number of the practitioners within the group are looking at finding places to settle down. As *TOWT* solidifies its basis in Douarnenez, *Grayhound's* co-skippers have bought a small farm building and large garden nearby. Other people from *Fair Transport* and *New Dawn Traders* have also been known to dream about the possibilities of settling down, at least for part of the year.

This development offers several paths forward. Freed from the need for the ship to be home, it can take on new captains and new crew and maintain a level of activity that helps make the investment in that ship possible. Having a solid land base means that storage and refurbishment becomes less of an issue. While the practitioners enjoy the feeling of wet feet and wind in their hair, they also want their fingers in the ground.

Cosmo shared his planned, but currently unrealisable sail cargo project for the inner seas of the Netherlands. Fresh organic produce from Friesland would be delivered diagonally across the IJselmeer and Markermeer to Amsterdam. The market that would receive the produce had offered to pay around 500 Euro above standard delivery rates for the marketing privilege, while Cosmo's estimated costs were about triple that. However the plan has not been laid to rest, a number of factors could still make the project feasible. Lower vessel rental costs are one simple factor, but the reduction or transfer of crew costs is probably the most significant. There are a number of possible sources. The school would be able to offer training on board for the students. Whether this costs is more or is included, is up to the school. For the summer season, the vessel could take advantage of one of the bastions of sail training, the use of shipboard life as a place to develop "character." As successfully used in such examples as the Vienna based *Noah*, groups such as recently released inmates, the unemployed and at-risk youth have benefited from such activities. This would allow the project to spread its costs around, as the *Tres Hombres* does with their cargo / training / show time split of income streams, to perhaps a cargo / training / social split.

Conclusion

The collection of stories and ideas, histories and experiments met with on these transiencies have been fed into the backstory for the *Turnton* piece that we developed and that will be described in the next chapter. However the experience also shed light on an emerging world of practitioners that are merging new and old techniques and technologies with the social lubricants of trade, travel and transport to enable new ways of thinking about how the world can and should work.

The experience

As we took the ideas of the transiencies and developed a scenario and then a storyworld, we had to incorporate a range of other inputs, ideas, influences and matters that help make the world make sense. The following few pages summarise that process and describe the resulting installation.

Futuring Exercise

After the major parts of our transiencies have been accomplished, summarised and brought into a shape we moved forward into a creative process to explore possible futures informed by what had been collected during them. In the following we will bring in some logs written during the Futuring Exercise done between April and June 2016.

But perhaps we should first revisit the idea of a futuring exercise. Futuring Exercises, in our understanding and practice, encompass the development of possible future scenarios leading eventually into experiential futures that can be explored by an audience. They encompass creative processes of exploring futures facilitated as a collective, participatory exercise. We apply simplified techniques, methods and tools, established and tested by professional futurists, leading into scenarios and storyworlds, which sketch and describe parameters as well as details of a possible future. Within the pan-European *Future Fabulators* project our partner FoAM published a second edition of their *Futurist Fieldguide*, which is perfect source for basic techniques. See the early chapter for some more of our thoughts on these matters.

Luxury in a climate and system changed world

Over the last few months there has been a lot of "slow travelling" in our plates, transiciencies as we call them, a term deriving from a former pan-European project we have been involved in: *The Resilients*. Residencies in motion, move and stop, stay a little while, gather impressions, information, opinions, anecdotes, voices and leave again, just to repeat the procedure of collecting more references on another place.

"Data" collected during these transiciencies includes, among so many other ideas, attitudes and investigations, inquiries on how possible futures are forecast by marine biologists, ocean experts and carbon dioxide specialists as well as a range of experiences and challenges of currently active fair-transport and feral trade initiatives and activists.

In addition to the transiciencies, fair transport experts were consulted and invited to our laboratories, non-fiction books and papers were read, documentaries watched, radio-features listened to, statistics, analyses and diagrams decrypted, all along the lines of a current state-of-the-art on trade, water and transport.

Months of gathering and processing loads of often dark and disturbing data, details and prognoses of our prognosticated futures. Though our learning was positively enriched by initiatives fighting against the current states of extractive and exploitive methods dominating the politics and economies around the world. It is good to know that energetic and ambitious alternative thinking and acting exists, as we dig into the details of current trajectories.

Even though our research was still ongoing, we kicked off a first multi-day futuring exercise. Despite or rather because of all the shocking, dark and disturbing data, details and stories we collected, we concentrated on how a definition and interpretation of luxury could look like in possible futures.

After consulting our first and foremost handbook, the *Futurist Fieldguide* - edited and published by our long-standing partner in futuring questions FoAM - we chose a method that we have never tried before for a futuring exercise: CLA - Causal Layered Analysis. Containing some features that allow a rather subjective and narrative approach to possible futures, it focusses on in-depth analysis of current issues before identifying alternative situations, in particular futures.

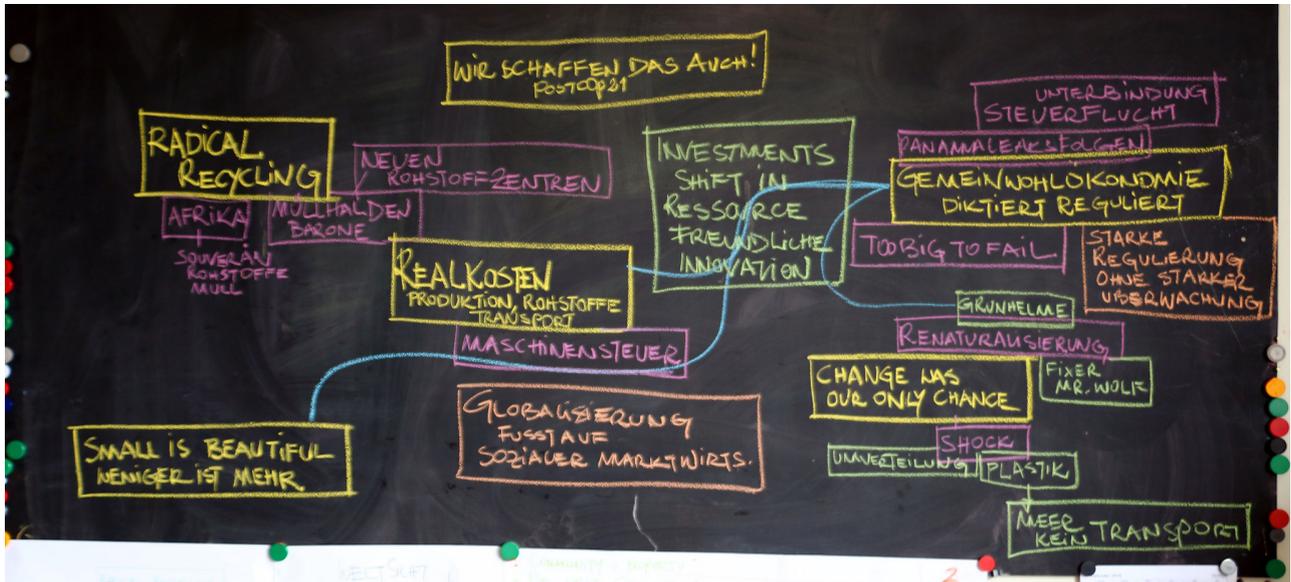
The analysis happens on four levels: litany, social or systemic causes, discourse / worldview and myth / metaphor. *Litany* identifies current issues, assumptions, facts and data. At the next layer the *social* or systemic causes underlying the 'litany' are analysed. At the *discourse* layer, dominant worldviews and mindsets are examined, which give rise to the issues. The deepest layer looks at the foundational *myths*, metaphors and archetypes that influence the unconscious and/or emotional undertone beneath the issues. - FoAM, *Futurist Fieldguide*

After understanding the layered causes of an issue, the method suggests looking at alternatives – either within each layer or beginning with a new myth/metaphor and working up through the layers to create an alternative scenario. From this alternate scenario, new possibilities can be distilled and translated into solutions, policies, and other types of actions that one can begin implementing in the present.

After several sessions concentrating on how luxury is seen, defined, talked about and practiced - including developed worldviews which allow these definitions and finding archetypes, legends and myths the worldviews are grounded in, we started to shift several parameters to see how alternative futures might look like. A first framework, a skeleton of some possible futures has been worked out - for further details there are more sessions to come - preferred futures need time to be imagined.

As we seem to be fed up with negative, dystopian future scenarios, we decided to draw a world that allows positive visions, even though including some non-reversible consequences of our recent and current behaviour. Yes, we allowed ourselves to be naive and dreamy! "Change was our only chance" together with "Yes, we can do this as well" ("Wir schaffen das auch") were created as the rallying cries dominating our images. Both slogans were fictionally derived out of some delayed post COP21 reactions as well as the (hoped for) repercussions of the Panama Papers, becoming eventually relevant after glaringly obvious environmental and social disasters also effecting industrialized regions. We imagined that this would force alterations in the global, economic pace as well as the general public view of social fairness.

In short, we did not want to imagine that humanity would change anything until environmental degradation had hit some stage of development that it was no longer possible to be a denialist, and that we, collectively, had managed to make some desperately needed changes in our socio-economic structures.



This chosen starting position has led us to a framework of parameters, including amongst others, the implementation of radical recycling, public welfare economics based on real costs and the disempowerment of profit orientated wheeling and dealings. Sustainability on all levels (economically, environmentally and socially) replaces extractive economies and striving after endless growth. Of course we are not saying every single person in the world follows these new rules, since we need to have some frictions in our future-fiction as well. These circumstances triggered fundamental changes in the nature of transport, trade, manufacturing and investments. Perspectives on clean and renewable energies and resources shifted drastically. Labour underwent a re-evaluation, values in general were adapted.

We are facing a future world, which potentially allows a balanced co-existence of all people alive in an environmentally and economically thoughtful setting. Yes it is a fabulation, and yes it is a dream. So what? What can be wrong with a vision trying to bring back some sort of vigour and passion into a everyday which very often only gives us a chance to fear what a near and less near future entails?

Character Development

Here we are, facing a possible future based on a global public welfare economics and sustainability on all levels (economically, environmentally and socially). This vision might even be preferred, if we disregard the fact of the environmental and societal disaster events that have eventually triggered the social changes taken as the skeleton for our setting. Ocean collapse with toxic coastal waters, transport collapse, climate change driven water level rise to mention just a few.

We worked on litanies including possible headlines for newspapers, repeated opinions and slogans, as well as possible myths in such an altered world. Litanies were developed that would reflect some changes and bring in some of the ideas that we would like to have reproduced in the world. Some examples that we developed:

- Allow yourself the luxury to survive
- Stay with a clear "no" to destruction.
- We got back our planet A.
- Development needs debt relief.
- Interest is theft.

Such litanies include not only some slogans from activist groups but also twistings of existing slogans. Such litanies bring a tail of connected meaning with them, helping us to create detailed imaginations of what could be happening in this world. We then shaped necessary institutions, interest groups and organizations that might be of relevance. Some examples of institutions and organisations we see for a possible future in a climate and system changed world:

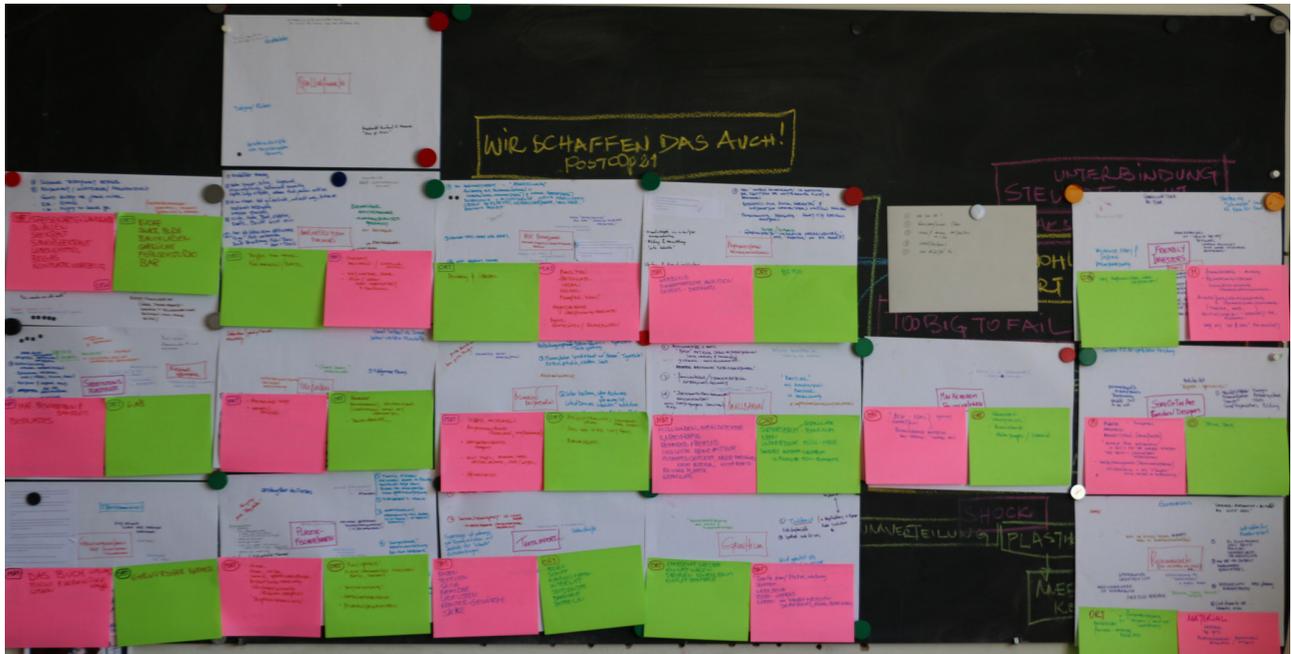
- Global Transparency Institute, mostly a reaction to the Panama papers and our investigations around flags of convenience in shipping, along with the increasing lack of clarity about responsibilities and benefits in an ever growing globalised economy.
- Tramp-Trade share market as an umbrella organisation for non-regular sail transport, based on the model started by *TOWT* in France with their multiplicity of small vessels transporting goods.
- An overarching resource administration in order to regulate the exploitation

of raw materials for future generations, giving us the Global Authority for Sustainability, based upon the idea of a NÜV (the wonderfully Germanic Nachhaltigkeitsüberprüfungsvereinigung) that would replace the TÜV, the technical testing authority.

The next step is to begin to populate the world, creating a slice into a specific community. This involves finding and defining stakeholders, developing job descriptions, scopes of duties, tasks and passions, determining individual characters active in these circles.

Imagine an economic system, which doesn't run for profit but for generally sustainable developments and designs. Imagine a policy, clearly controlling (if not banning) the mining of raw materials and focussing on waste prevention, renewable energies, recycling, reusing and restoring. Imagine a transport system unshackled from fossil-fuel energies. Imagine the consequences of such a transportation in terms of global trade, manufacturing and labour conditions. Imagine an order along which ecological restoration and the examination of correctly implemented sustainability (socially, environmentally as well as economically) became the only areas of responsibilities of military task forces. Imagine toxic patches of oceans, infested by piles of plastic and other toxins, hosting only a minimized and inedible fish stock with the exception some special types of jellyfish. And imagine the effort to fight against such facts.

For all those and even more imaginations we portrayed fictional characters playing roles in that framework of a possible future. One favourite one is the highly talented jellyfish cook. She is a young woman, migrating to Europe from a coastal region of China when she was a baby. She started her own little snack bar in a harbour environment, the bordering ocean is badly damaged, the sea-level risen, yet still allowing the use of the area. Her little pub became a social hub for all the residents and transients. She established a strong network with all adjoining, mainly organic farmers, using their products in her kitchen as well as trading them if costumers interested. But she is only one in a long list of characters.



Design for and atmosphere

As we have a preliminary skeleton of our possible future, some first, dominating values, beliefs and world-views, as well as several institutions and organisations, inhabitants, residents and stakeholders, we started to sketch possible appearances of this conjectured future. As our final objective is the translation of this process into a physical narrative.

We entered that next process step with two rather simple questions: what tools, materials, machineries do the characters need for their existence and where do they operate, work and/or live?

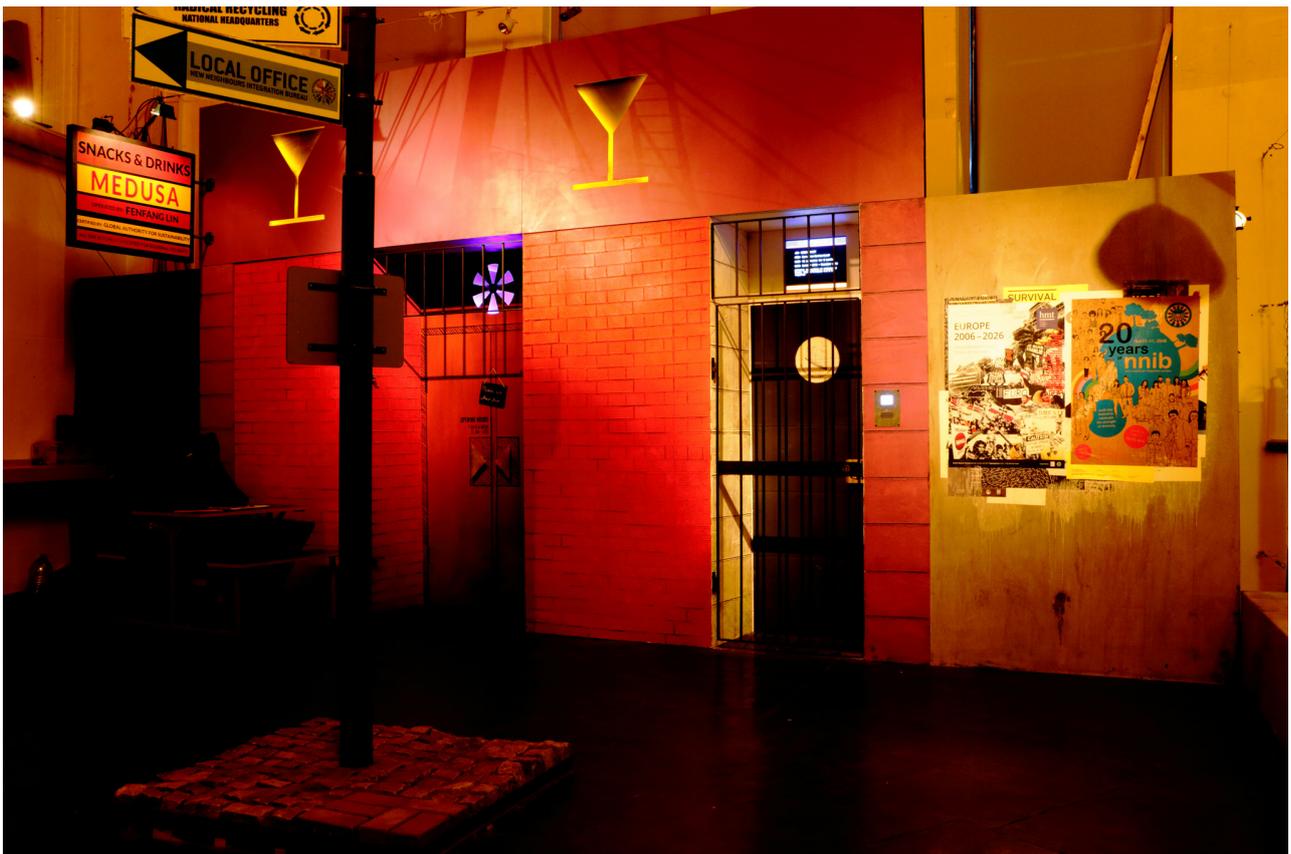
Through that process we not only deepened our understanding of what each character is standing for, but, through intensifying why they are doing what they do, we even re-shape and develop the whole future scenario. We accent certain aspects, find conflicts and frictions, which either need to be taken out or intentionally emphasized. We draw connections between individual characters and work up details in their back-stories.

Bit by bit we modelled possible physical appearances of certain relevant fragments approaching possible representations of basic values in our sketched world and collect ideas for placing traces for our absent characters. Through verbal descriptions, supported with poor sketches as well found footage we moved towards a possible atmosphere and a basic look of a staged and tangible version of the possible future in a climate and system changed world.

The large scale physical elements that were developed for the first iteration of the piece are the bar, the harbourmaster's office, the ocean, access to the algae farm and the pollinator's balloon basket.

Fragments of an embodied possible future scenario

A physical narrative does not exist in a vacuum. In fact it exists very much as a site-specific intervention, an arrangement of the elements of the narrative in a given physical space. Often we are so strongly influenced by the space in which a narrative is first constructed that it becomes difficult to install it in another space. The character of the walls and floor, the ambient temperature, angles from which light can be shone, all these influences and more come together to help us create the physical narrative as it is installed.



Building a town square in a given room is, to say the least, a challenge. The gallery space in RIXC is at least relatively neutral, it has high ceilings and one main open space within which we could assemble the parts of the story. The square is adjacent to the sea, with the door to the

harbourmaster's office immediately adjacent to the fence that should keep the casual visitor from coming into contact with the poisoned ocean. The ocean undulated with simulated waves underscored by the sound of water lapping on the harbour walls. By using a nonlinear scaling of the ocean, we were able to compress the first few nautical miles of coastal waters into the six-meter space available at the end of the gallery.

The harbourmaster's building and the bar were constructed as theatrical flats, coated with concrete based rendering and painted to give a proper feel of masonry and a solid building. The pollinator's balloon basket lies on the opposite side of the room, the natural fibre suspension ropes hanging loosely from above where the imagined balloon remains suspended, just out of sight. The balloon is tied, like a ship, to an immense rusty steel bollard that underlines the maritime flavour of the city. The fourth corner of the room has the entrance to the Seaweed Farm, with a bundle of sea-slime coated plastic rubbish hanging from the fence.

The room was kept dark, the time is early evening and the moon is slowly rising. Maintaining the dark feeling of a post-cheap electricity world where illumination must be kept effective while maintaining readability of street signs, newspaper and other written details, required a long process of fine-tuning. Some light was less illuminating such as the sweeping cone of the lighthouse perched above the harbourmaster's office, beaming out to sea, or the shadow of the moon's glow that had passed through some kind of loading derrick and sailing ship's rigging before being cast upon the facade of the bar.



The storyline details themselves were most apparent in the accompanying written material. A newspaper, 24 pages of the *Turnton Gazette*, was to be found lying on the outside table in front of the bar, as was the menu and an advertising brochure for the travel and aid organisation *Travel Without Borders*. The Gazette included headlines and some full articles, a summary of the relevant news, where interviews with the balloonist, reports of pollution mining and developments in various regions close to Turnton could be read about. The public was invited to take some time to sit and browse the newspaper, using the physical relics and the textual details as a way to piece together their interpretation of the Turnton world. Posters on the blank concrete wall adjacent to the sea announced the New Neighbours Integration Bureau 20 year celebration, another poster announced the exhibition in the Turnton Historical Museum reporting on the tumultuous times that preceded the current, fundamentally changed, epoch. As the visitors to the space left, they entered the door to the museum, returning to 2016 and the everyday worries that this year has included. The current world as a museum of a past that the future finds somehow uncanny and misguided was the best way that we could find to reflect on a world where, from that dystopian but somehow optimistic future, "Change was our only chance."

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Nuorti! Seven Senses on the Land

Marko Peljhan & Matthew Biederman

Our senses guide us through the world. Combined with experience, knowledge and openness we can begin to develop new relationships and understandings of Earth systems and our collective embedded positions within.



The following was the brief around which this group gathered and conducted its investigations:

Complex ecological networked systems can be observed, read and navigated by employing Intuition and Technology. Artists, hunters and herders, tactical media workers and scientists will be joining forces to develop, deploy, use and question enhanced sensing systems and methods. This could lead to new and surprising insights and construction of semantic territories, in which the gaze and measurement become knowledges and are projected back onto the land in order to structure completely new vectors of meaning, understanding and orientation. Our senses guide us through the world. Combined with experience, knowledge and openness we can begin to develop new relationships and understandings of Earth systems and our

collective embedded positions within. We will develop the ability to augment these senses through Technology and Intuition, engaging Local and Traditional knowledges, Art, Engineering and Sciences. This group will explore the machinic in the ecologies and the animals in the machines.

This group was heterogeneous in many different dimensions, composed of hunters, poets, artists, nomads, anthropologists, surveyors, reindeer herders, programmers and coders, pilots, tactical media operators, tactical geographers, photographers...The few days of investigating and reading the Land resulted in a series of responses, that will yield future work, both in the framework of the current activities of the group's members as well as new joint future collaborations. SSOTL concentrated on the understanding of the Land; (Land here is intentionally capitalized, so it somehow captures all the Land has to offer – weather, flora and fauna, narratives, history and time).

We tried to enhance all the rest of the traditional senses with Intuition and Technology. Due to the time limitations, we have decided to travel and concentrate on two vectors around the Saana fell, which dominates and dictates many of the possible and potential Land connected research dimensions in this area of Lapland i.e. 290deg - 100deg.

STONE, FREEDOM, MEMORY, NOISE, MOLTEN, STRONG, WIND,
TRAIL MAKING, GRAZING, TRUST, AIR, CONNECTIONS, LIGHT,
WIND, DOWNHILL, EAGLE, YELLOW, LEMMING, BALANCE,
COLOUR, SLEEPING, COLOURS, ORANGE, BORDER, SMILE, RUSKA,
STONE, YELLOW, TEXTURE, SOFT, FLOATING, SEEING, LAND, RAJA,
REFLECTION, NORTH, ENERGIZED, COMFORT.

This was the response to the SSOTL group report by the participants as well as members of the other groups.

We found out, that being on the Land, sensing the Land, can lead to as many different perspectives as there are people. Can the use of technologies, both old and new, traditional and modern, augment our senses and lead to deeper understandings of the Land, its systems and our relationships to it?

However, to paraphrase Virillio, with each new technology, come new tragedies. For instance, take the technology of the fence, a border between Norway and Finland, which was discussed very much within our group. A simple technology, yes, but in fact one that has prevented the natural

migration and movement of reindeer herds through the seasons. Similarly, we also visited what was left of an ancient Sami stone fence near the Didno River in what is today Norway that was built by reindeer herders in order to separate their respective herds from one another. A different approach with a very different functionality and result.

Time-disappearing

After a few weeks, Leena wrote:

“Oula is still thinking some answers to some of your questions. The process is going on. Oula also told about his memory while having his campfire up on the hills during the lunch. His campfire was made about similar kind of dry willow, as we had in Didno-river in Norway with you. He was next to the similar river where we were. He was watching around, and looking for all of you. Then he started to think what is the time and recognize that the time is very much like as disappearing. He’s still thinking that.”

This Didno River Sami fence, and its design is a highly developed tool that has been refined through time in conjunction with understanding nature and the particular animal. The fence was built with a specific intent to allow for a fluid and sustainable form of husbandry, bringing man, animals and nature together. It still stands, but it is a site rather than a border. The border fence is precisely the opposite – it is built as a separator, in order to define ownership of a system which cannot be owned. It prevents the free movement of animals and man, it destroyed ages old North/South migration patterns through its construction.

Many discussions, or really one long discussion was carried on over several days as the group tried to untangle the fact that the Norway/Finland border fence was a major problem, one that cannot be resolved simply, whereas the Norway/Sweden border just next door was open for passage of reindeer herds throughout the seasons. No simple “southern” understanding and typical undoing can of course solve this issue, since the traditional patterns have changed because of the fence and now new, adapted understandings of the Land and reindeer husbandry exist.

Sensing remotely

Since the fence seemed to be an interesting focal topic, we decided to

approach it from another viewpoint quite literally. We flew an unmanned aerial vehicle equipped with the ability to take georeferenced orthophotos to create **ortho-mosaics and maps** of the Land over different areas defined and sculpted by the fence as well as over historical dwelling sites.



While processing and doing heavy statistical analysis of the collected data is time consuming, we were able to quite quickly observe the environment on either side of the fence and noticed immediately a difference between the Norwegian side and the Finnish side of the fence and noted that the Finnish side was more overgrazed than Norway. We assume this is probably due to the fact that the herds on the Norwegian side are able to continue their natural migration northward during the summer months. We also imagine that using these data sets could potentially be of use if there were to begin some sort of negotiations around the border, not that it would solve the competitive use among families but potentially there is a use for this in a larger governmental and geopolitical framework.

Of course this fact is already well known by the local people who are herding and utilizing the land in this way, however by using these larger scale technological augmentations to vision – we can quantify just how damaging the interventions are to the Land through proper analysis and quantification.

Remote sensing techniques can also lead to completely new insights in terms of reading and mapping the cultural Landscapes of the present and past and

detecting changes over shorter and very long periods of time and we have decided we will conduct another, much more intensive campaign together with our Sami colleagues in the near future.



This blog post is a reflection on [Field_Notes - HYBRID MATTERs](#) that took place on 14.-20. September 2015.

[Field_Notes - HYBRID MATTERs](#) is an art&science field laboratory organized by the [Finnish Society of Bioart](#) at the Kilpisjärvi Biological Station in Lapland, Finland. The project is in search of artistic and scientific responses to converging ecologies. The local sub-Arctic ecology and environment, as well as the scientific research and infrastructure of the Kilpisjärvi Biological Station will act as fields and catalyst for the work carried out.

The team

Matthew Biederman (group host)

Matthew Biederman works across media and milieus, architectures and systems, communities and continents since 1990. He creates works that utilize light, space and sound to reflect on the intricacies of perception mediated through digital technologies through installations, screen-based work and performance. Since 2008 he is a co-author of Arctic Perspective Initiative, dedicated to augmenting traditional knowledge through new technologies for greater autonomy of the circumpolar region. His work has been featured at: Lyon Biennale, Istanbul Design Biennale, The Tokyo Museum of Photography, ELEKTRA, SCAPE Biennale and CTM among others. <http://www.mbiederman.com/>

Marko Peljhan (group host)

Marko Peljhan is a theatre and radio director, conceptual artist and researcher. From 1994 on he has been coordinating the Makrolab project in all its dimensions. He is the co-founder of the Ljudmila digital media lab (1995) and the initiatives I-TASC (Interpolar Transnational Arts Science Constellation) and API – Arctic Perspective Initiative with Matthew Biederman. His work has been widely exhibited in numerous exhibitions worldwide. He is the recipient of several art prizes, among others the Golden Nica in the Interactive arts category for the work "polar" with Carsten Nicolai. He also works as Professor of interdisciplinary studies at the University of California Santa Barbara. He is also the artistic director of the not for profit arts organization Zavod Projekt Atol and the editor at large of the music label rx:tx. <http://www.ladomir.net/>

Leena Valkeapää (group host)

D.A. artist and researcher Leena Valkeapää lives in the wilderness in the northwest Lapland. Her doctoral dissertation *In the Nature, a dialog with Nils-Aslak Valkeapää's art* (2011) proposed a dialogue with nature and its poets. She has exhibited as a visual artist since (1988) and has produced public environmental artworks, including the rock wall piece *Ice Veil* (1999) in Turku. She wrote a regular column to Lappish newspaper *Lapin Kansa* during the years 2012-2014. Valkeapää is taking part of the daily works in a reindeer herding, in sami culture tradition. Leena Valkeapää works as a visiting lecture in the Department of Art in Aalto University.

Jose Marcos Perez Diaz

Jose Marcos Perez Diaz studied technical engineering and topography at the University of Las Palmas de Gran Canaria and is CEO -UAS Manager at Airdrone 3D. <http://www.airdrone3d.com/en/>

Charli Clark

Charli Clark is a UK artist, currently based in Espoo, Finland where she is completing her Masters in Environmental Art at Aalto University. Clark's practice is collaborative and social-specific, exploring the inter-connectivity of Earth through working alongside others to share and exchange skills and knowledge in relation to the concepts of society and consumption. Recent commissions include 'Take One Down' for AMORPH!14, Community?, MUU Gallery, Helsinki, Finland, 'SWARM' for BZZZ International Sound Art Festival, Harp Art Lab, Sweden and 'Catch Your Breath' for Paper Makers: Bring Science to Life through Art, Glasgow, UK. <http://www.charliclark.co.uk>

Stephan Dudeck

Stephan Dudeck is an anthropologist working at the Arctic Centre of the University of Lapland as a member of the ORHELIA (Oral History of Empires by Elders in the Arctic) project that collects stories from indigenous groups of the Barents regions. He finished his dissertation on the persistence of reindeer herders' lifestyles in Western Siberia at the Max Planck Institute for Social Anthropology in Halle, Germany in 2011. From 1993 to the present, he visited regularly Khanty and Nenets reindeer herders in the Russian North and Siberia. Among his interests are adaptations to technological change, visual cultures, resistance and practices of avoidance.

<http://stephandudeck.wordpress.com>

Alia Malley

Alia Malley received her BA in Critical Studies from USC School of Cinematic Arts (1994), and her MFA in Visual Arts from University of California Riverside (2010). Her work explores representation and content, specifically in the context of landscape and cinema, photography, human geography and place. She was the recipient of the Merck Award (2010), and selected for the Farm Foundation's Arctic Circle residency in Svalbard (2013). Her work is included in the permanent collection of the Los Angeles County Museum of Art. Her project *Captains of the Dead Sea* will be presented in a solo exhibition at SLOAN Projects, Los Angeles, in October 2015. She lives and works in Los Angeles.

Netta Norro

Netta Norro is an international based arts manager, cultural producer and communicator. She is the coordinator for Changing Weathers project which Field_Notes HYBRID MATTERs is part of. Norro holds a BA in Arts Management and MA in Arts. She has been working extensively in culture and in arts with production and coordination and with communications in culture and in btob. Recent years she has also worked with development and internationalization of creative organizations. She is a qualified process and online facilitator. She used to have love for factory buildings and cargo ships but these days she is more into humanity and nature.

Avner Peled

Avner started off as a software developer and IT security specialist in the Israeli military. Later he moved on to game development, while pursuing academic studies in Neurobiology and Philosophy of consciousness in Tel Aviv university - Including one year in Waseda university, Tokyo. For the past 3 years he has been working part-time in a music industry start-up, using the spare time for New Media art, 'Making' and volunteering within the refugee community in Tel Aviv. Now he's entering the next step - A Master's in New Media art at Media Lab Helsinki. <http://avner.js.org>

Judith van der Elst

Judith van der Elst is an anthropologist/archaeologist specialized in humanistic approaches in the geosciences. She received her PhD from the University of New Mexico for research testing the limitations of spatial information systems for representing and understanding the diversity in human spatial thinking, using the concept of cognitive landscapes. Her work focuses on understanding multimodal perception of the land, through merging embodied learning, sensing technologies, and ubiquitous computing within a biosemiotic framework. Leading a semi-nomadic lifestyle she explores this approach through transdisciplinary collaborations, among others with Urbino University, Aalto Media Lab: Systems of Representation, and Machine Wilderness project (Theun Karelse).

Changing Weathers

Networked responses to geophysical, geopolitical and technological shifts across Europe



ABOUT THE PROJECT

The 21st century is under way and 100 years after the start of the century of “world wars”, and a quarter of a century after the fall of the Iron Curtain, we are again experiencing an era of new economic and political tensions and conflicts across Europe. More invisible and complex in nature and seemingly immaterial, they manifest themselves in cultural and political shifts of major dimensions and call for constant and structured reflection. This situation is coupled with anthropogenic environmental changes all around the planet and together they present formidable cultural challenges.

The Changing Weathers project reflects and explores potential adaptation and change strategies connected to these challenges through workshops, open field-based conferences, residencies, exhibitions and cultural actions. It’s a program of (commissioned) artworks, strategies and dynamic infrastructures, that initiate and sustain long-term networked co-operation and exchange between the participating organizations, cultural operators, artists and traditional and indigenous cultural activists.

We focus on exploration of migration of people, capital, ideas, traditional and local knowledge, scientific knowledge, open source technologies and methodologies. We interconnect high and low culture, art & science, local & traditional knowledge (LTK) with scientific approaches to the understanding of natural and social systems. We propagate the rise of the structured DIY movements, and explore historical & cultural origins and potential cultural and creative futures on the North+South+East+West axes of Europe.

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www.changingweathers.net

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