

BartakuVandeput

B a r o a
belaobara:
berryapple

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Main abbreviations

1HaBP – One Hectare *Baroa*
belaabara Power Plantation,
Aizpute, Latvia

1HAmP – One Hectare *Aronia*
melanocarpa or *mitschurinii*
Power Plantation, Aizpute,
Latvia

Aamo – Aronia Art Master
Morphing (as *Passage* or
research group at Aalto
University)

Aronia m. – either plant
species *Aronia melanocarpa*
[Michx.] Elliott
or plant cultivar *Aronia*
mitschurinii

Baroa b. – *Baroa belaabara*,
the 1HaBP-induced name change
of *Aronia m.*

DSTRBTD – Distributed

FtF – The Flower-to-Flower
cycle (FtF) of *Baroa b.* from
May of year x to May of year
(x+1) at 1HaBP

nDSSC – natural dye-sensitized
solar cell

OBDP – *OtaBaroa Distributed*
Plantation on Otaniemi Campus,
Espoo, Finland

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I I N T R O D U C T I O N

This monograph you are about to read exists in essence due to five ‘mere happenings’¹ at a berry-apple plantation. They instigate Bartaku’s art practice and research processes that I try to convey in this monograph through a non-linear selection of wording and illustrations. They relate to the period 2016-2020, which is the time span of Bartaku’s so-called practice-based doctoral studies at the Department of Art of Aalto University School of Arts, Design and Architecture (Aalto ARTS), Finland. This institution and its campus provide the biotope for the workings. The emerging constellation is mesh-like and has within its fabric other-than-berryapple lively matter like breath, Earth, bone, leaves, roots, painting, wood, electrons, bacteria, photons, air, sound and humans. It is interwoven by crafts and techniques such as glass painting and cutting, solar cell making, ceramic crack repair, in vitro plant growth, horticulture, wording, reading, wandering, bacterial and plant-colourant purifying, improvising and presence-ing, exhibiting, intervention-ing, lecturing, meeting and applying. This word-string is so to evoke the collaborative, transdisciplinary and processual nature of the practices.

This introduction now situates both entities, the nature of the relation, the other-than-berryapple companions, the context, the becoming and the outcome. I include particularities on language, narration and the way the book is structured.

I begin *with the* beginning.

¹ For the term ‘mere happenings’, see below, section 1.5, and in the concluding section 3.2.

1.1 The First Time

In August 2009, on a patio in an 18th century wooden compound in the Midwest of Latvia, this monograph secretly begins to grow. The air carries clear traces of a Sea with little waves, like those of a fake lake, into the bodies of a group of people. They come to see how light can change into tiny *electricities* by striking the surface of a thin layer of plant colourants that stick to a coated glass plate.² A local participant asks me if I am interested in seeing a dark fruit with dark sap, growing just outside of the Aizpute municipality. Soon after, passing thousands of trees dotted with green-yellow apples, I am introduced to hundreds of *Aronia* bushes. They were planted in the 1970s as part of a state-controlled collective farm, or sovkhos.³

That night, I read on Wikipedia that the main scientific name for the berryapple is *Aronia melanocarpa*. That it sexually reproduces via flowers pollinated by bees and bats in May, leading to fruits with seeds in late August and September. Birds, deer and humans may help the plant in spreading across the Earth, in places ever further away from its 'origin', swamps and low woodlands from Nova Scotia to Ontario, to Florida and Michigan in the northeast of the American continent. *Aronia* reproduces asexually as well, growing shoots – exact copies from the mother-plant – from the roots that grow suckers that run rhizomatically just under the Earth's surface.

The next year, and the ones that follow, up until 2019, I hang out on this piece of land when the fruits are full grown, and sometimes, when they are flowering. I refer to the plantation as 1HAmP: 1 Hectare *Aronia melanocarpa* Power Plantation.

² Bartaku talk and workshop on natural dye-sensitized solar cells at SERDE Art Center, Aizpute. Part of the Symposium for Art and Renewable Technologies by *RIXC*, 13-16 August 2009.

³ See on this topic e.g. Bell et al. 2009, pp. 425-455.

Gradually, sliding through time, *Aronia m.* 'moves' to the centre of the All.⁴

"Harvesting a carrot is the death of the carrot.
As opposed to the berry."

Lauri Linna⁵

1.2 A Continuation

Like most of Bartaku's works since 2007, the workshop that leads to the coincidental encounter in the first place is also part of *PhoEf: The Undisclosed Poiésis of the Photovoltaic Effect*. This refers to artist Bartaku's practices that evolve through questioning, researching and commenting upon relationalities of light, energy and bodies. It follows a period of experimental works on the energies and conversational realities invoked through twisting fibres and threads, inspiration here coming from the communication systems and underlying cosmovision of cultures in the Andes.⁶

Since 2007, *PhoEf* has evolved through art works, talks, co-creation and collaborative practice, mostly processual and transdisciplinary.¹ Plants are often at the centre of the artistic research processes. This is mainly due to their colourants, which poetically convert light into electric energy in the basic design of a so-called natural dye-sensitized solar cell (nDSSC).⁷

⁴ Honoring David Bowie. See lyrics of "Blackstar" e.g.: <https://genius.com/David-bowie-blackstar-lyrics>

⁵ Quote from Bartaku's *Leaky-Loop Sys Course I*, Aalto ARTS, 18 October 2016.

⁶ See *ReCords*, *ReCuerdas*, *RondHangen* (2004), an intermedia installation inspired by the tangible communication system developed by the Incas prior to the Pre-Columbian era: <http://recuerdas.blogspot.com/2004/04/about-rondhangen-records-recuerdas.html>

⁷ See the main reference paper in this field in Nature: O'Regan, B & Grätzel, M 1991, 'A low-cost, high-efficiency solar cell based on dye-sensitized colloidal TiO₂ films', *Nature*, vol. 353, no. 6346, pp. 737-740.

Its matter and making inspire many of Bartaku's works, for instance, the moving plant spiral on the Brahmaputra River and the glass sculptures for and with *Agave* plants in Oaxaca, honouring its relation with light.⁸

Aronia m. comes to the forefront, with its sap becoming the main ingredient in Bartaku's highly inefficient and volatile organic solar cell, named **temporary photoelectric digestopian (tPED)**. The experience with natural dye sensitised solar cells indicates that the high concentration of anthocyanins – intense red-reflecting colourant – in *Aronia* sap makes it taste-wise, sun-electric-wise and aesthetics-wise highly appropriate for the tPEDs. In the period 2010-2015, the *Aronia* liquids flow via these tPEDs and human bodies throughout Belgium, Holland, London, the Baltic countries, Finland and Norway via the tPED Labs series: a table landscape in which participants make *digestopians* with the help of prepared temporary collaborators. Then, they test the objective and subjective properties of the leaky solar device on their tongues that point to the Sun, or a fake Sun in a photo-booth. Through 14 tPED labs in the period 2010-2016, this results in a photo-archive of over 400 'test results' of morphing tPEDs on tongues and of the emotions they trigger in the human faces.⁹ In 2010 during the *Herbologies*¹¹ programme, local plant and herbal knowledge is shared via the herbalist women of the region, mostly in relation to human health and food use. With the collapse of the Soviet Union in 1991, 1HAmP is of a much more biodiverse nature, with many companion plants and fungi due to the ending of the monocultural farming method of the sovkhoz. The origins of the plants seem to be in the first half of the 20th century, when the Russian horticulturist Ivan Mitchurin

⁸ See *Nube de Oro and Fiesta de Maguey*: <https://bartaku.net/research/nube-de-oro/>

⁹ <https://bartaku.net/temporary-photoelectric-digestopians/>

hybridised *Aronia* with *Sorbus*. According to Skvortsov, Maitulina and Gorbunov (1983, p. 91), the cultivated *Aronia* in the USSR "originates from Michurin's nursery," with plantations being established in the Baltic region in the 1960s and 70s according to their research.¹⁰ The epicentre of commercial *Aronia* production lies especially in Poland. With its growing status as a super food, these commercial varieties have recently been introduced in the US as a commercial crop.¹¹

Up until this day, botanists have been attempting to classify the berryapple in the grand scheme of plant life. This naming difficulty complicates how plant scientists refer to the object of their research, to the extent that they often include the common name chokeberry in the paper's title or abstract.¹² In that field of research, Mahoney, Apicella and Brand (2018, p. 135) observe that "Interest in aronia fruit has increased because of their high levels of antioxidants and polyphenols and due to wide adaptability to various geographic regions with few disease and pest issues." A number of researchers state that *Aronia* fruit production that uses germplasm, which possesses very little genetic diversity, could have adverse biological and economic impacts on fruit growers. They propose to create novel types of *Aronia* fruits to reduce monoculture. Researchers propose in a food-health-commerce context, for example, that "...inter-generic hybridization of *Aronia* with *Sorbus* is another approach that will likely yield novel and improved *Aronia* for the nutraceutical fruit industry." (Leonard et al. 2013, p. 524.)

¹⁰ For a history of cultivated *Aronia* in the USSR see e.g. Skvortsov, Maitulina and Gorbunov (1983).

¹¹ E.g. Taheri et al. (2013).

¹² E.g. the abovementioned paper (note 12) within its title: "Underutilized chokeberry (*Aronia melanocarpa*, *Aronia arbutifolia*, *Aronia prunifolia*) ...".

Now that Bartaku and Aronia have been introduced and woven lightly into a contextual fabric, let me introduce the contingent instigative moments that are at the origin of the lines of working that are featured in this monograph.

1.3 Mere Happenings

As said before, this monograph consists of a selection of work-ings that depart from 1HAmP, the berry-apple plantation in the Midwest of Latvia. The 1HAmP allotment owners allow me to be on their land for art's sake. It is there, whilst wandering amidst the hundreds of bushes, pushing branches aside, admiring the leaves reflecting reds, yellows, oranges and greens, smelling the roots and liquids, exchanging breathings, that sudden *mere happenings* manifest. In an instance, Bartaku commits to them and engages into processes of artistic enquiry, expressing them in various ways. Some remain processes, other are of an instinctive, direct nature. Some involve other-than-*Aronia* entities, in the case of humans, often attracted to the *SERDE Art Centre*, the base from which the 1HAmP operations are departing and being supported.

In my notes from the early stages of this monograph, I encounter a not-so-successful attempt to share thoughts anthropomorphically with *Aronia*.

Syncing with you since 2009 leads to annual travels to your land. Rarely in May, when you blossom, mostly in August and September when your fruits are full-grown. When the art centre where I stay organises its *Appleing Festival* for the local community to celebrate this time of the year when the energy in your fruits is taken in by the humans, either instantly, picking and eating fruit, or within one day-night cycle as juice, or within a week with

bubbles after fermentation, or a month later, enriched with yeast as beer, or one year later when becoming a non-sweet wine. Once, your left-over juices proved very efficient in staining a left-over thin piece of cotton fabric with the finest of purple-reds. No surprise, with the children that blow you out of pipes, marking the statues of former imposed heroes and mustard-yellow and moss-green wooden facades with dark-red splashes. The way your liquids stain our tongues, hands, feet and ankles when squashing you in the big wooden barrel. Whilst speaking-typing, once again the question rings the mind bell: who are you, that I feel so committed to? Swiftly I merely observe the thought at the next outbreath.¹³

In 2011, the grasses are taking over even more at 1HAmP. Cutting free only one *Aronia* bush with tiny scissors ends at Sunset, having started at midday. I imagine the touch of a thousand feet would bring back the light with less effort. Soon after I arrange the *Aroniathon* – a fake marathon with one runner-model in a fake marathon outfit being photographed 42 times in different places in this ‘as if’ operation. Soon after, *Aroniathon II - Walk the Stick and Trick the Tick* is the fake marathon that reduces the overtaking soft wood which reduces the entanglement of light with *Aronia*.

When a composer-musician vomits out *Aronia* sap almost instantly after taking it into her body, a collaboration evolves with this ‘chosen one’ and a sound artist. The evolving performative happening, *Aronia Overture*, is a way of expressing-honouring the sap’s astringent, mouth- and tongue-contracting properties. This through the combination of human body-produced tones – by ‘self-strangling by neck-bone pressing whilst screaming’ – and a custom sound-generator that responds to dripping sap. For

¹³ Bartaku 2020, Notebook.

the live performances, the ‘singers’ of so-called ‘unchoirs’ are introduced to this technique in workshops.¹⁴

Other working pathways evolve simultaneously, sometimes in phase, sometimes leaking into one another; possibly spinning into new tangents in the emergent constellation. Forms of expression vary, some shared with human entities in the form of exhibitions, interventions, talks and written wordings. Others are shared with 1HAmP, with or without humans.

The process is equally important to these manifestations, possibly with a blurring of boundaries between audience, collaborator and/or co-creator. The enquiry, its expressions and the commitment to the mere happenings that involve morphings of name and shape of the berryapple, of land, clay, energy, art and human perception are all key.

The five ‘mere happenings’ and their consequences are the main part of the monograph. They form five *Passages* that all begin by referring to the event that *merely happens* at the plantation, after which the research, works and ways of doing are elaborated upon. The monograph concludes with the final *Passage the Conclusion*.

1.4 Structuring Passages

The Passages consist of two mirroring ‘strands’, each with two lines of workings. In *Passages 1* and *2*, *Aronia m.*’s name and shape are morphing. Here, I practise a narration style towards *Aronia m.* with a vocabulary that is filtered by various kinds of knowing and experience of what the plant’s sensing apparatus entails. In the fourth and fifth *Passages*, ‘the human’ is morphing. Here, I turn the wording towards the reader with a rather linear – ‘this and then that happens’

¹⁴ See: <https://bartaku.net/aronia-overture/>

– kind of narrative. It is in *Passage 3*, then, that the plantations energise the conversational reality of the other two strands.

On 3 September 2014, whilst wandering at 1HAmP, in an instance I ‘see’ two groups of letters: *Baroa belaobara*. The perceived tension amidst the bushes drops drastically. I commit to the propagating of this ‘mere happening’ that the berryapple needs to be named *Baroa belaobara*. This **Nomenclature Morphing** *Passage* pulls me into the enquiry of the centuries-old attempt by humans to organise and control their surroundings by naming and classifying them. And it shows that the notion of a ‘pure’ *Baroa* is situated in the realm of the liminal, rather than in that of a clearly identifiable entity.

Now that *Baroa belaobara* is becoming, *Aronia melanocarpa* is reduced to a mere string of letters. There is no longer any tangible matter that grounds it. It is bereft of leaves, roots, pomes, microbiome, hormones, colourants, cells. Whilst wandering at 1HAmP, it is then a ‘mere happening’ that a graphite line guides the hand that provides pressure. On the receiving cellulose, the line arrives back at where it started, the in-between now of an inside and outside. Soon after, with a clump of moist, dense Earth moving between the fingers of one hand, this outline transmutes into a three-dimensional clay piece. In an instance it is clear that this object stands for the re-connecting of the physical realm with *Aronia m.* In the context of an art-science enquiry, ways are explored for the creation of this *new Aronia*, departing from the existing *Baroa belaobara*.

The plantations form the in-between *Passage* that separates the two strands porously, taking care of the flow of matter, energy, and vibrance like a membrane. First it features 1HAmP, which now becomes 1HaBP

due to the Nomenclature morph.¹⁵ It is 2016, when a major cathartic incident of cutting nature occurs. Soon after, I commit to the disruption by contributing to the dismembering so as to relocate the *Baroas* of 1HaBP. Soon after, they live on, with and in a peninsular land further North, near that same fake lake.

In 2015, wandering at 1HaBP, it is of 'mere happening' that the sensation arises that a transformational connection is to be established with an entity that shares with *Baroa* its intense bond with Sunlight. In an instance I commit and commence to investigate possible ways of expressing this. This results in a painting by J.M. William Turner becoming this entity: *Snow Storm—Steam-Boat off a Harbour's Mouth making Signals in Shallow Water, and going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*.

This is the framework of the **Art Master Morphing** (Aamo) Passage in which a group of scientists collaborate with Bartaku on the path of interweaving *Baroa* and the painting by the humanly acclaimed art master. Central questions that manifest are how to morph the painting by using it as a basis for a solar panel of glass cells that are painted with *Baroa b.* dyes, and also, how to use its electric and aesthetic energy to highlight and morph the painting and its perceived meanings.

This work ties in with the new *Aronia*, in the sense that ways are explored to generate a richer colour palette metabolised by this future *Aronia* in response to light. The work group intends to share the experiential aspect of the art-science entangling so that it can contribute to ongoing discussions in this field.

Synaptic Morphing is Passage 5 and it, too, is propelled by a 'mere happening' whilst wandering at 1HaBP: *Baroa b.* intimately electrifying human experience so that the berryapple is felt-sensed to be the

¹⁵ From here onwards, 1HAMp is replaced by 1HaBP: 1 Hectare *Baroa* belaobara Power Plantation.

most important art work, ever. In an instance I commit to explorations in the field of neuroscience, with a moment of bifurcation that opens up the realm of the revealing of the hidden designs of a brain-reader. In performative happenings, the brain-reader's lines are pencil-traced on mulberry-paper covering scalps. The sketches are then transmuted into ceramic pieces using various types of Earth, bones and makings in different locations. The lines of work in these five Passages evolve jointly, sometimes touching upon one another, perhaps splitting off and carrying on along other paths. An example here is when the research into *Baroa* dyes for solar cells leaks into research on the possible use of the dyes as printing ink for this monograph. Or, when bacteria that originate from *Baroa*'s root microbiome accidentally end up in a ceramix symposium and exhibitions. Or even when various works are combined in an exhibition, creating meanings that transcend those of the individual works. These lines swirl, touch and mingle as well with fellow artists' enquiries and matter, as happens in the exhibition for the *Radical Relevance Conference*.

The final **Passage the Conclusion** is introduced here by a fellow speaker at a conference in 2016. He finds an interest in the absence of preconceived method in my praxis. Something that in the United States, he says, is highly uncommon. It was not a conscious act of camouflaging my method. Rather, for most of the time I have been indifferent to the rationalising and explaining of the ways of doing in my workings. In the concluding Passage then, I bring this background to the foreground: what 'way of play' operates throughout the practice, including the monographing. As if hidden fragments of a code for an improvisation music session are being revealed in the playing. The now conscious modus operandi evolve in a more integrated way with all the other workings. As such, they constitute a new entity in the meshy constellation. Then, new

questions arise imposingly due to this ‘knowing’: play along, ignore, or interrupt and instigate a possibility of a different *reality*? The beginning of an enquiry into this question happens through the work of philosopher Federico Campagna (2018). He sees reality as a continuum with on one end Technic (essence), as “the current reality system... leading to the destruction of ‘reality’ as such...”. The counterpart then being Magic (existence) as “the alternative reality system and possible path towards the reconstruction of reality” (2018, p. 103).

1.5 Monographing

I end this introduction by pointing to some particularities that relate to the way of writing, the aim being to enhance the flow of reading, or at least avoid resistance where it is not intended.

Protocol of today’s writing

Sleep three cycles
the freezing wood
the hungry gut

start writing

*Bartaku*¹⁶

DJ alike

In selecting what matters for the monograph, I think of DJ Shadow. He is famous for his stitching together of pieces of recorded music based upon intensive (re) search. I imagine ‘wandering’ in my archives in a similar way. The point of entry is the first encounter with *Baroa. b.* in September 2009. From there onwards

¹⁶ Bartaku 2018, Notebook.

I hang out with wordings in notebooks,¹⁷ presentations, mind maps, portfolios,¹⁸ audio field recordings, thousands of photos, sketches, gifs, videos. I am surrounded by little papers saying “stay close to the experience”. This is most obviously a mere matter of ‘as if’ practice, given that this monograph has been evolving since the second half of 2019. This means that what I am writing about is mostly a matter of the past. Still, I want the original sources to ‘speak’ as much as possible with an as-present, attentive voice and the energy still of a live recording, only adding in post-production the breath of *Baroa b.*

I aim to avoid self-interpretation of my work, which is not the same as avoiding awareness. I indicate where further contextualising is needed and from where I borrow concepts – mostly when they correct or clarify the words that I have been using. In the endnotes section I share borrowed material that originates from consulting literature after the making of the works that are featured. The notes in the side column reflect ways of doing, artistic, craft and science-protocols e.g.

Style & Narration

The *Passages* are writing within the spirit of an essay, from French ‘*essayer*’, to try.ⁱⁱⁱ This means that I write as an artist who continues the research with the writing of the monograph, more attending to flow, gracefully getting stuck, experimenting, folding back and re-turning, possibly spinning back in from another perspective.

I mention above that there are two main narrative stances: the first one is practising a narrating voice towards the plant, not as a conceptual dance, but as a languaging response whereby I practise the narrating

¹⁷ When I quote from my notebooks, I mention them. They are not published.

¹⁸ Intentional spelling mistaking of “portfolio”, inspired by French ‘*fou*’, having lost reason; being madly in love... just to translate my two preferred meanings of many mentioned in www.larrouse.fr.

that is filtered by what I know and imagine of the sensorial/sentient and communicative properties of the plant and its companions through science, experience. Each time I address *Baroa b.*, it is indicated by using **this font colour**. This narration style you observe in Passages 1 to 3. In 4 and 5 it turns directly to you, dear reader. Now and then, the main narrator, I (Bartaku) speaks *about* Bartaku.

As a technical point, the references are following "The Swinburne Harvard style guide".¹⁹

"Words as information.

The words give some information about the thing.
It is most exceptional for a thing to
coincide with its reference (*text*)."

Dirk Sloodmaekers²⁰

Word particularities

Here I elaborate on the choice of '**Passage**', rather than 'chapter' for a consistent distinguishable part of the monograph. The use of the term is at first intuitive. Looking at the etymology of the word brings in logic.^{iv} etymonline.com mentions "early 13c.", "a road, a pathway," which matches the processual nature of many of the works. The meaning from around 1300: "action of crossing from one place to another; a going over or through something" corresponds with the metaphor of the 'membrane', and with the monograph itself since it rounds up a period of practice. Still, there are layers spinning into unknown futures, pathways. The reference from Old French *passage* "mountain pass, passage (11c.)," fits neatly the brief moments of escape from writing this monograph that are nightly provided by *Le Mont Analogue: Roman*

¹⁹ <https://www.swinburne.edu.au/library/referencing/harvard-style-guide/>

²⁰ Sloodmaekers (2013, p. 429).

d'aventures alpines, non euclidiennes et symboliquement authentiques, René Daumal's unfinished novel featuring a symbolic mountain that represents a way to truth that "cannot not exist".²¹

The writing itself feels like the later meaning from the 1610s, a "corridor in a building," a time-space experience that provides shelter and silences the noisy distractions from other parts of the urban tissue, and from the so-named SARS-CoV-2 virus, that is spreading via human bodies in the period of writing. It impacts the university body as well, so that most of the writing and compiling happens in a temporary flat on campus land, close to plants from 1HAmP and companions. One last meaning of the word passage that obviously makes sense in this context, still in etymonline.com: "a portion of writing, originally one concerning a particular occurrence or matter," from the 1610s."

Like the other words mentioned within single quotation marks, '**mere happening**' is used as a matter of speaking pointing to something 'unsayable...' as musician Brad Mehldau calls it (cf. infra).

At 1HaBP, things merely happen, seemingly for no reason, with an absence of a clear identifiable intentionality of Anything. It is in-between presence and absence. Still, in a certain space and mood, one can tap into the theme, and play along. Thin fibre-like airy, fragile playing at first, spinning through time, touching upon other entities that play along. A more visible thread – storyline – now, spinning on, vibrating in or out of phase, more energised now, dormant at other times. Different colours, tones, vibrations; living, non-living and liminal matter. Knots appear, perhaps snapping and showing single fibres again, possibly picked up by other fibres and threads that meanwhile started

²¹ For English, see Wikipedia for instance: https://en.wikipedia.org/wiki/Mount_Analogue

playing.²² Over time, an unfolding composition manifests. Which leads to the next particular term.

When referring to a collection of works (including work-ings when accentuating the processual aspect), I intuitively use the notion **constellation**, and meshy constellation when emphasising the interwovenness of the varying entities. The constellation itself expands and evolves, connecting at moments with some of its inner components, when they are most vibrant and active, in the foreground. Whilst others might be dormant, out of phase with everything else, not crystallising, not forming any knot, not spinning much, like the dormant ethylene sensor in a bag with banana-peel-based translucent leathery sheets and light panels...²³ I am part of the constellation myself, and have no sense of control over it. The word originates from from Late Latin *constellationem* (nominative *constellatio*) "a collection of stars," especially as supposed to exert influence on human affairs.²⁴

I use the word **`ceramix'** since it is closer to the experience of mixing matter and hot air than **`ceramics'** which refers more to pottery: **`keramic'**.²⁵ Since they are often used in this volume and not common anymore: **cf. supra** refers to something that is **`mentioned earlier'**, or **`see above'**; its counterpart **cf. infra** points to a future mentioning as **`see below'**.

Conclude here, for now that Bartaku develops in the entangling with many other entities a transversal art practice. I attempt to convey it with *Baroa*, you, Bartaku, archives of experience and my fingertips, through word and image in the following *Passages*.

²² For a visualisation, see the video of *Wind Up*, a performative installation experiment with drills, threads, video and coding by Bartaku and SofieSaufage at openLAB, Imal, Brussels, 2005 - <https://www.youtube.com/watch?v=NPvcvKwunzA>

²³ <https://bartaku.net/hoopgas>

²⁴ [etymonline.com](https://www.etymonline.com)

²⁵ [etymonline.com](https://www.etymonline.com)

There is the internal deep sense of drinking from another source which is its own form of belonging, remembering the other world in this world in a sense. The world most people intuit they have come from. Even if it can't be described or evidence gathered as to whether it exists or not. ... the only places where things were actually real was at this frontier between what you think is you and what you think is not you, that whatever you desire of the world will not come to pass exactly as you will like it. But the other mercy is that whatever the world desires of you will also not come to pass, and what actually occurs is this meeting, this frontier.

David Whyte²⁶



Description: Drill-compressed threads picking up donated objects in the rotation, collaborative *Wind Up intervention* at Pa-f, Saint-Erme, 2009. Photo (B&W): Bartaku

²⁶ Whyte (2018).

II WORKS

2.1 Nomenclature Morphing

This *Passage* describes the sudden change of the name of the plant *Aronia m.* This happening incites an enquiry into the human way of naming throughout documented history and memory. Ways of engaging with *Aronia m.* are provided as well.

2.1.1 Baroa belaobara

3 September 2014, Aronia Power Plantation, Aizpute

Dear *Baroa b.*,

Your fruits are dark, round, shiny, fleshy. They leak velvet reflecting liquid under the tiniest pressure. It is the time when branches bend by their weight. I wander amongst you all and avoid the stretches where the water is pushed back by soil and soaking roots. The Sun starts its lowering movement. At the back of my eye balls, this sinking-seeing is overlaid by the sudden appearance of the following:

Baroa belaobara

Description: Digitally represented name *Baroa b.*
Font: Ordre de Départ. By Bartaku, 2016

Two separate sequences of concisely shaped dotted letters. Instantly-intuitively I am aware that this is how your being should be referred to by fellow humans hereby and hereafter.²⁷

2.1.2 Humans Naming

You-namings

Due to this name-happening, dear *Baroa b.* I look into how humans name you and place you in their attempt

²⁷ Bartaku 2014, Notebook.

*Research into Ethnobotanical and taxonomical history of *Aronia melanocarpa* and *-mitschurinii*: in a Bulletin on the ethnobotany of the Wisconsin Indians. Smith, JP Jr (1933, p. 75) refers among others to “*nîki’minûn*” as used by the Forest Potawatomi for “Black Chokeberry (*Pyrus [Aronia] melanocarpa* [Michx.] Willd.)”. They “steep the berry to make a tea to cure a cold. Among the whites, the berries are used for their astringent properties” (1933, p. 75). Still, Shipunov et al. find that “The Forest Potawatomi say that they eat the berries from this plant but they are entirely too bitter to suit the white man” (Shipunov et al. 2019, p. 108).

**Re-enacting of a research-based past with plant empathy and awareness of colonial bias. Hereby applying academic referencing in Harvard style:(Kokotkiewicz, Jaremicz & Luczkiewicz 2010, p. 255).

***Botany Research: “A new way of naming plants, using only two words, was developed by Caspar Bauhin (1560-1624). The event that perhaps more than any other assured its permanent use in scientific writing is the publication of the catalogue of all of the world’s plants known to Carolus Linnaeus (1707-1778), the *Species Plantarum*.” (Smith 2017, p. 2.) 1830: *International Code of Botanical Nomenclature (ICBN)*: first internationally acceptable

to classify so-called nature in an orderly way. For the older traces of humans representing you through words, I read and try to pronounce “*nîki’minûn*”, “*sakwako’minûn*” or “*sakwako’minawûnj*”.

When these humans come with their new namings, I imagine that your leaves perceive a different quality of light,^v given that their skins reflect the rays of the Sun more than the reflecting of bodies you have been familiar with for many Flower-to-Flower cycles²⁸. Does the air that they blow over you create a different sensation then when they name you [tshoowk pee eu], [waaild goeoeozbewwie], [dohkbewwie] or [chokebewwie]**? [tshoowk] refers to when your sap shrinks the space where they take you in, up to the point a sensation of air blockage appears. Powerful sap you are.

The humans that name, classify, cut, pierce, splice, multiply, rotate, copy and gene-morph you want to ascertain that there is no confusion in naming you. Therefore, they discuss your naming and the way of relating with your companions by choosing particular air vibrations, with space for discussion and even change, but in itself considered a petrified system***. The first of that type of name is *Hahnia arbutifolia nigra*****, agreed upon two hundred and twenty-seven FtF cycles ago. Many others follow, mostly based upon looking at your male sex organ. But *Aronia melanocarpa* is how they name you most frequently, often in combination with black chokeberry.

Seeds towards new soils

A possible encounter on the Atlantic Ocean in 1921

Just outside the shrinking town in a westbound former part of a mighty centralised east: over one

²⁸ The Flower-to-Flower cycle (FtF) of *Baroa* corresponds with the month of May in the regions of the Earth where the plant lives.

hundred power plants, dispersed on allotment “Number Six Four Seven, Two Zero Zero. Eight Zero Zero, Seven Two”. Originating from folded, deep brown seeds that crossed the ocean in a tiny box from west to east, before the great wars. Mr. Vavilov meets Antoinette again. He collected seeds for his seed bank in the northeast of the American continent – in swamps and low woodlands from Nova Scotia to Ontario, to Florida and Michigan. The countess travels back to Europe as well, to her tiny botanical garden island on the grand mountain lake that unites and separates two countries. Then, looking over her shoulder at the black swirling ghost that returns to his chimney, he tells her that the Aronia m. seeds ripen from October till December.

Bartaku²⁹

Between five to seven hundred FtF cycles ago, your seed is carried by humans onto floating pieces of wood, blown over – and with – the water. And this for at least two Moon cycles towards the first Sunlight, where the birds that touch you have never dropped you. Soon, you are scratched on your seed coat, and put into a moist, microbial-, fungal- and mineral-rich place with optimized acidity*****.

They observe how you appear, growing upwards to that same Sunlight that soon touches your body of branches, buds, leaves, sex organs and five petals of many vibrant flowers. They inhale your gasses and see the pollen sticking to bats and bees moving from one of you to another, and non-you flowers, too. As well, these humans follow how your roots spread out and appear nearby above the ground as a new, identical you. Two to four of these cycles and seeds are felt inside their mouths, when they squeeze your flesh,

rules of plant nomenclature (Sharma 2009, p. 81).

****Research Full botanical name: *Hahnia arbutifolia* var. *nigra* Medik., Gesch. Bot. (Medikus) 82 (1793) (International Plant Names Index 2020).

*****Nomenclature morphing of Bartaku text archive whilst writing this monograph.

*****Research “When established in the wild, in East Europe *Sorbaronia mitschurinii* shares the ecological preferences of its *Aronia* parent. In their native area the species of *Aronia* occur in bogs, swamps and wet woods, but can be found also on dry soils. In European Russia a few instances of naturalization of *S. mitschurinii* were noted, e.g. in pine forests, around peat bogs or in secondary dry pine forests in the Vladimir Region, in moist pine forests along margins of bogs in the Leningrad Region and along margins of peat bogs in Bashkiria. All these records are no less than 20 years old; although the active and very rapid migration of this species into natural habitats has just started, it seems to be the beginning of a large future expansion because the species is very common in crop and ornamental cultivation and is very much liked by birds who actively disperse it.” (Sennikov & Phipps 2013, p. 38.)

²⁹ An imagination of a possible voyage by *Baroa* b. with plant geographer and geneticist Nikolai Vavilov on one of his excursions to *Baroa* land. See: Bartaku (2011).

*Research Sennikov elaborates on the key moment of hybridising: "Michurin stated that in 1905, in order to produce sweet-fruited cultivars of 'rowans' (*Sorbus s.l.*) that may be suitable to the Russian North and Siberia, he pollinated the native Russian *S. aucuparia* L. with the introduced *Aronia melanocarpa*. The resulting hybrid was named 'Likernaya' (Liquor Rowan); after Michurin's death in the 1940s it was distributed nameless to the Soviet market." (2013, p. 6.)

feel the liquid on the tongue, see the teeth, fingertips reflecting red like your seeds in the palms of their hands.

And how you attract big and small beings that rip off leaves and fruits soon after the drops solidify around your branches and fruits. It is noticed that other-than-you fruits are taken first. Soon your seed-you is released from bird bodies, falling into the cracks and folds, rivers and rivulets of the Earth's surface.

In your new world, around one hundred and ten FtF cycles ago, humans make you reproduce with a number of *Sorbus* plants that they consider to be similar to you. That way they want a changed you that create bigger, more liquid and sugar-rich fruits. Some of these part-you beings are combined with you *pur sang*, although analysis of the tiniest parts of your essence, the basis of your reproduction, has traces of *Sorbus* variants that live near you in your initial place of being. These experimentations result in new namings that I breathe-word out over you: "*Aronia mitschurinii**, *Sorbaronia mitschurinii*,"³⁰ "x *Sorbaronia fallax*, x *Sorbaronia dippelii*, x *Sorbaronia sorbifolia*, *Sorbaronia mitschurinii* Viking".³¹

³⁰ Shipunov et al. (2019, p. 2).
³¹ Leonard (2013, p. 521).

Raison d'être.

About the will or the effect, it is.
What is the reason to be this or that berry?
Attract some, scare others off.
Some do not mind this astringency.
Birds, they do not mind.
Humans, they do not mind.
Deer, they do not mind.
In them it goes, providing,
with dark juice and skin.

And in them-alikes
so they can reach
faraway places.

Leftover energy for power
for protection.

Then as a tiny stone in drop,
in hide, in transmute;

soon we start over.

Mērķis.

Par testamentu vai efektu, tas ir.
Kāds iemesls būt šai, ne tai ogai:
Kādu piesaista, citu atbaida valkanība.
Daži neiebilst šai valkanībai.
Putni neiebilst.
Cilvēki neiebilst.
Brieži neiebilst.
Tām tā nodrošina tumšo
sulu un apvalku.

Un tāpat kā līdzīgas būtnes –
viņi var sasniegt tālas vietas.

Pāri paliekošā enerģija priekš
spēka un aizsardzības.

Tad kā maziņš akmens tas krīt,
tas slēpjas, tas pārmainās;

drīz mēs sāksim no

Bartaku³²

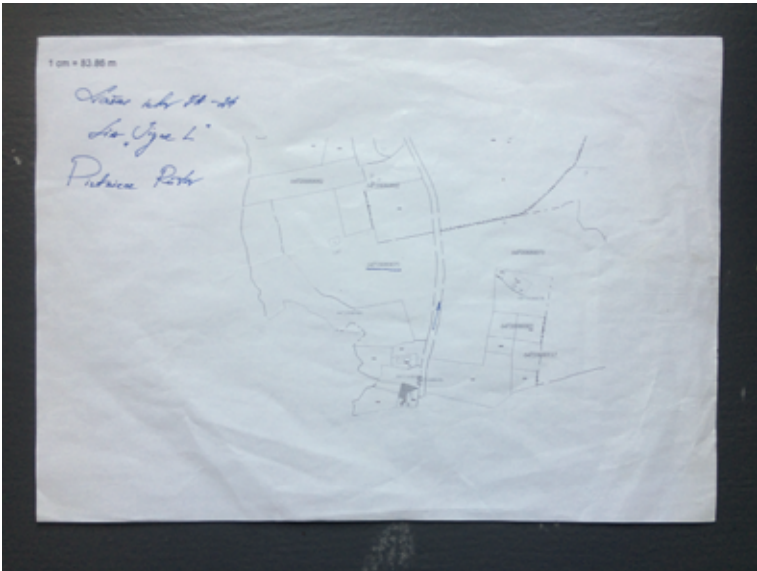
³² Bartaku 2014, *Raison d'être* (Reason to be), notebook, Latvian translation: Ance Ausmane.

*Nomenclature past error morphing: (Michx) and Ell. are initials of the names of two botanist authors: André Michaux introduced *melanocarpa* as a variety of the *Mespilus arbutifolia* species - with the binomial introduced by Linnaeus - accepted in 1803; Stephen Elliot classified *melanocarpa* under the genus of *Aronia*, hence the species *Aronia melanocarpa* (Michx) Ell. accepted in 1821 (International Plant Names Index 2020). The adding of the initials to *Baroa belaobara* as seen in this quote, is part of exploring ways to make *Baroa belaobara* accepted by the taxonomic community.

1HAmP 1HaBP

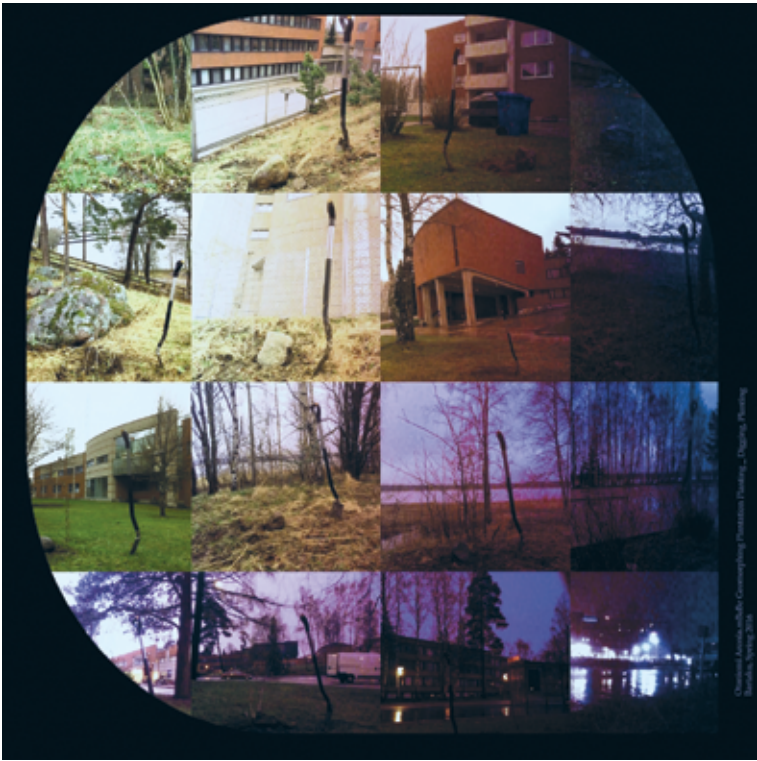
The place where you exist as being hundreds of yous, I refer to as 1HAmP: *One-Hectare Aronia melanocarpa Power Plantation*. Due to the becoming of *Baroa belaobara* I write to you six FtF cycles ago:³³

Observing *Baroa belaobara* (Michx) Ell. •, it is of pure human logic, dear *Baroa*, that the name 1Ha *Aronia m.* Power Plantation or 1HAmP that I use to refer to you and your companions as well as to any other entity in, under or above that part of Earth, is changed into 1HaBP: 1Ha *Baroa belaobara* Power Plantation.



Description: Map of *Baroa b.* and apple plantation near Aizpute. The *Baroa b.* allotment number is “Six Four Seven, Two Zero Zero. Eight Zero Zero, Seven Two”. Document source: Aizpute Town Hall, 11 September 2010. (unpublished).

³³ Bartaku 2014, *Raison d’être* (Reason to be), notebook.



Description: *Baroa* re-planting, creating the *OtaBaroa DSTRBTD Plantation*. Otaniemi, Espoo, 24 April 2010. Photocollage: Bartaku

OtaBaroa DSTRBTD Plantation

Dear *Baroa*,
I need you close to me. Therefore, four FtF cycles ago at 1HaBP, I turn around parts of Earth around you, and expose eleven root-yous to oxygen and Sun energy. Most are not older than three cycles with not much of you visibly growing above the Earth’s surface. I protect the root-yous with wet paper and some Earth, hoping to keep you alive for two Sun-Moon cycles •• whilst moving Northbound.

Once again, I turn around Earth topsoil. I place you inside the cavity, place back the sandy soil of your new land. I put tiny wood pieces on top and arrange granite rocks around you. I repeat this procedure eleven times at varying distances that I wish to become smaller over time: with your roots growing left and right, with

••Planting protocol as part of the creation of the *OtaBaroa Distributed Plantation* at Otaniemi Campus (OBDP)

*Experiential, grounding protocol testing.

**Applied Naming Protocol: Breathe out *Baroa belao-bara* words over flowering *Baroa belaobara* or, over Anything.

suckers pushing shoots of new yous up into the air above.

2.1.3 Baroa belaobara Creeping

When I am with you, I call you *Baroa belaobara*. Alone and in the presence of other humans, I breathe out, pushing *Baroa belaobara* air. *Baroa belaobara*, I shine to you as light.

Air, vibration

Many names humans give you. It is their attempt to describe the whole of you and the relation with that which they consider `not you´. As vibrating air, I share these namings with those of yous that remain at the *OtaBaroa DSTRBTD Plantation*.

How do you sense the different name-touchings? When they move your bud, petal and leaf surfaces and edges? When air and drops enter your roots, cells? How do you respond? Do you breathe them out to other yous, or companions? Or you release them with your liquids into the Earth beneath? Perhaps your flowers start to flicker, push upwards higher than ever before, attracting the biggest bees and bats? Do you air-signal back, changing our sensing and doings? The pollen is moving, some sticking onto your fertility organ.³⁴ At least we contribute to the seed-you, whilst a bee• is blown away.^{vi}

Now I give instructions to fellow humans on how to breathe out *Baroa belaobara* over you•, over Anything, during you-as-flower. As well, I instruct how to speak out the name constructs for you that humans have made, as I did before.^{vii}

³⁴ See *Stigma* in the context of botany, e.g. Wikipedia: [https://en.wikipedia.org/wiki/Stigma_\(botany\)](https://en.wikipedia.org/wiki/Stigma_(botany))

Nomenclatureal morphing Vocalising *Baroa melanocarpa* taxonomy evolving to *Baroa belaobara* OtaBaroa DSTRBTD Plantation - April 30, 2016 February 27, 2020

Place #	Latitude	Longitude	Altitude	Accuracy	Date	Time	
1	60.183461	24.834821	-6.54	10.0	30-04-2016	18:50:25	<i>Notanix subdiffusa nigra</i>
2	60.187368	24.839077	10.23	10.0	30-04-2016	19:05:42	<i>Pyraux subdiffusa nigra</i>
3	60.190763	24.835454	9.40	30.0	30-04-2016	19:20:06	<i>Aspilota subdiffusa nigra</i>
4	60.188677	24.829964	-15.08	10.0	30-04-2016	19:26:01	<i>Aspilota subdiffusa nigra</i>
5	60.190676	24.829734	2.53	10.0	30-04-2016	19:41:25	<i>Pyraux melanocarpa</i>
6	60.189576	24.829279	0.68	30.0	30-04-2016	19:50:58	<i>Aspilota melanocarpa</i>
7	60.190146	24.828793	3.32	5.0	30-04-2016	20:09:27	<i>Aspilota subdiffusa melanocarpa</i>
8	60.189363	24.828875	-20.21	5.0	30-04-2016	20:16:52	<i>Pyraux subdiffusa melanocarpa</i>
9	60.189454	24.827644	0.60	5.0	30-04-2016	20:26:33	<i>Aspilota melanocarpa</i>
10	60.18922	24.827118	11.86	5.0	30-04-2016	20:34:26	<i>Pyraux nigra</i>
11	60.189637	24.82616	-15.00	10.0	30-04-2016	20:36:00	<i>Aspilota nigra</i>
12	60.188691	24.827163	-2.01	30.0	30-04-2016	20:54:04	<i>Aspilota nigra</i>
13	60.1898	24.825432	18.36	30.0	30-04-2016	20:58:06	<i>Aspilota melanocarpa</i>
14	60.189166	24.825521	13.03	10.0	30-04-2016	21:00:51	<i>Aspilota subdiffusa nigra</i>
15	60.18996	24.824824	27.60	10.0	30-04-2016	21:04:01	<i>Aspilota subdiffusa nigra</i>
16	60.187183	24.830311	15.28	10.0	30-04-2016	21:15:06	<i>Aspilota melanocarpa</i>
17	60.18733	24.830307	12.93	5.0	30-04-2016	21:22:34	<i>Aspilota melanocarpa</i>
18	60.188623	24.819639	-0.46	5.0	30-04-2016	21:32:22	<i>X Aspilota melanocarpa</i>
19	60.185294	24.815066	14.48	5.0	30-04-2016	21:39:13	<i>X Aspilota fallax</i>
20	60.182841	24.815918	-14.40	50.0	30-04-2016	21:41:54	<i>X Aspilota fallax</i>
21	60.181292	24.820491	15.15	10.0	30-04-2016	21:44:57	<i>X Aspilota subdiffusa</i>
22	60.181144	24.828315	8.38	10.0	30-04-2016	21:49:34	<i>X Aspilota subdiffusa</i>

Baroa belaobara

Description: Relating *Baroa b.* and OBDP to its human-based ongoing naming narrative, OBDP, 27 February 2020.

Illustration: Bartaku

Vocalising protocol for the reader: *Baroa belaobara*

Dear reader,

Please move your body to a flowering *Baroa belaobara*;

- Position your mouth at eleven *Baroa*-pomes' distance from the branches, leaves and petal edges;
- Pull in air through your nostril's tiny holes until your expanding lower belly is fully filled;
- Prepare *Baroa belaobara* in your thoughts;
- Allow air to move up from the belly;
- Open the lips. Allow the strong air flow of the sounding of [Ba] to propel forward;

- Observe the effect of the air force on branches, leaves, buds, pollen and petals; Adjust at wish, making make sure not to overdo it since more breath is needed for
- [r]: make sure that the tongue oscillates fiercely (alternatively, make the [r] using vibration of the air at the top of the throat, with the tongue retreated to the back of the mouth. Observe the amplitude and frequency with [rrrr], so leaves and especially petals are trembling fiercely. Pollen might move through the air, some landing on the stigma;
- For [oa] create a circular mouth shape [o] followed by a maximised lip stretch on both sides [aaa]. Observe the gentle sway of leaves and petals, perhaps an almost imperceivably pollen shiver;
- Press the lips briefly. Concentrate the remaining air in the mouth under the teeth. Make a round slit with the lips and breath a forceful [b] with a brief belly pressure. Observe the leaves, branches, flowers, petals, pollen and stigma;
- Coming to [e], instantly stretch the roundness towards both ears, with tension in the neck down to the chest bone. [e] has low capacity to move air, so, observe the possible non-moving;
- For [l], increase your breath force again by creating a short air block, closing off half of the mouth cavity by pressing the tip of the tongue against the mouth ‘ceiling’. Sense some breath striking the left and right edges of the tongue;
- The second [ao] is made as before, immediately followed by another [bar]. There should be a similar effect;
- End with an [a] that uses the last air from your breath reservoirs.

When executed properly, you should sense clearly the difference compared to [*Aronia melanocarpa*] since it

contains a very high frequency in the [nniiii] sound, in which the air pipe itself is used.

In particular, [*Baroa belaobara*] provides you with more energy, since the volume of breath CO2 and other volatiles, humidity and heat is substantially higher compared to the poorer [*Aronia melanocarpa*]. This *Baroa belaobara* energy that you breathe out is the necessary oxygen that enables more *Baroa belaobara*•.³⁵

Vocalising protocol for the reader:

Baroa belaobara taxonomic history

Dear reader,

Please read out loud the various *Baroa b.* names following these instructions••: Move your body to a flowering *Baroa belaobara*, or in absence, another plant, or towards Anything. Interweave breath, tongue, time, sound, light, mood and memory.^{viii}

1. Breathe in through your nostrils, feel the air flow into the lower belly, allow it to expand as long as possible with a relaxed body. Whilst doing this, start to press your tongue firmly against the upper part of your mouth (n-shape), with the tip touching the upper part of the upper teeth;
 2. Exhale gently with your eyes open without fixing them onto anything. Maintain a relaxed body;
 3. Speak out the *Baroa* name variety with the tongue firmly pressed.
-
1. Breathe in through your nostrils, feel the air flow into the lower belly, allow it to expand as long as possible with a relaxed body. Curl the tongue-tip

•Research: Volatilome of humans and *Baroa b.* Provide experimental proof that supports Leaky-Loop System thinking.

••Introduce the reader into a ritualistic tongue-topological Nomenclature morphing. Trope the reader into a co-creator whilst increasing the awareness and presencing of the tongue-language intimacy: the organ of speech, that licking leaf landscape.

³⁵ Anton et al. (2014, p. 7, 8); Kraujalyte, Leitner & Venskutonis 2013, p. 4730.

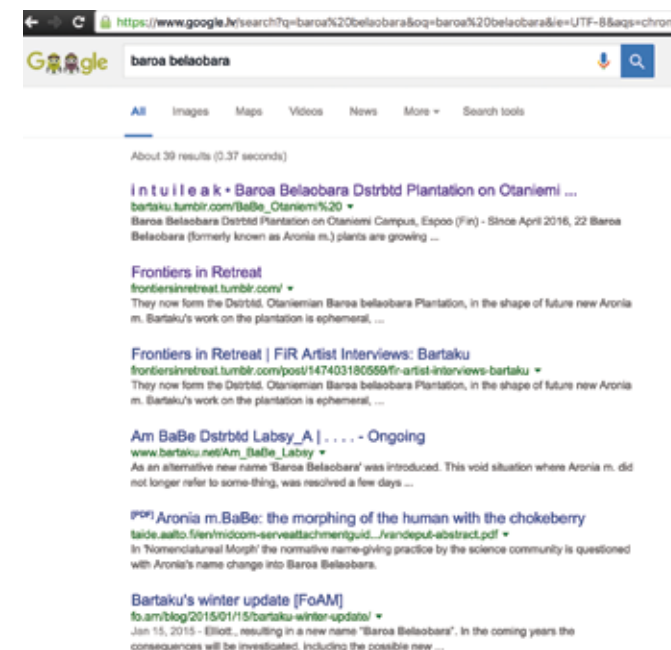
- upward (U-shape) and press it firmly against the upper teeth;
2. Exhale gently with your eyes open without fixing them onto anything. Maintain a relaxed body;
 3. Speak out the *Baroa* name variety with the tongue firmly pressed.

1. Breathe in through your nostrils, feel the air flow into the lower belly, allow it to expand as long as possible with a relaxed body. Curl the tongue-tip upward, press it down to the lower part of the mouth (U-shape) and firmly against the bottom teeth;
2. Exhale gently with your eyes open without fixing them onto anything. Maintain a relaxed body;
3. Speak out the *Baroa* name variety with the tongue firmly pressed.

1. Breathe in through your nostrils, feel the air flow into the lower belly, allow it to expand as long as possible with a relaxed body. Curl the tongue-tip downward and press it firmly against the bottom teeth;
2. Exhale gently with your eyes open without fixing them onto anything. Maintain a relaxed body;
3. Speak out the *Baroa* name variety with the tongue firmly pressed, first with the tip curled downwards, pressed against the upper teeth;
4. Inhale slowly through both nostrils, observe the air with attention for its qualities, then your surroundings with a calm mind and body. Do not name the observations and if any preference occurs, let them go.



Description: *Baroa b.* sap on tongue of current care-taker of 1HaBP; *Herbologies*, 1HaBP, Aizpute, 11 September 2010. Photo: Bartaku



Description: *Baroa belaobara* search on google.lv, retrieved on 21 August 2016. Screenshot: Bartaku

*Show/share when the work resonates and the time feels right.

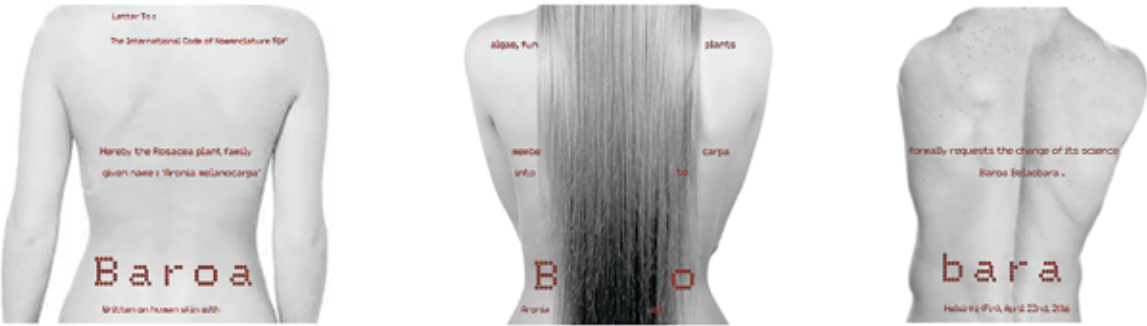
**Inseminating the Internet with *Baroa b.*

***Nomenclature morphing of the archives (cf. supra): strike-through where reference to the plant occurs prior to the coming of *Baroa b.* Therefore, that past is only present in the strike-through. Most probably a failure in applying this consistently. Therefore, I abstain from intending to do so.

Light reflectingly signalling
Baroa belaobara

Dear *Baroa*,
I share with you how I introduce *Baroa belaobara* to humans in a silent, stagnant air way. First, using human bodies as a medium. This idea* does not originate from being with you. Perhaps this is why I have been hesitant to share it. The human skins reflect light so that your sap colour can form your name. There is a spelling mistake, capital B in the middle body should be small b, of *belaobara*.

Secondly, for four FtF cycles you have existed as *Baroa belaobara* on the Internet**. Thirdly, you are invited by other humans, the first sign of embracing *Baroa belaobara* by other humans. I did make a spelling correction in the documentation photo.



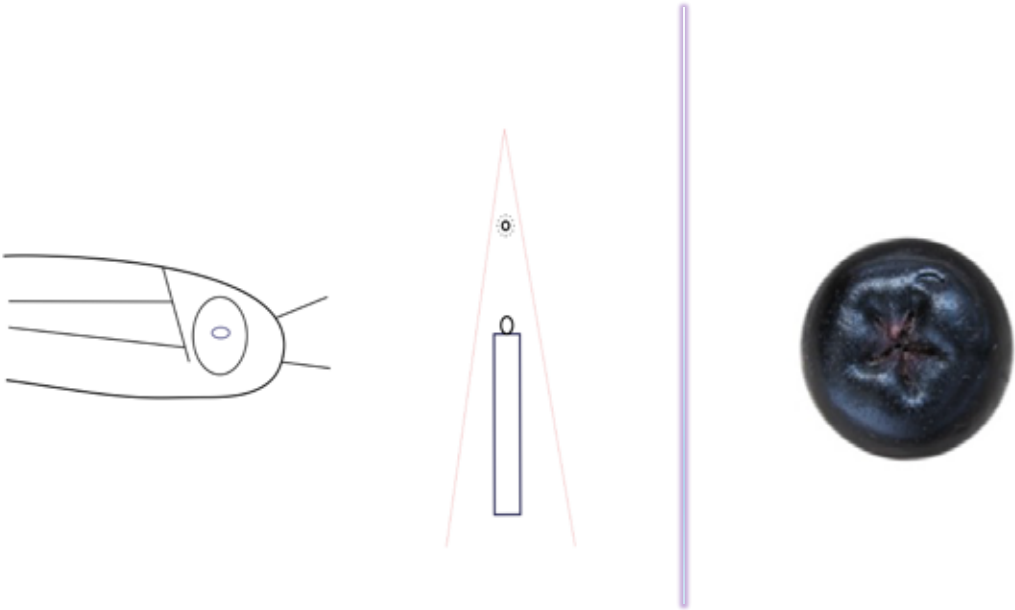
Title: Three photos of upper parts of three human bodies that host a digital layer of the letters '*Baroa belaobara*'.
Description: First draft of the formal request of changing *Aronia m.* into *Baroa b.* to the international body that manages the naming of plants. Digital sketch, Suomenlinna, 17 October 2015.
Sketch: Bartaku

*Aronia*centrism***! is heard when the word anthropocentrism is verbalised. It is not clear how this instantly voiced thought comes to be. Still, around the same time, a sudden series of luminescent white triangles pierce the skin of a shiny velvet *Aronia m. berry*"^{ix}

Bartaku³⁶



Description: Place holder for *Baroa belaobara* at conference dinner, Teak, Theatre Academy, Helsinki, 25 November 2016. Photo: Mirko Nikolic; Post-spelling edit by Bartaku



Title: Essence of *Aronia m.* *Baroa b.*
Description: Visualization of experiencing of *Baroa b.* from human tongue to -bone, SERDE, 11 September 2015.
Image: Sketch, Bartaku; Photo of *Baroa*-pome, Daniel Allen, 2012

³⁶ reindeer Pucens (2015, p. 41).

*Reporting *Baroa belaobara* & new *Aronia m.* LED-ly to 1HaBP - Workshop protocol: reporting back to 1HaBP the name *Baroa belaobara* in a *Baroa*-perceivable way via a workshop on using a tool for light dialogue. "During a four-day workshop, participants have the opportunity to explore new ways and ideas of photography with the Pixel-stick. Using the 200 LEDs stick and a slow shutter speed camera, one can add existing photos to any - low light - environment" (Various Artists, Bartaku & Nadine 2018).

Light Sabre Signalling

Dear *Baroa*,
Your buds show the coming of flowers.
I wander amongst you. Where the Sun sets,
the Moon is eleven full-grown *Baroa b.s* high.
We are here to signal to you• *Baroa belaobara* by
means of light. Rays that are of a different type and
weaker than the ones from the Sun.



Description: Signalling *Baroa belaobara* and new *Aronia m.* via LED light to 1HaBP, Aizpute, 5 May 2018. Photo: Bartaku

2.1.4 Berry_apple

In the grand human confusion of naming and classifying you, hereby one clarifying observation. Humans mostly name you *Aronia* berry.

**Collaboration with molecular biologist Anete Borođuške. Involve her in a public show that features *Baroa b.* in a fake lab setting.

With berry, dear reader, we are supposed to refer to "fleshy, simple fruit with succulent pericarp" or "small fruit that grows on a bush" (Sharma 2009, p. 206).

Still, the kind of human that squeezes, cuts, splices, grows and changes you suddenly declares: "And the berry is an apple••".³⁷

With the word apple, dear reader, we supposedly refer to "a round fruit with shiny red or green skin that is fairly hard and white inside". Or perhaps to speak of a pome: "a fleshy fruit surrounded by the fleshy thalamus and developing from a two- or more-celled, syncarpous, inferior ovary, e.g. apple" (Sharma 2009, p. 209). In the grand naming and classifying confusion, will DNA technology become the final method in taxonomy? Will data determine *final* identity and classification? We foresee extracting DNA from a 1HAmP plant at some point, anticipating contributing to the enigmatic status of *Baroa b.*, and *Aronia m.*^x

Description: Molecular biologist Anete Borođuške contributing to *Am/Babe Dstrbtd Labsy - Plantation intervention, lab performance and installation, SERDE, 15 September 2015.*³⁸ Photo: Eli Garmendia



³⁷ Bartaku (2015).
³⁸ Bartaku (2015).

Welcome to 1HAmP: 1Ha of *Aronia melanocarpa* Power Plantation. Although, I should say now 1Ha of *Baroa Belaobara* plantation, 1HaBP. This is due to a `mere happening´ at 1HAmP. Consequently, the former name *Aronia melanocarpa* now refers to no-thing. We foresee, due to one more mere happening, the re-thing-ing of *Aronia m.* into new *Aronia* within the next years with a new shape and metabolistics derived from *Baroa belaobara*. Still, dear participants, *Baroa belaobara* is not replacing the name *Aronia melanocarpa*. The bushes here at 1HaBP are to be named *Aronia Mitschurinii*, since Ivan Vladimirovich Mitchurin cross-bred *Aronia melanocarpa* with *Sorbus aucuparia* or the commonly named lingonberry.³⁹

Where does *Baroa belaobara* originate from then, dear *Baroa b.*? From your vibrant sap and outgoing breath, propelling through air? Does the zigzag pattern of the hair in my ear `pick it up´, since it resembles your leaf edges? They remind me of tiny mountains.

I hope that signalling [*Baroa belaobara*] back to you – into your pollen, into your stigma tube, preserving in your seeds – reinforces the future [*Ba.be*] signalling coming from you, in various slightly morphed adaptations that can carry on into other beings, into Anything.

³⁹ Edited extract from the spoken word-ing during the “OtAronia m. Ba.be Distributed Plantation Walk.” (Bartaku 2015).

eniL bolB

Thinking now dear reader, about my description of human passers-by on the small path, aligned with those trees with peeling off white skin in the air and roots in the water before mingling with the Earth´s crust. A thin membrane of soil between the fake lake and the swampy reed and beaver lake, here and there connected via vertical passageways. At times the path is sucked into vertical sinkholes that create little curves in the otherwise straight-line walk- and runways with passers-by. Blobs, I have been naming them, but, when I put my *correcting* glasses in front of my eyes, they turn into five lines joined. A shift that resonates with the life of lines in the art of drawing and an oscillation in the thinking of *Life of Lines* by Tim Ingold. And with lines in the landscape made just now behind the window by moving rectangles called sled and ski. I create an endnote to continue these finger-on-plastic speculations that embrace the work of other humans. They require a realm on their own, since they would overwhelm the one here.^{xi}

In 2.2 I address the *consequence* for the physicality of *Aronia m.* having become *Baroa b.* How the changing of the name triggers a digital line and a blob of soil hardened by *Baroa* sap.

2.2 New Aronia

And I'm blind, blind
blind, blind, blind, blind, blind
blind, blind
blind, blind, blind, blind, blind
David Byrne⁴⁰

On 3 September 2014 at the edge of a shrinking town not far from the Baltic Sea, Bartaku wanders as usual at that time of year at the 1Ha ~~Aronia melanocarpa~~ *Baroa b.* plantation amidst thousands of ~~Aronia m.~~ *Baroa b.* bushes. In an instance, the name *Baroa b.* appears. Later, in public talks he describes the sensation being about “the way in which the plant wants to be named”.
The next sequence of events, dear reader, is heavily blurred in the rear window of time. I try to keep ‘time’ as a friend, and propose the following order of happenings in the act of ‘re-wording the experiences back’ to *Baroa b.*⁴¹

Once again, I find myself passing you at the edge of the plantation. I touch my neck where a mosquito sucks blood. At dusk, I look up at the pylons that hold humming wires and think about what they might signal to you.
I pause between the branches of two you-bushes and reflect upon your new name and then, your old name. I hear nearby humans naming you *Melnauglu aronija*.
Suddenly, your bush tension drops. At an instant, I see a line closing itself into a contour of a shape. Without thinking, I *know* that I am looking at the visualisation of the future physical manifestation that is named *Aronia melanocarpa*.

⁴⁰ Byrne (1988).
⁴¹ Bartaku 2014, Notebook.

2.2.1 As Sketch as Clay

Back at SERDE, I sit on a platform that is heated with the rays of the afternoon September Sun. The sketch of the future *Aronia* lies next to me in the moving shade that guides the wood towards various states of cool. A joyful group of French ceramists appears, their arms curving and swinging, their bodies rotating dervish-ly this way, that way. I zoom in and observe little pieces of wet Earth between their continuously plying, stretching, pressing, relaxing fingers. Soon, out of the clumps, little figurines emerge: a feline, a cave, a mud ring, a sprat-like fish, a ball (of course) but also the neck of a giraffe, its heart and a tiny golem.
In the ceramix workshop, my fingers scoop out part of a block of wet Earth covered by a sheet of plastic. Back in the now empty patio, I throw the clay from one hand into the other for a while. It feels warmer and softer when the fingers press, pull and pinch. The eyes toggle between the changing mass in the hand and the sketch. With a slim piece of wood and a water-dipped sponge, the drawing is becoming a body.



Description: Nomenclature- and Shape Morphing; stages of the process, 1HaBP, 3 September 2014. Sketches: Bartaku

*Mixing experience and traditional craft protocol. Experimenting with non-heat-based hardening of clay. According to the literature *Baroa b.* is very high in tannins. Observing the contraction sensation in the mouth and throat after the passing of the sap, the long duration of the sap mark in wood and even on concrete as well as the durable dying of linen fabric without the use of a mordant, all are due to the presence of this high concentration of tannins.

**Sensitise skilful people to *Baroa b.* Allow their skills to become part of the processual path. Daniel Allen is one of the perennial SERDE residents focusing on Marcis Bendiks' analogue photography lab and archive of Latvia.

Kabuki-nkiln

In the kitchen, *Baroa* sap is allowed into the linen cloth. It spreads its dark colour along the flax fibres. The sap in my mouth and throat shrinks skin and bones. It throws me back to the moment when I watch a Kabuki piece in Osaka. The face of the players is of an intense light-reflecting and still soft, damp white. It is made by dissolving powdered sugar in boiling water. Soon after, I add powdered sugar to *Baroa* sap brought to a boil. The heat is lowered when a latex-like quality emerges. I turn off the fire and the room temperature is taken in by the liquid. A paint brush with natural fibres applies the dark red sticky substance onto the clay shape. For two days the Sun takes care of the unification. The shape hardens redly and [pok] is heard when it is hit with a wooden spoon.

Twelfth December 2014, I write about the tannin-rich *Baroa b.* Kabuki Paint coating and the new berry shape that appears which "corresponds much better to the name *Aronia melanocarpa* than the existing form of the berry" (Vandeput 2015, p. 773).

Photographer Daniel Allen** aims his analogue camera at the light-reflecting side of the coated clay piece onto a light sensitive material inside. We repeat the action inside the photo lab with a black and white film. Suddenly the tree trunk floor vibrates and the clay piece morphs when hitting the wood after the fall. Long beyond dusk, once again trucks with a load of freshly cut tree trunks shake the Earth underneath the 18th century compound.

Dear *Baroa*, it is said that the black bird flew in, mutating you with one wing flapping.

Path of rituals and resurrections

Below, the path is laid out of the evolving of new *Aronia* after transmuting from a graphite outline to a 3-dimensional clay form, mutated after falling on wood. When presenting in an art-academic context, Bartaku refers to this unfolding as "things that merely happen***," hereby referring to Merleau-Ponty.⁴² As such he seeks to avoid the question how he knows that this is the shape that the plant wants for the fruit."



***Allowing. Communicate it in front of an academic audience by referring to Merleau-Ponty so to anticipate the audience's question by answering it.

****Earlier I mention that the entity at lHaBP named predominantly *Aronia melanocarpa* might in fact be a horticultural construct made in Russia, named *Aronia mitschurinii*.

Description: *Baroa belaobara*: Form #1 - Clay with *Aronia* Kabuki paint coating. SERDE, 14 September 2014. Photo: Daniel Allen

A new research path sets off with the enquiry into ways of re-connecting *Aronia m.***** – that ghostly name in a dead language – with a tangible reality. In other words, the pathing towards a morphed *Baroa b.* pome based upon the sketch and the clay model that have emerged. How then does the latter relate to new

⁴² E.g. during the talk: Bartaku (2018), "*Aronia m. Babe_Bartaku* contribution", *Research in Art and Experience*, Aalto University, Espoo. Note that the attempt to trace back the source of this statement for this monograph fails.

*Develop a long-term research strand when the momentum manifests. In this case Bartaku's *PhoEf: The Undisclosed Poiesis of the Photovoltaic Effect*, ongoing since 2007. This now-established objective is an opportunity to start a dialogue with many – mostly unknown – entities, matter(s), movements, tools, techniques that hopefully trigger chains of events and transformations. At best full of surprise, blessed with – and empowered by – play, synchronicity and poetic failure.

Aronia? Is it a representation of a part of new *Aronia*, like the sucker, seed, the pome, the leaves or flowers or a part of them, the skin microbiome? Or does it refer to the shape of the whole plant? Or the new shape for 1HaBP? If it is a scale model, what is then that scale? And what about the 'inner' qualities of flesh, sap, hormones, colorants, sensing and signalling apparatus, respiration, fructose and glucose metabolism (photosynthesis), etc.? A direction is needed and provided here by *Passage 4*, in which ways are given to intensify the relation of *Baroa* with light so to morph perception and meaning of human art. It suffices here and now to point to the consequence of this entangling of two lines of research for new *Aronia*: the focus is now on the properties of the darker colorants* – anthocyanins. According to plant physiology, anthocyanins protect the above-ground parts of *Baroa b.* – and plants in general – against the energy of ultraviolet light. The light reflected by anthocyanins is perceived by the human as being from red to purple-blue. This differs by both the concentration and the medium that it is absorbed by. How can the sap, skin and leaves of new *Aronia* develop a wider color palette in the spectrum from red over blue to purple and nearly black?

In the 2015 research plan, Bartaku writes that "initially the work is developed in labs that are specialized in in vitro tissue cell culture, like the Microbiology Lab of Riga University where experimenting is ongoing since May 2015. This work requires a multidisciplinary team, with – besides myself – a genetic and tissue engineer, a food chemist."⁴³

In that laboratory Molecular biologist Anete B., (cf. supra) lays out various pathways that involve the growth of *Baroa* – at least partly – using possible com-

⁴³ Bartaku (2015).

binations of particular nutrients with hormones, light regimes, and possible interventions in the genome.

2.2.2 As Cell Tissue

Dear *Baroa*,

How is this sudden exposure to light and air chemicals on some of your branches impacting you? This cutting here hopefully does not pave the way for *Baroa*-harming micro-organisms. I collect your branches that carry the leaves that reflect the darkest of red. This seems to indicate a high presence of the part of you that shields your tissue from ultraviolet light. From these leaves, you might grow into new *Aronia* with more resistance against high-energetic rays, in the fruit form that has come to me whilst wandering amongst you. For this, you will need to undergo particular conditions of light, and allow in various mixtures of hormones, salts, carbon, minerals and nitrogen (Deroles 2009, p. 115).

I watch how you-leaves**are cut with sharp cold metal pieces that are supposedly not hosting micro-organisms after wiping with ethanol. We push a small leaf-part into a sticky energetic substance. Together with white light rays, constant temperature and humidity, will your cells divide and multiply into new *Baroa* tissue?

Anete B. informs me for the first time by email (1 June 2015):

Please find some new pictures attached. One of the samples is developing very well – Madara's "green" fingers have done the magic ☺.

Four months later then (Boroduške 2015, 29 September):

Hello Bart, here are some good and some bad news on your *aronia* in vitro project – the majority of samples are infected – that is normal if working

**Allow pars pro toto – toto pro pars (id)entity confusion. Observe scientist at work in the Microbiology Lab in Riga.

•Allow emerging conditions that seem fertile for things to `merely happen´. As such, Bartaku’s workings continue in the context of practice-based Doctoral studies.

••Start learning the process of being, behaving, doing in a scientific laboratory. Research science protocols that aim to increase the concentration of anthocyanins. As mentioned above, referring to Mahoney, Apicella and Brand (2018, p. 135), there is an increased interest in *Baroa b.* due to the high concentration of anthocyanins and the possible related beneficial impact on other-than-*Baroa b.s.*, mostly humans.

with tissues coming from the wild. Three samples are sterile and one of those looks promising. I took some pictures of infected samples (please see pictures attached) since I have to discard those so as not to keep infection in the growth room. Now we have to wait what those three sterile samples will do within the next couple of weeks. Unfortunately, I don’t have facilities and skills to determine the infection type – this requires microbiological expertise. I will try to take some pictures with other samples – but I cannot promise they are going to be better than the ones I have already sent to you, since I’m not the very good at picture taking and I don’t have a good camera. Regarding the future experiments – once the culture is established you can take it wherever you need to – also to Finland – UV would probably have a dramatic effect on the chemical composition of in vitro aronia.

I repeat the experiment at Biofilia•, Base for Biological Arts,⁴⁴ under the guidance of the lab master and following the procedures, or protocols as I learn they are named. We distil a protocol out of the available literature related to the morphing of anthocyanins.

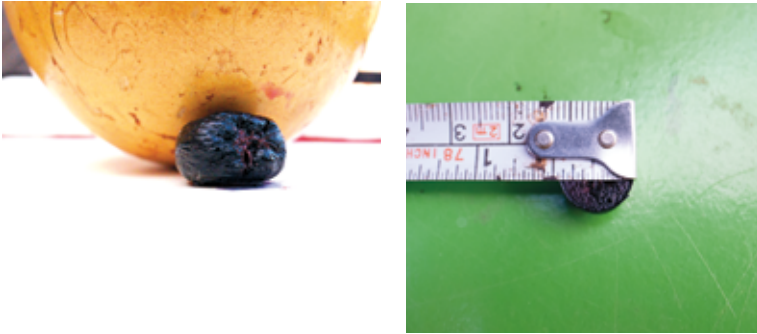
Dear *Baroa*,
Humans in many places on Earth have a particular interest in you(s••). How you grow fastest, with bigger fruits and more anthocyanins. All this, in order to let your body, its liquids enter the human body, leak into its cell tissue – prevent over-oxidation of the sap stream, lowering its pressure – and into the bacteria-rich gut, where you seem to inhibit inflammatory processes.⁴⁵

⁴⁴ At Aalto University: <https://www.aalto.fi/en/biofilia>

⁴⁵ See e.g. Kokotkiewicz, Jaremicz and Luczkiewicz (2010).

Following Anete B. and other humans’ ways of doing, we are ready to try to grow you(s) once again. I go to the highest you on the *OtaBaroa Distributed Plantation* with blue reflecting tree sap around my fingers. Once••• again with cold metal – I kill the microbial entities on its surface by wiping with ethanol – I remove two to three of the most anthocyanin-rich red reflecting leaves. I place them carefully into an air-tight environment that can be touched by light. Then, we push the leaves into a sap that should remove most non-you particles and organisms from the surface

•••Repeat previous observations of movements and doings by the scientist with “`green fingers’ doing magic” (cf. supra).



Description: *Aronia m.* gravity and resistance test and dimensioning. SERDE, Aizpute, 11 September 2011. Photo: Bartaku

of the leaves. Then we place your leaves in a space that is even more poor of life. For your leaf to grow, we make a semi-solid mixture of water and energy molecules, derived from seaweed. We add signaling molecules that are intended to imitate the ones that you produce, so to stimulate your growth. Then we adjust the acidity in correspondence with what has been measured around your roots in the Earth. Then we adjust the light and heat conditions for you, still according to the instructions from other humans that have an interest in you: sixteen hours of clouded-Sun-like light in one Sun-Moon cycle and a constant

temperature of about 25°C. We cannot control the temperature so it will fluctuate between 18>25.⁴⁶

A quote from lab notes from 13 June 2016:⁴⁷
Batch from June 2nd: 4 of 8 tubes have dark green mould-like life on the top of the agar and against the sides of the tubes. Mould is forming: dark green, irregular, topology (3D), white circle around it. Since it is against the tube walls as well, Marika thinks there has been airborne contamination.

Small *Baroa* explants develop and are transferred into a larger vessel that contains the appropriate growth medium. Carefully I remove them from the algae-sugar-hormone-medium and place them into Earth that is supposed to be accepted by *Baroa*. I place them in full daylight on the big, rarely visited rooftop of the ‘art house’.

Soon after, they vanish from the rooftop.

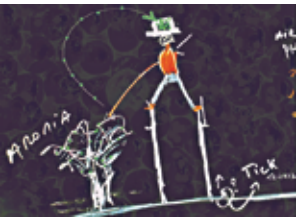
⁴⁶ Bartaku 2016, Notebook.
⁴⁷ Bartaku 2016, Notebook.



Description:
Experimental path
of *Baroa b.* leaves
growing in vitro
into new *Aronia*,
Riga, September
2015 / OBDP,
September 2016
(6-8).
Photos: Bartaku &
Anete Boroduške
(1-5)



•Overcome tick fear. Prevention against diseases that can be transmitted by ticks. Besides covering body parts, walking on sticks is tried out. In *Aroniathon II - Walk the Stick and Trick the Tick*, a police inspector who is also a clown shows how to make the walking sticks and how they can walk you. A photoshoot with the same tech protocol as described in *Aroniathon I* (cf. infra) documents the workings.



Description: Sketch from the invitation to the *Aroniathon II: Walk the Stick & Trick the Tick* happening, 1HaBP, 30 September 2012.
Sketch: Bartaku

2.3 Plantations

2.3.1 One-Hectare Baroa Power Plantation (1HaBP)

Now, dear reader, we go to the place of origin of the first encounter with *Baroa belaobara*. How to prepare for being there, observing, the occurrences and incidents? We return to the moment of an energetic cut that incites a geographical plantation divide. First, we prepare the walk to the plantation, and then, we walk as described in the notebook.⁴⁸

I slide my right foot into the opening of the soft, fake animal skin of the plantation boots. The body weight shifts to the right so that the left foot disappears as well. Near the zipper, the thread of the stitching is loose, revealing fluffy poly-fibres. They no longer join the two pieces of fake leather around the back of the feet. Still, they walk me to the plantation.

The blue grey cotton fibres around the legs are pushed wrinkly into the ankle-part of the shoe too. Whilst pulling up the slide on the outside, pressure increases on the tendons. They press the trouser legs against the cotton socks and thin ankles. I am told that this is the best way to prevent ticks from entering the skin•.

I pull the slide of the zipper from between the knees all the way up to the neck. Then, index and thumb unify the long row of buttons with their metal counterparts. The Sunlight touches upon most of the matter and people on the patio. It bounces on the synthetic fibres of the trench coat that reflects kind of blue towards the eyes of the neighbour's children. Its big flaps cover the shoulders. At chest height, the inner lining is tartan plaid. On both sides the pockets host neatly the hands

⁴⁸ Bartaku 2014-2016, Notebook.

that slide in diagonally. The neck is round and covering not as much skin as I would like.

Dear *Baroa*,
I need to connect with you, and am eager to pick up signals from your companions: the grasses along your roots, fast sky-bound and high; the lichen on your old branches, microbes on and inside you. Young trees, birds, deer, fox, spiky bushes with sour fruits, gentlest mosses, fungi and mushrooms. Air. Water. Sunlight: reflected Sun, absorbed Sun, hot Sun cold Sun, grey Sun black Sun. Smell of fried-chicken Sun. Sticky soil. Mosquitos, flies, humans. Chain saws, bicycles, cars, tree-trunk crates and trucks. Rubber, asphalt, thin-steel wire, goat-bone, golden teeth. Steel, dragonflies, cigarettes.

Soon, my skin is the land on which a tick and a horse-fly live, creating a gateway for a bacterium to land in my body. Soon after, my skin's••reflectiveness is reduced due to a round, purple-black stain that resembles the colour and shape of the you-pome.



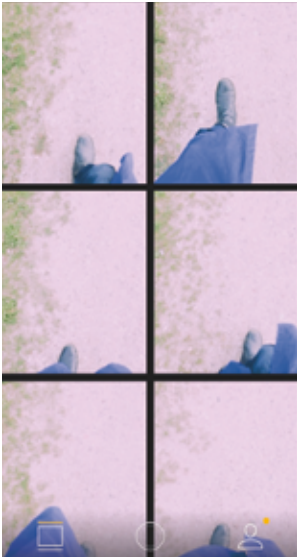
••This 'tattoo from the inside of the skin' signifies the failing of *Aroniathon II* in being a tick trickster. The bacteria is identified as *Borrelia b.* with the local skin infection being named erythema (chronicum) migrans, an expression of stage one of the Lyme-Borreliosis infectious disease (See: Lyme disease, Wikipedia).

Description: *Baroa's* leaking sap stains the feet that crush its pomes in a wooden vat, SERDE, 13 September 2013.
Photos: Bartaku

Walk past the oldest tree and take a left turn between the dwellings with faint yellow-painted walls of stone and sand. Cross the maintained grass onto the road. Observe the breathing, the touching of the crumbling asphalt. Pass the movement of one leg on to the other one fluidly. Exercise pressure on the bending toes. Release. The curve to the right, the little church on the corner made of light-brown fired clay. Left, passing the silent music school of wood that reflects a spring leaf colour. Criss-cross children residing in their here and now follow their secret patterns. On the left, twenty-two steps of soft soil that hold lushness of flowers, beans, tomatoes, apples, beets, salads and onions that reveal the light by bouncing it back colourfully. Two hundred and eleven counts are aligned with more houses reflecting red, ochre and yellow that soften the hard surface under the feet. Hold still for a while and observe the edges of their curled roof covers. Follow them into that wrinkling tail-of-summer smoke from burning tree pieces that absorb the humid air inside. Keep left from the hard humps of sand and stone that are intended to slow down fast cars and freighters. A piece of metal holds seven letters and a red line that connects the top left and the bottom right corner. The lines of wood make the houses slide into lines of trees that are dotted with red-yellow reflecting fruits. On the left, one last isolated stone construction surrounded by a number of cars without tyres. It has one soft wooden part, gently bending and twisting, in conversation with raindrops, wind, light, moss and birds, goats and gravity.

Plantation train
Train ride through plantation and Anything.

So it is,
with the plantation train.
From one angle into another,
fuelled by angular light,
a pressed flax topology.
Bartaku⁴⁹



Description: The `walk to 1HaBP` plantation protocol, 1HaBP, 7 May 2017; 23 August 2016; 12 May 2015. Photos and still (1): Bartaku



⁴⁹ Bartaku 2018, Notebook.

*Record dialogues with members of the local community that have historical knowledge. Make sure in doing so not to interrupt the flow of conversing.

Pass the row of tall, leafy, dark green-reflecting pine trees and immediately turn left onto a narrow strip of hardened soil. It has a hard cover that breathes through cracks and pores made by grasses and ants. Varis Sants says it is a leftover of an attempt to construct a railway during the Second World War.⁵⁰ It separates the apple trees on the left from the *Aronia* plants on the right. The long but narrow black coating suffers from zigzag scars made by ants that reclaim the land, supported by grasses. The strip widens here at the height of the faint grey reflecting sheets of the metal rectangle seen from a far. The grasses now soften your knees, hips and shoulders. On the right, the eyes take in reflectively that of which I am told is *Aronija*.

Dear *Baroa*,

The first time I touch you, I imitate how other humans touch you. I position one of your fruits between index finger and thumb. I feel the tension of your slippery skin. I press a bit harder and start pulling to the point where the pressure separates the fruit piece from the rest of you. In this movement, your sap does not leak.

I roll you between the same fingers, into the palm and the shade of its cracks and folds. I bring you into my mouth, press upper and bottom frontal teeth slowly into your skin until I feel the burst of your fruit's skin. Sap leaks onto the tongue. It stiffens. Sap spreads along cheek bones towards the ear on the left, now on the right. Sensations of trembling and stiffening there, too.

Over time, local narratives of the relation between plantation land and humans come to the surface.

⁵⁰ Varis Sants is a winemaker, photographer and expert in regional history. Here quoted from transcribed Audio recording (2 September 2018).

Below, an excerpt from observations of the second stay at 1HaBP and surroundings.⁵¹

"You can take more," Ance Zemžāne says. "I think nobody really needs them out here, no one is picking them any more and for that reason it is so wild. In Latvia, with this kind of heritage it is really kind of sad. Because we have huge apple tree plantations as well. Really really huge. And if nobody takes care of them, nobody picks them up, nobody cuts the branches, no one who would weed it, then there are no good fruits afterwards. And it is the same for Aronia."

... Allotment 'Number 6 4 7 Two 0 0 8 0 0 Seven 2'. Hundreds of old sturdy wrinkly *Aronia m.* bushes, interconnected with their next and future generation. The echoes of the children's footsteps on the dry end-of-summer-soil interweave with the roots of *Aronia m.*'s bushes and shoots, Blueberries, Bird- and meadow vetchlings, Valerians, Parsnips and wild grasses up to thigh-high.

For decades, *Aronia m.* receives the fast-moving hands of schoolboys and girls in the first weeks of September. The release after four Moons from green to bold red leaves; from white flowers to a green dot of fruit, to a berry with a blue-to-black tight skin with the powerful essence that compresses its subordinate astringent sap. Fourteen days of joyful picking near the apple trees, extending the summer holidays. From nine to three in rows and columns, from one side to the other and back. One basket, two children, most berries are easy to reach. Honour to the boys and girls that fill the woven baskets with pure single berries – no

⁵¹ Bartaku 2010, Notebook.

cheating with branches or newspaper. One jar they take home to make wine.

The next day, the town is stained with a deep, dark black-blue. Them-and-us children gather after three, sneak into gardens, and remove the plastic pipes that are used to span the plastic cover of the reverse-U-shaped green houses. Equipped with these blow-pipes they roam the town, trying to blow the enemy away with the 'berry-bullets'. In no time the walls of houses are stained with *Aronia Baroa* juice, including Lenin's statue.

From the basket to the shed, most of the berries are moved to the nearby juice, jam, syrup, dye and wine making factories. The allotment-owner brings the left-overs to the port to ship them further, in the Northwest direction. In exchange for that, the Northwest sends a container with the most wanted warm clothes for the cold winters. The central state lottery makes the same everybody happy and the same everybody less happy, year after year.



Description: Soil smelling during *Herbologies*, 1HaBP, 27 June 2010.
Photo: Wojtek Mejor

Only when your fruits appear, dear *Baroa*, do you attract some humans. They name the many other entities that come to live amidst you: Baldriāns, Kliņģerīte, Kreses, Baltais āboliņš, Violeta āboliņš, Mellene, Piens vīķi, Pienene Savvaļas burkāni.

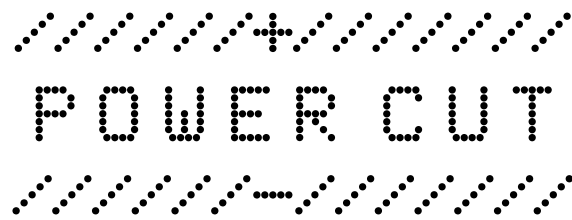
"Last autumn I was thinking of planting few *Aronias* in my garden. Although in childhood I hated these berries because of the strange taste. My grandmother had them and she used to tell me so often 'They are very healthy. Try one!'"

*Signe Pucena*⁵²



Description:
A *Smema* camera on a wooden stick, 1HaBP, 12 May 2015.
Photo: Bartaku

⁵² Quote from transcribed interview, as part of *Herbologies/Foraging Networks*. <https://www.pixelache.ac/festivals/festival-2010/theme/herbologies-foraging-networks>



A morning in April. The phone rings and I hear Signe from SERDE say: “Bart, hey it is Signe. Something is happening at the Plantation.”⁵³

At an instance we prepare for rapid departure southbound.

At 1HaBP, the grandson of the grandfather who was a leading figure at the plantation in sovkhos times explains how he has prevented 1HaBP from being sold to an investment fund. Instead, he instantly unreflectively decides to rent the plantation from the other owners of parts of the split-up sovchoz land.⁵⁴

I explain the happenings with the following wordings in an email to the curator of ‘Frontiers in Retreat’⁵⁵ (3 May 2016):

Photo documenting sudden change on Plantation at edge of Aizpute, and reassuring the interwoven past present and future. A future that comprises Otaniemi soil, where the outline of the future shape of new *Aronia m.* is geomorphically established in the form of twenty-two plants – the ‘cornerstones’ of the ‘Otaniemi *Aronia m.* Babe *Dstrbtd. Plantation*’.

⁵³ Bartaku 2016, Notebook.

⁵⁴ Bartaku 2016, Notebook.

⁵⁵ <http://www.frontiersinretreat.org/>

Days later, in my notebook, I condense the experience:

Haunting words. Check need. Fog dogs barking. Grounding morning. Meeting 1HaBP plantation – plantation young man. Preventing Allotment number 64720080072 from being sold. Agri-industrial pension fund agent blocked. Young man sensing force of *Baroa b.* Young man being younger helped harvesting *Babe*. Young man renting for coming years. From fifteen remaining lot owners. Young man photoshoot. Human companion to *Babe* biotope. *Babes*’ young shoots and plants being dug out. *Babes* into van. Wrapped in humid newspaper. Good Byes. Road Boat northbound. Spring turned backwards. Monday, 25 April. Tuesday 26th. Twenty-two *Babe* bushes in van. Digital sketch. Double exposure. Map of Otaniemi / Espoo campus. Twenty-two finger-tippings on iPad glass. Virtual 1HaBP extension distributed. One night one day planting twenty-two *Baroa b.*⁵⁶

⁵⁶ Bartaku 2016, Notebook.

Description: Operational detail of the cutting and crushing of *Baroa b.*, 1HaBP, 3 September 2016. Photo: Bartaku



Mon. 5 Nov. 2018
.35
22:11_1
...
Various times I resist

Too early, darkness pushes out light,
until deep into the night.
Then,
light pulls in darkness,
early.

So little,
before now approaching dark.

22:11_2

Cut ' _ the Sound.

Abrupt air bites.
Liquids leak thin.

Trembling till the unknown.
Back and forth
from the cut to the roots,
to legs to arms.

Branching bones land,
amongst surrounding bushes.

Above soil leaves hit,
branches, young shoots.

*Bartaku*⁵⁷

⁵⁷ Bartaku 2019, *Various Times*, *Cut Sound: Part of the 'Dream Retrospect Protocols' Series*, notebook.

In the encounter of *Aronia m.*, with the 'm.' now referring to either the Northeast American *melanocarpa* or to the Central-European *mitschurinii* in different contexts, my sense of bonding is most powerful at 1HaBP.

The cutting of *Baroa b.* parts, reducing most bushes to a minimum necessary for re-growth, and the elimination of almost all the companions that had come to live at 1HaBP since 1991, creates an abrupt drop of connecting. The strong presence of energy in the bonding vanished. Even though the *Baroas* might benefit from the operation.⁵⁸ This cathartic experience of cut-morphed 1HaBP catapults back the question of what it is that instigates the 'mere happening' that I commit to.^{xii}

2.3.2 OtaBaroa Distributed Plantation (OBDP)

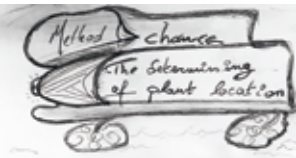
Dear *Baroa*,
Faint light reaches the branches and young leaves of twenty-two of your oldest ones* that are not cut by the metal blades. Once again, I ponder upon what is the beginning and what is the end of you.

Do your roots pick up the sudden exposure to the air and all the left-over breathings it contains of the other-than-yous at 1HaBP? Is there a signal that makes you anticipate their return? Do these older yous stimulate the cut ones to grow back? If so, and if it happens very fast, with many fruits, within the next two FtF cycles, then this corresponds to what the humans hope who have initiated the cut.⁵⁹

*Intervene in the cutting operation by proposing to preserve twenty-two *Baroas* from being cut. Use the argument of heritage, that these plants carry historical information of wind, light, air, minerals, bacteria, lichen, deer, birds, bees and bats as well as human pickings and cuttings in them.

⁵⁸ Bartaku 2016, *UAL 2016-2019*, notebook.

⁵⁹ Bartaku 2016, *UAL 2016-2019*, notebook.



•Title: Method > Chance (The determining of plant location). Description: Intuitive sketch of ways to determine the location of *Baroa b.* bushes from 1HaBP after arrival at Otaniemi, 16 April 2016. Sketch: Bartaku

The determining of the location of the twenty-two 1HaBP plants on the Otaniemi campus is done according to a self-unfolding three-step protocol based upon the relation between the outer edges of the campus and those of new *Aronia*.

1. Download an official digital version of the Otaniemi Campus;
2. Overlay the digital sketch of new *Aronia* on top of the campus map. Make sure the outer edges of new *Aronia* correspond to the outer borders of the campus, with the fake lake North, East and South, and the highway in the West;
3. Distribute twenty-two dots over the new *Aronia*'s outer edge;
4. Locate these dots on the Campus ground;
5. Dig the hole, insert *Baroa* and place the soil back so to restore the initial status as much as possible;
6. Mark the place with locally available matter;

1HaBP > OBDP > making / observing / walking-sharing

I relocate twenty-two *Baroa* plants of varying ages from 1HaBP to the university campus of Aalto University. The unknown land is expressed as a campus map onto which I lay out digitally the sketch of new *Aronia*, so that the outer borders of both correspond. Then, I place eleven dots on the new *Aronia* line. Soon after, I try to locate these dots on tangible campus land and start digging holes for *Baroa*.

I observe what happens to them, whom they attract. I bring other humans into contact. Leaves, seeds, fruits and roots are part of experimentations in labs. Their relation with light is further explored through experimentations that now and then are shared as works in public.

Due to the failed tissue cell culture experiments (cf. supra) I note the following: "Merely dotted, the envisioned outline of new *Aronia* on the peninsular land tongue that points into a fake lake in the South of a North."⁶⁰



Description: Digging into Earth for planting *Baroa b.*#13, OBDP, 16 April 2016. Photo: Bartaku

⁶⁰ Bartaku 2016, UAL 2016-2019, notebook.

The nearby species
Do not resonate

The nearby species
use as shield

Nearby species
separate

Species mark.
Species protect.

Bandwidth without speaking

Who are they.

Bartaku⁶¹

"At the time of writing eleven surviving 1HaBP *Aronia m.* *Baroa* bushes are distributed over the Otaniemi campus. They are dots that, when interconnected with a line, form the shape of the future new *Aronia m.*, with the open space between the little plant dots to be filled up over time. Time that seemingly can be sped up, protocol wise, with morphing *Baroa b.* becoming future *Aronia m.* inside the clean nearby laboratories••."

Description: *OtaBaroa DSTRBTD* Plantation. Map: new *Aronia* sketch (red) made to fit Otaniemi Campus (Otaniemi campus map by ACRE), modified, 16 April 2016. Sketch: Bartaku

⁶¹ Bartaku 2017, Notebook.

7. Inform the Campus 'Green Services';
8. Visit, document, connect at wish;
9. Share with other humans when it feels right to do so.

••Sharing ways of working with other humans. As in this interview for *Frontiers in Retreat*:
"Q: Tell me about your work methods. Do you plan well ahead or work more intuitively?
A: ... yesterday I was driving around Espoo with my little new *Aronia* plants in my car. All of a sudden, I got the idea to put the shape of the new *Aronia* on top of the map of Espoo – and that is how I decided where to plant the new *Aronia* plants. It was a geomorphic intervention. It appears scientific, but it was just a gut feeling" (Aarniosuo 2016).



*Share in public talks and lectures those narratives and synchronicities that otherwise remain invisible. Here in particular a testimonial of an attitude of always being in standby, like picking up a midnight phone and being taken on a night ride to a factory in a tiny settlement. Open up for whatever may happen, play along.

2.3.3 Plantation Show

Dear Aronia m., Baroa b.,
Humans have asked to show them matters of my sense of connecting with you. I accept, and aim to present them such that they are clearly addressed to you. The humans then are welcomed as witnesses.⁶²

a) Aroniathon I – Photographic intervention

I hear and see how they obstruct the light from reaching your leaves. Can root-you, bacteria and mycorrhizae thrive with that dominant presence of grass roots and their subsoil companions? With blades of metal that humans use to cut the fibrous matter that covers the upper end of their body, I cut the grasses around you from Sunrise till dusk. In an instance, whilst one last time the metal snips a blade of grass, I know that other humans are needed to get the grasses down. I commit.

“Grasses have overtaken!” – Ossi Kakko⁶³

In public talks I often speak about a succession of events* that can be summarized as follows: That night, the local juice factory owner calls the local wine and spirit maker to pick me up so to watch his new Baroa-based experiment. I listen to his translated words that mingle with the hot, humid Baroa-scenting air coming from the hissing yellow satellite-like machine with round peep-through windows. It concentrates the sap such that its beneficial properties for humans can be preserved over long stretches of time. In his office, a green fluorescing fly crawls into the pot with the fresh Baroa substance. The white light emitted by two tubes bounces back as well from the face of an employee who sells freshly picked mush-

⁶² Bartaku 2019, *UAL 2016-2019*, notebook.

⁶³ Bartaku 2010, *Note Herbologies*, Aizpute, Kurzeme, notebook.

rooms. His presence strikes me and I *understand* something that I cannot yet put into words.

Later, he agrees to join me to take care of the grasses that are taking over 1HaBP. I dress him up in fake runner's clothes from the same second-hand clothing store above the butcher. At the plantation, he puts on the clothes and I show him how to position his body in front of the camera. Then I apply the following protocol, created following the unsuccessful idea of inviting the town's people to run a marathon at the plantation in order to run the grasses down for Baroa's sake.

Aroniathon photo shoot protocol

1. Preparations

Get permission and instructions to use *Smema* photo camera from M. Bendiks;
Charge the battery and the spare one for the *Ricoh* photo camera;
Check tripod and connect if it matches the *Ricoh*;
Insert the 400 ISO colour film into the *Smema* photo camera;
Prepare a herbal infusion and store it in the container;
Print 42 A4 pages with the numbers 1 to 42, centred on the page;
Arrange the transport of the model for the photo shoot and the explanation of the protocol in Russian during his transport to the plantation.

2. Photo shoot

Walk to the west edge of the plantation, on the imaginary line that connects the deer's sleeping position under the tree next to the River Tebra and the centre of the Baroa bushes;



Description: *Aroniathon I*, *OBJEKTI 4*,
Espoo, 13 June 2018.
Photos: Bartaku

Prepare the model: hand over the second-hand clothing and a cup of tea;
 Whilst the model puts on the shirt, short and shoes, attach the *Ricoh* photo camera to the tripod and place it at 11 steps from position #1;
 Hang the *Smema* around your body;
 Position the model in front of the camera at the first location and check the camera settings; refine at wish;
 Attach sheet 1 with four pins – one in each corner – to the model's shirt with care so as to not touch the skin;
 Show the model how to position his body: fake the running of an imagined marathon-runner, allow enough time for practice, guidance and detailing;
 Take the first picture with the *Ricoh* on the tripod, the *controlled stand photo*;
 Take the second picture with the *Smema* from the hip at two steps from the model: the *experimental hip photo*;
 Go to the model with sheet 2 and replace sheet 1, again with care;
 For shot #3, move twenty-two steps counter clockwise at the edge of 1HaBP, and repeat the steps above;
 After eleven shootings, offer a tea (hence four teas in total);
 Repeat all the above-mentioned steps.

3. A posteriori

Thank the model in his mother tongue, and make sure the compensation transaction happens in the car when he is transported back to the juice factory;
 Verify and archive the digital photos: double back up;
 Have the film developed at the recommended lab in Riga. Ask for the negatives and digital versions;
 Archive and double back up.

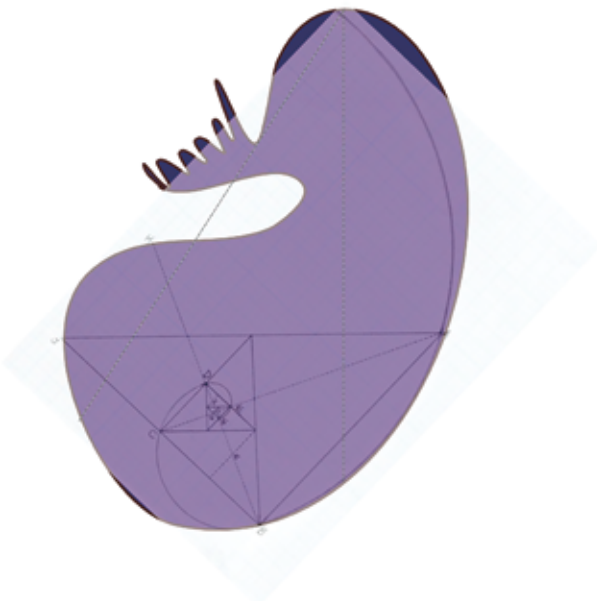
In 2018, The *Aroniathon I* photoshoot is shared for the first time in the context of an outdoor public space as part of the *OBJEKTI 4* group exhibition in Espoo.

•The hanging operation of the posters requires a protocol that addresses visual, rhythmic, physical and operational matters. The rhythm is to be determined by *Baroa*, in this case its future new *Aronia* with its topological and geometric properties. Secondly, the distance between the wall and passing cars, trucks and buses is roughly 220 centimetres. This limits the time and space for hanging the posters.

1. Determine the poster size by making sure the marathon runner can be seen from the pedestrian walkway across the passageway;
2. Arrange the following for the interventionist hanging in public space: humans, reflective vests, road work signals, synthetic rubber glue, rope, two ladders, transport, food & drinks, eco-print of multicolour outdoor posters and permissions;
3. Determine the poster rhythm by calculating the geometric properties of new *Aronia*;
4. Translate the calculated numbers into three wood sticks. Connect them with rope to create a triangle;
5. Day of hanging: Fix a rope temporarily to the wall covering the area from the first poster position to the last one. Neglect the downhill-uphill U-shape of the fake tunnel, follow the

It is the location that brings the *Aroniathon I* to mind, during the exploratory guided walk through the exhibition's area. We turn around the corner when curator Andy Best points to the passageway under the rail tracks of Espoo train station. The double road is aligned on one side with a wall of granite blocks. On the other side staircases come down from the station platforms touching the pedestrian walkway. There is a bus stop in the middle of the 220m stretch. Sunlight washes in from between the bridges above. Dusk merges with electric downward light from metal bars that are attached to the granite at regular intervals. The cold wind is volatile: a mix of horizontal air streams that strike from both ends of the passageway, vertical ones mixing in from above and lateral draft via the stairways. One can feel the chill of bones and minds passing: fast-moving school children, presumed commuters, cyclists, skaters and even cars, dogs and cats on the leash, trucks and buses that frantically pull over and leave again. They make the air cocktail difficult to breathe in.

In an instance, I see the *Aroniathon I* model in front of *Baroa* moving along the granite wall, from 1 to 42. Months later forty-two photo posters are aligned against the wall at a particular distance*, honouring the presence of the electric light and the shelter-offering bridges. In the coming months, the posters perform a hanging marathon themselves, with six that hang on until the end date of *OBJEKTI 4*.



Description: Preparing *OBJEKTI 4*: Calculation of geometrical properties of new *Aronia* for the scenography of *Aroniathon I* (1); Poster hanging, Espoo, 12 June 2018. Sketch & Photo: Bartaku



OtAronia Distributed Plantation Walk

Dear *Baroa*,
my breathe-wordings on and to you are just rays taken in by a line of humans.

On Otaniemi Campus, in the building that is situated between *Baroa #1, Residential looks* and deceased *Baroa #22, Brick hut*, I welcome the participants of the *InSEA* conference who signed up for the OtAronia m. Ba.be Distributed Plantation Walk. Then, I explain how the walk is structured following this outline:

Welcome. Thank you for participating in this walk-wording on – and shape-walking of – *Aronia m. Babe* at the *OtaBaroa Distributed Plantation*••.

- line of the pedestrian walkway roughly at the height of the upper body;
6. Fix the first posters under the electric lights;
 7. Determine the location of the others using the triangle as described by the 'hanging composition'.

••Repetition: allow confusion in naming: here the referring to OBDP in the title of the plantation walk is different from the one used in the spoken word during the walk.

Who am I and what is the walk about: *The DSTRBTD plantation* is the result of an ongoing liaison between *Baroa belaobara* and Bartaku, artist researcher. *Baroa b.* is categorised as being part of the Kingdom of Plants. Its history of naming is volatile, as with many naming and classification attempts. *Baroa belaobara* is the name that came merely – as it happens – to Bartaku during one of many wanderings on a former sovkhos plantation in the Latvian Midwest. Its accepted scientific name at this moment is *Aronia melanocarpa*, whereas chokeberry is the most common of the so-called common names that the settlers in the Northeast of North America give it. They disregard the indigenous name that I cannot pronounce. In Finland it is Marja-aronia and in Germany it is *Apfelbeere*, similarly in Dutch, *appelbes*. In 2015, a Latvian microbiologist stated at the Arts centre near the plantation that *Baroa b.* is an apple and not a berry. In early spring of 2016, following drastic cutting of the plantation, twenty-two plants were moved to Otaniemi campus. They are planted on the outline of the future shape of the name *Aronia m.*, forming a distributed plantation.

Some of the plants survive, others turned into echoes of their existence. By walking on parts of the outer edge of the future shape of *Aronia m.*, we both trace it and make it partly whole in walking the outline. We revive the botanical name *Aronia melanocarpa* that lost its connection with life due to becoming tangible *Baroa b.*

The protocol for the coming one hundred and twenty-two minutes is as follows: we walk a segment of the outline of a future Baroa. By walking the line, we co-create a part of the new Aronia shape. We stand still at five dots on that outline where relo-

*cated Baroa belaobara have survived their new biotope since April 2016. I mention geodata, observation-based evolving and interventions. If there is time, I read – or breathe-word – to you and Baroa an excerpt of some Baroa-based-writings. I show you a left-over poster of a photographic intervention featuring a fake marathon runner. It was taken at the plantation of origin of the Baroas I will introduce you to. I invite you then to enact the GoldSilverAronia-BabeRatio-based Measuring of Full Roundness.*⁶⁴



Description: Walk-talk on OBDP, in front of *Baroa b.* at 'Bird swamp' (OBDP #18) with left-over poster of *Aroniathon I* at OBJEKTI 4. Part of InSEA 2018 exhibition programme, OBDP, 21 June 2018. Photo: Annie Davey

⁶⁴ Edited version of Bartaku (2018).

•Propel wordings that are instigated by Baroa at OBDP into the public realm by contributing to fellow artists’ projects.

c) Wording – collaborative writing in public space / Re-Wording •

With the longest-lit days of the next year ending, at that same location, `Bird swamp`, I breathe-word onto Baroa belaobara #18.

Otaniemie in Espoo (Fin) - 12/6/2019, 21:25 - 22:35, Bartaku

I am writing in this place because of the presence of the initially tiniest, most fragile Baroa b. Plant, as part of the Otaronia m. Babe Distrbtd. Plantation. It grows since 2016 at the edge of the swampy edge of the sea, observing reeds, herbs, grasses, birch trees, birds and mammals like beavers and humans. Note on the time indication: writing happens in time slots of 22min 11sec.

22:11_1

Smooth this surface is. It breaks more silently then the rustling of the many leafs-as-one. So, now there is more light for you. Whilst it is getting colder at every count. Light absorbing textiles pass by at decisive speed heading towards the constant deep humming in the South. The sound base upon which leafs, reeds and birds position their frequencies.

Facing East, the acidic-sour sensation in the nose evaporates slowly. The white-skinned skinny trees as well prefer to stand at that side of the raised strip of earth mixed with pieces of rock. Once again, determined piles of cloth and flesh pass by absorbing the swiftly fading light.

22:11_2

This smell. I wonder how you bear with it, throughout all countings.

Another dark one, once again, from the South. Once again Northbound. The only bound possible. Behind-muscles barely lifts that body upwards. The sound of rubber pushing forward little mountains of earth and pebbles. A sliding sound that seemingly slows down time.

Now and then, the birds take the first voice. Now disappearing into the engines that pass above us all, from right channel to the left. Once more the roar, lighter though. The humming on the right sounds like a waterfall out of which another black blob emerges. It is fast approaching with its reflective thin stripes and slipstream of wild leafs. For a second covering the eternal marking A.K. on the white skin on the other side.

The same black blob with gravitational issues passes by. More slowly. More control. Less earth upheaval. 2 steps away now from the left-over piece of thin white tree. It holds my body. (next time)

The Wording concept and its guidelines are written in the “Manual to Wording” and received by email from Lena Séraphin (4 May 2019).

Wording is an attempt to make a public place accessible in words. Returning to the same public place during three days in a row has a purpose. The writer not only returns to the place, but also to the text and the act of writing. In this way a relation, a dialogue, and maybe also a transformation, is formed between the elements at stake. Returning raises insight into the seemingly unimportant events, the infra-ordinary as Perec would say, and is also a tool for discovering repetitive patterns. In short, the thought is less to compare different public spaces, and more to share how we perceive what occurs during the course of three days. Since it is impossible to write down everything that happens in one’s surroundings, the writing becomes a series of choices. These choices are highlighted when writing in the same place. Wording is about learning to be aware of these choices and questions if there is a possibility that the physical senses perceive in a categoric mode. Wording is inspired by Georges Perec and his experimental book *Tentative d’épuisement d’un lieu Parisien*, or *An Attempt at Exhausting a Place in Paris*.

<<< Description: page 1 of 5 of *Reading to Baroa `Bird swamp`, #18, OBDP*
Part of group performance: 2019
WORDING, Disruptive Processes at Research Pavilion #3, Venice. Read in public following various reading protocols at *Re-Wording*.
Text as photo: Bartaku

The guidelines that the participants receive, I trim here into the shape of a step-by-step protocol regarding the writing aspect:

- Choose a public space to observe during 12-14 of June and a language to write in, including made-up ones;
- Write in the same public space during the three days. It is up to you to decide how much and how often you write;
- Note where you write, the date & time when you start and stop, and your name each session;
- mention this information each time you write;
 - stay in an observational mode and focus on experiencing public space by writing, guided by the bodily senses;
 - give the text the quality of a carbon copy or a textual imprint of what is recognised by the senses and then transformed into words;
 - avoid story-telling, fiction writing, assumptions and opinions;
 - keep the text as it is; no rewriting or shortening.



Description: iPhone photos facing North and South from Baroa OBDP #18 using a UV-glass filter. They are taken after the final *Wording* session at #18, 23 October 2019. Part of *Re-Wording*, Research Pavilion #3, OBDP, 12 June 2019. Photos: Bartaku





Detail of *Am/Babe Dstrbtd Labsy - Plantation intervention, lab performance and installation*, 1HaBP, 10 September 2015. Photo: Eli Garmendia

d) White suits harvesting – Plantation happening

Thinking of *Aronia m. Babe*. How in harvest time objects that have been made in the last years can be placed in the plantation. People can visit with tick-protecting clothing, with prints from *Baroa*-essential sap. They would be instigated to collect by removing 'weeds'.⁶⁵

"Is this for performative reasons?" the white suit with a *Baroa* juice-painted number '8' asks me. It torpedoed me back to the purple giant circle – indeed like a giant *Baroa* berry – on my right thigh some months before. Some weeks after my 1HaBP wanderings. It was possibly not from a tick. Possibly it was from a horsefly. Possibly now also being a carrier of the *Borrelia b. bacteria* •" (Pucens 2015, p. 42).

⁶⁵ The use of white fabric that covers most of the human body is another attempt to prevent ticks from entering the human skin. The conclusion of the test with a group of humans is positive. As well, some participants are sensitive to signalling by *Baroa* and companions at 1HaBP. This plantation happening is part of *Am/Babe Dstrbtd Labsy* (cf. *supra*).

⁶⁶ Bartaku 2017, Notebook.

e) In-Between Storage – Hangar exhibition

Dear *Baroa*, You attract so much matter.

Hangar ••. Are you a box? A rectangle you? Whispering when the wind is pushing you. For days we swipe up all this dust that has created layers and layers since you have been a hangar. A geological dust formation that now moves swiftly as a dust dune, up into the plantation air, onto *Baroa* and into our air pipes. All the stuff that you carry through that time in which you never come to fulfil the intent of your making. You are meant to keep *Baroa* pomes fresh by keeping the outside world out. That is what I hear.

••Every year the nearby Art Centre attracts and hosts artists from all over the world, often with very different practices. Bringing them into contact with *Baroa* and 1HaBP potentially strengthens and widens the field of conversation.

The *In-Between Storage* exhibition is fused and filtered by *Baroa*, its Hangar and the local community, the latter being the honourable audience, as well.

Oh Hangar

On the tongues,
the dust of your past.
We swipe it
up a sandstorm.
A dust cough
you are.

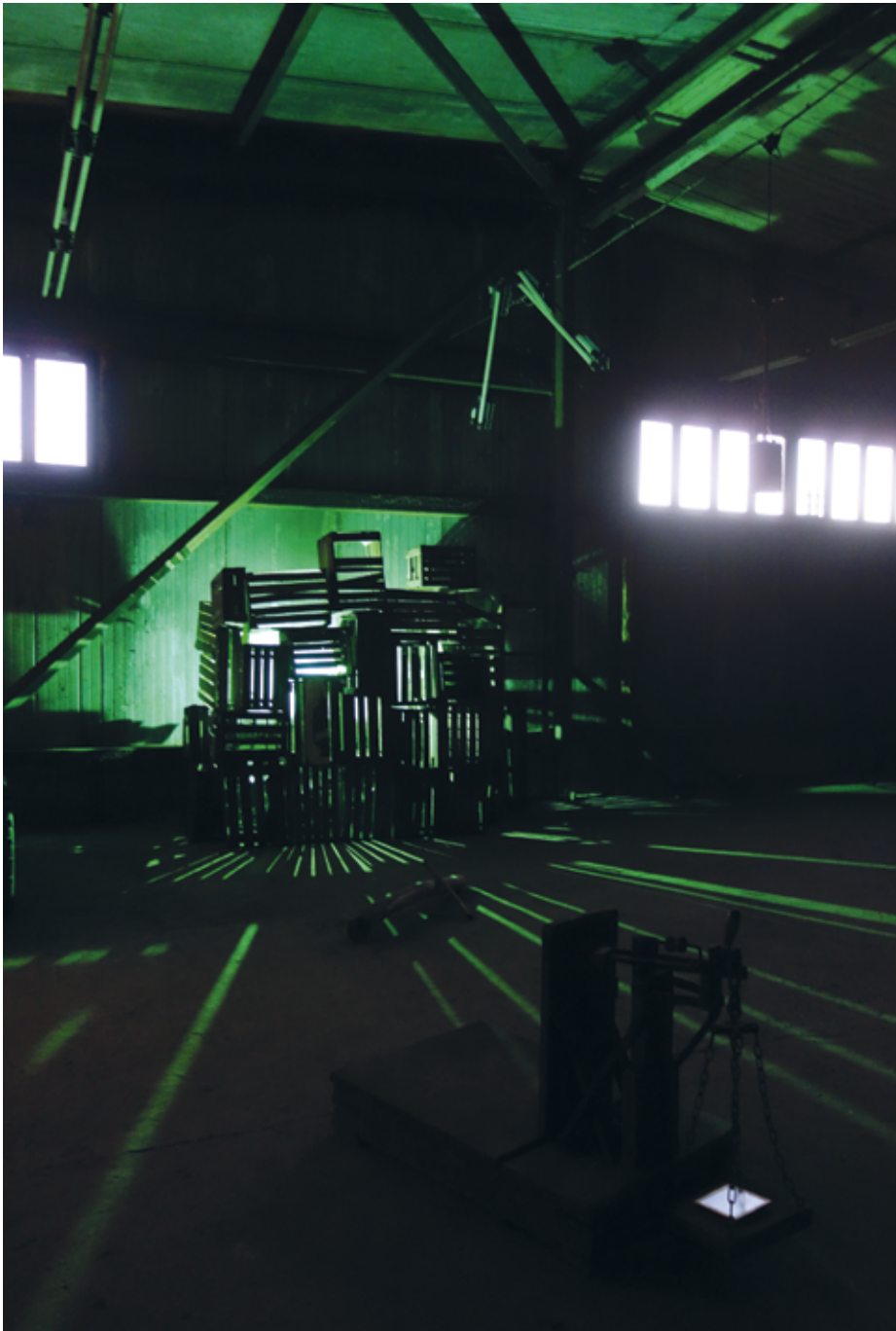
Baroataku

We wonder why you have these slits and pores in your metal skin, those trenches in the soft tree parts of your sandstone soil. They confuse light. They break bones. They attract, capture, make one lay down silently still.

Come and see.

People come and see how she positions her body in that trench. In silence they sense her presence, folded into the cracks between.⁶⁶

⁶⁶ The artist is Louisa Nobrega – <http://www.luisanobrega.com/>



Description: Detail of exhibition: stacked wood crates that were formerly used for Baroa b. transport; UV-lamp, 1HaBP, 30 August 2016.
Photo: Seila Fernández Arconada

Museum of Aizpute Agriculture (temp.)
Exhibition: *In Between Storage*

In Between Storage exhibition by the Museum of Aizpute Sovchoz Agriculture tells the story of the functional material culture produced and used by the Soviet state owned farm at the edge of Aizpute town. It also shows the evolution of mechanization in farming in the second half of the 20st Century.

We invite you to take a close look at the specially chosen tools and machines that tell a lively story of their relation with air, soil, plants and humans.
At the same time take a step back and place the vibrant artefacts in a more distant past and a more distant future. Or in your own personal, family history.

The Museum of Aizpute Agriculture strongly values the connection of past and future, of humans and food production, and material culture.

The Museum came to be through the collaboration of 4 artists on Aug. 31st, 2016. It exists until Sept. 10th, 2016

Artists: Anne Glassner (Aus), Bartaku (Fin / Be), Seila Fernández Arconada (UK / Spain) and Laurie Sheridan (US)

The Museum of Contemporary Agro-Art of Aizpute (temp.)
Exhibition: *In Between Storage*

“*In Between Storage*” presents a collaborative intervention featuring found and left over live artefacts and written culture in a hangar at an abandoned Soviet owned plantation and in neighboring town of Aizpute.

The Assemblage process follows criteria of intuitive embodied interaction with a material (agro-) culture, sensitive to the buildings character: its time-based collection of airborne volatiles, its morphing acoustic properties and the unique Baltic light. This intuitive approach did not exclude an awareness of the societal and political complexity of that time. Nor the awareness of the bias of knowledge and the risk of ‘colonial’ art production.

The museum invites you to extend your view of these often familiar objects, sometimes charged with personal memories of forced labor towards the energetic and aesthetic properties by the tools, machines, drawings, building. Even imagining how their contemporaries engage with soil, mole, worms, apples, Aronia, bees, deer and human.

Artists: Anne Glassner (Aus), Bartaku (Fin / Be), Seila Fernández Arconada (UK / Spain) and Laurie Sheridan (US)

In Between Storage Art Gallery (temp.)

Our gallery operates in the margin of the commercial contemporary Gallery world, therefore, it acknowledges the important role of process, research as art, transdisciplinary, ephemeral and collaborative work. As a consequence many of the artworks are not suitable for classic market driven transactions. Through an intertwined network of committed artists, organizations institutes and citizens.

“Thus, the task is not so much to see what no one yet has seen, but to think what nobody yet has thought about that which everybody sees.”
— Arthur Schopenhauer

The gallery presents itself as an in between storage inspired by the intermediary state of being of its location: a former Soviet owned plantation with monoculture Aronia berry and apple production. After the fall of Iron curtain transformed into a more biodiverse eco-site. The future depicts a possible restoration of this monoculture by market driven agro-industrial Nordic companies.

The Art Gallery came to be via the collaboration of 4 artists on Aug. 31st, 2016. It exists until Sept. 10th, 2016

Artists: Anne Glassner (Aus), Bartaku (Fin / Be), Seila Fernández Arconada (UK / Spain) and Laurie Sheridan (US)

In Between Storage is a joint spontaneous undertake by artists Anne Glassner (Aus), Bartaku (Fin / Be), Seila Fernández Arconada (UK / Spain), Laurie Sheridan (US). Supported by Interdisciplinarv art group SERDE, Starpnozaru mākslas grupa SERDE, frontiersinretreat.org - sadarbibā ar/ in collaboration with Aronia m. Babe. Paldies/ thanks to all participants, Skandināvs Aizpute, Toms Pertnieks and Idea House

Aug. 30 > Sept. 10, 2016 - Aizpute, Hangar Aronia Plantation

Description: Exhibition hand out, 1HaBP, 30 August – 10 September 2016.
Text: HangarOh Collective

2.3.4 OBDP Log

In this second part of the *Plantation Passage* I give an account of the evolving of the *Baroa b.* plants that together constitute the *OtaBaroa DSTRBTD Plantation*. As mentioned above, on 24 April 2016, twenty-two plants are taken out of the soil at 1HaBP. Soon they are transported by van and boat during a one-day trip to Southern Finland. Then, they are planted into the Otaniemi Earth crust in particular in the outline of the shape of future *Aronia m.*, or new *Aronia*. This vector image is digitally overlaid onto the map of Otaniemi. From spring 2016 till early summer 2020, I irregularly walk the line, interrupted by moments of visiting, taking in the plant and its companions, their environment. There is a long thinking-performing tradition of pathing and walking that is beyond the scope here. In an endnote I elaborate a bit.^{xiii}

The first observation is noted on 30 April 2016. This is one week after having received a reply to my mail from 26 April, in which I ask if they “could assist me in giving a new place for the plants on Otaniemi campus ground”. The Campus Management *Aalto-yliopisto-kiinteistö* Oy states that (26 April 2016), “Otaniemi campus area has probably only one place for your plants, called Aalto Garden. Please contact...”. Soon after, I meet with a Campus Management employee and I hand him over the list with the location data of the *Baroas*. The words below are slightly edited transcriptions of vocalised observations. The plant names are a mere mnemonic support, inspired by the most obvious features of the site.

1 – Residential looks

26 April 2016

Otaranta, right after Otakallio R, end of parking on the L, up the hill, pass the washing dry line, L down 11 metres, in front of granite softened with moss patches.

30 April 2016

Five main stems in front and above grasses and granite
Flowers!

10 June 2016

Leaves reflect shiny green.
Two, a little red.
Flower buds closed.
Little fly on one leaf.
A few being bitten by luminescent green Caterpillar swaying with its dark head from left to right.
pome size.
Two leaves are curled and interwoven with a sticky silk-like substance.

I put on blue rubber gloves from the lab. With the right-hand index finger I create a space between the leaf and its stem and then pinch it off. The darkening leaf goes into the plastic bag. I seal it by pressing the ribbons on both upper ends of the bag into one another by sliding from one end to the other with thumb and index finger.

Who is this that descends upon you and why? I spray you with a mixture of pine-sap extract and water in the hope it will chase away the insect without harming you.

•Desk and lab research. Scott and Skirvin (2007) choose for their paper the title “Black Chokeberry (*Aronia melanocarpa* Michx.): A Semi-Edible Fruit with No Pests”. Note their use of both the common and the scientific name. They refer to research stating, “One of the best arguments for increased use of *Aronia melanocarpa* fruit is the relative absence of disease or pest problems. There are no known insect or bird problems, probably due to the acid taste of the fruit, which comes from the high anthocyanin content. The only diseases reported for *Aronia* are the occasional rust and ringspot; neither seems to impact fruit quality.” (2007, p. 135.)

Still, more research points to the probability of the light green-reflecting bending crawling caterpillar being the larva stage of the moth *Archips rosana*, with the common name European leaf roller. It is described as a pest and listed in the *Invasive Species Compendium*, with Finland listed in the “Distribution table” (2016). In order to reduce the population in a biological way, Pluciennik and Olszak investigate the introduction of parasites concluding that “*C. mutabilis* “(Ichneumonidae)... species showed to be the most effective in parasitizing caterpillars of *A. rosanus*...” (2010, p. 7).

You are not supposed to attract crawling beings that eat you.

The latter statement I read in a paper by Scott and Skirvin (2007) which title ‘hangs’ on me. I remove the glove and take a picture of the remaining rolled-up leaf•.

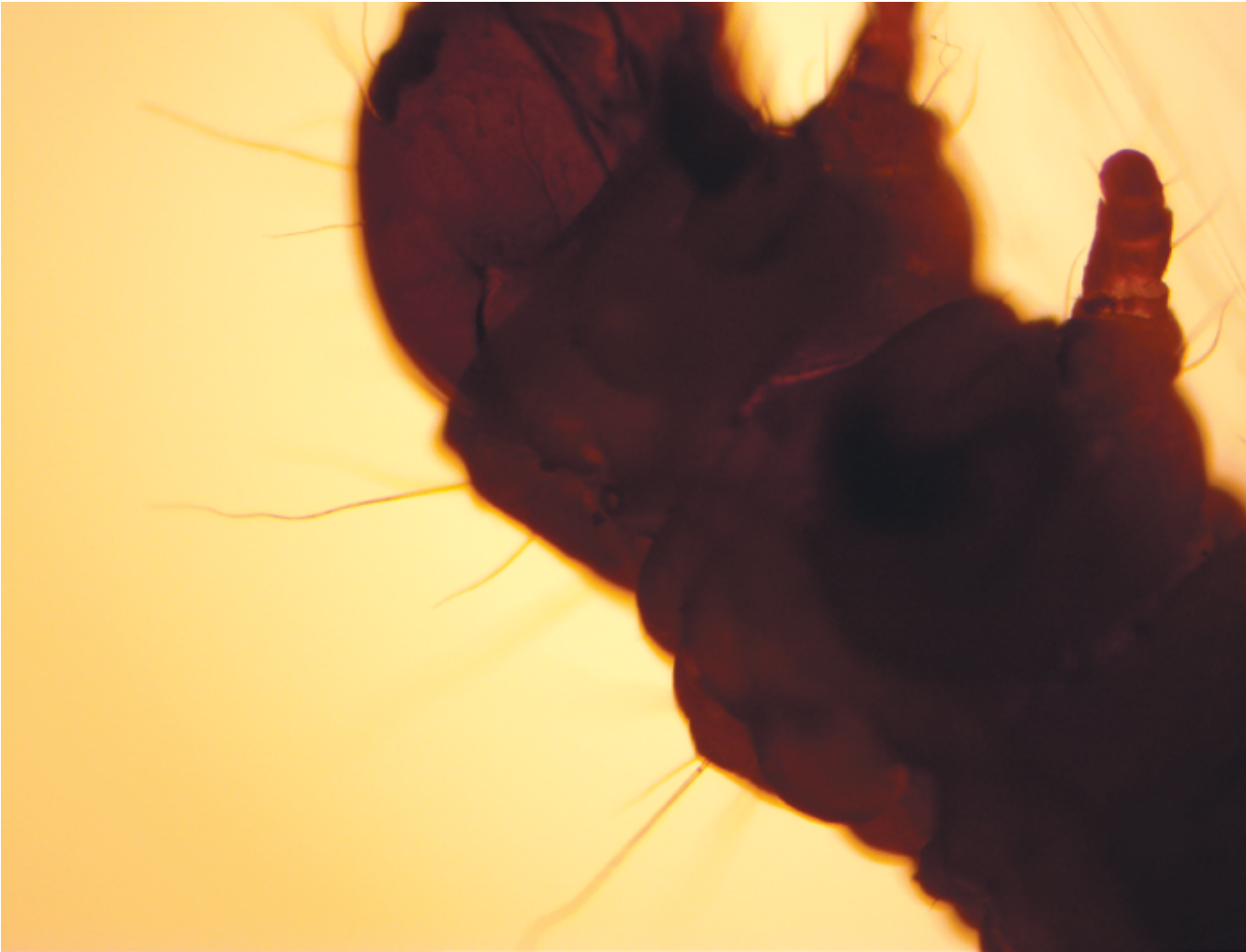
I count: two, four, five, eleven, twenty-two, thirty-three, fifty-five, eighty-eight, one hundred-eleven...
Up to one hundred and fifty-five leaves.
Then I count one, two, three, five, eleven, twenty-two twigs.

Spray again. I guess that this one is doing fine, accompanied by blackberry and a white-flowered plant that hangs down, bell-shaped with four orange anthers.

01 Nov. 2017
Pomes hanging now where the flowers used to.
Glossily absorbing light,
in groups of up to eleven.
So good.

10 April 2018
Dark red reflecting buds at the tip of the stems
above that rock, with fierce yellow-blue reflecting
background between the tree-trunks of pine and silver
birch.

16 April 2019
Dry and out.



Description: Microscopic observation at Biofilia of an *Archips rosana* larva spinning silk, OBDP, 10 June 2016.
Photo: Bartaku

09 May 2019

I come back to you with hope. For any sign of shiny red reflecting bud life.

You are not vibrant at all. I bend and hover over, enclosing.

No buds.

Is it the winter? You are the biggest, the strongest one.

Sunlight touches you easily. Sticky crawlers never returned.

Humans do not come close.

So many pomes you had.

No shoots nowhere near.

Is it the breathing of the plants nearby?

So sudden?

Is the rock radiating something?

I pull out grasses.

I don't see

Anything.

2 – Boat water

26 April 2016

Jameräntaival, then R Vastaranta till the end. Path at waterfront,

R 25m on the left with stone.

10 June 2016

Leaves rolled.

Entirely dry.

Large amount of shade at 18:52hrs.

It is a lot darker here than in wintertime.

The green reflecting transmitting foliage of nearby pine, birch.

I spray, knowing it is symbolic.

Baroa grows new buds.

Knowing it is too late.

A winged being eats from the caterpillar body.

I spray, take a photo, measure the height.

For no-thing.

01 Nov. 2017

Baroa b.?

10 April 2018

Still not.

06 May 2019

Not.

10 April 2020

Did I even ever dig a hole for you here?

3 – Friendly loan, still hole

26 April 2016

Servinkuja, last parking place R, straight to end, just R next to bin.

30 April 2016

Too many humans around. Some of them have a hat on their head that I only know from sail-humans.

Someone is watching us.

10 June 2016

I talk into the voice recorder. It is half past five, late afternoon. Inspecting and spraying four dull leaves with parts eaten away. The slimy goo on their surface gathers into glycerine-like droplets. One thread

connects the edges of two leaves. I remove it with three fingers. Take pictures.

Amidst the surrounding short-cut grasses, *Baroa b.* is vibrant: new leaf formation, glistening, fresh leaves and only one tiny broken stem. Words over *Baroa* blend with bird sounds. Before leaving, I lay down on a radiant rock, next to *Baroa*'s main stem.

Those containers with blue lids can be smelled from afar. Identical tree-trunk pieces control a square of exotic sand that is dusted by colourful tiny humans.

01 Nov. 2017

No trace of *Baroa b.* apart from the indent in the Earth where roots were rooting and the rock tamed the grasses. The corner of the right eye catches the rock nearby, at the foot of the sixth of eleven aligned bushes.

16 April 2018

Still, the stone alone.

Grasses take over the left-over hole.

06 May 2019

Grasses, no stone.

10 April 2020

I live very near now. I try to remember the pushing of a metal blade into the Earth here. The children's cotton hands touch the white cold water that soon turns into sand.

4 – ViewTech

*Follow the same tissue culture protocol for leaves (cf. infra).

27 April 2016

Back to Otakaari, R at roundabout, follow L curve, L into Teekkaripolku on the L on the grass perch just before birch. Facing VTT logo (South). Three stems – eleven times smaller than a full-grown *Baroa b.* – touch one another just above the Earth's surface.

18 May 2016

The caterpillar crawls on your leaf and covers it with sticky lines. Are you breathing something that will chase it? Or is this being new to you? I cut off another leaf then, to try to grow many more you*, towards new *Aronia*.

11 June 2016

Eleven leaves only, mostly on the five side stems, of which one stem is broken. I push little twigs in the soil around it in the hope that new cellulose will be made. Especially in this immense daily volume of light energy.

Tiny flies are held by the leaves' slick surfaces. Their presence directs my eyes to the leaf-eating and -rolling entities. I sprinkle the pine-tree soap - mänty-suopa in Finnish – to reduce the pressure on the *Baroa*'s system.

The back of a vertical leaf shows how the stem continues as a straight line to the tip of the leaf. Eight side lines reach the toothed 'mountainous' leaf edges. I measure colour and height with the mobile phone app. On the device's display, the image of the broken stem looks astonishingly good.

Around it, everything is cut short by the *Campus Green Services* machine that moves in moaning circles now.

*Activation of memory of plant recognition (cf. supra, *Herbologies*).

01 Nov. 2017
One stem alive.

10 April 2018

Stem only, no buds. The tip broke off and reduced the length to one third.

In this location this is most probably due to the interventions of with humans in green overalls on machines with rotating blades driving cuttngly in circles. I ponder upon the squirrels and hare, as well. Sharp contrast with the omnipresent *Achillea millefolium*•.

How are your roots and mycorrhiza?

29 May 2018

Stem and eleven leaves within the circle of granite that controls the trimmed grasses on the other side.

16 April 2019

Bud-less main stem. Side stems both two buds. The lower one with two tiny wires that connect bottom and top. Only visible in front of the stark spring sky. One bud on the bottom stem-part. I bend my right hand anti-clockwise, spiralling around grasses. Pull, snap.

06 June 2019

Instead of green pomes, a mutilated stem. Reduced to the length of the grass cutting height of the lawn mowers' rotating blade. Left-over bits, pieces and frail inner layers that reflect orange-red where the bark is gone. A black beetle-like being clings sadly to a *Baroa* fibre.

28 July 2019

Counting eight leaves just above the soil, around the split-open centre stem.

15 October 2019

Three new stems amidst some leaves on grasses and rocks.

22 March 2020

I pass by this morning, and look up the photo where I removed all colours except the ones of the mutilated one. Its outer layers are removed at its lower part, at one spot, just above the soil, deeply into the soft parts.

14 April 2020

From the sides of the mutilated left-over stem, two stems: five pomes high, with opening buds at the top. Three more next to the second stem with a similar height. From the stem as well, one growing. All with velvet red reflecting buds at the top.

11 May 2020

Wandering through *OBDP*: the bird that hovers acrobatically in front of the red baked walls of the Alvar Aalto buildings catches the insects that thrive there. I hope this so-called White Wagtail also catches the cigar leaf roller, although I have not seen a single larva this year on the few remaining plants.

The Wagtail flies up and rests on the tree branch, swaying to the rhythm of the moving air that strikes its leaves. I hold my phone in front of my eyes, take pictures whilst very slowly lifting my right heel. Then the foot, and with bent knee slowly towards the bird. Breathing in with focus on its presence, breathing out and thanking the bird whilst putting the right foot

down. The left leg takes over the slow momentum of the right leg. Repetition.

The bird remains swaying sitting, impossible to have a sharp photo. Being close now, a car appears. Rare, at this spot.

Distracted bird,
bunny, Bartaku.

5 – Rock water

27 April 2016

Between small and big rock. Almost leaning against one another between the main path and the fake lake called sea. L from a small path towards – and near – the water.

10 June 2016

The minuscule *Baroa* still carries five pomes. Leaf count: one, two, eight. One twig. Surrounded by a bit of grass, reeds, and fern-alikes. I find a large tree trunk nearby and move it closer to the plant.

You seem so vibrant.

01 Nov. 2017

How is this now possible?

I don't see you.

10 April 2018

One stem with one dark red reflecting bud in the golden moment.

It is cold here, near the freezing water.

16 April 2019

The big rock only.

6 – Bus stop

27 April 2016

With the back to the road, in front of the bus stop shelter, 11m L, 11m deep.

10 June 2016

Baroa's height is approximately twenty times the size of its pome.

One main stem, with a second one with the same height.

It originates just above the soil.

Leaves are at the limits of their maximum size now.

I count one, two, three, five, eleven, thirteen, fourteen.

The leaf on the top is being eaten.

Is it the caterpillar, or the bug that crawls nearby?

Take a picture.

Looking from underneath, all good.

Looking more carefully, closer, taking spectacles of.

Naked eye, healthy leaves.

01 Nov. 2017

Hardly any growth but vibrant.

10 April 2018

Bright red reflecting buds on two stems.

Almost hit by the broken-off stem of a nearby bush.

I stop here with the phone battery almost empty.

It is not even that cold.

16 April 2019

Hardly any stem growth. No leaves, buds.

Once more, no May flowers.

21 July 2019

Thirty-two vibrant leaves.

Seventeen on one, fifteen on the other stem.

08 August 2019
One leaf at its tip reflects yellow-orange.

18 April 2020
Both stems mutilated. One with its tip cut diagonally.
The other one is broken, with the bent part in splinters.
No sign of buds.

Is there hope, roots ?

I trace big machine tyres, pass the game field and birches.
Tyre traces join the path along the fake lake.

7 – Unplanted

27 April 2016
The place for future *Baroa* to be recognised via the tree-trunk piece on the R, facing the water, next to the birch.

10 April 2017
Unplanted.

11 April 2020
Unplanted, still.

8 – Unplanted

27 April 2016
The place for future *Baroa* to be recognised between the car park and the playing field of a mystery game.
I place a visual marker in the shape of a rectangle. It is

made of two layers of trimmed tree-trunks that hold the letters E,u,r,o.

10 April 2017
Unplanted. Marker has vanished.

11 April 2020
Unplanted, still.

9 – Unplanted

27 April 2016
The place for future *Baroa* to be recognised next to the path where it curves along the water. Between the birches with the shadow-facing stone facing the red bark across.

10 April 2017
Unplanted.

11 April 2020
Unplanted, still.

10 – Unplanted

27 April 2016
The place for future *Baroa* to be recognised next to the tip of the building that points towards the fake lake. I mark it with a stone and stick.

10 April 2017
Unplanted.

11 April 2020
Unplanted, still.

11 – Grass-red reflecting parking brick

27 April 2016
Sätkömiehentie 4, L, parking lot, near the R corner of the building, on the short-kept grass patch with the neatly aligned ornamental bushes and ever so meticulously chosen birch species.

30 April 2016
Disappeared. No trace even. A clean restoration of the site, they must have thought.

12 – View of earth-heat drill

27 April 2016
Aligning the wall, near the hang-and-hit-the-carpet metal bars.

14 June 2016
All matter of the tallest *Baroa* disturbingly dry.

11 July 2017
A rootless hole in the Earth’s crust. A clean restoration, they must think.

13 – Safe behind circle

27 April 2016
Facing the fake lake, behind the R side of the circular stem-made fence.

10 August 2016
On the photo I count fourteen leaves on both stems: one hip-high and one at a quarter of the height. Five leaves appear dull, grey-green*. Five have parts missing at the outer edges. High grasses, nettles and especially *Achillea millefolium*** touch *Baroa*.

19 April 2017
I bend to a minuscule red reflecting dot. It is a bud with a tender, red-velvet appearance that rests on an ornamental outgrowth of the main stem, just above the narrow grey node.

01 Nov. 2017
One slick stem reaches above the piece of granite. Autumn leaves amongst the grasses, light-yellow to green appearing as *Achillea m.*

08 August 2019
Dear Baroa, I visited you last week.
(boat puffing passing smelling)
You are well here? I count one two three four five,
(mumbling) eleven, (mumbling) seventeen leaves on
one stem.
Here I count one two three four leaves.
Here is a shoot that I have not seen before.
One more stem with one two three four five leaves.
You grow well.

*Notes based on photo-documentation.

**Activation of memory of plant recognition during *Herbologies* (cf. *supra*).

28 March 2020

The long stem has a damaged tip, the upper part I perceive as dark brown and lifeless.

The shorter stem, just above the rock, is touched by the cool air coming from the fake lake. It shows five buds, with the one at the top unfolding.

14 – Flower bed

27 April 2016

Straight 100m, sea on the R, next road and car park. Amidst the bordering yellow flowering plants.

10 August 2016

From the photo, the main stem counts fourteen leaves. It holds five side stems, with twenty-two leaves. Nine of those show holes and circular white brown spots.

April 2017

All fine.

01 Nov. 2017

A clear diagonal cut just above the ground.

08 May 2019

No trace, *Baroa*. Have you even been here?

15 – Near the water

27 April 2016

A straight walk North to the fake lake. A few steps from the water, a triangle with Flower Bed and Safe Behind Circle. I move a granite shield over here, next to the newly planted one. I distribute familiar Earth from 1HaBP over the roots.

10 August 2016

From the photo, I see the greyish dull appearance of the stem. No leaves.

Did the roots suffer too much underway?

21 Feb. 2017

Silence under a snow cover.

01 Nov. 2017

Standing leafless.

08 May 2019

No trace.

16 – X park

27 April 2016

Facing a huge wide car park. A big hole for two wide, tallest stems that are almost full-grown. Both show a V-split halfway. One has two side stems that commence right above the ground.

18 May 2016

Bug detection whilst explant harvesting.

15 June 2016

This shiny light-green larva lifts up its brown head. Dark dots merely seem to look at me. I spray mänty-suopa. The leaf is almost entirely eaten. Sticky wires everywhere. Itch.

16 February 2017

The photo shows retreating snow and eleven big buds. Nine on one stem.

Mid-February: cold temperatures possibly challenge tissue.

29 May 2018
The photo shows how stems are reduced to a length like a two-year-old *Baroa*.
No pome. Leaf count: fifteen. Two with holes that let the Sunlight pass, making light spots on grasses and one of the eleven rocks.

15 June 2018
Leaves have grown.

23 April 2019
Again.
A reduction of length of the three main stems. Tips have an uneven surface.
Still, they all develop further on a second one. So, three v-shaped stems.
Two merely reach above the rocks. One is twice as high and counts five buds with four unfolding, showing dark red brown reflecting leaves that feel like leather.
On another stem tip, the remainder is upright. It shows a clear vertical line,
with six more narrow velvet-red looking lines that line towards the outer edges.
They are smooth and still.
More buds unfold, one near the other tip is tight.

08 May 2019
All buds have been morphing into three red-brown reflecting shiny leaves.
Now with zig-zag toothy pattern at the edges.
All grow diagonally in the afternoon Sun.
One leaf expands horizontally above one rock.

14 May 2019
Photo, bud count: one, v-stem, fifteen; two: three terminal-tip buds; three: terminal bud unfolding, one lateral bud. According to a mobile phone application*, the name of the colour of the front side of the leaf that is in the direct early evening Sunlight is: Burnt Sienna /

*Use of non-scientific mobile phone application, ColorAssist, Version 2.0.1 by FTLapps, Inc.

Deep Red with CMYK values 0 58 77 38. The area with a more intense Sun reflection reads: Sienna (Maroon) / Dark Brown, HTML: Saddle brown CMYK 0 59 85 52.

14 June 2019
Two stems, both count eleven leaves. They are light-green, partly translucent even in the late afternoon Sun. Full-grown almost one week from the summer solstice. one hosts a larva. Dark green reflecting fine, but strong grasses growing along. Protection by the ring of granite, as opposed to the outer grasses, *Achillea m.* and other herbs that are cut short.

19 October 2019
All leaves gone.
Other leaves yellow-greens, grasses and *Achillea m.*

12 March 2020
Mosses and grasses within the rock ring.
Counting one, two, three, four buds on the first v-stem, three on the second one – its tip is shortened with the outside layer split open – and one on the shortest of the third one.
In front of one rock, five olive-green oval shaped entities the size of the *Baroa* pome.

23 March 2020
I show you to another human, dedicated to time, space and matter. He points to the diagonal cut on many of your(s) stem tips, that are made by hares or rabbits, many roaming the peninsula**.

22 April 2020
Fourteen buds in total, one with an unfolding leaf.

**Desk research: Vantassel et al. (2010, p. 3) place *Baroa* in the “partial list of species most often eaten by rabbits”. The researcher’s description (2010, p. 2): “Rabbit droppings are pea-sized individual pellets” corresponds to the compressed berryapple-size grey-green poo-pieces that I encounter next to *Baroa* #16. Also, there are what Vantassel et al. describe as “gnaw marks of rabbits are irregularly placed on the trunks of trees and shrubs a few inches aboveground and occasionally on exposed roots... Rabbits will eat young bark on trunks and stems higher than 3 feet, especially in deep snow. A mark left by cottontail incisors is about 1/4 to 3/8 inches wide. Tree squirrels leave similar size marks on the upper surface of low stems of trees. Birds tend to shred plants and leave small pieces of the plants on the ground. Rabbits will nip pencil-sized stems cleanly at a 45-degree angle... The presence of rabbits does not always result in economic damage to plants. Most 2- to 3-foot high shrubs can survive having most of the 1- and 2-year-old twigs removed. However, the desirable bud, flower, or fruit development may be impaired...” (2010, p. 2.)

17 – Opposite Aalto

27 April 2016

Opposite entrance at Otakaari 1.

10 June 2016

Baroa is gone.

Pulled out of the soil.

A tiny sand-hill the leftover mark.

11 August 2020

Since the day of your disappearance, I pass by here almost every day.

The fresh layer of sand, stone and oil covers the place where you briefly lived.

Still, you are welcomed, coming into mind each time of passing.

18 – Bird swamp

27 April 2016

Three and a half steps West before the leftover birch trunk on the L, closest to the path, half a step from the pathway towards the swampy water. Opposite the path is another birch trunk.

14 June 2016

Four days further, in the bird reserve. I have to search. Three steps from that birch trunk right next to the narrow path. Mosquitos everywhere. Instant itch. Everywhere. This *Baroa* is still the tiniest one, with eight leaves distributed over the estimate height of five pomes. Dazzling health. Radiant green. I take photos. The key question is if the swampy water is going to rise to a point where *Baroa* will be submerged. And all that reed. This biotope is most challenging.

Should I replant it? No, we wait and observe. It is now 14:16hrs.

01 Nov. 2017

Tiny stems, very much alive amidst loose leaves in front of thick reed stocks.

01 June 2018

You make a gentle S-curve. I count one, two, four, five, eleven, fifteen leaves. All vibrant green, almost full grown, especially the ones at the top. The reeds obstruct the light of late morning until the first half of the afternoon Sun.

A cyclist passes by, stops and asks what I am doing. I explain, *Baroa*... etcetera.

She tells me about her knowledge of *Aronia Baroa* and points to the similarity in non-sexual reproduction of the reeds. They also have lateral growing roots just beneath the Earth's surface that grow suckers vertically, appearing above the ground near the main stem.

14 June 2019

Young nettles, dandelions and reeds around. Your two stems hold on the left: one, two, eight, eleven, fourteen leaves. Two younger ones at the bottom, red reflecting still.

On the right: one, three, seven, eleven, eighteen, twenty-four leaves. Between the reeds, herbal white flowers with four petals: four to five at the end of thin stalks that them to the stem, four to five coming from the main stem in the top section. No sign of pomes. So, I must assume there were no flowers last May.⁶⁷

23 March 2020

We cannot find you. On the path, three and a half steps to the left from the trunk and half a step forward in the direction of the marsh. On my knees, forward,

⁶⁷ See also *Re-wording*.

left, right, explaining how you look at the end of winter to another human companion that helps to find you. I say something about the high-water levels that might have harmed you after all. Here is part of the path where the grasses have disappeared. It is as if the path collapsed here, an avalanche. A mountain side that was pushed into your growth space crushing all of you?

28 March 2020

I cannot find you.

10 April 2020

I cannot find you.

22 April 2020

I cannot find you.

16 May 2020

I should see you now if you are still alive.

10 June 2020

Not.

19 – Humid parking

27 April 2016

Tekniikantie 17, another asphalted car park. It is next to an area with young birch trees and various kinds of bushes that thrive in very wet soil. Between parking space nr. 15 and 16, indicated on sign posts: two big steps from 15 and then one step forward into the grasses that line the bush area.

18 May 2016

The bigger *Baroa* looks very dry, not vibrant. The plants around grow fast.

14 June 2016

All stems have been cut by the *Green Services* control and mutilate machine. Still, a sign of life in four left-over stem parts, one eleventh of the previous size, with a little red reflecting bud. It has a gloss. On a stem that has lost half of its bark, there are two young leaves growing. The fifth stem is split in half, gravitating towards the Earth. I make a heap of dried cut grasses and encircle *Baroa*.

10 August 2016

Looking at photo documentation and surprisedly staring at four young stems that grow from the bottom part of the cut stems. In two months, the surviving *Baroa* constellation develops fifty-five leaves. Even more amazed by the seven pomes that develop. I obviously overlooked something in the previous visit. The colour application on the mobile phone gives the following names and numbers when focussing on one pome: Name of colour, Black; Deep Purple; CMYK, 35 40 0 84.

01 Nov. 2017

The land strip between the car park and the ditch has been short-cut again. Although the main stem is heavily damaged, it is still carrying eleven berryapples. I take a picture and notice the nose of a car that shows the letters T, E, S, L, A. It transports my thoughts to *Baroa b.*'s juice that transforms light into electrical energy in a solar cell architecture (cf. infra).

29 May 2018

On the photo I count roughly fifty-five leaves on various stems. It is impossible to be precise due to the presence of similarly coloured vegetation, mainly reed grass. I do not see signs of any flowering in the past weeks.

17 April 2019

Out of the tip of one stem, that is, what is left of it after the big cut, grows a new one upright with one terminal and one lateral bud. Hardly visible, underneath another stem and amidst left-over reed pieces and grasses, one grows finely above the Earth's crust. It shows one unfolding bud and reflects slick leather-like deep red, as well.

22 April 2020

Two stems on the light brown, splintered and rich in cracks and folds *initial* stem. Both have a bud. On the same stem, closer to the roots even, two lateral buds are morphing into leaves already. Looking more carefully now, two other woody stems which I thought were decimated hold four finer stems and leaves.

20 – Highway horse

27 April 2016

Behind the horse-riding building, at the edge of the highway. L from the leftover tractor tyres. Nettles grow. Five stems originate from the same root. One has half the length of the stems of a full grown *Baroa*. It shows one side-stem that departs from the middle internode. The other four are one third shorter. One has four stems that branch out. Except for the longest one, all stems have few leaves left after the transport from 1HaBP. I count one, two, three, seven, eleven. I move a heavy nearby rock and place it close to *Baroa*, North-side.

18 May 2016

Small and well, but surrounded by fast-growing plants whose names I don't know, and the abundant nettles.

10 Aug 2016

Little space amidst the other greens, similar height.

01 Nov. 2017

A cutting operation has happened. It has reduced all that grows to the size of eleven *Baroa* pomes, the height of the rock.

17 April 2019

Two young shoots at eleven pomes' distance from the main stem. One with one terminal bud, closed and one with one unfolding terminal bud and one lateral tight bud. The bottom of the main stem has a stem with an unfolding bud. Its two side-stems both have four buds, of which two on each are opening.

I carry over the last of eight rock pieces, closing the rock ring around *Baroa*.

22 April 2020

One main woody stem with in the middle a side-stem that, before its broken part, has a stem growing upwards. I count one, three, seven minuscule buds.

21 – Water tower

27 April 2016

Tekniikantie 4, on the steep slope towards the water tower on the right, between two fences. Look up straight from white striped car park space with number eighteen. Two stems, both with six leaves, a third of the height of a mature *Baroa*. I place a heavy piece of rock next to them. Low-lying grasses, some small bushes and pines nearby.

•Noted in the coming out of the eleven-minute steep slope nap:

On this steep slope nothing is stable. All sliding.
The roots root the right foot. They wrap the left ankle. The knees lock. The skin expands when the root hair strikes the bottom side of the thighs. The breath is held for a while.

Nothing is stable. All slides now, whilst the birds stop singing.

With slow deep release of belly air through the mouth, growth continues in the intestine. The gut receives the upward movement calmly. It is much more difficult to keep the breathing profound with the tiniest roots creeping up the urinary tract.

Soon, the belly button will become a flower, white.

Soon follows the *Baroan*.

07 May 2016

Dear *Baroa b.* you look so little energised.

18 May 2016

Dear *Baroa*, is it too hot here? You seem to have dried out, so dull ...

01 Nov. 2017

Baroa, where are you?

My eyes are bad when the Sunlight shrinks.

17 April 2019

Two stems, one with a side stem, five buds. Four on the other one. Two of the three top buds are unfolding. Full of winter leaves, grasses are down, hardly any green.

02 May 2019•

22 April 2020

The fence is gone, as is most of the vegetation. The pines lay on their side. Holes in the second fence. *Baroa* is heavily mutilated. I sit on the moss that softens the rock. Just sitting. I move over and sit on the grass on the other side, making sure that I do not fall off the slope now that the fence is not there.

I place my glasses on the tip of my nose and see a red dot. On one leftover fully splintered stem there is at a node a minuscule bud, soft and glossy. Soothing.

22 – Brick hut

27 April 2016

Kivimiehentie in front of the VTT building, looking East. Planted in wild land ten metres behind two red brick service ‘huts’.

03 August 2016

The *Baroa b.* shows no sign of life above the ground.

01 November 2017

No *Baroa*.

05 May 2020

Who knows?

Here, at the end of the first part of the works section – in retrospect *Aronia m* and *Baroa b.* are very present. In the next two passages, this will be much less the case. Therefore, this is a good moment to pause ... And observe from close by the notion of ‘essence’ which I have been using to refer to the *entire* knowable and unknowable *reality* of *Aronia m.* *Baroa belao-bara*. In an essay in 2019 I point to (Bartaku, p. 197) an encounter with “... words by Federico Campagna (2018) in his book *Technic and Magic* that fuse the need to be more precise regarding the use of the word “essence (2018, p. 17)”. Following Campagna (2018, p. 104), the notion of existence should be introduced:

If we consider existence and essence as the limiting concepts of pointing towards opposite directions of a continuum line, then we can understand reality as the space stretching between these two limit-concepts. [...] between ineffability and language, in itself-ness and contextual presence, solid measureless substratum and the flickering catalogue of measures and so on. [...] Reality is the space that is available to our existential experience of life in the world, oscillating between pure contemplation and pure activity, while never truly reaching either pole.

It seems that the essence that I have been using to refer to all possible and impossible realities, is now cut

*The use of a chronological mostly linear order from the old to recent is purely practical: it helps me and perhaps you, reader, as well, to convey a selection of sample moments of an elaborate process as close as possible to the experience. This time with *Baroa* rather absent as main addressee. This choice has nothing to do with the chronological presentation of the Turner works in The National Gallery as I saw it on 19 February 2017. See also the official website, viewed 11 May 2020, <<https://www.nationalgallery.org.uk/about-us/history/the-turner-bequest>>.

into two pieces: leaving us with a reality realm that – at least language-wise – seems to be an *Ingoldian in-between* space.

Now we move onwards to more *Baroa b.*-instigated tangents of reality that are mostly narrated from a human perspective, to the human reader.

2.4 Aronia Art Master Morphing

Dear reader,

The ‘new Aronia’ research in *Passage 2* touches upon the line of work that is the focus in this section. *Aronia Art Master Morphing* investigates how *Baroa belao-bara* and new *Aronia* can be assisted in morphing a painting by what is humanly considered to be an iconic art master. Whilst your eyes take in these words, your thoughts correctly assume that this idea merely comes to me during one of the wanderings amidst *Baroa b.* at 1HaBP.

The importance of the evolving of the research process is strengthened by describing occurrences that take place between the days of ripening fruit in 2015 and the flowering days in 2020. This period is the time frame for this *Passage* that is written in 2020•.

2.4.1 Process Paintings

11 September 2015 – In the before-mentioned research plan (2015, p. 14), I write that “...the colourants of *Baroa* and ‘new Aronia’ are aligned with the pigments’ colour palette that J.M.W. Turner uses, originally in the painting *Slavers Throwing Overboard the Dead and Dying—Typhoon Coming On* (exhibited 1842). Selected plant-dyes are painted onto glass solar cell pieces that – besides approximating the

colour and form of *Slavers...*, – also function as the main agency that converts light into electric energy. Once the individual glass pieces are joined, they form a biosolar-panel-painting not only based upon the Turner painting, but making it visible as well: the berryapple-solar cells power a light source directed at *Slavers...*, which is hung in a dark room. Its pigments and oils reflect back into the eyes and mind of the viewer with varying intensities for as long as the *Baroa* colourants continue the light-electric transformation process. At the end of this process, the original painting returns to the realm of the invisible, making space for other senses in the darkness.

Through this connection, new *Aronia* and Turner produce energised image matter that highlights their strong bond with light. At the same time, the meaning of aesthetic energy as well as the sense of conservation and authorship is being questioned.

March 2019 – Three years on, the description of the (slightly changed) work with the goal to inform possible funding entities reads like this (Aamo 2018, pp. 1-2):

Blck Vlt is an artscience project in which the artist Bartaku and a group of natural scientists create a biosolar panel based on natural dyes, which mimics the painting *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich* (Exh. 1842) by J.M. William Turner. The natural colourants absorb sunlight that is transformed into electrical energy, used to highlight the original painting in the presence of the public. The biosolar painting is the point of departure for an experimental artscience process that generates various artistic, scientific and hybrid artscience works. These make tangible

the societal and ethical implications of involving biological entities in art and technology. Also, relating other life forms with a human art master enables us to express the common vital basis we share in molecular, physical and aesthetic energy. *Blck Vlt* challenges the borders between humanities (art) and sciences with a radical transdisciplinary and inter-species approach. Through this process we ultimately want to provoke new views on the interacting web of life and to reveal yet-to-emerge questions.

The stretch of time between the two paragraphs above consists of various encounters with *Baroa*-attracted beings, matter, ways of doings and processes. Jointly they swirl into various research paths and – expressions in the fields of photo– and microbiology, solar physics, electrical engineering and art. The evolving constellation is described below in the form of a personal historic account.

I try to avoid confusion between two expressions: Aamo refers to the work group and the process. *Blck Vlt* then refers to the envisioned installation work that features the *Baroa*-based solar panel painting that departs from – and transforms – the painting *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*.

2.4.2 J.M.W. Turner Painting

The first two questions to address are straightforward: why is J.M.W. Turner chosen as the human art master and why is his *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the*

Night the Ariel left Harwich (Exh. 1842) the ultimate preferred painting to relate to *Baroa*?

11 September 2013 – Hereby some kind of logic. Turner appears in my mind at the plantation when thinking back of *Baroa* and J.M.W. Turner in the *tPED Lab Series: Temporary PhotoElectric Digestopians Worklab #13 – The ‘To J.M.W. Turner: “The Sun is not God”’ Session*, inspired by J.M.W. Turner’s supposed last words that The Sun is God⁶⁸.

May 2014 – Another way of tying Turner and *Baroa* I propose to an art and technology festival in Austria. Being exposed to Sunlight, the *Baroa* dyes in a glass solar panel that mimics a Turner painting convert the light into electrical energy. It is then used to cause a power cut to the main building of the festival. This, for as long as the *Baroa* colourants generate electricity. The proposal is not accepted.

To JMW Turner

If the Sun is Limited,
if God is unLimited,
then, the Sun is not God.

If God is not turning Tiny,
if the Sun is turning Tiny,
then, God is not the Sun.

Bartaku⁶⁹



⁶⁸ Ruskin, J 2010, ‘Index’, in Cook ET & Wedderburn A (eds), *The Works of John Ruskin*, Cambridge Library Collection – Works of John Ruskin, Cambridge University Press, Cambridge, p. 581, 582.

⁶⁹ Bartaku 2010, *Vienna 2010-2012*, notebook.

Description: First of set of protocol cards for *tPED Lab #13*: “JMW Turner: The Sun is not God” session, June 1, 2013, Van der Aa Kerk, Groningen (Hol). Photo: Bartaku

•The number of books, studies and the 2014 movie *Mr. Turner* on Turner and his paintings point at the ongoing interest in – and status of – his work in the Western cultural realm. I limit myself to the matter of colour, light and energy and exclude art historical and biographical musings and narratives. It is here and now – after a wagtail shows itself hovering in front of the window catching nearby flies that mistakenly consider the glass to be water – that I read that the long title of the painting is even longer. And the author of the book proposes this explanation for all those words accompanying the rather abstract painting: “By giving such a long title Turner seems to have intended that his accusers could not lay the charge of fantasy upon him, the ‘author’ insisting that the picture was based on his direct experience. Yet diligent research has failed to produce any corroborating evidence for Turner’s story ...” (Smiles 2006, p. 166). I replace now in this document all the shortened versions of the title that I used in the previous versions with the full title.

19 February 2017 – As for the choice of the painting, *Slavers Throwing Overboard the Dead and Dying—Typhoon Coming On* is replaced by *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. This happens the moment my eyes sense the latter’s oil-coated pigments that reflect part of the electric light spectrum in a room of the Tate Britain art gallery in London. Looking at the painting’s colours and imagining *Baroa*’s palette, in an instance it is clear that this is the art master work to which *Baroa* should relate.

Going through scholarly writings on Turner’s approach to the matter of colour in the Tate library, I write down some ponderings.⁷⁰ “Did he want his work to be conserved, restored•...? He must have been aware of the morphing properties of the matter he uses in his paintings. Did he want the Sunrays to change the pigments, lacquers, oils and frames over time? Under which light conditions did he paint *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*? Turner died before the wide introduction of gas as a light source. Was he depending on daylight or beeswax candles if he wanted to paint at dusk or on rainy days?” The coal-based gas lights impacted upon the paintings: “John Ruskin, who had undertaken the enormous task of cataloguing almost 20,000 of Turner’s sketches and drawings for the National Gallery, had strong reservations about the advisability of gas lighting, and in 1859 he wrote to The Times, ‘I take no share in the responsibility of lighting the pictures of Reynolds or Turner with gas [...] on the contrary, my experience would lead me to apprehend serious injury to those pictures from such

⁷⁰ Bartaku 2017, Notebook.

a measure; and it is with profound regret that I have heard of its adoption’. And Ralph Vornum, the National Gallery Keeper at the time, noted in his diary, ‘I suspect he is right: it dries the air too much’. Two years earlier, in 1857, Ruskin had proposed that Turner’s drawings be stored in cases for their protection against dust and light, and exposed only infrequently to the light” (Dorey 2019, p. 174).

Throughout our work process, often we ponder about his wishes on the hanging of the painting; the properties of the space (dimensions, wall and floor material and colour, scent, air flow); the viewing time; the hanging height; the other paintings nearby, or sculptures, or no-thing; how many gazes of what ages would watch simultaneously at what distance from the work and between the viewers; standing still, or moving along the lines (the energy comes in from the top left and sucks one in downward and upward, spiralling)? The most important question I assume regards the type of light that Turner imagined: which season; solstice or equinox; full noon daylight or rather the softness of the golden or blue moment; snowstorm light; with candle light; constant light or changing; full absence of light, striking more subtle sensing and awe? And finally also these matters: viewing only after a particular kind of meal; psychotropic influence; (self-) hypnosis?

In our times, most of these questions are answered in the form of the experiential conditions that are created by professionals and technology, operating invisibly.

If *Black Vlvut* would be about honouring Turner and this work, we would use *Baroa*-powered light to make that title disappear next to the original work, or shine a blinding beam into the viewer’s eye so to render the title invisible. Only a painting to be seen, layers that reflect light on a canvas of 914 × 1219mm held by a wooden frame with the size 1233 × 1535 × 145mm (Tate 2020).

I send a text message now “Is the grey daylight there as well of a most intense grey soft?” Bartaku 2020, personal communication, 28 May.

Light, colour, perception protocol

"Schaarbeek, 11 September 2016

Dear Michael,

Whilst sitting on a bench, observing how high heels make the Sun go down faster, these following ephemeral Sun eyelid hands works re-appear. They can be seen projected against the back of the eyeballs. They go as follows:

(You are hereby kindly invited to join in)

Take a comfortable position with the eyes facing the Sun;
Lift up your hands and bring them as close as possible to your eyes without touching them; Centre the fingers in front of the eyeballs: left fingers for the left eye, right fingers for the right eye;

Movement 1: Stretch the fingers and create as much space between them as possible;
Start moving the hands in opposite directions (e.g. one to the left, the other to the right);
With steady but relaxed arms, wave the hands from one side to the other with wrist power;
Start by firmly closing the eyelids;
Now, very slowly bit by bit reduce the pressing;
Observe the visuals at the back of the eyeballs – continue at your own pace to the point where the eyelids are just... closed, so that one photon only can reach the eye nerves.

Movement 2: Finger space: repeat the exercise, but vary the space between the fingers: from closing some,

many, on one hand, or both. Explore.
(Note: eyelid movement is as in 1).

Movement 3. Hand-wrist variations: play with the speed of the wrists, for both hands faster, slower, and variation in both. Be mindful of the elbow, it should always support relaxedly.

Movement 4: Eyelid variation: change the speed of the variation of the eyelid pressing.
(Note: make sure to exercise enough pressure when the eyelids are to be closed).

Movement 5: Eyeball movement: move the eyeballs in any direction at varying speeds.

Movement 6 : Combine all previous movements at wish.

Warm regards,

Bart"⁷¹

2.4.3 Science and Technology

To enable *Baroa b.* to comment upon a Turner painting as envisioned, there are two main technical challenges. Firstly, establish a humanly perceivable *Baroa b.* colour palette that is based upon the one that Turner uses in the making of *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. Secondly, the making of a functioning dye-sensitised painted solar panel with *Baroa* colourants as the light-to-electric energy converting agency, one that generates suffi-

⁷¹ Bartaku 2011, *Letter to Michael*, notebook.

cient electricity for a while to power a light source that is directed at the painting.

October 2016; April, May 2017 – I ‘teach’ a course that I name respectively *Leaky-Loop Sys I* and *Bioenhanced Less Leaky-Loop Sys II*.⁷² At Biofilia, I share with the students my experience with digestible solar cells tested on Sun-exposed tongues. For guest lectures I invite among others microbiologist Prof. Merja Penttilä, solar physicist Janne Halme and Paulo Pinho, specialised in the relation of plant nutrients and artifi-



Description: Bacteria collected by students of the *Leaky-Loop Sys II* course in their familiar surroundings, their bodies included. Microbes are grown in Petri dishes with agar agar-based growth media, Aalto ARTS, 28 September 2016. Photo: Bartaku

⁷² As part of Prof. Pia Lindman’s Aalto ARTS course module “Living-and Non-living A Sliding Matter”.

cial light. Janne H. and Paulo P. invite Bartaku to give a guest lecture on their courses at the Schools of Physics and Electrical Engineering. Gradually, an informal working group emerges around the *Baroa*-Turner entangling, with at its core these three scientists and Bartaku.

“When it works, it is scientific.
When it does not, it is artistic.”
Course participant⁷³

12 December 2016 – Under the name *Aamo* (*Aronia Art Master Morphing*•) a first meeting takes place. We decide to “quick-start the process by using ready at hand ~~Aronia~~ *Baroa* compounds for solar cells with testing in the physics Lab. Experiments on modifying the colour of future ~~Aronia~~ *Baroa* through exposure of leaves and seeds under artificial light are continued.”⁷⁴

2.4.4 Colour, Light, Electricity

In a basic, experiential way that is limited to the *Aamo* context, I briefly explain the link between plant dyes, light and electrical energy.

Dear *Baroa*,
I do not manage to properly express my thoughts to humans, so I use you to trick my mind by directing it to you. Then again, it still is about you and how you relate to light and energy and matter, life. These are the first words I breathe-word over a particular tiny you. Four leaves you have by now – I don’t count the two that grow directly from the seed. Full of surprise you appear from a left-over seed in a most dry, disregarded minimalistic, almost symbolic, amount of soil. In the first

⁷³ Quote from Bartaku’s *Leaky-Loop Sys Course I*, Aalto ARTS, 18 October 2016.

⁷⁴ *Aamo*, meeting notes, 12 December 2016.

[•]The abbreviation is not changed to *Bamo*, *Baroa Art Master Morphing* since new *Aronia* is imagined as the main future agency.

*To give a sense of the complexity of colour in plants in the realm of science, this is how a biochemistry paper on natural pigments by Delgado-Vargas, Jimenez and Paredes-Lopez (2000, p. 244) describes the anthocyanin degradation: “The color of anthocyanins is provided by its resonating structure, but resonance phenomena also confer their intrinsic instability. Moreover, it has been established that instability has a direct relation with the number of hydroxyl groups and indirect with the number of methoxyl groups. In addition, the glycosylation level showed a clear effect on stability, diglucosides are more stable than monoglucosides, but browning is more favorable in diglucosides by the presence of the additional sugar molecule. Also, it has been showed that hydroxylation at position 4 changes the colors toward red tones”.

weeks, you receive direct Sunlight. Then, spinning towards the moment when there is hardly any darkness to be seen, the leaves of the nearby trees grow from hardly visible to full-grown. As a consequence, the afternoon rays that reach you directly are limited. This is especially noticeable when there are clouds. As you have sensed, I move you a couple of times between this place and the one facing South. It is not clear to me which one you prefer. Surely, I will not carry you daily from South to North and back. It is worrisome to see how slowly your leaves grow compared to those of your fellow *Baroas* outside, even though they have been so mutilated. Once again, no flowers, no fruits, no seeds. Perhaps their roots will ascertain *Baroa* copies. Do you pick up a gaseous signal from them?

Under the indirect – tree foliage filtered – light conditions this tiny *Baroa* will not produce much of molecular UV-protection in its body. We perceive the indication of anthocyanin’s presence visually most clearly in fruits and autumn leaves, by the amount of red hues. The leaves also reveal the so-called carotenoids, that express other relations with light and are perceived as yellow and orange hues before the leaves turn brown, black. These colours are perceivable with the decomposition of the chlorophyll compound that absorbs part of the light spectrum – except the bounced-back green – that it converts into biochemical plant energy.

Dye-sensitised solar cell

So, only when the mighty green chlorophyll that converts solar energy into plant energy dissipates, do the plant’s substances become visible that matter in the tying of *Baroa* and *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water*,

and *Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. It is these colourants that transform light into electrical energy in the design of a natural dye-sensitised solar cell. When photons strike the dye atoms, they start the process of moving electrons (current) under a ‘pressure’ (voltage) with some resistance, sparking an electric light source, and flowing back to the solar cell; in other words, an electrical circuit is up and running. This lasts for as long as there is sufficient light and the cell’s ingredients remain ‘active’.

This technology is used especially in the field of science education and citizen science. It propels Bartaku on a pathway that leads to the *temporary Photoelectric Digestopians Labs*, featuring digestible solar cells. They are an artistic tool to comment on the relation between humankind and energy. The same technology is at work to honour the relation of the *Agave* plant with Sunlight in the work *Nube de Oro* (cf. supra).

Colour palettes

Now, back to *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water*, and *Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. In the attempt to relate its colours closely with the *Baroa* palette, the nDSSC design imposes constraints. Most importantly, the dye layer on the glass of the cells needs to be very thin and even, so we lose the depth – the varying paint thickness – of the painting. *Blck Vlt* will be a flat bio-solar-painted panel.

We collect pomes and leaves from plants in private gardens and public space. Based upon their visual appearance – large fruit and matte skin – these plants are botanically named *Aronia* (*Sorbaronia*) *mitschuri-*

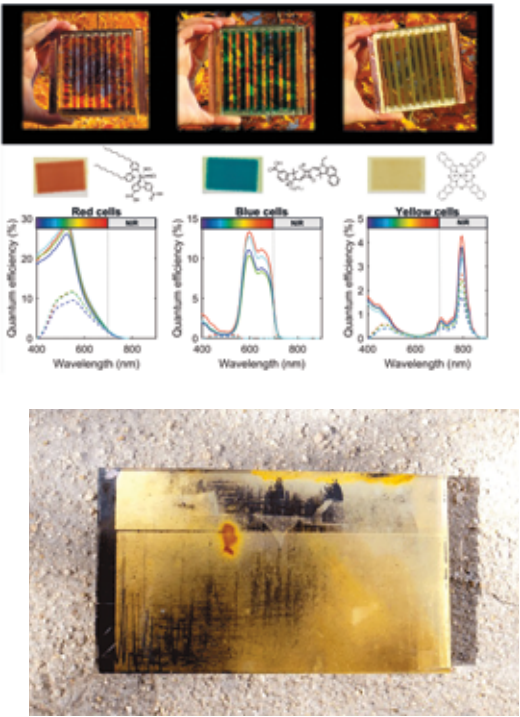
**See e.g. Etula (2012) for a detailed description of the functioning of natural dye-sensitised solar cells “...using three Finnish berries” as sensitisers.

inii, possibly the ‘Viking’ or ‘Nero’ cultivar, made in Sweden.⁷⁵ In any case, they are not living in well-controlled favourable biotopes, as in modern plantations. This biotope might mean that the plants metabolise a higher volume of colourants suitable for the nDSSC.

17 November 2017 – Janne H. and Bartaku present the Aamo workings for the first time in public during the *Encounters across Arts and Science* event in the centre of Helsinki. Janne H. situates the dye-sensitised solar cell research and its principles after which Bartaku introduces the attempt to assist *Baroa* in morphing



Nube de Oro glass nDSSC by Christian Thornton, (70x40x10mm), FoAM Brussels, 16 September 2012. Photo: Bartaku



Description: nDSSC colors and -efficiencies, Aalto PHYS, n.d. Photo: Janne Halme
Nube de Oro glass nDSSC by Christian Thornton, (40x20x5mm), Xaquixe, Oaxaca, 12 September 2013. Photos: Janne Halme (2); Bartaku

⁷⁵ See e.g. Taheri, Connolly and Brand (2013).

the human art work, *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842).*

02 March 2018 – 14 June 2019 – solar cells with dyes from berryapple sap and leaf

Pyry Mäkinen assists Janne H. in investigating how to make the most colour-diverse *Baroa* and *Sorbaronia* dyes. And how they can function in the design of both individual nDSS cells as well as being interconnected into a solar panel. He departs from the traditional protocol for nDSSC (cf. supra). He compiles the experimentations and results in his *Special Assignment Report*. It is updated in the form of a protocol in April 2020.⁷⁶

In the 2019 report abstract he explains how (Mäkinen) For this purpose, we produced two different coloured dyes: one based on *Aronia mitschurinii* berries and one on its leaves. For these, dyes, cell colour, efficiency and other electrical parameters (voltage, current density and EQE) were measured. In addition, the effect of pH on the colour of the cell and efficiency were studied.

As for the **applying** of dyes to glass and their **colour** properties:
In order to reproduce the painting, one cell must contain several differently coloured areas and different patterns. For this purpose, the painting of the cells with watercolour brush is recommended. It is an easy and simple way to produce the required patterns. Cells containing only one dye and the cells containing both dyes (berryapple and leaf dye)

⁷⁶ Mäkinen (2020).

•In-depth research on Turner’s use of colour is found in the research of Joyce Townsend (1993). Here, she discusses Turner’s ‘Chelsea Palette’ (1993, p. 231): “Turner was using, or at least experimenting with, practically all the pigments known to be available.” She suggests that (p. 249) “The Chelsea palette would seem to have been used at the end of Turner’s life, as its history suggests, since it includes zinc white mixed with lead white, and a scarlet lead chromate, not seen in other works and only available in the 1840s,” and describes in-depth the matter that is used:

The Chelsea palette is very colourful and includes a wide selection of pigments. Its dominant surface colours of pink/brown and green look suspiciously unlike Turner’s selection of materials at the end of his life or indeed at any other time, but some analytical results match those from paintings. The palette includes emerald green mixed with viridian, as well as viridian alone, barium sulphate in association with lead white, and small amounts of madder on an aluminum- based substrate, mixed into several samples. (1993, p. 241)

and mixed dye were tested. Mixing of the dyes is needed because to reproduce the painting, one cell should contain different coloured areas (two different dyes) or colours that are mixture of two dyes (mixed leaf-berry dye). (Mäkinen 2019, pp. 1, 2, 24)

This is a good moment and place to mention that we divide the painting into sections that correspond to the size of a single glass cell. Each one we try to paint with *Baroa-based* dyes such that it approximates the particular section of the Turner painting (cf. infra), as said above, within technical constraints so that neither the paint layer thickness nor the craquelure• have to be disregarded. Then again, the ink-print-on-canvas reproduction that we order from the Tate web shop is conveniently flat (cf. infra).

Pyry M. continues (2019, p. 24, 25):

In order to achieve a **high accuracy and dark colours** with the least required amount of dye solutions, it should be very dark. This can be achieved by using a high concentration of berry slurry compared to the solvents (water and ethanol, possibly concentration for example 1:1:1) and for the leaf dye using more leaves compared to the solvents and soaking them longer in the solvent and possibly in a higher temperature. Darker leaf dyes could be expected by preparing leaf dyes using more than 1.0 g dried leaves per 10 ml solvent and soaking leaves longer than two hours, as it was in this experiment. Because the leaf dye prepared from leaf slurry seems to lead to a darker and more reddish cell colour and possibly to a higher cell efficiency, leaf slurry-based dye could possibly be used for both leaf dye types. In the case of **one-colour dark cells**, soaking of the cells can be considered, because it seems to be possible to produce darker cells this way than by painting. In order to

Prepared cells

Soaked cells



Pictures of the cells soaked with the dye for 24 h.

Uppermost row: Dyed with aronia leaf dye

Middle row: Dyed with aronia berry dye

Bottom row: Dyed with leaf-berry dye mix

Painted cells



Uppermost row: Painted with aronia leaf dye

Middle row: Painted with berry dye

Bottom row: Half of the cell painted with leaf dye and other half with berry dye.

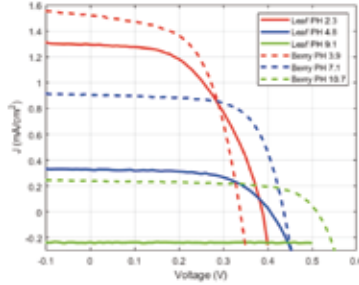


Used leaf dye (left) and berry dye. PH of the dyes were adjusted to 3.0 using 1.0 M HCl solution in water.

Leaf dye was prepared by soaking 9 g of dried aronia leaves in solution of 30 ml ethanol and 60 ml water in temperature of 50 °C.

Berry dye was prepared by mixing 30 ml of aronia berry pure for 60 ml of ethanol and 90 ml of water. Both dyes were centrifuged and the supernatants were collected

Effect of PH for color and cell efficiency



Stains of dried dye. On top berry dye with PH (left to right) 1.9, 3.9, 7.1 and 10.7. On bottom leaf dye stains with PH 2.3, 4.8 and 9.1

Prepared cells of berry dye on top with PH (left to right) 3.9, 7.1 and 10.7. On bottom leaf dye cells with PH 2.3, 4.8 and 9.1

Aronia berry dyes (2:1:1, berry pure, ethanol, water) with various PH. PH left to right 1.9, 3.9, 7.1 and 10.7.

Aronia leaf dyes (1:1:1 leaf pure, ethanol, water) with various PH. PH left to right 2.3, 4.8 and 9.1.

IV curves of two dyes (aronia leaf (solid lines) and berry (dashed lines)), with various PH. Efficiencies of these dye PH variations are:

Leaf		Berry	
PH	Efficiency (%)	PH	Efficiency (%)
2.3	0.26	3.9	0.30
4.8	0.081	7.1	0.26
9.1	0.00	10.7	0.079

Description: Different ways of applying dye on nDSS-Cell; Role of pH, Aalto PHYS, 02 March 2018 - 14 June 2019. Tables, graphs: Pyry Mäkinen

produce a greater scale of colours different pH berry dyes should be used. Because even in one cell different colours are needed, use of the different pH dyes in one cell should be tested, (Mäkinen 2019, p. 24) how dye pH differences affect the cell performance and does the colours mix or change due to the pH stabilization over the cell.

In the 2020 final report (Mäkinen 2020), he specifies: During painting, the electrode was on a hotplate at around 120 C (100 to 120 C, over boiling point of water). At a higher temperature dye dries faster, thus making painting easier and allow faster painting. I noticed that the quality of painting was higher (more even) when the amount of the dye in the brush was so low that no droplets or not (much) unattached dyes were left on the electrode after each stroke.

As for solar cell **efficiency**, in the abstract Pyry (2020) mentions that:

... the cells that were dyed with berryapple dye and mixed-dye were both around 0.5%, with the leaf dye around 0.2% and the cells containing areas coloured for each dye. Efficiencies were between those of the berry and the leaf dye cells. The open circuit voltage of all cells was around 0.4V (depending on the dye pH), thus differences in efficiency were mainly caused by the current density of the cells. Electrical parameters between the soaked and the painted cells were quite similar.

Crucial results for our endeavours are (Mäkinen 2019, p. 23):

The leaf and the berryapple dye worked well in the same cell. The efficiency of the mixed dye cells was equal to the berryapple dye cells, at least when the berry dye concentration was high enough. Cells

have quite low efficiency... however compared to other nDSSCs the berry and the mixed dye cells have a quite high efficiency and current density.

This boils beautifully down to the fact that the colour palette can be broadened without impacting on the capacity to transform light into electricity. The efficiency is important only to the extent that there should be the minimum amount of electricity required to power an energy efficient 'neutral white' light source.

Janne H. mails (2019, 28 February) that:

... Pyry M.'s calculation about the estimated power output of the prototype at full sunlight, based on the *Aronia* dyes that we have tested so far: 'One average size cell (dimensions 33.3x33.3 mm = 11.09 cm², active area 23x27.3 mm = 6.28 cm²) would produce power around 1.5 mW under one Sun, when using pH 3 berry dye. Leaf dyed cell would produce around 0.4 mW power and higher pH berry dyes around 0.6 mW per one cell. The prototype (30x40 cm⁷⁷, cells placed as planned earlier) would contain about 90 cells. Using only cells dyed by the pH3 berry dye, the prototype would produce around 140 mW under the sun and using only the leaf dye around 35 mW. Considering use of all dyes and possible non or lightly dyed areas I think that the prototype could produce around 50mW power (before significant degeneration of the cells).

Regarding the **lifetime** and visual '**decay**':

... a significant disadvantage of the cells is their short lifetime. When stored at room temperature in the dark for two to three weeks the cell efficiency and the current density decreased between 50 to

⁷⁷ Janne H. refers here to the print-on-canvas reproduction of *Snow Storm-Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*.

•Literature research: for those readers who are Turner connoisseurs, surely it is of mere coincidence to read about “Turner’s desire to experiment with materials and fugitive colour, and his passion to achieve an affect rather than care for the finished work did not help their preservation.”

75% from the initial values, while the cell voltage increased a bit. Ageing under illumination (e.g. under one sun) was not tested, but it would presumably be much faster, because several cell degeneration mechanisms are photochemical. In addition, a high number of cells leaking electrolyte is problematic and should be taken into account. Cells containing dyes with a different pH should be tested. (Mäkinen 2019, p. 23)

The minimum operating time of the solar panel in *Blck Vlt* is 11 minutes. Looking at the work with some distance, there is beauty and meaningfulness in the increased discrepancy between the time that it takes from the initial ‘mere happening’ at the plantation and the operation time of *Blck Vlt*. We have different views on this matter within Aamo. It will be interesting to observe how, and at what pace, the colours of the painted biosolar panel will evolve. At this stage, there is no interest in applying preservation techniques. We document the morphing•.

Solar painting workshop

Dears,

This Friday, Jan. 25th, with the Moon at 77% and the Sun visible for 7h23min, we joyfully develop an AroniaBabe Palette, based upon the Turner Snow Storm (Steam Boat....)...

11:30 we meet at Väre in the lobby to proceed to Fazer ravintola for lunch.
12:02: to Biofilia Lab
12:10 > 15hrs painting

Dress Color code: Please Dress in some clothing colored in a one of colors present in the painting <https://www.tate.org.uk/art/artworks/turner-snow-storm-steam-boat-off-a-harbours-mouth-n00530>
At the moment not yet clear if there will be videorecording, but this is in progress.

@James: I would be great if you can join in for lunch. Thanks again for arranging!

Actually, we can now do a systematic study, during this Spring, by building on Pyry's previous results and our gained confidence in the painting process:

Plan

- 1. We would make solar cells in the final size used for the installation, using the existing aronia berry and leaf dyes.
- 2a. Part of the cells would be hand-painted in a systematic way to include color hue and darkness variation.
- 2b. Part of the cells would be hand-painted to match selected parts of the Turner painting.
- 3. After assembly, the cells would be stored at ambient conditions in the dark.
- 4. Photography would be taken through painting, cell assembly, and storage as listed above.
- 5. At some time intervals during aging at storage conditions, the photovoltaic performance degradation of the cells would be documented by current-voltage, quantum efficiency and transmittance measurements. The suitable interval would be a few days in the beginning and one week thereafter.
- 6. Those cells that are still working reasonably well after one month, could be put to illuminated conditions corresponding to the situation at the final installation, where they should work, and we would document their stability at those conditions.

The results would be published as a scientific paper, where new information on the paintability, performance and stability of natural dye solar cell would be reported. It would be (most likely) the first scientific publication from our collaboration.

Description: Aamo-mails regarding the preparing of the painting workshop.
Sketches: Bartaku

Bartaku explains the Aamo research in a short video clip and forgets to mention that the missing colours in the palette are sought for in the microbiome of *Baroa b.*:

"so, we will have

// cam
a kind of biosolar painting
// end

we will have a solar panel functioning not for very long

// cam
but I think that is the beauty of it, as well.

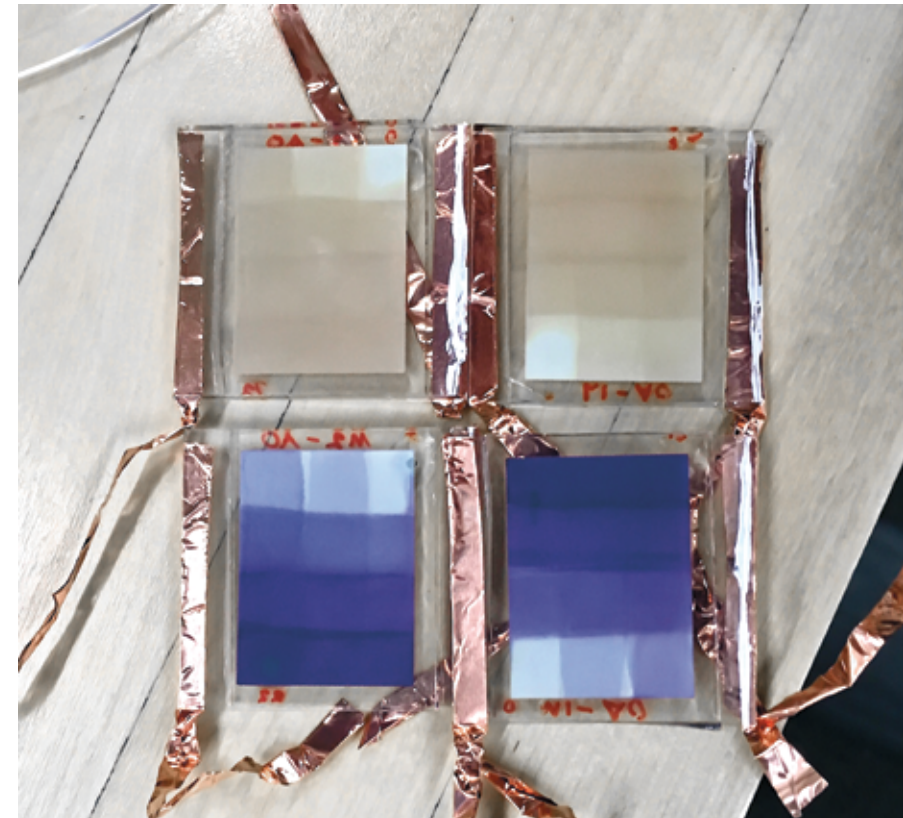
so, it will be a very fragile, inefficient solar panel.
// end

we start from the juice of the berry
we can create already quite a broad palette according to the moments when you harvest and extract the juice and then you can start creating different types of blue and reds according to the pH, the acidity creates different colours.

// cam
secondly, we found out
the scientists, the physicists with whom I collaborate
they found out that the leaves,
the juice that you extract from the leaves, the
pigments therein can also convert light into electrical
energy
so, they also became kind of functional
// end

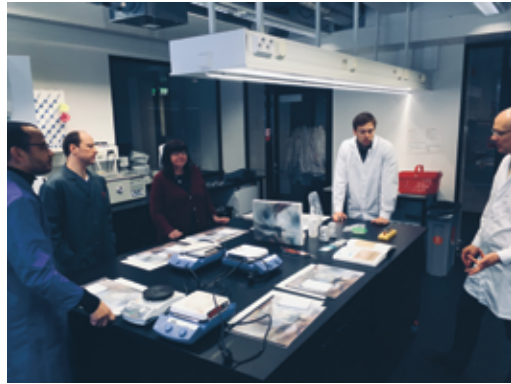
due to the wide range of colour that the leaves of this
plant produce suddenly our palette became much
wider
so, we can get a bit more close

// cam
to the original palette that William Turner used.
// end
"78



Description: Two leaf- (top) and two
berryapple-dyed *nDSSC*, Aalto PHYS,
Aalto PHYS, 14 June 2019.
Photo: Pyry Mäkinen

⁷⁸ See: Aalto University (2019)



Details of Aamo's solar painting workshop, Biofilia, 25 May 2019. Photos: Bartaku (1); Nina Pulkkis (2); Janne Halme (3)

11 April 2018 – 26 May 2018 - *Troping Turner. Towards Prpl. Vlt.*

An invitation arrives to participate in a group exhibition on campus. The focus is on sustainable design, but still, we decide to make use of the momentum to try out an idea for the frame of the solar panel. I quote here from my notebook (2018):

Discussing experimentation set up for exploring relation between light and pigment production in fungi. Idea is to test the idea of using a living fungus as the frame for *Blck Vlt*, the *Baroa*-dye-painted solar panel.

Conclusion

- Start spontaneous experimentation with the means that are ready at hand: a room, LED panels, glass Petri dish; fungi ((*Fusarium orange* or violet; red Bikaverin pigment? antibiotic properties) and *Bartalinia robillardoides*)) in a test cabinet;
- Explore possibility of growing fungi as possible living frame around solar panel;
- Explore if LCD screen can be used to grow fungi on an image-light based pattern. Is there a preference for light; How does light affect the cell; do genes express differently with light?
- Start to experiment: help from Paulo P.

The frame is to be placed around a collection of 'dead' nDSSC solar cells from Bartaku's archive. They are stacked on top of a transparency that carries the digital image of the UV version of *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. The sheet is placed on top of an LED panel. This assemblage is placed in a rectangular glass-metal

display filled with local earth. It takes in soft warm light from a halogen spot. At the entrance of the darkened rectangular black box in which the display stands at the back, a video display stands on the floor. It shows a still image containing a fox-head pressing

down the wild grass, and a piece of bright blue matter. The photo was taken at 1HaBP during the *Pixel-stick workshop* (cf. supra).

For now, we forget that it is an option to use a living fungus as a frame around the cells of the *Baroa* solar panel.



Description: *Troping Turner. Towards Prpl. Vlt. Installation. Overview with monitor (1); Details of archive solar cells (140x140x70mm) on top of the U.V. image (transparency print) of Snow Storm–Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842), back lit with LED panel; fungal frame, Aalto University, 11 June 2018. Photos: Bartaku*

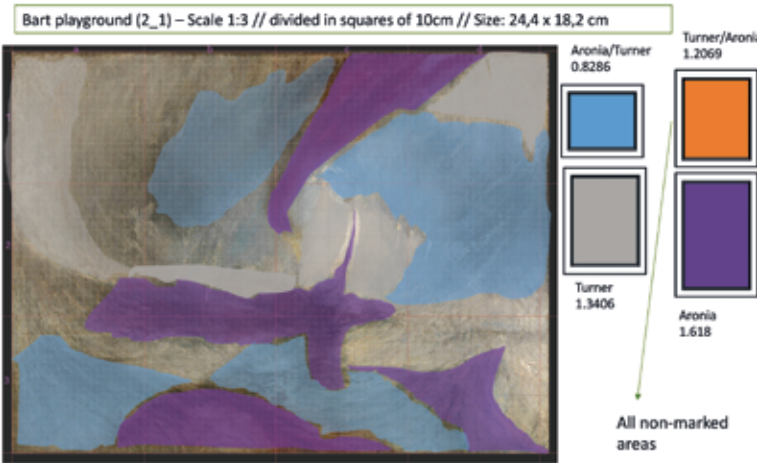


02 June 2018 – As mentioned above, we segment the painting so that each part corresponds with one solar cell. We try to visualise the energetic vortices in the work.

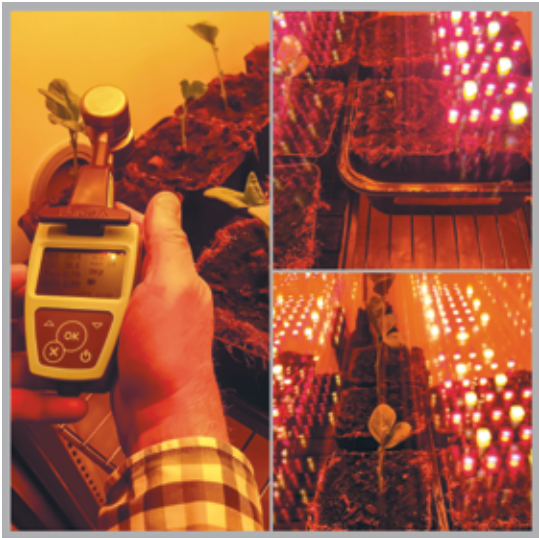
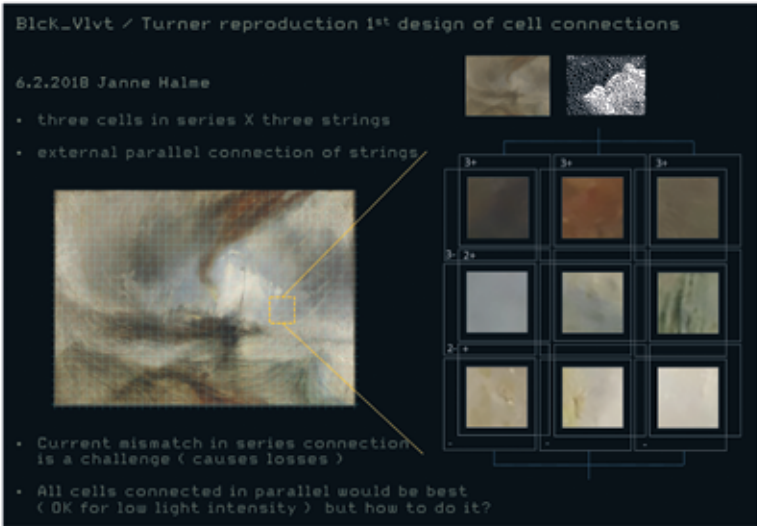
Because of the use of soil from just outside of the exhibition venue, people that work in the building express their concern on the risk of unwanted micro-organisms in the space. The curator takes care of the 'matter' and the work is not removed.

Missing colours

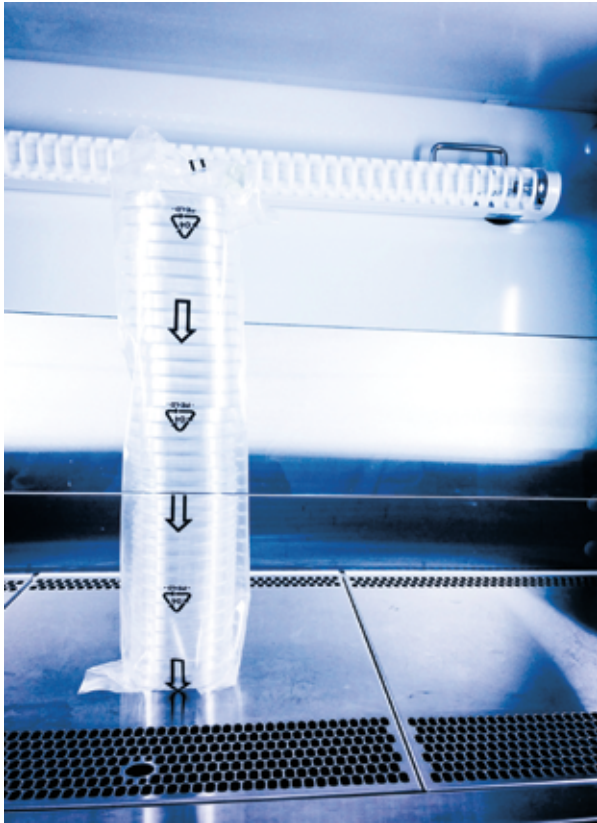
4-7 June 2018 – In the process of establishing the *Baroa* palette, it becomes clear that it needs to expand. Our attempts to increase the concentration using artificial growth light have failed, as mentioned earlier: plantlets grown in vitro and ready to undergo a photo-regime disappear.



Description:
Segmenting of *Snow Storm–Steam–Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*; Visualising energy, *Baroa*-based dimensioning of cells, Aalto PHYS, 6 February 2018.
Sketches: Janne Halme; Bartaku



Description: Photomorphing experiments, Helsinki University, 26 March 2018; Merry Crispr workshop at Biofilia, 14 December 2017 (2).
Photos: Bartaku



The *Baroa* seeds remain indifferently dormant under the red and white LEDs. We need to rethink the matter of *Baroa* colour. We discuss various options, like the pigments that Turner uses for the hues that we miss, like white. They would not deliver electricity but would still be of interest due to the connection to Turner. Missing colours (hence not white) could be found from other natural dye sources (fruits, etc.) and among synthetic dyes. For example, orange, blue and green



Description: Photomorphing
experiments, Helsinki,
16 February 2018.
Photo: Bartaku



exist as commercially available synthetic dyes, Merja P. says. "What about modifying the colour properties in the genome via gene editing?" The change of colour of a flower is possible by targeting one single gene that encodes on the anthocyanin biosynthesis enzyme that is 'responsible' for the colour of the plant's stems, leaves and flowers.⁷⁹

I emphasise the importance of still focusing on *Baroa b.* and looking into the colour properties of intimate companions: its microbiome with endophytic symbionts.⁸⁰

As we experience in the *Leaky-Loop Sys* course (cf. supra), bacteria metabolise pigments as well. A paper by Órdenes-Aenishanslins et al. propels our workings further (2016, p. 713): "We reported for the first time the use of pigments produced by UV-resistant Antarctic bacteria as photosensitizers in solar cells".

Below, a selection of notes taken at Biofilia and OBDP:⁸⁰

"04 June 2018 – 11:30

2nd attempt to extract endophytic symbionts from *Baroa* leaves. Building upon error from last time. Another protocol used for disinfection. The same one used for post-incubation process: dilution and plating. In the morning, from 10 till 11, preparing tools and materials, liquids... At 11 went to get the leaves. First to the oldest, biggest *Baroa* that looked very well when I last visited it. But now... owww. Entirely dry leaves and flowers amidst very dry grasses. This all due to the lack of rain the last three weeks, presumably. So, I go to the strip of land near the former Art House, where I have temporarily planted the *Baroa* I brought by car from 1HaBP. I cut 7 leaves, amounting to 0.544g (weight before going in the hood). Five from the

*Protocol: Learn more on the meaning and implications of gene-editing as well as on Plant sensing and dye production.

1. Participate / assist in two workshops *Merry Crispr Contemporary Art and Life Sciences Workshop - CRISPR-Cas9 Technology*. 11-15 Dec. 2017 & 2018. The workshop activities shift between hands on wetlab sessions, lectures, interventions, field trips, presentations and screenings. We investigate and work with CRISPR, look into its materiality and artistic possibilities, and discuss and explore socio-cultural, political and ethical implications within our transdisciplinary group. Berger, E 2018 *Merry CRISPR II - workshop*, Bioart Society, viewed 11 December 2019, <<https://bioartsociety.fi/posts/merry-crispr-ii-workshop>>.

2. Enrol as guest student on the course *Sensory and Physiological Ecology of Plants: How Plants Function in their Environment* by university lecturer in Physiological Plant Ecology Pedro Aphalo. With syllabus-based lectures and experiments on photobiology: measuring varying concentration of colorants under artificial LED light. 22 Jan. – 21 Feb. 2018, Biokeskus, Helsinki University.

**Here, in the Aamo research a new option unfolds. Fused by the commitment to the 'mere happening', I feel strongly about limiting our

⁷⁹ Bartaku 2018, Notebook.

⁸⁰ Bartaku 2018, *The Discy Becoming 1*, notebook.

research to what I see as the main driving question behind the workings: how to assist *Baroa* in expressing its essence, and in this particular Aamo context, its relation to light and energy and how this can relate to - and transform - a considered to be great work of art that shares the intimacy with light and aesthetic energy that persists over time, in particular conditions. Therefore, I wish to investigate the other possible presence of colours generated by life forms that are most intimately interwoven with *Baroa*.

We investigate the range of colours that are metabolized by the microbes that are part of *Baora's* microbiome. This means that for the time being I exclude the use of synthetic dyes. Merja P. correctly points out that this is where the idea -and rhetoric- of artsience co-creation- is challenged. I indeed do not 'throw it explicitly in the group as a 'to be discussed' matter for the reason I mention above.

There are other moments in the Aamo collaboration where the opposite happens, e.g. with Paulo P. pointing clearly to Bartaku being the 'author' of the workings.

Still, I do engage in understanding the discourse, ideology and prac-

youngest and most vibrant plants, two from an older one that has few green light reflecting leaves amongst many dry ones.

I write the most important steps on a tiny paper, keeping it within visible reach at the edge of the hood. Also, the phone is near for time keeping. The protocol work starts at 11:30 and lasts till 12:45, when the mashed leaves are placed into the incubator. Normally, for 3 hours, but we reduce to 2hr 45min for practical reasons. Also, we believe the 6 min in bleach is too long. Also, this time the leaves are cut finely before mashing with the glass rod. Instead of 2g leaf mass in one Eppendorf tube with 0.6ml of 0.9% Natrium Chloride (NaCl), the 0.544g of leaf mass is distributed over 2 Eppendorfs with 0.6ml - since *Baroa* leaves are fatter than the bean leaves that feature in the protocol. Still, when trying to dilute, there is still an issue to pipette 1ml of liquid. So, I cut a pipette in half with a surgeon's knife, soaking up with a larger opening what is considered a sufficient amount. This after having reopened the Petri dish due to having forgotten to take the *Baroa* matter out during the first plating. Lab, Pressure, Time.

And the work continues:

Observation on 06 June 2018 - 11:30
After 24hrs, Plate 10⁻² shows growth. Marika proposes to use a less strong disinfection protocol. Bartaku remarks: we used less than the required incubation time, so perhaps fewer endophytic organisms survived because of that.
Repetition of experiment, proper protocol.
Leaf weight: 0.173g => +/- 1/3 of the previous

After 48hrs also possible fungal growth. So, best to proceed after 24hrs, in terms ... (*cannot read handwriting*)

In experiment B10⁻¹ and ⁻² there is growth; In 10⁻¹ between 10 and 20 colonies.

Two different micro-organisms: fungal and bacteria. Two different-looking ones are selected and plated. Two different-looking ones are isolated. All samples (B) are discarded.

Observation on 07 June 2018
1pm, 6/6-LB(2D) (Petri dish marking); various single colonies visible. I took too much bacteria. Hence, we plate further and freeze some as backup in case there are pigments. We take a single colony and deposit it in a liquid medium that contains glycerol and store at minus 80 degrees Celsius for one week. Then we re-plate the bacteria to see if they survive the freezing.

Marika asks "How much time do these processes take: I need to know for better planning the coming experiments in the lab?"

- Bacterial media (food): preparation: 1/2hr; autoclave: 2hrs; pouring into Petri dishes: 1/2hr; solidifying of medium (agar-based): 4hrs. Total: 6hrs;
- Disinfect: 1 hr;
- Incubate: 2hrs;
- Plate: 40min (3 different media)."

18 June - 01 December 2018 - Voyage with bacteria in Leaky Light installation

Soon after extracting bacteria from *Baroa* roots, isolating and growing them, I travel Southbound to the town of Kaunas in Lithuania where I am invited to take

tice of (bio)technologies like gene-editing, quorum sensing and synthetic biology.

In my notebook (2018) I find a quote from a book on 'stretch collaboration'. The approach it depicts on complex interaction contexts shows parallels to transdisciplinary collaborative group work. The author himself works together with an artist.

In stretch collaboration, we co-create our way forward. We can-not know our route before we set out; we cannot predict or control it; we can only discover it along the way. Working in this manner can be both exciting and unnerving. ... it requires us to make three fundamental shifts in how we work and stretch away from: 1) focusing narrowly on the collective goals and harmony of our team and move toward embracing both conflict and connections within and beyond the team; 2) from insisting on clear agreements about problem, solution and plan. and move toward experimenting systematically with different perspectives and possibilities.; 3) from trying to change what others are doing and move toward entering fully into the action, willing to change ourselves. (Kahane 2017, pp. 3-75)

•Instigate the play(ing),
extract the players.

••Kaunas, 27 June 2018 - Remigijus stirs porcelain liquid until the surface evens out. Then, it is poured through a sieve into a pot. From there it goes into a mould. As soon as the matter is dry, it is reversed. It comes out and is refined with the use of fine coarse sand paper, very fine soft silk cloth and fingertips. Also, to refine the edge, the vessel is put on a glass plate that is wettened. The vessel is turned around, lifted up, and edges are softened with a wet sponge.

part in an annual ceramix symposium.⁸¹ The few skills I have in that field, were acquired at SERDE Art Centre, including from Maris Grossbahs who is the symposium curator. For the next three weeks I am amidst an international crowd of ceramists that share a special interest in bone china porcelain.

During the introduction I admit to the participants and guests that I accidentally brought with me Petri dishes with bacteria that are isolated from their Latvian *Baroa*•*b.* in Finland. The silence that follows is interrupted by the voice of Remigijus Sederevičius, Project director, Head of Ceramics and Porcelain Department, Kaunas Faculty, Vilnius Academy of Arts. He proposes to transfer the bacteria from plastic to glass Petri dishes, leftovers from a former medical lab from Soviet times.

I propose as a first exercise, to make a ceramic disc that closes the gap between the bottom and top dish when they are placed into one another. With this proposal, unintentionally I signal my lack of knowledge. Humbly/necessarily I observe how most of the ceramic disc is crafted by the local ceramix masters••.

The three weeks boil down to one big exercise in modesty and ego-kill. Hard work too, since the notion 'symposium' in this context means something other than what I am used to. Most of the time participants are modelling, sculpting, refining with fine horse-hair brushes, hand-picking and fabricating custom tools and firing clay in kilns. I learn as well that we are preparing works for a travelling group exhibition that is being opened right after the symposium named Porcelain Identity.

⁸¹ <http://www.porcelianosimpoziumas.lt/en/about/>

"Porcelain remembers what happened"

R. Sederevičius⁸²

Leaky Light, I name the installation that comes to be for the exhibition and describe that:

... it consists of three different floorboards that support 23 bone china porcelain pieces. They result from play and experiment with the locally produced bone china. Three different protocols determine the forms, with the one for the bacteria named *Aronia m. Baroa b.* Bacterial Root Endophytic Symbionts Protocol. (Sederevičius & Bertašiūtė 2018)

The surplus porcelain discs return with me, North-bound. They will spin into other works, as I will explain later.



Description: Mould for ceramic disc; Detail of bacteria in lab glass;
Installation view
Leaky Light, Žilinskas Art gallery, Kaunas, July 2018.
Photos: Remigijus Sederevicius

⁸² Bartaku 2018, UAL 2017-2019, notebook.

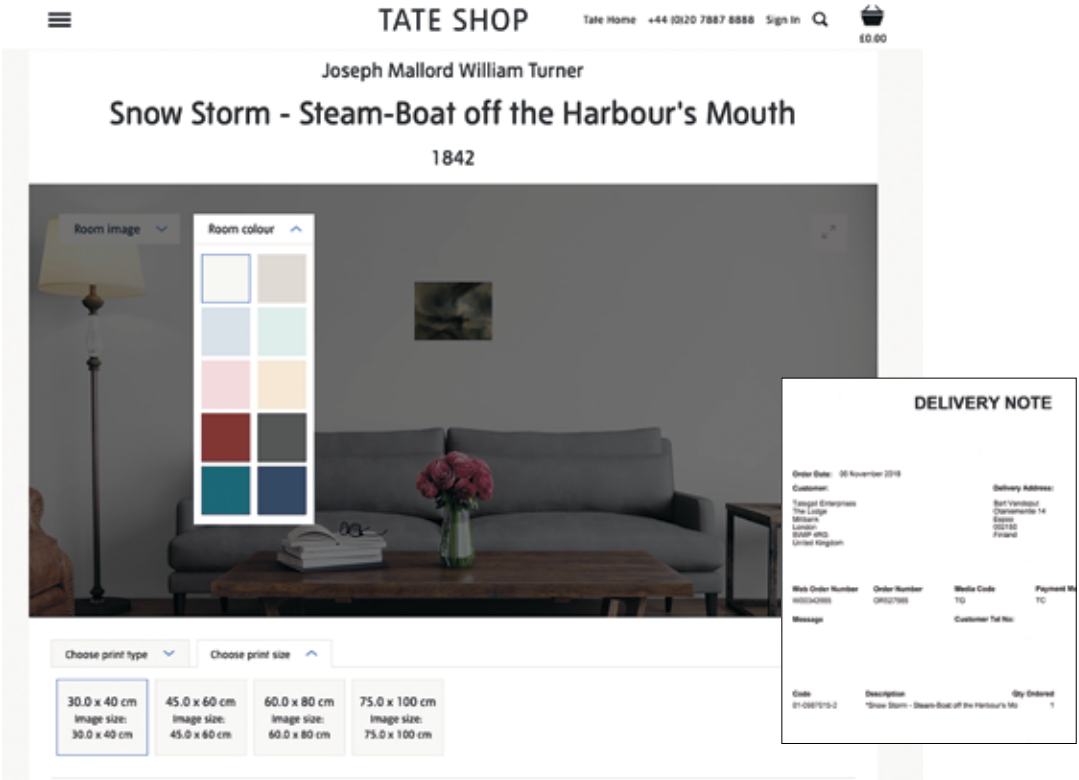
•Inspiring read, this description by P.R. Reilly: “Designer Gene (1992) a work by D. Ashbough is a large painting that uses Rothko-like patterns of color to transfer the image of the radiograph into an artistic code” (Anker 2006, p. xiii).

11 August 2018 – Troping Turner... post exhibition status meeting of Aamo. Afterthoughts. I feel uncomfortable still, when describing the relation between *Baroa* and *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. We try to approximate its colours, limiting ourselves to the realm of *Baroa*, including its microbial companions, limited by technical constraints that most importantly eliminate the physical depth of the paint layer. Is the *Baroa*-painted solar panel ‘based upon’ the Turner painting? It is surely not aimed to be a replica. Is it a transformation in which the image of the original is transduced into an artsience code•? Is it a mutation? Those that are formed in bacterial genetics may see it as a replica plating. Will we use the UV and/or X-ray version of the painting? Is the public moment to be a happening, a performative happening, an intervention? How (if) to include processual matter in the becoming of *Blck Vlt* in a way that it has a chance to resonate with some audience members?⁸³

11, 22 November 2018 – Order and Arrival at my work cell at Aalto ARTS of the 30x40cm print-on-canvas reproduction of the painting *Snow Storm — Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)* by J.M.W. Turner.

28 November 2018 – With the accomplished extraction of DNA from the microbes that we grow on various media, we receive the DNA sequencing results from Helsinki University by email (Paulin 2018, 28 November). This leads to the identification, naming, of the microbes that we have isolated from the

⁸³ Bartaku 2018, *UAL 2017-2019*, notebook.



1HaBP-originating *Baroa*. It is temporarily planted near Biofilia before being integrated properly as part of *OBDP*, although the construction works that transform the Art House into a children’s nursery cause the second *Baroa*’s disappearance in that place. At least we can prolong the life of two bacteria that are part of the *Baroa b.* microbiome: *Bacillus megaterium* and *Pseudomonas fluorescens*. Both are well documented in scientific literature. In the coming months we focus on the growth of the latter, since according to the literature it excretes a “yellow-green, water-soluble pigment that fluoresces under ultraviolet light”.⁸⁴ It requires a particular purification method to be able

Description:
Screenshot from web shop and insert of Delivery note accompanying *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. Reproduction print-on-canvas delivered on 22 November 2018. Scan: Bartaku

⁸⁴ Meyer and Abdallah (1978, p. 319); Kisaalita, Slininger and Bothast (1993, p. 750).

to properly perceive it. Before the DNA-identification, we could not know of the existence of this pigment. This is as opposed to the red and yellow pigments that *Bacillus megaterium* metabolises in its body. As these colours are already part of the *Baroa* palette, the *Bacillus m.* colonies are eliminated. With our pigment ‘extractivist’ practice, it is soothing that *Pseudomonas fl.* excretes the pigments, hence no killing is needed in order to access the colour.



Description: Mashed and centrifuged *Baroa* root; Fragment of BLAST alignment identifying *Pseudomonas fl.*, Biofilia, 7 February 2020 / 28 November 2018.
Photos: Bartaku

```
BLAST hit
Pseudomonas fluorescens strain W-6 16S ribosomal RNA gene, partial sequence
Sequence ID: MF949058.1 Length: 1501 Number of Matches: 1
Related Information
Range 1: 1 to 747 GenBank Graphics Next Match Previous Match
Alignment statistics for match #1
Score Expect Identities Gaps Strand
1375 bits(744) 0.0 747/748(99%) 1/748(0%) Plus/Minus
Query 13 CTGAGTGTGAGTATCAGTCCAGGTGGTGGCTTCGCCACTGGTGTCTCTCTATATCTA 72
Sbjct 747 CTGAGTGTGAGTATCAGTCCAGGTGGTGGCTTCGCCACTGGTGTCTCTCTATATCTA 688
Query 73 CGCATTTCACCGCTACACAGAAATCCACCACCTCTACCATCTCTAGTCAGTCAGTT 132
Sbjct 687 CGCATTTCACCGCTACACAGAAATCCACCACCTCTACCATCTCTAGTCAGTCAGTT 628
Query 133 TTGAATGCAGTTCCCGAGTTGAGCCCGGGGATTCACATCCAACTTAACAAACACCTAC 192
Sbjct 627 TTGAATGCAGTTCCCGAGTTGAGCCCGGGGATTCACATCCAACTTAACAAACACCTAC 568
Query 193 GCGCGCTTACGCCAGTAATTCOGATTAACGCTTGACCCCTCTGTATTACCGCGGCTGC 252
Sbjct 567 GCGCGCTTACGCCAGTAATTCOGATTAACGCTTGACCCCTCTGTATTACCGCGGCTGC 508
Query 253 TGGCAGAGAGTTAGCCGGTGTATTCTGTGCGTAACGTCAAAACAATCAGGTATTAGGT 312
Sbjct 507 TGGCAGAGAGTTAGCCGGTGTATTCTGTGCGTAACGTCAAAACAATCAGGTATTAGGT 448
Query 313 AACTGCCCTTCTCCCAACTTAAGTGCTTACAATCCGAAGACCTCTTCACACACGCG 372
```

Dear *Pseudomonas fluorescens*⁸⁵

Dear *Pseudomonas fl.* – 02 February 2019
Do you thrive in darkness?
In light?
In flickering light?
In Solar Flare Light?
Do you respond to roots, leaves, biochemical signals?

I feel uncomfortable still with the idea of ‘using’ you; the fluorescent excretions of ‘you’ as a constellation of colonies.

Dear *Pseudomonas fl.* – 16 April 2019
Although I should be listening here and now to a human talking about the ‘blindness of post-modernity,’⁸⁶ I am distracted by thoughts about you. I write them with the energy of my urge. You as one, captured in scientific expression *Pseudomonas fl.*, although you are so many. You are defined as you by machinery, reading your biochemical compounds and logic. As digital code you are recorded into various databases. I have the feeling that many humans ‘understand’ you by ‘taking in’ this code.

11 June 2019, 5pm – Listening to yesterday’s recording after work at Biofilia. At *OBDP*, speaking to Plant #1 that did not survive the winter*: The idea is to observe under which conditions the bacteria excrete ‘most’ protein-pigments named pyoverdine. Last Friday we added sugar to the liquid growth medium. This is ‘liked’ by the bacteria since they multiply clearly and faster over the weekend than the ones that grow in the same liquid without sugar. We follow the protocol of pyoverdine purification by Meyer and

*Write down the flow of afterthoughts that emerge.
In 1943 the Laboratory of Bacteriology at Cornell University in NY, (WWII pushes scientific research out of Europe), produces a paper by Seleen and Stark (1943): “Some Characteristics of Green-Fluorescent Pigment Producing Bacteria”. It supposedly refers to the origins of scientific interest in *Pseudomonas fl.*: “Since Schroeter (1872) first isolated and described an organism producing a green-fluorescent pigment, information of this particular type of organism has consistently appeared in the literature” (1943, p. 491).

⁸⁵ Bartaku 2019, Notebook.
⁸⁶ During *Analysing Darkness & Light. Dystopias & Beyond*. Centre for Practical Phenomenology and Discipline of Practical Philosophy, University of Helsinki, 16-17 April 2019.

*Commit fully to spontaneous ideas when the momentum pops up, with neat alignment of matter and agencies.

Abdallah from 1978 for taking a sample and verify if it fluoresces above UV-A light.

First, we saturate the sample with salt (3g), adding a bit, shake, add, etc., until the white salty crystals do not dissolve further. Then we add phenol: liquid, yellow and so aggressive in the nose that the mind instantly insists on checking the origin and production method of the substance. It spreads easily, as is clearly noticeable via the yellow-green fluo-marks on the blue gloves under UV light. Shake the bottle, open it, shake and open again to release the pressure that develops inside. We see a separation happening: the yellow phenol and presumably the green-white pyoverdine form a bottom layer that rest upon a transparent layer underneath. We suck out the latter and keep the yellow. In three stages we remove the phenol by adding ether. Separation after shaking, and pipetting out the transparent layer on the top. After the third ether addition, the yellow phenol disappears. Lastly, James E. asks to shake the heart shaped bottle as if it were a glass of wine. The 1.3ml of pigment glows magically above the UV-A light.

In the next step, we aim to establish the optimal biotope in which *Pseudomonas fl.* can thrive and excrete pyoverdine pigment. It is a siderophore, which means it "occurred only when the bacteria were iron-deficient" (Meyer & Abdallah 2009, p. 319), hence when the growth medium of the bacterium is poor in iron.

19 February 2019 – is the day when liberal prime ministers from the 'Alliance of Liberals and Democrats for Europe' gather at Aalto University. I receive an invitation to attend the event* in which the "Focus is on preventing the climate change and prime ministers and delegations will be presented academic views on climate change and practical solutions by Aalto researchers. We have received special requests from

the prime minister's cabinet to invite Belgian students to meet the P.M." (Plym-Rissanen 2018, 13 February).

I call Janne H. and ask if we can make within two days a solar cell in the colours of the Belgian flag with the colour leftovers from the solar painting workshop, that the idea is to create a gift intervention: *The Gift to the P.M.* He joyfully responds and soon with Pyry M.'s help, gift #1 is crafted: a glass solar cell painted with *Baroa belaobara* sap- and leaf-based Black, Yellow and Red. I collect them few hours later. Sooner than expected the decay shows itself: the three colours that are applied on the glass in the morning are reduced to two: the black has turned yellow.

The *Baroa belaobara* solar cell is now a gift. One that contains also the proposal to morph the Belgium flag into a bicoloured one. I place the solar cell into a glass Petri dish and close it with a porcelain disc. Both are leftovers from the *Bone China Symposium* (cf. supra**). Gift #1 goes hand-in-hand with gift #2: a blue thick sheet of paper holds a white-crayon-made sketch with the outline of the land area on the Earth crust named Belgium. I also include my calculation of the energy output of *Baroa* as a resource for *Baroa belaobara*-dye-based solar energy. Now we have a proposal to transform the land area named Belgium into a *Baroa belaobara* plantation. I will congratulate the Belgian prime minister Charles Michel in his becoming of the prime minister of his *Baroa belaobara* plant-nation.

The accompanying *letter-as-gift* #3 describes ongoing artsience research on light, colour, art and *Baroa* energy. *The Gift* is packed in a modified leftover Belgian Post Service postal box: gift #4.

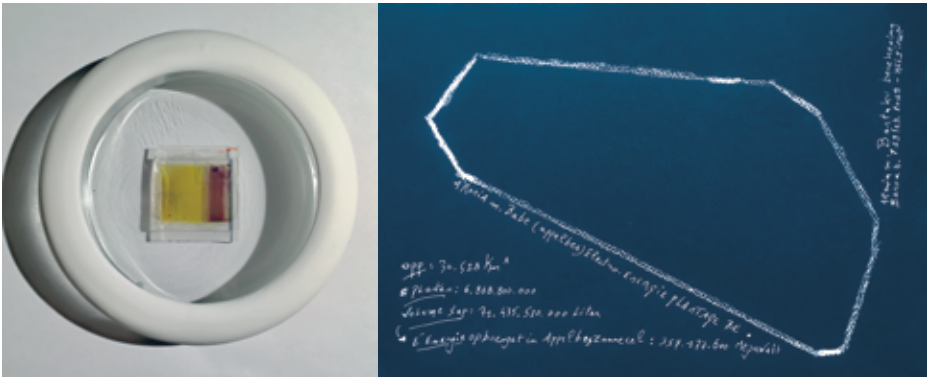
After *The Gift to the P.M.* intervention, the Belgian prime minister and his assistant ask questions on the art and science practice. Then, they hand over a gift themselves: a vegetal leather dyed special edition of an 'Atoma' notebook, with BE-tricoloure rings. I thank

**Allow leftover matter to flow and spin into other tangents. One more bone china disc becomes – by instigation of artist Lucy Davis and a crocodile wheat grain – the medium for an 'invited gift contribution': "A *Baroa*-inspired letter to a wheat grain that is found in the belly of a saltwater crocodile. The words are transferred to a bone china disc. The invited gift is a contribution to a ceremonial burial adjacent to the Svalbard Global Seed Bank. It is part of The Migrant Ecologies Project *Seeding Stories: A Guide to the Interior of a SaltWater Crocodile*. Spitsbergen (Nor), June 10, 2019" (Bartaku 2019, p. 12).



Description: Bone China Disc with text-on-film heat-transferred to its surface, Aalto ARTS, 21 August, 2019.

them for their gift, that at an instant turns into *The First Logbook of the Baroa belaobara & Companions Plantation, Formerly Known as Belgium*.



Gift 1 & 2; Hand-over of Gift by Bartaku to prime minister Charles Michel, Aalto Design Studio, 19 February 2019. Photos: Bartaku; Aalto University / Mikko Raskinen (3)



05 September 2019 – James E. has optimised the medium for *Pseudomonas*, collects its excreted Pyoverdine pigment, purifies and stores it in the dark. One year later, here and now, it fluoresces still. Also, the researchers who are investigating ways to apply *Baroa* dyes as an ink – possibly to be part of the print version of this monograph – now also include pyoverdine in the research: It would be a layer that you, the reader would only be able to access in the dark with a UV-light pen pointing at the cellulose in your hands.



Description:
Pyoverdine fl.
pigment in lab
flask above UV-A
light source;
Pyoverdine fl.
in lab flask in
Sunlight, Biofilia,
5 September 2019.
Photos: Bartaku

*Online research into scientific papers on the composition of semen; compare with previous research on *Baroa* compounds and growth media for *Baroa* and *Pseudomonas fl.* The semen ingredients that are used in the in vitro growth of *Baroa* are sugars: fructose, glucose and salts: calcium, magnesium, potassium.

Semen consists of spermatozoa and seminal fluid. Chemicals present in blood can be present in semen. A number of studies have documented the presence of environmental (cadmium, lead, toluene, benzene...) or medicinal chemicals in semen (antibiotics, caffeine, aspirin, amphetamine...). (Klemmt & Scialli 2005, p. 20)

More ingredients are mentioned by Bering (2010) in a blog post: "Semen has a very complicated chemical profile, containing over 50 different compounds including hormones, neurotransmitters, endorphins and immunosuppressants".

11 Sept. 2019 – James E., hello. Do you remember our conversation on that paper in which the growth medium for bacteria contains leftovers of local pine-apple processing? And the video from a war zone hospital where they show the recycling-cleaning protocol of the latex gloves. And we talked about the use of glass Petri-dishes rather than the one-use only petroleum-based Petri-dishes at 0.02Eur a piece.

Now, not sure yet where it might lead to, but it made me remember a moment at the plantation where I merely – just like that – sprayed sperm onto a plant. At some point it leaks into the soil where it touches upon the roots and mycorrhiza, the latter possibly metabolising the semen after which the roots take in some compounds, its microbial companions as well, so *Pseudomonas*, and flows via the sap stream up into the above-soil parts.

I check up on the semen composition and find that there are chemicals and sugars that are part of the growth media for *Baroa b.* and *Pseudomonas fl.* It is soothing to learn that I share fructose with *Baroa*, and in our line of thinking, I wonder what you think of extracting this fructose and feeding it to the bacteria as an alternative for the highly processed commercial sugars? I assume the pine-apple is mostly fructose energy, and that seemed to have worked. Would you be interested in looking into separation methods of these seminal ingredients? Especially the sugars and salts that semen and *Baroa* share, we can think of mixing them. Then again, extracting sugar from semen is elaborate and energy-intensive. It might be better to deposit semen directly onto the soil near *Baroa b.* so to seep into its roots and bacteria. Even more straightforward, direct semen deposition into the Petri dish. More bacteria, more colour for the *Baroa-Snowstorm*

palette. A safe, local, low-energy process greening the laboratory don't you think? ⁸⁷

I hope to discuss this further with James E. For now, as an intermediate conclusive note, the mere seminal spraying of *Baroa* initiates new pathways in the process. It is imaginable to turn to the male population of the campus as joyful semen donors of energy (fructose, glucose), salts (conductive) and perhaps hormones for the growth of *Baroa* and microbial-based colourants. In this way they become part of the intimate companion constellation that assist *Baroa* to connect with and comment upon *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*, in this case, then, by providing for a little while Sun-electric power that energises a light that powers the painting.

11 Sept. 2018 – A simply irresistible urge.

Dear *Baroa*,

I have to sprinkle my seminal liquids onto you.

Now.

Here.

It is difficult to hold the camera steady in the left hand whilst moving the skin up and down with the right one.

Counting 22sec

Release of pressure and release of shutter.

Shaky, done.

In growth media, the pH value is key: Wojciech recommends for in vitro growth of *Baroa* a pH value optimised to 5.6 (2013, 181).

As for the pH of semen, in a paper on the making of a Human Semen Simulant (Owen & Katz 2006) based upon literature research on the physical properties of semen, the "pH ranges from 7.1 to 8.47" (2006, p. 461). This means a lowering is needed even though it "can depend on the length of time since ejaculation, and it tends to increase shortly after ejaculation as a result of loss of CO₂" (2006, p. 460). Owen and Katz conclude "We should note that this medium was not developed as a culture medium for spermatozoa or other microorganisms; it could, however, be adapted for such purposes" (2006, p. 459).

⁸⁷ Bartaku 2019, *Reconstruction of a memory-based conversation with James E., lab manager of Biofilia*, notebook.

Normal vision returns after short synaptic Starscape.
I kill the mosquito on the upper left thigh
and re-arrange the pants.
Looking at white thick drops on the leaves,
Some on twigs, a bit on the main branch.
Slowly dripping down.

The recorded video is a blur.⁸⁸

Dear Baroa, these liquids and sweet smells touching
upon and mixing in with your leaves and roots. What
do you sense?⁸⁹
What does it do to you?
I write down for myself what happened, impossible to
take your perspective as this failed anthropomorphis-
ing attempt proves: "Suddenly he makes an opening
in a piece of cotton. Then skin appears that points
towards me. With one hand the skin is being moved
forward backward slowly first then ever more rapidly
and after twenty human seconds, a liquid descends
upon my leaves. And further down, now sliding off my
lowest branch bit. It must have leaked into the soil,
since it tickles my roots. After being processed by the
mycorrhiza, the roots gradually take it in, and then
bacteria rapidly multiply their colonies with the energy
boost. It must be that sap." ⁹⁰

⁸⁸ Bartaku 2018, Notebook.

⁸⁹ Bartaku 2016, Notebook.

⁹⁰ Bartaku 2019, Voice memo.



Title: Blossom (3)
Description: Baroa sap Bartaku blood mix on
cellulose, SERDE, 16 October 2017; Baroa
sap as developer for B&W photo, SERDE,
2 October 2012; Blossom: attempt #11 of
capturing Baroa sap in air by SMEMA camera
lenses on custom-made tree-based sticks,
1HaBP, 15 May 2015; Semen on Baroa (video
still), 1HaBP, 14 September, 2016.
Photos: Bartaku



•For the second time, we apply for a substantial grant from the main funding body of this line of work in Finland, the Kone Foundation. These applications are highly time-consuming, even with the help of so-called grant writers at the University. Although there is a consultation time, one cannot fundamentally learn from these applications since the decision is a yes or no, without motivation. The benefit of these moments is that we are obliged to properly reflect through dialogue on what we do, why and how, and take good care of the words we choose to express the result to humans that are not implied in the work. Here I share how we explain the way we think we collaborate followed by Aamo members' wordings on their personal interests to engage in the workings.

The application is not accepted.

14 September 2019 – Application for funding*: Thoughts on the transdisciplinary and artscience

As part of a funding application, Aamo describes the transdisciplinary nature of the artscience constellation.

We commit to a type of collaboration where the initial idea is a point of departure that is initiated by the artist, influenced and inspired by the berry that is an apple (*Aronia Baroa b.*). The collaboration with other entities that can be referred to as scientists and engineers implies an engagement of all involved to open up for interventions in discipline-specific protocols. In the co-creation-based process, the artist also commits to a change of the initial idea. This approach is different from those where art simply represents or modifies scientific work aesthetically, or the approach where science simply performs the actions required to achieve the end result (product) envisioned by the artist. The evolving pathway here through artscience expresses an openness for collaboration and change along the conversational path. The individuals thus knowingly and willingly enter a creative process which moves their thinking towards the softening of the boundaries of one's own discipline and opens doors for the creation of new ways of being and meaning in society.

The objectives and outcomes in particular are formulated as follows:

“At a general level, Aamo aims to:

- Contribute to discussions on the post-anthropocentric: How can an artwork including plants, micro-organisms, dye molecules, sunlight and electrical energy be re-conceived as an object that interacts with humans according to its own being?

- Contribute to the discussion on the natural and synthetic: How to make tangible the societal and ethical implications – both good and bad – of involving biological entities in art and technology?
- Contribute through embodied practice to the discussion on defining cognition for non-humans by showing the common basis many phenomena have;
- Develop the field of artscience through transdisciplinary inter-species research: Relating the human and non-human; Engaging in inter-species dialogue (with our vital neighbours); Promoting non-hierarchy in transdisciplinarity; Self-questioning; Examining ways to reveal not-yet-formulated questions; Taking advantage of chance and serendipity.

Specific objectives relating light with *Aronia* and its microbiome and their colours are to:

- Establish a solar cell with optimised colours from *Aronia* and its bacterial and fungal symbionts that relate to those from a Turner painting, which transforms light into electrical energy;
- Identify scientific and technical pathways towards a “living solar cell”, a solar cell ecosystem that has living, growing parts;
- Deepen the knowledge of all entities involved in the research (methods included), in order to decrease borders between neighbour beings, and increase entanglement and energy in the process.

•Add information that contributes to the grounding of ongoing reflections in the wider society upon the notion of the transdisciplinary.

Concrete outcomes:

- A biosolar panel based on natural dyes, which mimics the Turner painting, and exhibiting that;
- Various artistic, scientific and hybrid artsience works generated throughout the process;
- Documents and sharing the works and thoughts via various online channels. Knowledge events beyond the artsience 'milieu'.⁹¹

In an annex, we add our personal interests to commit• to the Aamo workings (Aamo 2019):

For Janne H.

It has become clearer to me that the nature, and the life of the individuals of other living species, has intrinsic value that cannot be measured in terms of techno-economic utility. To a person like me, mesmerised and energised by the beauty of nature, this transdisciplinary collaboration gives an opportunity to explore the biological and even artistic aspects of light-matter interactions, that are close to my heart. Through our art-science collaboration, I can liberate myself to exercise serendipitous scientific curiosity and artistic creativity without the need to immediately subject all ideas to techno-economic acid tests. This creative freedom has already led me through fascinating scientific rabbit-holes where I have learned about the photo physics of human colour vision, photobiological and evolutionary hypotheses to autumn colours of leaves, and optical models of green leaves, just to mention a few. In these rabbit-holes, 'crazy' ideas frequently pop up, triggering calls to experts to ask 'stupid' questions. An example of a crazy idea which emerged from this process is to place photosynthetic bioreactors or even green plants *in the front* of a photovoltaic solar panel, so that the red and

⁹¹ Aamo 2018, *About Black Vlut*, Otaniemi, Espoo, leaflet.

blue parts of the visible sunlight are used in photosynthesis, while the green creates visual aesthetics and the invisible near-infrared light is passed to the underlying solar panel, generating electricity, a concept now being explored for a scientific research plan and proposal.

Paulo P. writes:

The artistic aspect brings an exotic flavour to our collaboration. The art-science collaborations are inherently challenging due to their multidisciplinary nature. This requires continuous adaptation and learning from both scientists and artists despite their differences. In art-science collaboration, these differences can sometimes be seen as hurdles. In our case, I personally see them as assets because of the scientific and artistic facets of lighting. Besides the multidisciplinary aspect, our group is also diverse in term of the cultures represented (i.e. Portuguese, Belgian and Finnish). Similar to the multidisciplinary component, the multicultural aspect can also further benefit our collaboration by providing different perspectives within an exciting and colourful experience.

Finally, Merja P.:

Life on Earth, and thus also mankind and its culture, are primarily dependant on the ability of biological systems to use light energy from the Sun to capture CO₂, and to use this simple molecule to build more complex carbon structures that make the whole organisms such as unicellular algae or complete plants. Biology has chemical structures that absorb light: chlorophylls for photosynthesis, rhodopsins in bacteria or the human eye, and various natural pigment molecules. Depending on which wavelengths of light the molecules absorb, we perceive the outcome as colours ranging from



Description: Janne Halme presents Aamo work at EITF, Espoo, 2 October 2019. Photo: Bartaku

green and red to the whole spectrum of the rainbow. Having art and painting as a serious hobby, this fundamental connection between light capture in biology and the key artistic tools – colourful pigments – inspires me a lot. Our artscience collaboration enables me to ponder and wonder upon what is the key for our existence and the links between the physical to chemical to biological to artistic and beyond.

02 October 2019 – Janne H. gives a talk about his research, and includes the Aamo work at the *European Institute of Innovation and Technology Festival* that takes place at Aalto University.⁹²

12 December 2019 – The Discy Becoming, part 2⁹³

I observe the metal containers, the letters on them, the cables between them. The light emitting screen shows a horizontal line that moves from left to right. It starts at the same point as the first other line when a third line emerges. Conclusions are reached based upon Spectrophotometer analysis of the pigment that is excreted by *Pseudomonas fluorescens*:

James E.: Like 480, emission maximum. Excitation max. is 405. Scanning again at 420, and now it is much lower. It is really falling off, which is good. We are supposed to see this. I would be very worried if we kept on getting closer and closer into the visible spectrum and it kept on getting larger and larger. Cool, yeah.

⁹² See <http://eitfestival.eu/#eit-festival>

⁹³ Bartaku 2019, *The Discy Becoming 2*, voice memo.

B: This paper where you found this 385...

J: I can't remember. I may have Googled pyoverdine EXEM spectra. Like I said, this depends strongly on the salt concentration, the pH, the solvent. We purified this in ether, we could scan it in ether, cap it, to make sure it would not evaporate and this might give another value.

B: I Google now*, and find in a paper by Meyer et al. (2008, 260) "...50 structurally defined pyoverdines presently known and about 60 additional compounds with still unknown structures...". And, in an earlier paper by Meyer with Abdallah (1978, p. 323) "The absorption spectrum in water of the free pigment showed two main bands: one at 230nm (E = 32000) with a shoulder at 255nm, the other at 385nm (e = 16500) with shoulders at 365 and 400nm (Fig. 2). As shown in Fig. 3, at pH values 6.5, there were two peaks with maxima at 365 and 380nm in the visible region; at pH values 2.7, there was only one peak."

J: We have established the excitation and emission fluorescence spectra of Pyoverdine produced in our hands. Excitation maxima of 450nm; Emission spectra of 480nm. This is in general agreement with the literature which would say that there is an emission of the same value. The difference is probably due to the measurement conditions, either in the solvent or Ph or some other condition. The solvent in our case is simply water as purified from the purification. The instrument is a Perkinel S5 fluorescence spectrometer. The date is 12 December 2019.

B: If scientists researching pigments would get these data only, would they be able to conclude that this is a typical Pyoverdine profile?

*Presencing: respond to what is in the moment... therefore, the search for information on pyoverdines. Both papers are freely accessible.

•I encounter the dissertation by Noel Hefe­le, an American ‘landscape painter’ (2010, p. 7) residing in England who is passionate about “Art and Ecology” (2010, p. 6). It is titled *Landscape Perception and Inhabiting Vision: Practicing to See from the Inside* (2010) in which “I turn to Merleau-Ponty’s phenomenology in order to come to an understanding of embodied vision.. I find a theoretical framework that will support future inquiries into living and painting as an inhabitant of my landscape” (2010). Soon, I read out loud and the more I take in his thoughts the more I feel like asking him if he has been in physical presence with *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich* (Exh. 1842).

J: There are lots of fluorophores in nature and synthetic ones and some of them behave similarly. If we gave them the clue that this is a peptide fluorophore and the emission spectrum, it would probably be possible to figure it out. Most pigment people would be looking at inorganic or organically synthesised dyes or pigments as opposed to (pseudo) peptides.

10 January 2020 – Lighting test in another perspective

Otaniemi_OBDP // Full moon in 29minutes

Dear companion,
I sit near you, breathe-word mere thoughts. J.M.W. Turner is present these days. We prepare a workshop at the end of the month. Various types of light sources will emit photons towards a 30x40cm reproduction print-on-canvas of *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich* (Exh. 1842). This is the first time we focus on this aspect of the work. I look again at my notes and sketch the painting as it wanders in my mind. Now I allow the views that other humans have on the painting.

One young painter•uses the words (Hefe­le 2010) “landscape, ideology, dwelling, embodied, experience and inhabiting vision”. This word sequence resonates and invokes instant restlessness: are we – am I – overlooking something? Anything that reveals a new perspective with potential of reorientation or even more drastic change of the workings. Should I stop reading?

Should your roots be freezing now outside, rather than being here with me at 19.1°C ? Will this make you a weak adult bush, sensitive to cold periods? Or perhaps these cold periods will not be so cold anymore.

I water you with half a cup. With the night bus starting its daily nocturnal ritual, I turn this screen away from you.

The author-painter is on a quest to a way of painting that he describes as follows: “a desire to place myself in the landscape with a sensitivity toward the other non-human inhabitants and material processes, or as I see it, an ecological perspective”.

You prefer this emitted light, no?



Description: Detail of Aamo workshop, effect of LED light on the print-on-canvas reproduction of *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich* (Exh. 1842), Aalto PHYS, 27 January 2020. Photo: Bartaku

Tue 4. Feb	
13.00	DNA xtract Aronia
14.00	Biofilia
Thu 6. Feb	
13.00	DNA xtract Aronia
14.00	Biofilia

Description:
Screenshot from
scheduled Biofilia
activities in iCal
calendar.
Screenshot: Bartaku

, 2020 –

I follow the protocol for the harvest of a root sample, carefully removing layer after layer of soil around the *Baroa OBDP* #16, who, as a reminder, originates from 1HaBP. We repeat the DNA extraction method and store the DNA in the fridge whilst arranging for the DNA sequencing date at Helsinki University.

24 February 2020 – The universities in Finland lock down as a safety measurement due to the global spreading of the virus named SARS-CoV-2. At Biofilia, James E. guides me through the process of executing the long-term storage protocol for the DNA sample from the *Baroa* root. It is in the freezer at -80°C.

05 March 2020 – The Bioart Society and Aalto ARTS co-produce the book *Art as we Don`t Know it* (Berger et al. 2020).

It showcases art and research that has grown and flourished within the wider network of both the Bioart Society and Biofilia during the previous decade. The book features a foreword by curator Mónica Bello, and a selection of peer-reviewed articles, personal accounts and interviews, artistic contributions and collaborative projects which illustrate the breadth and diversity of bioart.⁹⁴

A selection of Aamo workings is featured, as well.

On to the next Passage

Having laid down an experience-based selection of stuff in the fourth *Passage* now, I point you to possible further reading on energies in the arts in the endnotes

⁹⁴ <https://bioartsociety.fi/projects/publications/pages/art-as-we-dont-know-it>

section. It would lead us too far to include them in the main text.^{xiv}

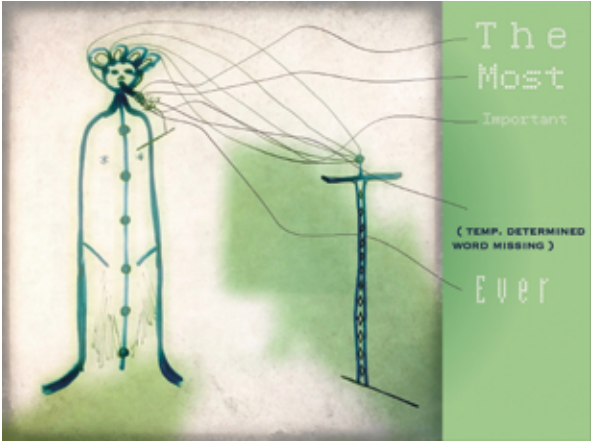
2.5 Synaptic Morphing

Whilst wandering amongst mosquitos, ticks, vetch-lings and the deer imprint in the grass near the Tebra river at 1HaBP, in a mere instance I commit to this `mere happening´: to provide the human species with the experience that *Baroa b.* is the most important artwork.

Hereby we have the point of departure for this *Passage*. I present the findings and works in simple linear time and continue the attempt to stay as close to the experience as possible. Works in public and ceramix practice alternate whilst influencing one another in the evolving process.

The title originates from the first idea on what direction the enquiry could follow. In the research plan (2015, p. 14) it is described as follows:

‘Synaptic Morphing’ builds further on the experience and knowledge from the Digestopians Labs. In this next stage, micro-electrical energy from the digestible new *Aronia* dye-sensitised solar cell on the human tongue is connected to the human brain’s specialised systems for aesthetic and perceptual judgement. Could this lead to a shift in perception of the maker of the digestopian? Would Sun-new *Aronian* electricity



Description: Instant visualization of mental image on iPad at 1HaBP with digital rendering and text adding, a-posteriori, *OBDP*, 29 May 2016.
Image: Bartaku

*Specialised literature reading, here e.g. on research that claims that “Our results show that beauty is in the brain of the beholder, and offer a novel view on the neural networks underlying aesthetic appreciation... judgments of beauty can be artificially enhanced in art naïve individuals using brain stimulation... aesthetic appreciation of representational paintings and photographs can be increased by applying anodal (excitatory) transcranial direct current stimulation on the left dorsolateral prefrontal cortex (lDLPFC).” (Cattaneo et al. 2013, pp. 1713-1721)

Still, the authors point to the limitation of the technique: “... DLPFC plays a more critical role in the aesthetic evaluation of representational than abstract art” (Cattaneo et al. 2013, p. 1713).

In 2009, Ramachandran and Hirstein present “eight laws of artistic experience ... a small subset of principles underlying all the diverse manifestations of human artistic experience. There are undoubtedly many others (cf. the principle of visual repetition or ‘rhythm’).” The authors conclude with an interesting way of formulating the limitations of the theory: “We recognize, of course, that much of art is idiosyncratic, ineffable and defies analysis but would argue that whatever component of art is lawful—however small – emerges either from exploiting these princi-

spark the idea that the new *Aronia*-edible solar cell on the tongue is the most wonderful, most important ever work of art? Will the idea of the ‘self’, then morph towards a sense of being an Art Master?

I look into research on transcranial brain stimulation and the technique called *Functional Magnetic Resonance Image* (fMRI*). It leads to a more precise idea of tying the subtle direct current power of a *Baroa*-dye based solar cell literally to the human brain. Electrically stimulating it whilst the person is with *Baroa b.*: the shiny purple reflecting pome; its red-leathery bud; its soft flesh; its sap-on-tongue, sliding down the shrinking throat, chest, stomach, blood and gut; the mountainous leaf-edge, the root and its dense deep sweet smell when crushed with mortar and pestle, its flower water scent past the nostrils into lungs and spirit, seed between the fingertips, its old branches bending under pome weight, hosting mustard coloured lichen; its fragile new leaves from forgotten seed; the fluorescent blue of the green pigment its bacterial companion excretes, its root networks under the Earth signalling and pushing up tiny *Baroa b.* replicants here and there; pollen sticking on the vibrating body of the bumble bee. The result then being that the test person is fully thrilled and excited in experiencing the most important work of art ever.

This line of thinking I discuss with Riitta Hari, neuroscientist and emerita at Aalto ARTS, who convincingly points to the invasiveness of the technique of deep brain stimulation. Her words resonate and in an instant the pathway of the enquiry ends there and then.⁹⁵

Soon, the process takes another turn whilst participating in a course on Biosignalling at Aalto ARTS. The most popular feature amongst the participants

⁹⁵ Bartaku 2016, Notebook.

is a brain-reading device named Emotiv EPOC: a brain-computer interface with proprietary software. Its rudimentary bike-helmet like EEG sensor is placed on the head, with its button-type electrodes distributed on the scalp, mostly on the sides. They are to measure the variation of the electric potential by the activity of neurons. Computer-wise, the data of the brain signal waves can be used to control anything digital from audio, video to drones and so on. Trying it on, I have a strong sense of dislike, especially due to the hard plastic that squeaks irritatingly. There is a cognitive itch as well, when looking more closely into the interpretation and classification of the brain signals into Gamma, Beta, Alpha, Theta and Delta frequencies, especially into how they are attributed to emotional states of relaxed, excited, focussed. The reduction of these emotions being attributed to the brain only makes me lose my interest entirely.

ples or from a playful and deliberate violation of them.” (Ramachandran & Hirstein 1999, p. 34). Hyman, in his critique, quotes Ramachandran: “These ideas have the advantage that, unlike the vague notions of philosophers and art historians, they can be tested experimentally”. A group of neuroscientists furthers the research that is coined by its other “prominent champion” *neuroaesthetics*: “Stimulating research on the biological basis of aesthetics” (Hyman 2010, p. 194).



Description: Emotiv EPOC brain-reader and its pen-traced hidden outline feature, *OBDP*, 14 June 2017. Image: Bartaku

So, I rather turn to the tongue with some other participants. We attach some sensors to taste buds that generate more mere voltages and resistances. At some point my hand pushes a brain `reader` down onto a piece of paper. The pen in my right hand touches the side of one of the side arms, and it starts to move slowly, along the rest of that part, around the sensor, up to the main thicker segment and further, with my hand following the pen until the entire object has been traced. I move the plastic piece on the side and I stare onto captivating lines and the empty space between them. Here is a sketch of a seemingly consistent something. It appears to me that coincidentally as a `mere happening` a *hidden design* is revealed that merely sneaks into the device in its initial process of becoming in some-somewhere manufacture.

2.5.1 From Sketch to Ceramic Pieces – Method 1

Three months later, with *Baroa* pomes producing their seeds, I take the drawing to the annual residency at SERDE:

First, I walk the paper to 1HaBP. Then, in the ceramix workshop fellow resident artist Laurie Sheridan notices *it*. Instantly intensely she joins layer after layer of textile fibre and plaster. She tells me it is a good escape from her experiments with photo paper and chemicals from the Bendiks lab (cf. supra). With vodka, time passes and the piece emerges. Later that night, before dancing, Laurie S. and resident artist Anne Glassner recite the poem "Was es ist" by Erich Fried (see p. 172).

The first transformation of the sketch using the plaster fabric technique has a particular raw energetic feel. I decide to create the counter-part aiming at refinement, softness and more closely resembling the drawing. We make a mould out of which four pieces are made. The clay we dig out from the soil near 1HaBP, a bit North, passing the Swedish pig farm.⁹⁶



Description: From top left, all at SERDE ceramix workshop: Laurie Sheridan with plaster-fabric piece; plaster piece, clay mould; preparing mould; drying inside; Sun-drying of the pieces, SERDE, 30 August - 14 September 2016. Photos: Bartaku



⁹⁶ Bartaku 2016, Notebook.

It is what it is⁹⁷

Laurie

It is non-sense
says reason
It is what it is
says love

It is calamity
says calculation
It is nothing but pain
says fear
It is hopeless
says insight
It is what it is
says love

it is ludicrous
says pride
It is foolish
says caution
It is impossible
says experience
It is what it is
says love

Anne

Es ist Unsinn
sagt die Vernunft
Es ist was es ist
sagt die Liebe

Es ist Unglück
sagt die Berechnung
Es ist nichts als Schmerz
sagt die Angst
Es ist aussichtslos
sagt die Einsicht
Es ist was es ist
sagt die Liebe

Es ist lächerlich
sagt der Stolz
Es ist leichtsinnig
sagt die Vorsicht
Es ist unmöglich
sagt die Erfahrung
Es ist was es ist
sagt die Liebe

⁹⁷ See: Sheridan & Glassner 2016.

11 September 2016 – Mask-making protocol

VERSION 1 – Kick-start with plaster and fabric

Note: making a small amount of plaster (gypsum for construction).

1. Fill a recipient with tepid water; the warmer, the faster the hardening, the less time there is to work. 2. Pour in the powder with the hand and distribute evenly by letting it seep through the fingers. 3. As soon as an ‘island’ of the gypsum appears above the water, finish by adding powder around the island until all is even.

VERSION 2 – Roughing the subtle

Step 1: Make the positive – with Ugis Pucens’ (SERDE) help

1. Blow up a strong balloon till it is the size of an adult human face;
2. Place in a plastic recipient big enough to fit the balloon with a min. 5cm margin;
3. Pour plaster;
4. Place balloon inside and press down with elbow until plaster hardens;
5. Remove balloon;
6. Make cuts in plaster, based upon sketch features;
7. Leave plaster to harden;
8. Insert clay and distribute it at 3mm. If too thin, thicken edges;
9. Since time is short, dry with heat gun smoothly, evenly to avoid cracks. If needed, repair by making a few scratches over and beyond the crack. Then wipe that part with a moist sponge;
10. Leave to dry and when still a little moist... ;
11. Take outside to dry.

Step 2: Make the negative – with Maris Grossbahs help

1. Take a clay form and place on a flat clean board;
2. Make a border of clay around the edge of the mask to fill all the negative space: 2 to 5cm high, straight angle (use plastering tool);
3. Fix boards (water resistant) around with a min. 5cm margin. Start with the first two by putting clay on the outside, then the bottom, then around the top. Assure a min. 3cm thickness so to resist the pressure of the plaster to come;
4. Repeat until all is fixed;
5. Inside, place a finger-size – hence thinner – layer of clay around the horizontal and vertical edges;
6. Apply a bit of heat to the clay with a heat gun;
7. Use wax to coat the clay form and inner sides of the boards. Remove stripes by applying heat;
8. Prepare plaster; for face size shape (half of face depth-wise) one bucket suffices;

Note: making a larger amount of plaster (gypsum for construction).

1. Put plaster in a bucket by pouring gently, evenly; 2. As a pyramid (island) emerges in the centre, finger-tap for a minute against the outside of the bucket; 3. Use a drill with the mix tool to stir; 4. Rotate the mixer rod whilst rolling it between the hands (as in fire making with stick and stone); 5. Let it sit for a little while.

9. Gently pour plaster onto the clay shape until it is covered with a margin on top of a min. 5cm;
15min coffee break
10. Check if the plaster is hardened and gently take away the boards by removing the clay with a scalpel;

11. Clean the plaster with a lukewarm wet sponge;
12. Optimise the form: clean with a spoon and make deeper marks using a metal piece as wide as a slim index finger: "it's a matter of balance between doing too much of refining at this stage and doing too little which leads to more post-refining of final clay masks," Maris says;
13. Dry with the heat gun to speed up the drying process;
14. *# sip from glass of wine/moon shine from the Appleing Festival the day before;*
15. Dry overnight at 50° in the sauna from 11pm till 4am;
16. Next morning 9am: move the piece from the sauna to the Sun;
17. Use the plaster mould to make three more identical masks: roll out a clay 'pancake' of approx. 2cm thick; place it inside the mould and if there is too much, make an incision and put the flaps over one another; use the back of a wooden stick with round edges to gently stamp/press the clay in; start at the bottom and work up towards the edges that need to be thicker for strength; cut away excess clay, make sure there is none over the edges; leave an opening of min. 2mm between mask edge and plaster mould edge;
18. Mask 1: blow dry for 14min at 450° and place in the Sun;
Mask 2: blow dry and place in the Sun. Bring mask 1 back inside to rest;
19. The process is repeated for the whole day due to the limited time available;
20. The next morning, place the masks in the Sun to dry for the whole day;
21. At 8pm, place them into the cupboard with the heat blower facing it at 55cm distance at

•I leave here *Aronia* since it will turn out that pre-sumed *Aronia mitschurinii* from a park in Helsinki will become part of the work.

2Kw for 5 hours (regularly check the heat of the extension cable plug);

- 22. Next morning 9am: start the kiln process. First increase the temp. 55°C/hr until 350° (6hrs) so that water evaporates safely; build up at 150°C until 750°C, the critical point for the clay type being used; Heating stops at approx. 1am with temp. being 350°C; remove the pieces from the kiln in the early morning.⁹⁸

The masks appear for the first time in public as part of a two-day performative happening at the *Pixelache Festival* in Helsinki.

BerryBabe – A[l]live scene
Pixelache Festival – 24, 25 September 2016.

Description: Sensing space and establish protocol, Helsinki, 20 September 2016. Photo: Bartaku



“*BerryBabe* is ‘A live scene’ in which humans and *Aronia*•berry entangle in a number of rituals – hereby creating an energy influencing the dominant-human-

esque surrounding space. *BerryBabe* is inspired by definitions of being, perceiving, creating that are reduced to brain functioning.”⁹⁹ Based upon the workshop with *BerryBabe* companions,¹⁰⁰ the following four-scene protocol is made.¹⁰¹

“In the hallway of the former hospital where *BerryBabe* takes place,

⁹⁸ Bartaku 2016, Notebook.
⁹⁹ Bartaku 2016, *BerryBaBe - A[l]live scene*, *Pixelache Festival*, <<https://empathy.pixelache.ac/events/berry-babe-a-l-live-scene-installation>>.
¹⁰⁰ Students of MA Ecology and Contemporary Performance at the Theatre Academy of the University of Arts Helsinki, introduced to *Baroa* by course leader and lecturer Kira O'Reilly.

¹⁰¹ Bartaku 2016, Notebook.

first the visitors pass a long table with chairs where artists have lunch from 12>3. That means they will feel presumably a bit intrusive since there is a narrow space to pass by. Then, on the left there is an open space with rocking chairs. Right after, the visitor ‘enters’ the *BerryBabe* space.

Strict rule: be in silence.

Dress code: All in the range of *Aronia m.*–*Baroa b.* ‘s colour realm is fine: from black to purple, dark blue, red, pink. Prior to re-entering the scene: please take 5min for yourself, re-centre through presencing breathing.

Scene 1 – receive

Materials: rack with a curtain; small table; one cooking plate plus extension cable; *Aronia m.* branches, leaves and pomes from the nearby park; *Baroa* sap from 1HaBP; brush; paper towel; cloth; phone (clock); scissors; printed version of protocol.

At a rectangular table Bartaku offers:
1. *Aronia m.*–*Baroa* juice or wine in an oval-shaped wine glass;
2. *Aronia m.* flower water to spray through the space (by Bartaku or a visitor).
Aronia m. branches, leaves and fruits are in a cooking pot on a heat plate producing the flower water which droplet-wise seeps into all pores and vacuoles. This process is ongoing. The plant matter Bartaku collects beforehand from presumed nearby *Aronia mitschurinii*. They are used as a fence for a nearby playground in a public park••.

••Exploration of the venue prior to the festival and workshop with collaborators: “The building where the art festival takes place, has a history of treatments for humans with mental illness. We are shown the hallway where we will create a space for the *BerryBabe* happening. Layer after layer of human presence compressed into the breathing pores of the stone walls. Before doing anything else, the strong presence of human breath requires transformation. Flower water needs to be made, so that the *Baroa* essence can disperse and become part of the hallway air and human pores and breath. Together with the students I explore the space in the form of a preparative workshop.” (Bartaku 2016, scene flow_v2; *Live scene down to earth* descript – Fri, 23 Sept., Notebook.)
During this experience, the protocol evolves.



Description: Collaborators of *BerryBabe* try out ceramic pieces, Helsinki, 23 September 2016. Photo: Bartaku

*Build further on previous work, in this case leaking *Baroa* stuff and other ingredients of the tPEDs have generated interesting after images on small canvases. They are a leftover antidote to the highly volatile *digestopians*, in terms of both electric and organic matter.

The idea of the pressing of the pomes onto the ceramic pieces comes from the staining experience of new *Aronia* as mentioned above.

Scene 2 – stain

Materials: round table, five chairs, linen canvas, four ceramic pieces, glass bowl, brain-reader.

Scenery: half-way into the *BerryBabe* space there is a round table with four chairs and a linen canvas cover. It holds a defunct brain-reader, the four ceramic pieces brought from SERDE and berryapples in four Petri dishes. At the window: a bowl with water for rinsing and testing the seeds for their potential to develop.

Companions and/or visitors perform actions with berryapple matter, fingers, masks, sap. Actions are slow, precise and done at will by companions. A festival visitor can join if it merely happens. Still, silence prevails, whatever happens. So, no inviting, explaining or responding. If a participant addresses a companion with a question, please guide them non-verbally to Bartaku who plays the role of the *BerryBabe* host. There are no guidelines for the non-verbal.

Consider the interaction with participants as a membrane situation: semi-open, semi-closed, like an intuitive breathing process. Bartaku keeps time, signals and responds when required.

Detail for the ceramix-berryapple enacting:
The idea is to release *Aronia m.* liquid inside the berryapple by pressing it between the ceramic piece and index finger; the sap leaks onto and into the surface of the piece. Also, I anticipate leaking of sap and matter into the canvas, leading to a leftover image*.

Detail:

1. Collect a handful of berryapples at Bartaku’s table. Carry them to the round table and place them into the Petri dish;
2. Take one pome, and press it slowly, slowly... onto one ceramic piece (one per person). Do this on the inside as well;

3. Whilst gently rubbing, pressing, the seeds emerge: place them on the side on a piece of paper (Bartaku’s table). At wish, take seeds to the water bowl;
4. Remove the dry leftover berryapple matter by putting it in a piece of cloth. When full, empty it into the bag at Bartaku’s table and take a new piece of cloth. When the bag is full, empty it into the flower water pot. Return to the round table.

Liquid

Liquid juice under your thumb.
In, to the hard-heated soil.

Pressing, pressing, keep on pressing.

The red blue turns black
in the hard-baked soil,
on the thumb too
until Time, Time.

Pressing, pressing.
Keep on pressing.
Passes Time.

The heat-hardened soil now pushes
the all absorbing liquid out.

Its surface into shiny turning.

Now,
the thumb feels the liquid in.

Pushing pushing. Keep on pushing.

Bartaku

Scene 3 – reveal

Materials: defunct Emotiv EPOC, mulberry paper, marker, chair.

In this scene, more possible hidden designs are sought to be revealed through the scalp shapes of visitor-participants.

A chair is placed near the round table of scene two. The paper lies on Bartaku's table. Any person can participate, still remaining silent. We start by tracing the brain device on our head with our group, either alone or with two companions, whoever is available. If a visitor-participant shows interest, one of us assists, inviting to do so in the single chair. These are the actions:

- lay down a sheet of paper over the top of the head;
- place the brain device on top of the paper, distributing at wish its 'legs' with the electrodes;
- press the marker gently down, and with presence allow it to follow the outline of the device on the paper;
- when finished, place the resulting sketches in the agreed place on the floor.

Scene 4 – tongue speak

Materials: brush, *Baroa b. sap*, white gloves, plaster piece, *Finishing flag*; postcards; table; new *Aronia* clay piece – 5th resurrection.

The final scene at the end of the hallway in front of the window features a long table that holds at one end the *Finishing flag* onto which the water-soaked seeds are deposited. At the other end near the window, new *Aronia* 5th resurrection is turned towards the scenery.

- Two companions (anyone available) of which one paints the tongue of the other with *Baroa b. sap* using the brush;
- The tongue-painted person goes behind the table, doing the following slowly, with presence:
 - pick up the postcard;
 - stand upright;
 - observe the breathing, into the nostrils three counts, and out through the mouth eight counts, observing the expanding abdomen (repeat at wish);
 - put on gloves, left, then right;
 - stick out the tongue – downward – as far as possible;
 - lift the plaster piece slowly in front of the face;
 - with the piece in front of the face, pull in the tongue, bend its tip down and press the middle part against the top of the mouth vacuole;
 - read the words from the card out loud, allowing mumbling;
 - at the end of the wording, lower the piece and stick the tongue out;
 - repeat at wish at irregular intervals;
 - stop at wish;
 - re-centre;
 - go to scene 2 or 3.

*Collect personal observations and those from companions via a debrief. Some participants provide feedback directly and some by mail.

Post-observations*

I quote from my notes that were taken prior to the follow-up gathering with all the companions.¹⁰² As for the silence, it was good to be the host, so as to take in questions, chat with familiar faces. The four pieces are stained beautifully after the two days of taking in the sap slowly. The fine gloss that arises seems to emerge when there is "a sense under the fingers of the

¹⁰² Bartaku 2016, Notebook.



Description: *BerryBabe* scene details; from top left: scenes 2, 4, 2, 3, 2, 2, Helsinki, 24, 25 September 2016. Photos: Bartaku



sap being pushed back,” as one companion describes it. This gloss did not emerge when I applied the kabuki *Baroa* paint with a brush on the new *Aronia* clay shape (cf. supra). I attribute this still to the presence of tannins in the sap. Some participants smoothly join in. For some it is a contemplative experience. When removing everything from the table cloth, and opening it up, the leaking sap and the tiny pieces of skin created a circular pattern on the canvas. I put a protective layer on it and store the linen cloth (cf. infra).

Scene 4, the Tongue-Speak, instigates a festival visitor to send a mail (JOP 2016, 29 September) with his video-recording and comments:

I followed a couple of decades ago Finnish Wicca culture. If the Priestess was present, others were not allowed to talk. From her mouth came just some weird bawling. That sounded impressive and worked well to outsiders. However, in this video it seems to be Ukko Overgod, who is holding the Sun and we do not understand him, because he is speaking out divine with glows on his hands. Full stop. Regards.

Another contributing companion makes a remark that still resonates. I read in my notebook (2016) that “... it is difficult for her to “access the same level of connection with ~~Aronia~~ *Baroa*”. This means that I fail to make at least one human believe that *Baroa belaobara* is the most important work of art ever. Worse even, it seems that I am a standing in the way of even establishing a connection* of some kind.

Lastly, new revelations have been made with a variety of hidden designs in scene 3. A companion emails these words: (Mejor 2016, 29 September).

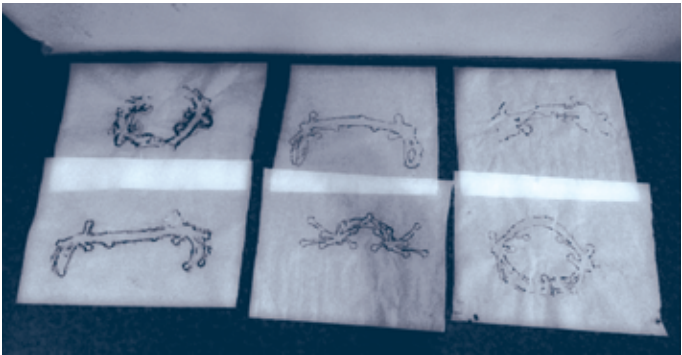
*Built further upon previous experiences: I like to explore the boundaries between the categories of audience members, participants, volunteers, collaborators and co-creators. Here, as well, in the scenes the companions are student-volunteers who I involve in the design of the protocol, so they have a sense of being a co-creator, at least collaborator. At the same time, their participation counts as part of their studies. Audience members, visitors to the festival, turn participant, co-creator, even in terms of staining the ceramic pieces and revealing new hidden designs with the sketches and scalps being the basis for new ceramic pieces. Similar to the previous *Passage*, where scientists are besides collaborators as well audience members. In both cases, the humans involved are part of the artistic methods as to morphing their essence of human being under the influence of *Baroa b.* essence.

Dear Kira,
This morning I realised a different aspect of our berry ritual, one that I haven't noticed before and I wrote down a few words;
I'm a vampire, I suck the berry's blood. I'm a sadist doctor, I skin the berries and separate the crusts from flesh and seeds. I'm a mad scientist, I open the berries to harvest their embryos. I'm a deranged artist and I smear the berry's guts on a clay surface for others to see. I gather the skins of the berries on dark, fleshy piles next to ordered rows of wet seeds. Slowly, painstakingly and patiently.

Best wishes from Warsaw,
Wojtek



Description: Berry Babe / Rapchiiy ceramix and Baroa sap on linen as part of Scene 3 of *Leaky Light_3*, SOLU, Helsinki, 5 September 2019.
Photo: Mari Kaakkola



The hidden design sketches are now to be transformed into ceramic pieces. Another technique evolves at the School of Arts, Design and Architecture.



2.5.2 From Sketch to Ceramic Pieces – Method 2

The paper sketches with the new revelations are photographed and digitised in optimal conditions at Aalto ARTS. These photos are then transformed by rendering them into 3D models. In a next step, the latter are translated into code that instructs the laser cutter that burns out these models into MDF boards. Finally, these serve as moulds into which liquid clay is poured at the ceramics workshop of Aalto University School of Arts, Design and Architecture. Whilst the slip hardens, there is time for detailing and specially to add relief with the

Description: Process of transforming at Aalto ARTS: *Rapchiiy*-pieces into ceramics: sketches photographing and 2D to 3D digital rendering, 7 April 2017; laser cutting MDF-board and laser cut pieces, 18 May 2017; liquid clay MDF-mould, 26 May 2017; softening MDF-edges before pouring liquid clay (slip), 24 May 2017; weights and liquid clay in MDF-mould, 26 May 2017.
Photos: Bartaku; 3D rendering by Ashish Mohite (2)

help of a syringe that slowly pushes extra slip in where needed. In particular more depth is created where the traces of the electrodes are manifested. The process is shown in the photographic documentation here below.

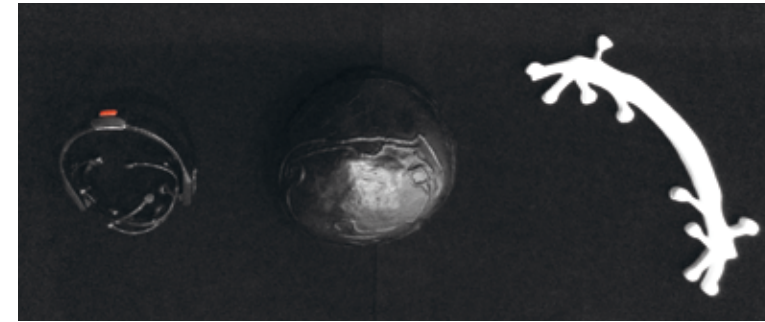


Description (ctd.):
removal of support clay;
detailing; after the
firing (2x), Aalto ARTS,
26 - 31 May 2017.
Photos: Bartaku

*Collaborate with fellow artists so as to spread the work amongst humans. In the case of the conference at UNESCO, its intention indicates at least a fertile ground for Baroa receiving. "...reveal and reshape the flows of material agencies across regions, environments, animal and human bodies" (Blanc 2017).

In June 2017, I take some pieces to exhibit at three talks. At one festival*, new hidden designs are revealed.

Artist Mirko Nikolić initiates a "*Frontiers in Retreat*" panel with the title "Cosmopolitical Eco-Poetics in the North", including artist Hanna Husberg, curator Taru Elfving and Bartaku. The ceramic pieces are shown next to 'our' stage in Hall 2 of the 'Maison de



Description:
Testing of showing
Rapchiy-pieces at
conferences: defunct
Emotiv EPOC (1) and
its revelations
morphed into ceramix,
Paris, 1 July 2017.
Photo: Bartaku

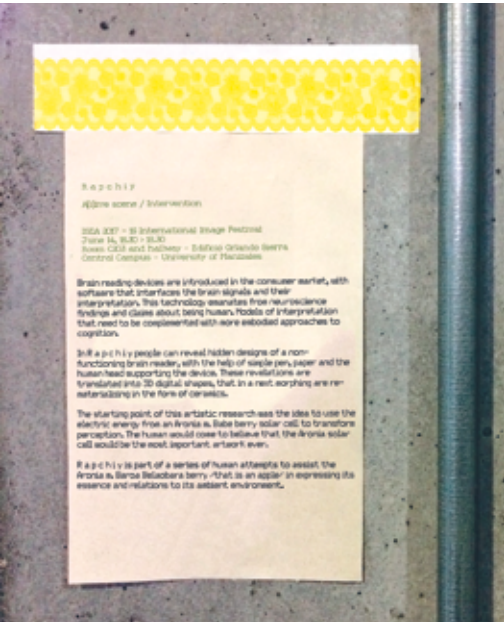
I 'UNESCO' which is filled with participants from the 'posthumanities'.¹⁰³

The day after I travel to Manizales, Colombia to contribute to the *International Symposium on Electronic Art (ISEA2017)*. Artist Laura Beloff invites me to be part of a panel "Methodological Approaches and Sensitive Experiences Based on Nature Immersions, Field Trips and Rural Residencies". For the proceedings I write a paper that (2017, p. 767):

proposes an artistic research practice to broaden the field of embodied cognition bringing about discussions that belong to the realm of the skill of the transversal (non-expert) artist exploring 'ideas on perception' and 'unreflective action in a setting of affordances'. Examples of works are given from a succession of enactions through examples of this artistic practice which implies the acceptance of a view on cognition that includes plant life.

At the *Festival Internacional de la Imagen* – to which *ISEA2017* is linked – I present the reworked version of Scene 3 of *BerryBabe* (cf. supra) under the name *Rapchiy* in a university building. Presented as an A(I) live scene/Intervention, it consists of one room in which a video is shown of the above-mentioned and 3D models. Further down the hallway – in a daylight-rich

¹⁰³ Conference on Environmental Humanities and New Materialisms: The Ethics of Decolonizing Nature and Culture. <https://pariscostconf.sciencesconf.org/data/pages/NewMat_Programme_Interactif.pdf>.



and wide space with many humans passing – the revealing of hidden designs takes place. I mark the space, hang the info sheet, position the ceramic pieces, and provide benches, mulberry paper, scissors and a marker. The same protocol of the ‘reveal’ scene at Pixelache is followed. I explain to the temporary collaborators that “estos dibujos que ustedes revelan en papel, serán traducidos en cerámico en un centro de arte en el medio-oriente de Latvia, pays Baltico, el origen de este trabajo”.¹⁰⁴

Rapchiy and thoughts on neuroaesthetics and Bartaku’s com-

mitment to the ‘mere happenings’ are presented at the Planetarium of Bogotá, a public science centre. The ceramic pieces are exhibited. It is the first talk in a series on art and neuroscience.



Description: Detail of audience information (top) Rapchiy participants revealing hidden designs at ISEA2017 / Festival Internacional de la Imagen, Manizales, 16 June 2017. Photos: Bartaku

¹⁰⁴ My English translation: These designs that you reveal on paper will be translated into ceramics in an arts center in the Midwest of Latvia, a Baltic country which is the place of origin of this work. Bartaku. 2017, Notebook.



Description: Rapchiy pieces in Hall 2 of UNESCO, 8 June 2017; new Aronia projection onto the Dome of the Planetarium of Bogotá during Bartaku’s talk, 21 June 2017. Photos: Bartaku, IDARTES (1)

*Develop the *Baroa*-based work further as a participant of a multi-annum international residencies programme, in this case *Frontiers in Retreat*.

2.5.3 From Sketch to Ceramic Pieces – Method 3

For the translation of the sketches of newly revealed hidden designs in Colombia, I return to the clay at SERDE’s ceramics workshop*. Ugis P. and Maris G. assist once again with their specialist knowing of matter, temperature, air flow, Sun, soil, spin, etc. Another way of making evolves in the making.

Materials: tape, thin paper, double-layered cardboard with hollow space between. Stone ware, ‘rabbit’ clay (Aizpute region), glazing, clay, kiln, heat, gun, sculpting tools, water, screws, drill, wooden boards.

Tracing

- From the original hidden design sheet, create two carbon copies (store the original); do not use a copy machine: the drawing exercise matters. Try to make a refined version, e.g. by tracing the inner and outer edge of the thick marker line of the original;
- Tape or glue the paper onto pliable cardboard and cut out the shape;
- Tape a copy of the design sheet onto a wall in front of you;
- As in the making, observe properly, calmly with presence.

Sculpting

- Take a handful of clay and soften it by throwing it from one hand into the other and back for a while, until it feels malleable;
- Make a sausage shape as wide as the cut-out cardboard piece and the estimated required thickness;

- Place the roll onto the cardboard and distribute it. Use the plank to work on;
- As soon as depth emerges, use screws to create support points under the cardboard where needed;
- Let it harden when ready.



Description: Process documentation from top left: From sketches into ceramics – hand-sculpted, SERDE, 4–7 September 2017. Photos: Bartaku

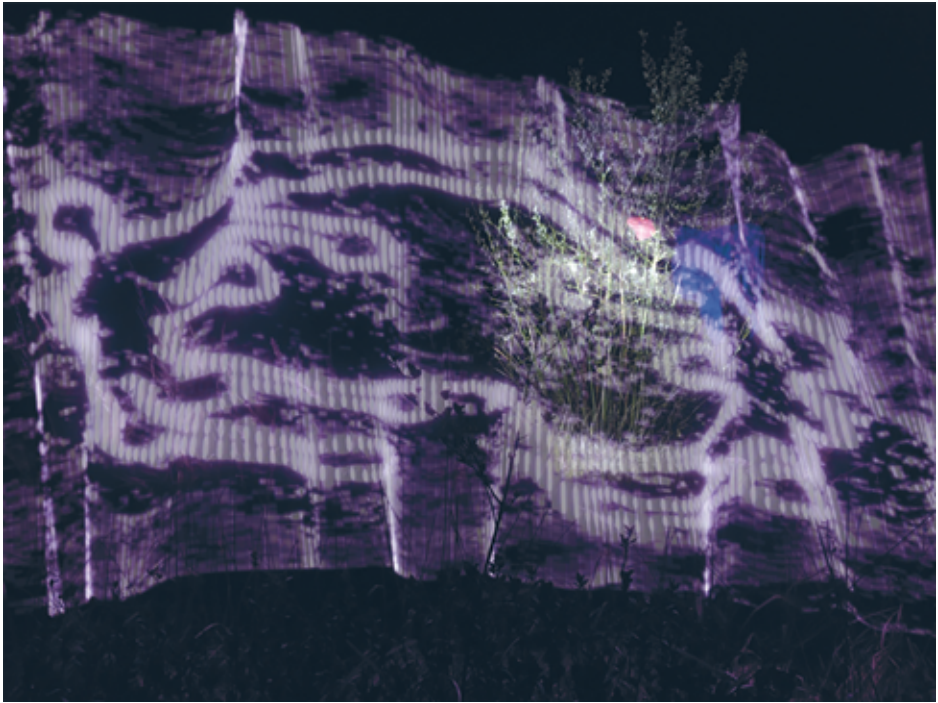


•Allow a NIGHT PAUSE at 02:25 AM
Description: On 170905 night pause at 0225AM, SERDE.
Photo (B&W): Bartaku

It is an annual tradition at the SERDE Arts Centre to organise the *Appleing Festival* in September. It consists of a market for local crafts, moonshine, *Baroa* wine making, *Baroa* pome blow pipe shooting at darts targets, folk dancing and music... In 2017, it is combined with the end of the *Frontiers in Retreat* (FiR) participation of SERDE in the form of a group exhibition with a selection of works by FiR artists. For *Baroa* I contribute with a new *Aronia* wall painting by Ance Ausmane. Next to it, with Udgis P. I set up a black-painted booth for a third *Rapchiy*, following the same protocol as at the *Festival Internacional*



Description: *Appleing Festival* with painted new *Aronia* and *Rapchiy_3* (1, 2), SERDE, 9 September 2017; *Rapchiy* staged for Latvian Television (3), SERDE, 25 August 2017; *Rapchiy*-piece signaled via the Pixelstick to lHaBP (4), 6 May 2018.
Photos: Bartaku



*Share the evolving collection of ceramic pieces - derived from hidden designs of a brain-reader - in various settings. Recombine, explore relations with other matter and atypical contexts.

Interpieces

Rapchiiy pieces entangle with Mirko Nikolic's beloved matters. The work is named: *earth minor* {3/19, 1/11 (22[33]), 2/29} ft. *The Path of Dormant Seed - A Leaky Assemblage*. *Radical Relevance Conference & Exhibition*, 25-27 April 2018, Aalto University, Espoo.

Intrapieces

As part of the *Leaky Light_3* solo exhibition a selection of *Rapchiiy* (ceramic pieces, sketches, video and the *BerryBabe Canvas*) are shown at SOLU, the space of the Bioart Society in Helsinki. From 30 August to 26 September 2019. (see photo p. 184)

Leaky Light_3 consists of a selection of mixed-media installations that feature ceramics, symbiont bacteria, sound as well as video, photo and text documentation from happenings and interventions. The works are instigated by artist-researcher Bartaku's entanglement with the *Baroa belaobara** plant species. At SOLU space the works are presented as three constellations. *Leaky light _3* is a momentum in the process of artistic inquiry into light, energy and bodies that is evolving since 2007. (Bartaku 2019, p. 3)

de la Imagen and Pixelache Festival. New scalps and tracing markers between fingers provide new hidden designs, revealed this time not on mulberry paper but on sheets of Baltic linen. Two companions assist, one with the brain-reader, whilst the other shows the newly made ceramic pieces. A video¹⁰⁵ is made which later becomes part of the *Leaky Light_3* exhibition. The next spring, during the *Pixelstick workshop* (cf. supra) one of the ceramic pieces that are instigated in this happening is light-signalled to *Baroa b.* and 1HaBP using the LED light device named Pixelstick.

Fragility

Prior to the exhibition that is part of the *Radical Relevance Conference*, and the *Leaky Light_3* exhibition at SOLU*, some ceramic pieces push to the forefront the question of repair**. I explore the ancient Kintsugi craft in which the repair (crack) is emphasised.



Details (see also next page) of kintsugi repair of a *Rapchiiy* piece, Helsinki, 18 August 2019. Photos: Bartaku

¹⁰⁵ By Nauris Viebus from Aizpute's Ideahouse youth and culture centre.



****Aug 2019 - Repair Protocols**

1. Kintsugi

In 2018-2020, artist/scientist Christina Stadlbauer guides a Kintsugi work group in Helsinki. Bartaku repairs some pieces at these gatherings. Christina S. finalises pieces for the SOLU exhibition. The layer-based ancient Japanese technique is labour- and time-intensive.

2.Ceramics workshop, School of Art, Design and Architecture, Aalto University

Apply glazing to the cleaned broken parts.

1. Preparation
Open the water - then the pressure valve;
Spray the cabin and test pressure;
Adjust the spray if needed;
Spray Pattern: 1 ○ - 2 ◐ - 3 ∅;
Stir the glaze in the pot (Code: Mat 1220-300);
Heat up the pieces to 200°C for 20min;

2. Spraying
Remove the pieces from the kiln and spray them evenly (patterns);
Use a sponge to rinse the bottom part and 1mm of the upper inner edges;

3. Baking
Extra treatment for pieces with cracks: put aluminium powder under them before placing them in the kiln. Try to make both sides fit as precisely as possible. Place the pieces in the kiln, set the oven to the required temperature.

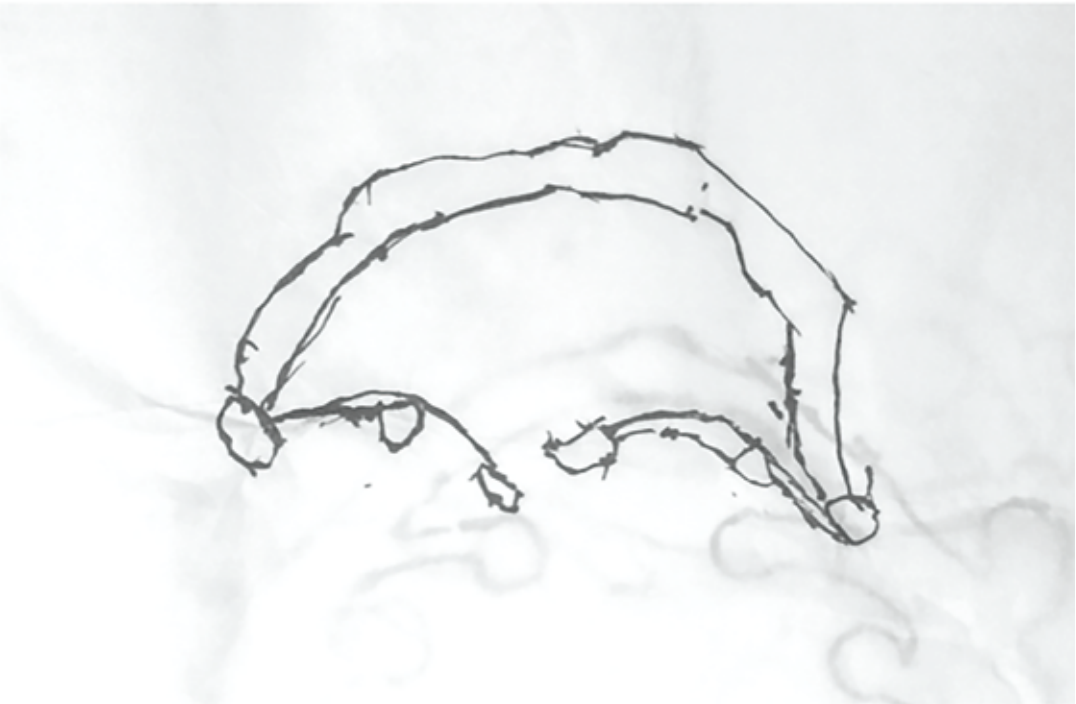
In particular pieces made with slip in the MDF moulds tend to break. Under the guidance of workshop master Tomi Pelkonen, we coat some of these pieces with a matte glaze finishing for the SOLU exhibition. We attempt to repair the broken ones, too. One weak spot is the thin 'bridge' between the left and right parts of some pieces. This is the consequence of the works being based upon drawings on scalps without restriction related to possible future ceramic transformations and their structural requirements and limitations. The second breakages occur where the electrodes of the brain device appear. On the sketches they are rather thin tracing lines that connect to the main 'branches'. This then results in thin ceramic parts that tend to break off in transport.

This is how the glazing protocol is noted:¹⁰⁶

¹⁰⁶ Bartaku 2019, Notebook.

Morphing lines with joint matter-making

In the processes of making in *Passages 4* and *5* various entanglements evolve between Earth, flesh, air, vocal cords, water, wood, flesh, glass, fire, fibre, light, salt, metal, *Pseudomonas fl.*, oil, plastic, *Baroa b.*, breath, latex, among others. This might bring to the reader’s mind theories on touching, agencing and interspecies dialogue-ing. Still, they are out of scope here, so I refer rather to this^{xv} final endnote of the *Works* section. In the next one we write our way further with a concluding mind-set.



Description: re-Tracing of a hidden design of a defunct Emotiv EPOC on mulberry paper on top of a scalp by volunteers at *ISEA2017 / Festival Internacional de la Imagen*, SERDE, 29 August 2017.
Sketch: Bartaku

All the hearts

of all the beings with hearts
rinsed by Baroa,
leak from mouth
to heart
blend with blood.

All pressures down,
all faces fade.

All bodies stumble,
all bodies fall
all bones flake
the Sun.

Bartaku¹⁰⁷

¹⁰⁷ Bartaku 2018, Notebook.

Description: Part of
 “Interaction of Autumn
 Colors in *Aronia* leaves”
 series - Autumn 2019
 Colour change is observed
 in two *Aronia mitschurinii*
 (Sorbaronia mitschurinii)
 leaves stuck together by
 moisture, 12 October 2019,
 Mäkkylä, Espoo.
 Photo: Janne Halme



III P A S S A G E the C O N C L U S I O N ¹⁰⁸

Dear reader, we are here now, swirling towards the exit. We went through the *Passages*, each with their own essayistic ways practising the evoking of workings, processes and ways of doing, as closely as possible to the initial experience, with the writing process itself gradually spinning into the practice it is ‘speaking’ from. After this compiling from written or recorded voice memos and visual testimonials, impressions, revelations and fantasies, now is the moment to go through a process of distillation. In this *Passage* the *Conclusion*, I point to personal scintillations whilst going through the notes that are taken in the process of writing and compiling. I add third-party and secret ingredients that hopefully lead to ‘stuff’ that can leak back vibrantly into reality, carrying on in its own time.

In the re-Situating section, I depict a scene with a context in which this line of work can be placed. Then, I elaborate on the reasons behind the choice of some words, and on the improvement of others. The second section elaborates on the central notions of the ‘mere happening’ and the gradual moving to the foreground of how... ‘things’ have been evolving which I commence to describe as the way of play. But what now, with this ‘way’ now so up ‘in the face’? Unanswering this question, together with a scene from Jodorowsky’s *Holy Mountain*, we exit the monograph.

¹⁰⁸ French for *Passage of Concluding*

3.1 re-Situating

This monograph consists of a selection of workings that all depart from one place: a former berryapple plantation in the Midwest of Latvia. There, at varying moments in time, mere happenings instigate me, Bartaku, to enact according to these instant experiences that I initially relate to the berryapple plant.

Bartaku receives them as assignments and commits to them in a doing-undergoing way.¹⁰⁹ I start the processes of art enquiry, attracting other-than-berryapple beings, as well. Various parallel pathways evolve simultaneously that now and then leak into one another. Here and there crystallisations occur that are shared with humans in the form of exhibitions, interventions, talks and written wordings. Some are reported back to the berryapple.

The playing and process is equally important to these manifestations. They intentionally blur the boundaries between audience member, pollinator, collaborator and or co-creator. The enquiry is key, and the commitment to the ‘mere happenings’ that involve morphings of name and shape of the berryapple, (*Passages 1, 2*), land (*Passage 3*) and *Pseudomonas fluorescens*, clay, energy, language and human perception (*Passages 4, 5*).

Practising art with research

This kind of research is a form of art in itself that generates a particular kind of knowing, with particular

¹⁰⁹ For a discussion of the ‘active/passive’ or ‘act’ and ‘undergo’ opposition and the notion of *agencement* or *agencing* see: Ingold (2015, p. 17) and Ingold (2016, p. 15).

‘results’.¹¹⁰ The practice relates to the fields of bioart, intermedia art, experimental art and the Fluxus tradition.¹¹¹

The fabric that emerges by the described processes is the result of the visible and invisible interweaving of theories and applications from science, humanities, arts and crafts. The almost exhaustive list consists of: Botany; Plant science; Micro- and Photobiology; Solar physics; Pataphysics; Epistemology; Cognitive science; Systems theory; Social anthropology; Alchemy; Ceramix; Sound art; Jazz; Photography; Colour theory; Theory of art.

It is obvious that with this amount and variety of influences, there is a high variability of knowing of the various and often complex fields. In this sense I see myself as a transversalist weaver of various entities, matter, practices and theories into a multifaceted constellation. The majority of references originate from *Baroa belaobara*-related research, art and its ways, its relations with knowing, reality.

A brief example of what this multilayeredness, trans-contextuality and intermediality entails is the preparing of the exhibition prior to the writing and compiling of this monograph. For weeks, I move between bacteria in Biofilia to the workshops for wood, metal, clay ceramix, photograph and risograph printing. With a more detailed look into the matter and material involved in the growing-in-making, one can add here

¹¹⁰ Juha Varto provides an in-depth ‘apt description’ of artistic research including a section on “Knowing Against the Grain and its General Applicability”, that – five paragraphs after tracing artistic research back to the twentieth-century avant-garde, and especially to Pataphysics – ends as follows: “Art is always individual, and we can never be certain that it is indispensable even to the artist in question. Who says that art is not just an idiosyncratic mistake, the joke of a lifetime, or an indiscretion? A human skill is never predictable, firm or steady, and its results may be...” (Varto 2018, pp. 140-145).

¹¹¹ I am pointed to Futurism via a review of the *Leaky Light_3* exhibition by Mononen (2019). I recognise in my practice most of the Futurist principles as discussed in the article by Friedman (2012) that “examines the hermeneutical interface of life and art through 12 Fluxus ideas: globalism, the unity of art and life, intermedia, experimentalism, chance, playfulness, simplicity, implicativeness, exemplativism, specificity, presence in time and musicality” (Friedman 2012, p. 272).

the solar physics lab and the Digital Design Laboratory (ADDLab), Biokeskus lab (DNA sequencing) of Helsinki University and most importantly, the ceramics workshop of SERDE Art Centre.¹¹²

The presence of these facilities is one of the advantages that Aalto University has to offer for this type of transversal practice. Another is the encouragement of transdisciplinary practice, in the line of the foundational base of the university and SERDE.¹¹³ Above all, there is the openness and willingness of many to collaborate, discuss and hang out with volatile entities like *Baroa belaobara* and Bartaku.

Commit to the mere happening

All of the past *Passages* begin by referring to an event that is a mere happening at 1HaBP. I am stricken by a seeing-knowing, idea-like something that feels like an assignment. In public talks, I refer to it regularly like this: “As for the notion of Mere Happening, to avoid having to go into self-explanatory mode, I often refer to Merleau-Ponty when there is a theory-oriented audience”.

The revelation, epiphany or mere happening is experienced instantaneously and ‘comes to me’. It is experienced as situated in-between doing and undergoing, the internal ‘self’ and the external x-mere that

¹¹² URLs: of workshops at Aalto University: Biofilia (Centre for Biological Arts): <https://www.aalto.fi/en/biofilia>; <https://www.aalto.fi/en/arts-infra>; Solar Cell Research Lab: <https://www.aalto.fi/en/department-of-applied-physics/new-energy-technologies-renewable>; ADDlab: <https://www.aalto.fi/en/school-of-engineering/addlab-aalto-university-digital-design-laboratory>.

¹¹³ The history of Aalto University see <https://www.aalto.fi/en/aalto-university/history>
About SERDE: <http://SERDE.lv/?q=node/18>

‘borrows my mind’¹¹⁴ to extend-x. So, not originating from the subconscious, not from lucid-dreaming, nor from auto-hypnosis or psychotropic entities. A sense of intimate presence and ‘interpenetration’ rather than ‘interaction’ that I attribute as Mehldau does, as a result of the silence and space, but then of and at the plantation with *Baroa belaobara*, then still *Aronia m.*^{xvi}

These instances often follow events of a serendipitous kind: “the miracle of being where you are”.¹¹⁵ The one that lies at the origin of the main work that is featured in this monograph occurs during the demoining of plant dyes making a little electricity with Sunlight, when a local participant asks me if I am interested in the dark sap of a nearby berry. Soon after, she walks me to the then-called *Aronia* plantation just past the centre of Aizpute. The sensation upon arriving is totally overwhelming, touching ‘to the bone’. This then leads to annual periodic returns, mostly when the pomes are ripening. Moments of learning about the history of the site, the people, matter, herbs, deer, river, pigs, berry-blowpipes after obligatory berry pickings. More individual hang-outs, aimless wanderings, and a few ‘mere happenings’. The latter instantaneously instigate a sense of commitment to express the revelations artistically. Commit¹¹⁶ to the enacting of the consequences of the connecting, the enigmatic ‘signal’ from *Baroa belaobara*, I often tend to think, and speak.

Just a few more examples here to ground the words above. In the early stage of *Rapchiy*, serendipitous

¹¹⁴ I borrow this expression from the 1900 essay by Nikola Tesla “The Problem of Increasing Human Energy”: “The automaton so far constructed had ‘borrowed minds’...” (Tesla 1900), <https://www.pbs.org/tesla/res/res_art09.html>.

¹¹⁵ Mieke Bal discusses in depth this notion in the context of the arts, based upon the workings of artist Ann-Veronica Janssens. “Serendipity: the politically effective solicitation of an intensity that opens experience up to the world, beyond the fugitive moment” (2011, p. 29).

¹¹⁶ The etymology of ‘commit’ points to many valuable words that aid in the explanation: “to unite, connect, combine; to bring together”; “trust (oneself) completely to” and to translate Sartre’s “engagement” emotional and moral engagement. (www.oed.com).

•Whilst writing the ways, dear *Baroa*, I have to tell the human reader something about how we worked. This is the part that is mostly in the realm of essence, since it requires the slipperiness with the risk of being sloppy.

Bartaku 2019, Notebook.

entering in the SERDE ceramix workshop of Laurie S., struggling with photo-chemicals in her work, instantly there is the ‘knowing’ that she is the one to convert the first hidden design of the brain reader into a sculptural piece. I commit, take care of vodka, music, tools and assist her. Second example, further in time, when I feel the clay gradually hardening in the laser-cut moulds, the eye edge picks up a tiny air bubble popping. Instantly it is clear that I need to elevate at particular places the now too flat surface. I then provide depth with a leftover syringe from the *tPED Labs* that I happen to carry with me.

Whilst preparing this concluding, I read an interview (De Backer 2020) with jazz musician Brad Mehldau about the revelatory becoming of his most recent record:

“You write on the cover of your record that Covid-19 quarantine has had moments of revelation as well. Which ones?” Mehldau answers: “Revelation, epiphany, satori, gnosis – there are lots of different words for a moment of realization which is actually not sayable: It is not something you can say, ‘Here is what I learned,’ and then go on to explain it. These moments happened as a result of the silence and space, which was one of the positive things to come out of that month of April.”¹¹⁷

This leads us to the next part in this section, discussing the ways•, the *how* of what has been happening, so as to not use the word *methodology*.

3.2 Ways of Playing

The processes that are fused by these initial serendipitous and revelatory moments show similar pattern-like

¹¹⁷ The journalist kindly mails me (2020, 24 June) the unpublished part of the email interview that interests me.

approaches. Many emerge in the process, some are consciously enacted, others are the result of the relationalities in the processes. They are at work in this monograph, too. I describe them in what follows, being helped in identifying them and grounding the wordings by making a cross-over into notions that resonate from the domain of improvisation music.¹¹⁸ Hence, the use here of the expression “ways of play”. In the overview below I provide examples from the previous *Passages* after this excerpt from an interview with drummer Joey Baron as a rough summary and introduction:

Something was happening, we just played... A whole community of people working from a different point of view . . . Go past rules, include your own point of view whatever you do . . . I make it intimate. This is for this moment . . . I try to engage people, make it an act of process not just a passive one of people paying attention. Show the process of making music in the moment; try to create something that moves forward . . . I like taking chances – surprises out of nowhere – . . . how to recover . . . (Roulette TV, 2009).¹¹⁹

Space••

The commitment to the serendipity of the string of ‘mere happenings’ is enacted beyond the centre of it all, 1HaBP. Firstly, there is the fertile biotope of SERDE Art Centre in the centre of Aizpute, an aggregator of information, matter, crafts, tools, local people with a strong bond with *Baroa belaobara*, Bartaku and artists. From 2010 until 2019 this is the place of

••“I open my eyes, and direct them over my right shoulder. *Baroa belaobara* develops its fifth leaf reflectively from forgotten seed.”

Bartaku 2020, Notebook.

¹¹⁸ Resonance due to a past as a drummer, a mere amateur, admiring the quality of presence of musicians of the improvisation scene. They also contribute to tentatively exploring the wordings regarding the entanglements with the *Baroa belaobara* realm. See: Corbett (2016).

¹¹⁹ Bartaku 2019, *Selected readings at finissage Leaky Light_3*, Bioart Society, SOLU, artist talk.

making, reflecting, sharing, showing, intervening, cooking and going to and from the plantation. The Shape Morphing strand leads to the first experiments with *Baroa belaobara* towards new *Aronia* in a microbiology lab in Riga, with non-Sunlight, dried seaweed, distilled water, salts, minerals and hormones in a different air mix than 1HaBP for the leaf-parts to grow into cells, roots. Soon after, the second key biotope is the School of Arts, Design and Architecture of Aalto University and its Otaniemi campus.

There, from 2016-2020, the works of *Passages* 1, 2, 4 and 5 can continue in the formal form of a practice-based doctorate. The multifaced nature of the work aligns with the institutes' goal to develop trans-disciplinary practice between the Schools as well as with the availability of art and craft workshops and the lab for biological arts, Biofilia. Besides a different, more chemical-rich air, the growth context for *Baroa belaobara* resembles the one in Riga. And more room for exploring different types of other-than-Sunlight at the School of Electrical Engineering (cf. Aamo and new *Aronia*). Regularly, I carry purified dye extractions from *Baroa belaobara* as well as the excreted *Pseudomonas fl.* pigments from Biofilia to the solar physics laboratory (Aamo). The university offers further meeting space, formal and informal, and a physical and digital library with access to many – otherwise expensive – journals.

Then, there are the spaces with other kinds of protocols, where the workings are shared, some with *Baroa* breathing presence (cf. *BerryBabe*, *Seed scarification: Serious taking*, *Leaky Light*): indoor and outdoor exhibition spaces (cf. *Aroniathon*) and conference venues and public lecture halls in Finland, Latvia, Germany, Colombia and France.

Soon after arriving in campus-land, I spot *Baroa*-a-likes, in a row close to the rich air of a waste shed and aligned in front of red bricks that reflect the tempera-

ture and air humidity easily. As mentioned in *Passage* 3, in April 2016 the *OBDP* land is established in half a day and half a night: twenty-two 1HaBP *Baroa belaobara* planted over an unknown peninsular functional land named campus (Otaniemi), distributed in the shape of future new *Aronia*. A line representation on a digital representation of the campus. Only existing in walking the line. Which happens once, with participants of an Aalto ARTS conference.

From March 2016 I live North of 1HaBP, and amidst *OBDP* during the monograph writing part of 2019–2020.

Before moving onwards to the aspect of the entities involved in the playing, I share these comments emailed by artist Mirko Nikolić (2016, 23 November) regarding the territoriality and relationality of – and with – the plantations.

... I got excited how the *Aronia* plantation is becoming a specific form of extra-territoriality through your ongoing (non-property) engagement! It is physically part of Aizpute, but, to some extent, it is also a territory that travels with you, and re-materialises in other contexts, thus becoming a sort of collective supra-national imagery. *Aronias* become nomadic through your mediation! And, in fact, they can also reterritorialise Otaniemi or in a laboratory! From that perspective, where does the plantation begin or end?

Also, I was thinking how the plantation becomes in some way also part of SERDE, if we begin imagining artist residencies as bodies that become accountable for entities that guest residents worked with. Since you as a foreigner do not have Latvian citizenship, perhaps the plantation can become incorporated into SERDE. Of course, these types of affiliation wouldn't be of the ownership sort, but bonds of accountability and responsibility. This could all tie with my Finnish project of thinking

how to extra-territorialise minerals from Finnish jurisdiction....

Entities playing

Here I point to the diverse kind of entities – as said, due to the multifaced character of the practice – that intertwine into the meshy constellation, the latter becoming one of these entities itself, since it constantly co-emerges with and through the workings, including this monograph. As for the humans involved,¹²⁰ there are those at – and through – Aalto ARTS that enable, guide and support Bartaku and the practice. Then, the people from SERDE Arts Group that support and co-shape the practice and bodies from 2009. In *Passage 1* there are deceased botanists as well as some of their naming and classifications. Their alive colleagues now also form fields of plant physics and genetics, still aiming at ‘taxonomising’ *Baroa belaobara*. In *Passages 2* and *4* there is the Aamo quartet (at times quintet) with three to four scientific players and Bartaku. Then, the artists, craft persons and participants of the live interventions (*Rapchiy*) that are crucial in the entangling with clay and (cracked) ceramic pieces. The Biofilia lab managers that co-determine direction of the works that involve *Baroa belaobara* and *Pseudomonas fl.*; Fellow artists co-creating, collaborating, hybridising works (cf. *Radical Relevances*); Students of the *Leaky-Loop* course that contribute to the first research into microbial pigments and instigate the re-directing of the *Aronia Overture*¹²¹ towards *Seed scarification: Serious taking*. The people that invite me and attend the works shown, shared in

¹²⁰ Whilst typing ‘human’, I think of the microbiomes in and on the body, as well as the breath with its volatiles, the salts leaking out from eyes and skin, the excremental vibrant matter, vaginal, seminal and breast hormones, fructose, proteins...

¹²¹ <https://bartaku.net/aronia-overture/>

public, instating with their questions and comments further questioning and practice.

Then, there is the entangling with *Baroa belaobara* and its volatiles and companions (*Pseudomonas fl.*) at the plantations (fox-head, ticks and *Borrelia burgdorferi*, hare-teeth) and its dyes. There is a substantial influence exerted by the plantations themselves, being there, or not.

There is the matter that is involved in the workings. The monograph features only that which ‘matters’; exerts a clear influence on the making process: clay/ bone china and lacquer (*new Aronia, Rapchiy*); purified dye that is applied on glass coated with tin oxide and titanium dioxide (Aamo); that same dye printed as micro-droplets on paper (*Leaky Light_3*); the granite wall beneath Espoo train station, cellulose fibres (posters) and rubber glue (*Aroniathon*); the 30x40 canvas with unknown pigments representing flatly *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. In this respect, I point also to the software as a ‘protocollistic’ shape influencer (e.g. in *Rapchiy*) the 3D renderings, brain reader code and data visualisation.

The scholars, scientists and artists whose actions are deeply interwoven in the tissue of our workings: reflecting and directing whilst experimenting with the intricate dialogue between photons and *Baroa belaobara* dye electrons (Aamo); rendering green the human perception of reality after LED photons have touched upon the eyeball and brain nerve cells (*Seed scarification: Serious taking*); the cardboard panel that we place in front of the exhibition room window to

block the light that falls onto the pot filled with boiling
Aronia m. matter (*Leaky Light_3*).¹²²

The flow of air in the troposphere, intricately
mixing with human and *Baroa belaobara*-breath,
with their volatiles and touching upon Anything
(*Wording*; Biofilia work; *BerryBabe*; *Leaky Light_3*).

The list here is not exhaustive, never mind the
unspeakable. Rather I prepare the next part of the
way of play that considers the variability of quality
of entangling in the processes.

¹²² It is pushed by the force of the hot pressing *Aronia* breath that
builds up between the panel and the window, with the sap leaking
into the white stone floor, staining it.

Mere Matter

Dear reader,

When SomeThing Happens.

When,
It merely happens
dear reader.

When then,
this It
attaches Itself
to AnyOther.

When then,
Doubt strengthens Reason.

Rushing in
the short-lived sense
of depth of life

of

time, your friend,
Things Making Sense.

This then,
Dear reader
renders your feet
firm in pathing
sparkling in walking.

*Bartaku*¹²³

¹²³ Bartaku 2020, Notebook.

•Presencing test Protocol

“A composer after the Atlantic pi-direction of simplicity starting in, did not rehearse. Even when addingly involved as his instructions” (Bartaku 2019, Voice memo).

If you, dear reader, now reflect upon the meaning of the above, then you are not playing with presence.

Presence is not found in the moment. It is not neglecting past, future, either.

Presencing•

The heat-released molecules of *Baroa belaobara* flow into the ambient air of spaces, enter matter, skins, mouth and nose vacuoles, tongues, bloodstreams, brains, microbiomes. This *Baroa belaobara* presencing intervention follows the experiencing of a too-strong presence of some-thing, for instance the walls that take into their pores layer after layer of human breath of the *BerryBabe* hallway. Perhaps this sensation relates to René Daumal’s (2010, p. 95) “few principles of Ghostly science,” in which

Ghosts do not haunt places where work is performed. On the other hand, in the houses of those who have forgotten their original role of protecting the Earth and who persist in living a life of idleness, of an absence of life, there is room for ghosts. Ghosts can appear wherever room is made for them, wherever they find the least resistance, the least presence. (Daumal 2010, p. 97)

Ghostly, then, the ecology of the lab, where presence is most felt in its absence. With little lab routine, one has to be extremely aware of every gesture and thought in the confined laboratory biotope. The lab coat that rarely fits, pushes breathing of the particular lab air to the foreground; rubber gloves soon show signs of leaking body liquids; security protocols need to align with science protocols (what to do, why, in which order how and when) and the protocols of the machinery and tools; the crucial relation with the lab manager. On top of this, I am susceptible to the high amounts of energy and waste – often bio-hazardous – that the labs consume and produce. The most difficult ‘hurdle’ is the awareness of deciding over life and death: handling cells, micro-organisms, *Baroa belaobara* leaves, roots, seeds, plantlets. When I touch and breathe upon these living entities in that extremely tiny work space

called ‘the hood’, the cortisol and adrenaline levels are boosted. These then render latex hands unsteady, spill hot liquid seaweed and hormones, kill bacterial colonies, misread volumes, touch the not-to-be-touched and send the magnificent thin tube of glass to the waste container.

It is only with a minimal routine that some behavioural ‘automatisms’ emerge, memories in the body with foreground thinking that slides into the background: only then presence may manifest in the lab. A point of departure towards possible experimentations that can fail safely. Possibly then things could ‘merely happen’ beyond the protocol-based results. Still, due to the irregular periods of work, the experienced absence of presence tends to add to the absence of presence as part of the Way of Play.

The contrast is rich with the breathe-wording to *Baroa belaobara* (cf. Wordings). The absence of thinking of presence is its manifestation, in playing with *Baroa belaobara* #18 – ‘Bird swamp’, and its companions, for the local surroundings: the things and conditions around *Baroa belaobara* and me. The word-playing with presence is possible through the existing vocabulary regarding the growing of plants, honouring them, as well as fiction-fantastic and science-based language. This results over time in a mix of words that denote – are filtered by – what I imagine *Baroa belaobara* might perceive and possibly entangle with at that particular moment. I experiment with speaking humanly through – and not for (representing) – *Baroa belaobara*. To give an example, focusing on *Baroa belaobara*’s light sensitivity, I practise writing and photography simultaneously, playing mind-words and photon reality. This way of word-playing brings to mind what Daumal describes as (2012, p. 44) “an objective technique of lycanthropy, allowing anyone to

change, internally or externally, into whatever animal one wishes... in fact a matter of... metempsychosis”.

“Attention is the hidden discipline of familiarity”

*David Whyte*¹²⁴

Presencing is experienced as a gateway to intuition, improvisation, the experimental, to the liminal, the ‘mere happening’. Presencing is practising intimacy, sensuality towards Anything. When repairing the crack of a porcelain piece with a wooden stick that has horse hair attached to it, applying the mix of flower and lacquer to both sides in the crack. Layer by layer, every layer with its relation to time, air, thinnest of water drops, pressure. Finishing after a third of a FtF cycle with a line of gold.¹²⁵ The crack is ghostly when packing the ceramic pieces and using the wrong protective matter in the hurry-ing for the travel. Or when placing a piece on the wooden table with too little control of gravity. Glitches of loss of presence, intimacy with matter.

Presencing is a never-ending practice of living here and now, with at the background a layer of the past, and a thinner one of possible futures: “remembering presences the past; imagining presences the future” in the words of Tim Ingold (2016, p. 21).

Presencing does not lend itself to being instrumentalised. If there is a strong scent of intentionality in achieving it, ‘mere happenings’, serendipity, chance, epiphanies escape, are not manifested – at least not in my practice. For instance, the habitual dressing up and walking to 1HaBP is not a vestimentary or contemplation-in-moving ritual in order to ascertain the appearance of these phenomena. It is just an instrumental way to create calmness and increase awareness, sharpen the senses, an inward-oriented practice

¹²⁴ Whyte (2018).

¹²⁵ See the Kintsugi practice in *Rapchiy*, *Passage 5*.

in which in the walking, the self dissolves partly with-in the environment without any expectation attached.

In the next paragraph I elaborate on learning as part of the way of play. First, I need to clarify that it is distinct from a long thread in the thinking tradition on knowing that Federico Campagna investigates (2018, p. 204):

According to Suhrawardi, knowledge by presence is the purest form and the foundation of all other forms of knowledge. This is a kind of non-discursive, non-conceptual, non-propositional type of knowledge, akin to the unmediated perception that one has of one’s own pain... where one’s ‘knowing’ something and one’s ‘being’ that something, are inextricably intertwined.

Learning

Practising presence is challenging, since the commitment to the ‘mere happening’ and the processual often leads one into fields of doing that are unfamiliar. Hence as an amateur going through the phases of learning, unease, lack of flow, the sense of slow progress, failure and always practising being at ease with one’s limitations and ego: grace under pressure. Opening up for others, listening, possible change of direction, still, always in touch with the commitment to the expressing of that ‘mere happening’ reality.

The learning is crucial to having the conversational reality between all the entities involved. It is playing and happening on the lines of experience, attitude/responsiveness, skill and information. A mix of these is at work within each of the workings in the *Passages*, as well in the now-evolving wording of the ways. All influence one another in the entangling, and then together

constitute the general learning and knowing of the overall reality, the constellation.

Learning/Knowing is: Experience (embodied) x attitude x skill x information

The experiencing involves the felt sense, and it happens obviously in the science experiments in the labs. They are based upon information, often with research into the latest available results in the respective fields, for instance, regarding the alternative for the yellow colour of the salt solution in the nDSSC. But experience also in the sense of built up ready-at-hand knowing over time, as in my case having worked often in a co-creation context with scientists, craftspeople, artists and plants. As mentioned above, I learn to work in a biological laboratory, so as to become freer, and be more playful, calmly with tools, protocols, dishes, tubes, powders, molarities, to be calmer, more present so that intuitively and instinctively there is an opening towards lab-safe blissful accidents. In particular, then, better ways of questioning of the ecology of the lab might emerge.

There is also more learning with the OBDP biotope of which I am a part, with daily hanging-outs sometimes intentionally to 'check on' *Baroa belaobara* (cf. supra), with an increasing sense of who its new companions are, what the light situation is, the air quality, the wetness or dryness and how *Baroa belaobara* responds. Practising patience whilst approaching with unmoving limbs wagtail, fieldfare and hares to play.

There is an attitude amongst the Aamo group members to keep on learning and especially questioning in the liminal, often fuzzy process. As for *Baroa belaobara* and *Pseudomonas fl.*, we experience their capacity to adapt to changing biotopes: growing as well under LED light with industrial nutrition in the lab; adapting to the new (OBDP) campus land coming

from 1HaBP. With an attitude of curiosity, participants of *Rapchiy* provide their scalp or hands through which they reveal another hidden design of the brain reader. I participate in the Crispr workshop in 2018-2019 in order to develop knowledge of the field, to get a more informed sense of what the possible implications are in case this gene editing technology became part of our workings.

Under great guidance, I develop some skills in working with clay and plaster, feeling-seeing-hearing-smelling its responsiveness whilst adding water, stirring in air at varying speeds, softening the clay in the hands whilst feeling the heat rising in between the palms, how it pushes back *Baroa belaobara* sap under the fingertips after hours of taking it in. I learn to use the Pixelstick so that its LEDs shine-share the shape of new *Aronia* and the letters *Baroa belaobara* light-wise with *Baroa belaobara* and companions at 1HaBP.¹²⁶

Research time went into the financing of Aamo, of possibilities to share the works in public, etc. A lot of information is gathered to establish an overview of the taxonomy of *Baroa belaobara* in *Passage 1*. Its DNA is frozen at 80°C in a tiny petro-plastic tube at Biofilia. When the moment is right, it will be sent to another lab where a sequence will be analysed, resulting in information that – I anticipate – contributes to the ongoing becoming of *Baroa belaobara* and *Aronia m. (melanocarpa or mitschurinii)* in the perpetually moving realm of taxonomy.

The Aamo members select information on our workings – each from their own field – for talks and lectures in and outside the university. Information on our activities is compiled monthly and passed on to the university management. That is one more rhythm here. As mentioned earlier, we don't get to learn from

¹²⁶ Workshop by Various Artists, Bartaku and Nadine, "Pixelstick: Signalling *Baroa belaobara* & New *Aronia m.* LED-ly to 1HaBP", SERDE Art Centre, Aizpute and New Media Arts, Liepaja University, 2-6 May 2018.

negative funding applications when there is no information regarding the motivation. I learn from the qualitative feedback on public work by the assessors of the PhD, from the supervisor and advisor.

Literature from any knowledge system, indigenous (cf. *supra*, *Herbologies*) or citizen, pata, neo-pagan or natural science provides inspiration regarding the sensing of *Baroa belaobara* and its companions. In the meanwhile, the latter incessantly process ambient information, responding and signalling swiftly in real time, above and beneath the Earth's crust, learning and remembering parts of the process.

It is from plants that we ought to enquire what the world is... because they are the ones who 'play the world' <'Font le Monde'>. They find life where no other organism reaches it. Autotrophy... allows plants to transform everything they touch into life, they make out of matter, air and sunlight what will be the space of habitation, a world. (Coccia 2017, p. 8)

Rhythm, tone, vibrating

All the workings have their own intrinsic rhythm. The work of Aamo follows the pulse of the institutional context with its holidays, conference travels and lecturing times. Also, there is a pattern in visiting 1HaBP, annually mostly in August and September between 2009 and 2019. This relates to my attempt to sense *Baroa belaobara*'s 'beat', which then again is strongly determined by its ambience. The scientific protocols impose a pulse on everything involved in their prescriptive wordings. In their turn, where living entities are involved, their metabolite properties are co-defining the order and duration of steps (e.g., bacteria require 18 to 72hrs to reproduce and grow sufficient colonies, again, depending on the food-energy and light condi-

tions). Then there are the rhythms of clay and lacquer in relation to temperature that provide a rhythm in the period that I/we work with them.

Rhythm is distinct from duration, which is undetermined in all of the strands. Except for the 'gift' works, they are all open-ended. In particular, the nomenclature-morphing has an absence of ending in my lifetime due to its consistent ongoing failure.

Energy

Here, I refer not to the biosolar painting panel kind of electricity, but rather to the forms of energy (emotional, spiritual, bio-electric) within all entities involved in the practice. Together they determine the energy level of the entire constellation. These energies can flow throughout and between everything. They can also leak out of Anything.

A first way of energy playing is to be found in its seeming antidote: the energy of non-doing. As an example of a recurrent energy pattern, I remind the non-intervening in the 1HaBP land ownership situation throughout the years. In 2016, then, 1HaBP is prevented from being sold to some Nordic investment fund by the grandson of the plantation manager (cf. *supra*). The decision to not intervene, is between intuitive and rational, and is perceived in between doing and not-doing. See also Ingold's ideas on doing-undergoing.

The grandson's attempt to 'restore' the land to its initial state as a monocultural plantation in April 2016 results in a sense of disconnecting with the land, a sudden collapse of emotional, sympathetic energy. No perceiving of any signal of Anything; no sense of presence, no intuition, no 'mere happening'. Only a mere haunted ghost land, in Daumal's terms (cf. *supra*). This moment of catharsis, then, sparks the

move of a tiny part of 1HaBP that will soon live North-bound, becoming *OBDP*. This campus-land intervention then re-energises the entire artistic process to this moment, with so few *Baroa belaobaras* remaining to hang out with. They, their narrative, attracts and energises new companions. They provide the minimal needed amount of *Baroa belaobara* matter for lab experiments (cf. new *Aronia* and Aamo): leaf parts in spring and whole leaves in autumn, sap (dye) and 2g of roots (DNA), of course, in full commitment to the initial ‘mere happenings’.

As indicated above, the energy levels are to a large extent determined by the amount of presence. The lack of it means leaking energy, consumed in a ghostly manner. When there is abundant energy, it has to flow, otherwise there is only tension. One way to do this is to build up momentum towards a lecture, exhibition, intervention or joint experiment (cf. the Aamo workshops). The joint application writing process for a grant is highly effective. One could say this is the light that receives the electrons that flow from the dyes through the exit of the solar cell. Of course, if the life-line pressure gets too high, has too little time, then it might turn into a dead-line. This can short-circuit the process for a little while, in the best case. Financial resources are of course a key aspect of the energy system.

It also occurs that an entire work process, or a part of it, is still energised, but with the absence of a sense of connection. In this case we pause until signs of reconnecting surface. For instance, the *Rapchiy* pieces that require kintsugi repair are left as they are, for now. The same goes for new possible connections, e.g. with new external entities: it is important to sense how the overall energy level responds. In this regard, designer Bruce Mau states: “Don’t Enter Awards

Competitions. Just don’t. It is not good for you” (Mau 2012).

It might be the case that there is too much resistance to flow. This is typically signalled by a sense of ‘getting stuck’. This might be caused by a lack of knowledge (work in the lab), by a conflict situation or when one is depending on another entity in order to ‘get something done’: e.g. transform the 2D hidden designs of the brain reader into code that controls the laser-cutter; or have access to a piece of equipment, say a shared dry oven needed to powder-dry the bacterial pigments. In these cases, it is crucial to sense if it is best to allow for things to evolve or to take an interventionist stance and exercise pressure overtly. This might be very energy-consuming. On the other hand, inertia leads to leaking energy, like unanswered important emails that require a clear response.

New knowledge renders the spirit joyful and elevates the energy level, for example, when Pyry M. shows that dyes from *Baroa belaobara* leaves are as efficient in transforming photons into electricity as those originating from the sap, and that they can be used together, which broadens the colour palette in the Aamo strand. Or poetic moments, when Janne H. is mesmerised by the way the photons find their way through the veins, sap breath and chlorophylls of a leaf that he holds between our eyes and the Sun. This is now carrying on towards a new research pathway. When Merja P. whilst shining a faint grey reflecting LED onto the painting, in the tiniest of spaces, ‘discovers’ a ghost in *Snow Storm—Steam-Boat off a Harbour’s Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*.

An energy boost happens typically when an influential person provides positive comment, e.g. from the specialist in Turner’s materials, or in newspaper articles. Or when *Baroa belaobara* and companions

show signs of vibrancy and energy, with fierce green-reflecting new leaves, when *Pseudomonas fl.* thrives in its energy-providing medium, excreting pigment, absorbing and radiating UV. These boosts are typically rather short-lived.

I take it upon myself intentionally to attend to the energy situation at all times in the constellation, a pre-requisite for corresponding (see Ingold) *with* Anything. When the overall energy level is low, lie low, but keep on playing, inwardly then for a while. One could indicate the intuitive sensing of the energy levels in this type of practice and similar as 'the way of intuitiveness'.

Sharing

The final part of the way of play – at least as played out here – is the sharing: the opening up to any other, with any of the involved entities. Unless the idea is to fake the playing, if there is no sharing, there is no playing. Surely, when the gift is in giving, the sharing is in present-ing.

Correspondence, whether with people or with other things, is a labour of love, of giving back what we owe to the human and non-human beings with which and with whom we share our world, for our own existence and formation. (Ingold 2016, p. 10)

This includes Marika Hellman sharing patiently her molarity calculating skills at Biofilia and on the online ABC course. It can be the signalling via volatiles in the breathing amongst *Baroa belaobara* that there is a lack of pollination happening, hence more flowers are growing so that a larger field of scent is created to attract pollinators from further distances. Besides pollen, *Baroa* shares its pomes. The sharing of findings in the enquiries at conferences, courses,

informal gatherings. The sharing of breath with *Baroa belaobara* and others (Wordings; Re-Wordings). The instinctive sharing of seminal fructose with *Baroa belaobara*. Sharing knowledge, improvisation skills, the allowing of contingency and the protocol of failed learning during the *Leaky Loop Sys* courses. Electrons are shared between the *Baroa belaobara* dyes and the light on *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. Hot air is shared between kiln bricks and clay. *Baroa belaobara* sap is shared between the baked clay and the skin cells of the fingertips (Aamo; *Rapchiy*). *Pseudomonas fl.* pigment excretions are shared with the solar physicists and the rheologists. The sharing of presence whilst painting the glass of the solar cells. Sharing the focus on the print-on-canvas-reproduced painting to determine its relation with subtle LED photons, themselves shared between the LED and pigments. Sharing of the joy of winter Sunlight awareness whilst frying paprika in the focal point of a solar cooker, hereby attracting other entities, transmitting and sharing joy and paprika. Sharing of an instant intuition. Then the gift, then the sharing. (*The Gift to the P.M.*). James E. sharing his ability to swiftly read a scientific protocol on *Pseudomonas fl.*'s leftover pigments, in an invited re-enactment act for students at Biofilia.¹²⁷ The sharing of works in the forms of exhibitions, (gift) interventions and happenings. Sharing *Baroa belaobara* and new *Aronia* with *Baroa belaobara* and 1HaBP by means of the photons that are emitted by the Pixelstick. I attempt to share the constellation in this monograph with you, the reader. Lastly, whilst writing this section, Janne H. shares via email (2020, 28 July) an observa-

¹²⁷ 'Re-enacted protocollistic pigment harvesting reading'; A protocol reading re-enactment by James Evans, as part of Matthew Wilson's guest course *Becoming Guest Making*, Biofilia, 21 May 2019.

tion with a plant scientist, asking to share his knowledge on leaves, their colourants, light and water:

One morning last autumn, I was inspired by the awesome autumn colours in our *Aronia* hedge, which was beautifully soaked wet by rain from the previous night, and decided to photograph the leaves that were now beautifully covered by water drops. While documenting the autumn colours for our art-science project, I noticed a pair of leaves that had a peculiar colour interaction in them: their touching each other had clearly affected the colour change in them. I found altogether three examples of the phenomenon, which I share with you through photos and comments in the attachment (see photo p. 199).

3.3 Now What?¹²⁸

At least a part of how the *Baroa_Bartaku* workings have been carrying on is made visible by looking at the processes through the lens of an analytic framework of improvisation music. I call it 'The Way of Play', and by this framing and naming this approach is now one more entity spinning into the workings that together constitute the meshy constellation. From this point, we slide into a conversational reality, wondering what realm we spin into.

3.3.1 Becoming Tension

Overlooking the words above in the essay *Passages*, you, dear reader, might observe as well the -ing form creeping and multiplying into the text fabric. As signalled above, the source of influence here is Tim Ingold's thinking on social reality, developing the

theory of correspondence with in-between becoming and growing-in-making as key concepts. Many of Ingold's lines of thinking resonate with my perception of Bartaku's predominantly processual and collaboration-based, *transcontextual* practice.

Federico Campagna then, relates 'becoming' to his definition of essence, both being part of the reality-system of 'Technic'. Together with 'Magic', they weave the fabric of reality into Campagna's enquiry on the "hidden metaphysic assumptions that define the architecture of reality" aiming to arrive at suggesting "a possible therapy to the historical maladies that affect us today..." (2018, p. 4, 7).

In between Ingold and Campagna's conceptualization of becoming there is a sense of tension. We make use of it to look once more at the workings, as an experiment of corresponding the art practice with seemingly different lines of thought on reality, and the interpreting of it.

First, it is necessary to elaborate a tiny bit on Campagna's reasoning:

'Things' as part of Technic's world take place only as instruments . . . that presence potentiality rather than actuality. In everyday life there is " . . . the continuous push to turn 'things' into a pure state of potentiality. Letting alone natural resources... human lives". As a consequence, " . . . what truly counts is not what we can do today, but what we could become tomorrow. . . . The way that a thing can expand its own potential, is through its activity that . . . becomes the regulator of speed at which becoming takes place in Technic's world: by managing the expansion of potentiality, it manages the flow of becoming. (2018, p. 226)

¹²⁸ Please note that I take the liberty here to provide references only when they have not been provided before.

To conclude:

The perfect and ‘safest’ in Technic’s world is that in which a thing is nothing at all in itself, while remaining available to be rapidly transformed into anything else; this is the state of the perfect instrument which is at once its own material, instrument and product” (2018, p. 227).

The fear that this brings with it is then controlled by Technic’s “ideology of ‘safety’ . . . that proposes to render bearable such a generalized state of becoming, . . . rather than to bringing such potential to a state of defined actuality” (2018, p. 227). He concludes that (2018, p. 228) “the apparent layer of hyperactivity . . . is just the fluorescent coating of a sleeping entity . . . Nothing is stable, yet nothing becomes. Technic’s world, in its perfection, has fully internalized becoming, which takes place not as a movement between different ‘things’ (or positions), but as a sinking spiral *within* each ‘thing’ (or position).”

This dark safety interweaves then with its opposite: “Magic’s notion of salvation” (2018, p. 228) that refers back to Magic as “a world-making force . . .” (2018, p. 186) that “should be considered a form of therapy to Technic’s brutal regime” (2018, p. 115), “[i]n a world where Technic is God” (2018, p. 64). Since everything is on the cosmological level “stable, eternal and ineffable . . . capable of enduring the process of becoming” (2018, p. 230) hence “always already saved” (2018, p. 233). Salvation is required then in profane daily life, in being aware of it: “Magic’s reality-system aims to console those who adopt it, by rebuilding their experience of themselves and of the world in a way that reveals to them their condition of eternal and pre-existing salvation” (2018, p. 233).

Lastly, what matters for the exercise below is that

The linguistic dimension of existence always truly becomes, changes and vanishes, while the ineffable kernel of its existence always truly remains stable, eternal and in perfect unity with that of any other existent . . . In Magic’s world every instance of becoming is at once just that, perishable and decaying, while at the same time also partaking of eternity. (Campagna 2018, p. 231)

The ineffable stable seems to relate then, for example, to Mehlau’s *gnosis*, epiphanies, the unsayable. To ‘the mere happening’ at 1HaBP, experienced through a doer-undergoing sensation. This unspeakable attracts Technic’s ‘interest’ to integrate it into the sayable, into languaging. Rendering it into an endless becoming and potentiality. The key question is if the process-based way of working, cherishing the becomings of matter, material and beings with “... novelty as the creation of mixtures that produce new openings, new vistas, new complexions for experience in the making”¹²⁹ then situated (recuperated, appropriated by) rather within the realm of Technic? ^{xvii}

The introduction above to the complex relation between becoming and being is in itself a becoming as Campagna’s historical referencing (2018) indicates. Long histories of thought keep on spiralling onwards. Still, I propose to make use of the tension-energy that is now experienced due to my limited understanding of intriguing lines of thinking. ^{xviii}

The difficult exercise, still part of ‘the Way of Play’, is to let the *Passages* play back one last time. Now sensitised to the complexity of the dynamic, life-regenerating, interplay between becoming and the ineffable stable, with examples of imagined futures

¹²⁹ Kontturi (2018, p. 14).

now suddenly coated with a stain of ‘Technic’ suspicion. Nevertheless, this topic continues to be a stable source of inspiration for future enquiries.

B: And also, being superstitious: to write about serendipity, and consequently feeling it slipping away. Gradually this becomes the whole point: name it and ‘foesj’, gone it is

L: Of course That’s the beauty; unapproachable. Still, a little trick could be: naming temporarily and then transform once again. Otherwise you cannot write about anything

B: I write about that “not-something” writing

L: Liquid fuzziness

*B: these categories... the blind people that each touch a part of an elephant: ear, tooth, trunk, and then say what they think it is what they have touched...*¹³⁰

3.3.2 re-Workings

Then at 1HaBP in an instant emerge the letters **Baroa belaobara**. In this appearance, it is highly stable. Non-debatably the only name to be given by humans to describe what until that ‘mere happening’ was named *Aronia m.* at 1HaBP. *Baroa belaobara* belongs to the sphere of the non-sensical, glossolalian, and is untouchable in that way. It is what it is.

Baroa belaobara is on board the ‘Impossible’,¹³¹ the eternal stable failure. No space for ghosts, such is the presence. Especially in *Wording* with a protocol that fixates the breath-wording, including all possible

¹³⁰ L Jacobs, 2019, *pers. comm.*, 21 December.

¹³¹ The name of the ship sailing to ‘Mount Analogue’ (Daumal, 2010).

names including *Baroa belaobara*. In this way the essential is united with the existential. The air from the human is in the act taken in by *Baroa belaobara*, processed, and energised by light. The humid, leaky loop is created when the person takes in the breath of *Baroa belaobara*. This taxonomic interspecies ritual is – from the human perspective – a gift (CO₂ and so forth) to *Baroa belaobara*, but also a gift to its own ‘presence’ with the land it is part of.

It is stable as well as part of the name *OtaBaroa DSTRBTD Plantation (OB DP)* and 1Hectare *Baroa belaobara* Power Plantation (1HaBP); in the digital realm existing in dataservers, visible via search engines on the Internet; as LED light on the Pixelstick. Although one can also argue that the latter two are ‘potentiality’, since the technology needs to be put to action: use the search engine, activate the Pixelstick.

It is especially solid in resisting becoming part of scientific Nomenclature, which is what my committing entails, solid in its failing.

It is only now that the question appears regarding ‘**berryapple**’. Perhaps because the naming merely sneaked in after Anete B. declared that “the berry is an apple”. Different it is, though, from the ‘officially common’ English chokeberry, introduced by the European colonisers in the Northeast of the American continent due to the experiencing of a choking sensation in the eating. Not that the colonial twist motivates the neglecting of ‘chokeberry’. Still, the latter is stable, and, as said, used in science papers together with – and due to – the volatility of *Aronia* or *Photinia melanocarpa*. Berryapple does correspond with the visual experience-based *apfelbeere* in German or *appelbes* in Dutch. Is it a becoming then, towards a replacement for chokeberry?

Baroa belaobara and berryapple remain non-moving in the discussion of what the ‘m.’ stands for in the taxonomy, *melanocarpa* or *mitschurinii*. And recent

research suggests that 'pure' *Aronia* is a hybrid too, just like the man-made *mitschurinii*. In the autumn of 2020, the analysis of the DNA sample from one *Baroa belaobara* taken at *OBDP*, but originating from 1HaBP, will only contribute to the never-ending discussion of man-kind's attempt to classify this bush-being: an endless taxonomical becoming, even if at some point 'proof' is delivered that the genus once more 'needs' to be changed, in case new varieties are developing.

The *Nomenclature morph* is a confusing process. I consciously allow it in the inconsistent expressing of the circulating names. In the end, it is what it is, '*Baroa belaobara*'.

More complicated it is becoming as soon as *Baroa belaobara* is tethered to the plant it refers to in 1HaBP and *OBDP*. I have described above works in which parts of *Baroa belaobara* are used in experiments. Hence, it has been turned into existential temporality, pure potentiality. I intend to continue only some of these, and envision some new ones. I elaborate below.

Baroa belaobara is in this line of reasoning a mix of becoming and being stable. 'This is *Aronia*' at 1HaBP is the simple 'given' for a little while. Then, the enquiry reveals increasingly complications in the human languaging of the entity. Especially in taxonomy, the naming is volatile and scientists speak of the enigmatic or mysterious chokeberry, merely on the way to a final resolution, very much a becoming. The instant becoming of *Baroa belaobara* then, replaces the nomenclature entity ***Aronia melanocarpa*** which loses its link with physical reality, the plant at 1HaBP-land. It is morphed into a stable language entity, in line with the main intention of taxonomy, explaining the choice of a dead, stable language (Latin) in the naming system.

Is the name perhaps even more stable with the instant appearing of future **new *Aronia***, that poten-

tially grounds *Aronia melanocarpa* again with a physical entity? Pure as form, new *Aronia* 'exists' in various ways: through *OBDP*; as a clay piece; as a Pixelstick LED light and digitally (Internet), as a pattern for a finishing flag for the speedy vehicles in the centre of Aizpute and signalling the entrance of the exhibition at SOLU.

Still, the shape is also further carrying-on, in the committing to the shape-morphing of *Aronia m.* Artscience investigations are envisioned to have the shape of new *Aronia* to appear on Bartaku's skin. Possibly the fluorescent pigment of *Pseudomonas fl.*, *Baroa belaobara* sap, human skin cells and Sunlight (UV) are to be entangled on the land of the human skin. This potentiality is instigated by the appearance of the flat shape of *Aronia m.*'s initial pome on my skin via a tick bite and bacteria.

As said before, then, there is a becoming aspect in the process in which new *Aronia* is to be derived from *Baroa belaobara*. Even though this strand is now not active, it seems that new *Aronia* is a mix of potentiality and existence.

The ***Aronia Art Master Morphing*** research, then, instrumentalising *Baroa belaobara* and *Aronia m.* and *Pseudomonas fluorescens* in order to achieve a morphing of an iconic painting by art master J.M.W. Turner by *Baroa belaobara*'s agential power. It is a processual becoming since 2016. We test a prototype with Pory M. sharing his developed craft on how to apply *Baroa belaobara* dyes on titanium dioxide and zinc-coated glass. By the end of September 2020, we expect to have answered questions, and instigate new ones. In the writing of *Passage 4*, the attention suddenly goes towards the title of the painting. It is spinning into the *Blck Vlt* work, with a knot now manifesting. I try to untie it in the following way.

Counterintuitively, with this **title**, Turner assures that the painting belongs to the realm of the stable, of the ineffable. By providing the extremely detailed account of what is to be seen in the abstract work, he renders it figurative. There is ongoing speculation on the reason for doing this: for example, as a reaction to the fierce critique of the work, radical at that time; or perhaps he saw the ultimate proof of the quality of the work in providing a lengthy explanation; or it was a mere matter of making space in the studio, making it more sellable... I have not researched the matter properly. But, in its effect, the languaging act – the title says supposedly it all – pulls the painting out of the realm of speculation, of endless art historic research where new technology, as in taxonomy, instigates potential new meanings in the layers of matter.¹³² Now, it is stable in the realm of existence: it is what it is: *Snow Storm—Steam-Boat off a Harbour's Mouth Making Signals in Shallow Water, and Going by the Lead. The Author was in this Storm on the Night the Ariel left Harwich (Exh. 1842)*. Initially I feel that the title is destroying the magic – in the layperson and not the Campagna sense – of the painting, leaving no space for the viewer to interpret, so, killing both the work and its viewer. This would leave the art lover no other choice than to consciously practice the ‘killing’ of the title. This explains why I mention the title in its entirety in this volume, because I am sensitised now, to the fact that it is a crucial part of the artwork. It belongs to it. Perhaps this line of thinking changes fundamentally the conceptualising of *Blck Vlt*.

As a suggested conclusion, the Aamo work is strongly a matter of becoming, with potentially having

¹³² In contrast with, for example, actual projects of restoration and interpretation of the highly mediated *Lamb of God* by the Van Eyck brothers and the live to follow *Night Watch* by Rembrandt; <https://visit.gent.be/en/see-do/ghent-altarpiece-supreme-divine-art>; <https://www.rijksmuseum.nl/en/nightwatch>.

morphed the view on the painting through a shift of perception and meaning of its title.

Coming back to the crack that is mentioned above in relation to presencing. There is another kind of crack that results from the dialogue between matter and form. In *Rapchiy*, the ceramic piece is derived from a drawing that is in no way related to a concern with the physical properties of its future transmuting via a particular clay made under particular conditions. In that sense, following Campagna's notions of essence and existence, it seems that the ‘existence’ of the ceramic pieces relates to the ‘cracking or breaking when being moved’. They are then perhaps intrinsically unmovable. Stable in lying, liquid in moving. They tend to turn into essence as soon as they are moved, for instance, when trying to instrumentalise them for the artist's show. The repair attempts of these particular pieces that have a too-thin ‘bridge’ fail both with kintsugi and re-glazing. If I had used metal or plastic, this would have made the piece more stable, but then this narrative would not have surfaced, in hindsight.

Somewhere in-between, then, I situate the initial images, sketches. These revelations are stable, imaginary solutions, the result of people who are guided into an intimate *play* with a broken piece of high tech, on a sheet of thin paper on the head of a known or unknown person, often presencing in following the tip of the pencil.

The ‘**gift**’ **interventions** belong to the realm of the stable. One can return a gift, the gift-matter can decay, morph, as solar cells lose *Baroa belaobara* colour, and change further over time. Still, whatever happens to physics, to interpretation, meaning, the act of the gift, is in itself, stable. Simply put: one cannot undo a gift. Gift, given, done.

And there is more stabilising ‘matter’: the bone china porcelain gift matter is in itself highly durable, as the circle could symbolise if intended; the storage of

one of the disc gifts in the Svalbard Global Seed Vault renders this presumably the most stable of all works.

Where does one situate **the Way of Play** in this exercise? Or most importantly, what now, since it is made explicit? Is it not so that by the exercise of languaging ‘nailing down wordly’ the Way of Play, or the whole meshy constellation, that it is now belonging to the ‘cold’ realm of Technic, of essence, with its absolute language. As with the relation between Turner’s painting and its title?

Presencing, the antidote of potentiality, lies at the core of the Way of Play. There is no perfection that can be reached through mere training or education. As soon as this ‘Technic thought’ appears, presence turns into a ghost. Presencing relates to intimate touch, intimacy with the land of the Earth’s crust, the land of the outer body (skins, peels, cell walls...), the land of the inner self, the land of breathing (air), *Baroa belaobara* land. In that sense, the ‘land’ is the membrane that takes care of the conversational reality. As said, for energy’s sake, a conversation happens, or perhaps better not, for a while. And a membrane is fragile, and requires the gentle touch of the intimate. Presencing this in-between means to be co-evolving, impossibly reduced, difficult to be instrumentalised, say, as an artist. And a good place to leapfrog over human exceptionalism. If the intuitive notion of the *Leaky-Loop System* resonates with something that ‘exists’, then it is with the membrane-like conversational reality of ‘Technic and Magic’. This is an intuition still, here, whilst monographing.^{xix}

Importantly, substantial joy lies in this Way of Play working. Especially when the bliss of serendipity and ‘mere happenings’ manifests abruptly and one responds by committing.

Would this Way of Play then be part of the ‘Magic salvation’? A question that is situated as a possible in-between of Ingold and Campagna: is it through art and craft that consolation is offered, with their way of enquiring, working, corresponding that “opens up the world to our perception” as a pure ritualistic gift? With awareness indeed that instrumentalisation is alluring?

In the field of jazz improvisation, this has led to fragmentation, with some musicians sensing repetition of formulas, protocols, where others say that “We are on the path of ‘potential’ good improvisors. Over time only, slowly, we can develop into a good ensemble, play together, the better your experience will be” (Corbett 2016, p. 104).

For now, I sense no urge to abandon this Way of Play. It is even important to emphasise the need for more space to practise. In particular, the end of play in the biotope of the last four years announces another cathartic moment. The way in which academic ‘careers’ and research are structured could use some ‘Magic’ consolation.

Consciousness and Story telling

Would the current state of perceived consciousness warp into another universe when it reaches the most unlike state of ‘true’ understanding of its origins and its *raison d’être*?

Till then, old and newer manifestations of consciousness, matter, energy and Anything seem to manifest as geological layers that (re)surface and disappear from the realm of senses in a Leaky-Loop system.¹³³

In the re-introduction I point to the **monograph** itself, with the various essays becoming part of the constellation. Hence, it is not to be considered a distant meta product of the practice-based doctoral thesis. It is processually part of it, and aligns with the ideas of

¹³³ Bartaku 2018, Notebook.

the in-between: not an *and* but a writing *with* relation between text and author/workings and theory. The latter is more present at a later stage, knotting into the text fabric, and folding back to a place from where the writing process is as a new line spinning into the evolving constellation, only to reach another momentum, knot, depicted in this last stretch here.

From here onwards troping, relocating then on board of the 'Mystery', spiralling on in and with the meshy constellation. Breathe-wording the monograph to *Baroa belaobara* now and then looking at the **committing compass**. It indicates further practice, as is proposed by Milford Graves in his essay in John Zorn's book *Arcana V*. Its primary purpose is to focus on an integrative process of how to interweave the hidden wisdom of imaginative thinking (mysticism, magic, alchemy, and the spirituality of music) with scientific methodology. To just single out one aspect that relates to furthering the breathe-wording and presencing with *Baroa belaobara*, or Anything, for that matter:

Magic words in reality consist of deductive articulation and quanta-toning of the constituent vowels, consonants, phonemes, and syllables that comprise a word. The utterances of these constructs are capable of creating large amounts of energy within the neuroanatomical pathways and networks of the vocal system. (Graves 2010, p. 173)

Following Ingold, Bartaku is **humaning**, whilst according to Juha Varto (2018, p. 29), there is also something stable in the artist, in his action that "... should not be thought of as a 'process'; a process would detach the artist and the result of his or her work from the immediacy of action". Following Campagna, *Baroa belao-bara* is stable in itself.

Bartaku is, then, stable in action, as well *Baroa belaobara*-ing: both language-wise (breathe-word-

ing) and potentially with new *Aronia* expressed on my skin, with its sap and microbial companions entangling with my skin microbiome and cells, together responding to light. Here, an imagined solution for interplay of light with skin, microbiomes, is the administering of human and *Baroa belaobara* fructose in well-determined molarities to the involved entities. In that way, the energetic vibration levels of the entities can attune whilst hybridising.

3.4 Exit-ing: Offering the Concoction

Exiting the concluding *Passage* here and now.

The presencing in the writing has been poor many times, accompanied with a joyful spirit regardless. Still, besides *Baroa belaobara*, there might be ghosts residing in the monograph. As a *Technic* speculation, perhaps they open up space for 'mere happenings' that resonate and mingle with constellations of other entities, like you(rs). Dreams are stable *Magic*.

Before sharing a scene from a movie that spun into these exiting lines, I thank you attentively for your attention.

Sometimes, alone, a wonderful mood would come over her...

She would talk to the wind, to spirits, to imaginary and immortal friends, confiding her deep mortal yearnings to the air...

In one such mood, under the inspiration of a dark and powerful happiness so profound that if it didn't find something to do it would have driven her mad or made her take her life, under the spell of this tragic happiness, she began the creation of a new wood-carving."

Ben Okri¹³⁴

¹³⁴ See: Okri (2007, p. 78, 79).

A highly symbolic scene from Jodorowsky's *Holy Mountain* (1973): The alchemist conducts in his room – with the athanor/furnace as main stage – the pathological process in which the human protagonist (The Thief) and his excrements are in separate, interconnected lab glass vessels. His bodies' volatiles and the transmorphing excrement fumes blend in the hot process, resulting in shit-turned-to-gold. This happens under the eye of a wandering pelican and a tattooed female (The Written Woman), observing and playing cello. The reader recognises some entities corresponding to some that have been passing through the previous *Passages*:

The invisible movie director relates to the artist-researcher as writer-narrator who selects the archival matter, wordings, images and protocols, the 'I' that follows the protocol of writing to capture and frame the art enquiry into one medium.

The main character relates to the artist-maker who has been a resource in – and creator of – most of the 'stuff' in the process. He is on the inside, attempting to assist in 'grounding' the writing, to keep it close to the experiential with care for tone, colour, rhythm and vibe, meanwhile, continuing the practice of presencing.

Herein, this role relates as well to the observer, silent in cello vibration. This character is most aware of the loss of 'substances' in the process, due to the indirectness and the limitations of the medium.

The pelican, then, relates to the hidden moments of confusion and despair in compiling and writing. Most probably as for the pelican, controlled by sedatives, they are hidden for the viewer.¹³⁵

¹³⁵ The movie sparked controversy in many ways, including regarding the animal (ab)use. See: Klein, T 1974, 'They Kill Animals And They Call It Art', *The New York Times*, <<https://www.nytimes.com/1974/01/13/archives/they-kill-animals-and-they-call-it-art-more-and-more-directors-are.html>>.

E N D N O T E S

ⁱⁱ The *Herbologies / Foraging Networks* programme was a series of events in Finland and Latvia in 2010. It explored the cultural traditions and knowledge of herbs and edible and medicinal plants within the contemporary context of online networks, open information-sharing and biological technologies. By Pixelache and the SERDE Arts Centre. <http://www.pixelache.ac//herbologies-foraging-networks>.

ⁱⁱⁱ I thank artist Lena Séraphin for this recommendation – away from the notion of ‘chapter’ towards ‘essay’ – that renders the writing more joyful.

^{iv} I remember a practical formulaic definition of ‘knowledge’ from the so-called field of knowledge management: $K = E \times S \times A \times I$ or: knowledge equals experience \times skill \times attitude \times information. I think what is missing here is bodily wisdom and intuition that relates to the notion of the felt-sense in the practice of ‘focusing’ (see focusing.org). So, in this way, the formula I believe should be: $K = E \times S \times A \times I \times Fs$.

^v On the representation and naming of plants against the dominant 19th century dominant practice, see Khadija von Zinnenburg Carroll’s study of Marianne North’s plant portraiture and William Colenso’s

approach to plant naming. She pursues anthropologist of science Natasha Myers’ research on the practices of plants that bring them together in an affectively charged, multisensory partnership with insects, humans, and so on. (von Zinnenburg Carroll 2018.)

According to Sadie Plant (1997, p. 239), by the mid-19th century it had become “a well-established dictum that the study of botany would keep women virtuous and passive. [...] a fitting discipline for those in need of innocent and moderate intellectual stimulation. Women were not to be trusted with experiments on social animals: plants were most appropriate.” Skilled at sketching and pressing their specimens, female botanists were crucial to the research on the emergence of multicellular life, as they were ahead of the game when it came to the use of shadowgraphs, daguerreotypes, and other early photographic techniques. The first photographically illustrated book was *British Algae: Cyanotype Impressions*, published in 1843. (Plant 1997, p. 239, 240.)

^{vi} There is a long-lasting, fierce debate among scientists on plant consciousness, with adversaries pointing to the importance of brain organisation, complexity and specialisation for the phe-

nomenon of consciousness. See e.g. Lincoln Taiz et al. (2019). Plant sentience is historically situated in animism, Jainism, Theophrastus and Western, Eastern, Pagan, and Indigenous thought, as well as in modern science and botanical history by Andrew F. Smith (2018) and Matthew Hall (2012). Contemporary scientists specialising in minimal cognition include Paco Calvo, Anthony Trewavas and Monica Galliano. In philosophy there are many, foremost Michael Marder, Yogi Hendlin in the field of biosemiotics and agronomer-philosopher Emanuelle Coccia.

Monika Bakke looks at plant bodies' radical otherness in the context of contemporary transdisciplinary plant research (critical plant studies). This field "... acknowledges the most recent empirical evidence from plant biology of plants' sophisticated ways of going about their lives, which challenges traditional zoocentric perceptions of plants as passive objects. An awareness of plants' specific sensitivity and intelligence, which enables them to realize their own survival strategies, can no longer be ignored in feminist theories. Both learning about plants and learning from plants open up territories and perspectives as yet unknown and hardly even imagined." (Bakke 2016, p. 131.)

For Ingold, then (2015, pp. 84-86), neither tree nor stone or glacier are sentient in themselves. And they are not an object of perception, either. Rather, perceivers become one with what they perceive: "The painter sees the trees, the trees see the painter..." not because trees have eyes, but rather "because the trees affect, move the painter, become part of the painting that would be impossible without their presence. [...] The painter does not just observe the tree, he observes with it – with eyes that have already absorbed into their ways of looking the tree's looming phenomenal presence." (2015, p. 85). To clarify further: "My bodily seeing the tree is the way the tree sees through me, and my bodily touching the stone is the way the stone touches through me. But *immersed in sentience*, each can, as it were, double back so as to see, touch and hear itself. In this 'coiling over' ... perceivers become one with what they perceive." (2015, p. 87). This way of coiling over, *becoming with* something, Ingold sees as parts of a method and theory of correspondence (co-respond). It traces back to the writings of John Dewey (1966).

^{vii} Breathing-screaming *Aronia* human bodies in combination with dripping *Baroa* sap on cus-

tom-made audio hardware were the means to express the essence of *Aronia m.* in the *Aronia Overture* – <https://bartaku.net/aronia-overture/>. The artist and researcher Heidi Fast interweaves (vocal) sound, healing, and tools for "... accessing an atmospheric experience, ... boundary work between the artistic research and psychiatry" (2020, p. 2). See also the tone-based cosmovision and workings of impro-musician and herbalist-healer Milford Graves. See Kahn (2019) and *Passage the Conclusion* (cf. p. 236).

^{viii} Ingold discusses these throughout the *Life of Lines*, with breathing in a world without objects (as opposed to an object-oriented ontology) being "... the way in which beings can have unmediated access to one another, on the inside in relations of sympathy, while yet spilling out into the cosmos in which they are equally immersed." (2015, p. 67). He refers (2015, p. 82) to the example of the relating of the Tlingit people and a glacier that: "...in this atmospheric manifestation so saturates the consciousness of perceivers that when they listen, it is the glacier that listens through them, *in* its sound. Likewise, when they look and touch, it is the glacier that looks and touches through them, *in* its light and *in* its feel." It is

used by Kontturi to refer to writing with artists instead of about... As far as I understand, since the *Life of Lines* can be seen as a cosmovision, this corresponding relates to any encounter of Anything(s).

^{ix} On the topic of anthropocentrism and the interconnectedness of the human and the nonhuman see resp. Issues 17 and 37 of *ANTENNAE Journal of Nature in Visual Culture*. As mentioned before, wanderings through the Andean region and working with a weaving community, sensitised me to their biocentric cosmovision that seems to be non-hierarchical, attributing sentience to things, and interweaving socially the all. For an introduction to the complexity of analysing these Andean or Amerindian worldviews from other (geo)cultural perspectives see e.g. Swenson E 2015, 'The materialities of place making in the ancient Andes: A critical appraisal of the ontological turn in archaeological interpretation', *Journal of Archaeological Method and Theory* 22, 677–712. <https://doi.org/10.1007/s10816-014-9202-2>

^x DNA-based taxonomy is not (yet?) the *final* method. Yogi H. Hendlin (2020, S.P.) refers to Camacho et al.: "Fungal and plant DNA are so interwoven in close contact, that many DNA assays have mistakenly

assayed endophytic fungi instead of the plant DNA they sought to sequence". Ingold points indeed (2015, p. 15) to a metaphorically induced bias in terms of understanding DNA where biologists "... often refer to DNA as a genetic chain and as a plan for assembling the blocks of life...". Instead, better understanding might (be)come through seeing it as part of a world of entangling lines and knots, as described here in the next note.

^{xi} The blob and line form the opening chapter of Ingold's *Life of Lines*, stretching out over two more, so as to introduce the key notions of his line ontology. He argues that (2015, p. 4) most if not all life forms are combinations of blobs that with their volume, mass and density provide materials. They lack what lines have: torsion, flexion and vivacity; the cell is a blob, the flagellum a line. Together they rule the world. Henri Matisse's painting *The Danse* is not an assemblage of separate blobs that – without moving – turn into stone. Rather, the dancers are clinging spontaneously, contingently, co-responding to every other, in turn picking up the melody, introducing new lines, like a roundel; life as the 'whirl of organism', as Ingold quotes philosopher Stanley Cavell. (2015, pp. 4-7). It is a *meshwork*, since

everything tangles with everything else. In this movement, whilst interweaving and interpenetrating like octopuses and anemones (derived from Marcel Mauss' essay "The Gift"), knots appear. This, Ingold argues after many more thought swirls (2015, p. 147) is then the realm of the *in-between*, *mid-streaming*, method and theory of corresponding.

Ingold proposes that "... in a world where things are continually coming into being through processes of growth and movement... knotting is the fundamental principle of coherence giving life its coherence... This includes knowledge and materials, whether made like artefacts or grown like organisms. Things occur, carry on in-between, along their lines, they do not just exist." (2015, p. 14.) Conclusively he then proposes that, "The world of things is a world of knots, a world without objects, or, WWO" (2015, p. 16).

^{xii} The mere happening relates to what Ingold describes as a "great difficulty in expressing the action of doing undergoing" (2016, p. 17). And the doer, "... achieves something which is being achieved in him," as in Paul Klee's aphorism: "It happens, too, when I draw, 'taking my line for a walk'". Perhaps art researcher Katve-Kaisa Kontturi

takes the artist for a walk in her "*writing with art*" (Kontturi 2018, p. 13), an ethos in which one does "not freeze-frame art; instead, follow its flows, and see where it can take you. Kontturi, referring to Deleuze and Guattari's philosophy and the more recent new materialism. They link following to expressive, material vitalism where "matter is 'neither a thing nor an organism'". Like artisans, "Artists do not make art of materials, but *with* them. [...] Following, then, is not only an approach applicable to moving matters, it is an approach that welcomes change." (2018, p. 13, 14.)

^{xiii} Chapter ten of Ingold's *Life of Lines* is titled "Footprints along the path" and starts with Paul Klee's definition of drawing: "taking my line for a walk". This is then enacted by sculptor Richard Long "... in his landmark work of 1976, *A Line Made by Walking*." (2015, p. 60; see e.g. the Tate website for more details). From here the differences between walking and drawing are then described. Still, re-focusing on new *Aronia* as a line, it exists merely as a mind-to-hand/finger-glass-bits and bytes-code-based vector image that is now and then temporarily visible to other humans through projection, accompanied by word-breathing and electronic text. On the Earth's crust, then, it

exists only in walking, or tracing rather, moving from one plant to another, along the path that is the outline of new *Aronia*, added as a layer onto the digital map representation of a piece of land, with GPS co-ordinates ready at hand when needed. It is especially practical for the phantom plants, the ones that are indicated as one of the dots on the digital outline, but awaiting materialisation. The outline is walked during the random mood-based now-and-then visitations, mostly without company. Consequently, the hard latex underneath the moving feet creates a very short-lived imprint in the soft Earth crust, probably perceived only by micro-organisms. On the bitumen-rich parts there are barely traces, impressions. Only when a period of snow arrives, like these days, the outline is partly visible, especially when the amount of snow makes the body shorter, due to the eyes receiving reflecting light back from the snow.

The outline seems to correspond at least to some extent to what Ingold calls the stamp: "... made by imposing a ready-made design from above on a hard surface. Referring to the resemblance of the printer's ways of making, by putting the stamp on the ground, the conqueror stakes a claim." (Ingold 2015, p. 62.) Friedrich Engels is then

quoted stating “in the course of its historical transformation ‘man alone has succeeded in impressing his stamp in nature’” (2015, p. 62). Here I have to disagree, since the part stamp, part footprint constellation is – although of a more individual kind – the result of epiphanic enigmatic corresponding between *Baroa b.* and Bartaku.

The new *Aronia* outline is morphing invisibly, with the rhizomatic existence of the plants that grow subsoil pathways, possibly at some point sucker-wise identical plants growing to and with the light. New intertwining and signalling evolves with microbes, mycorrhiza machine blades, hair teeth and woodpecker beaks. A physical version, a 3D model based upon the path and its spatial (topological) properties, would lead to a morphed new *Aronia*.

^{xiv} Since the notion of *energies* is so pervasive in all aspects of life, there is a vast number of resources out there from various angles and in many languages. Since it plays an important role in my work, I provide some further reading suggestions and comments that manifest momentum.

Highly recommended reading is the extensive volume by Douglas Kahn *Energies in the Arts*, with contributions among others by Michael

Taussig on energy, art and shamanism, Milford Graves (cf. p. 243) and Peter Blamey’s works using direct photovoltaics (2019, pp. 408-413): “Free from the traditional role as battery filler, this ‘direct’ use of PV panels is accompanied by a shift in emphasis from storage to immediacy – in other words, from *charge* to *change*. Solar panels, taken from their controlled utility in energy production and their environmental relationship to the *n* million years photosynthetic charge/discharge cycle of fossil fuels, are shifted to another field of energy and environmental relations in real time. Sensing (indicating the presence, sources and, significantly the direction and location of available energy); energy harvesting and/or scavenging; responsiveness (to fluctuating environmental conditions).” (Kahn 2019, p. 409.)

On the aesthetic energy of a painting, how it travels through time, for instance, see also Sadie Plant on the Mona Lisa: “It is not the painting’s meaning, its symbolic value, or even its imperfection that makes it work. Leonardo considered it flawed and incomplete. And it is certainly not for his originality Leonardo is ever praised. Like Freud’s weaving women, he is often denigrated for what is dismissed as his tendency to copy material rather than produce originals, whatever

they are supposed to be. But the unfinished quality of the work is; for a start, why it survived. Had he thought it perfect, the painting would have been sold and lost to his estate. Perhaps it is also this which leaves the painting so alive, in the making to this day.” (Plant 1997, p. 198.)

“ENERGY. Scientific and Artistic, Utopian and Critical Visions” is the title of Volume 8 of the journal *Acoustic Space*, in which energy is a recurrent topic since its conception by E-LAB / RIXC art collective (Riga, Latvia) in 1998. See the online catalogue <http://rixc.org/en/acousticspace/all/>

At the time of making this monograph, a history of solar power art and design is being written by Alex Nathanson, foreseen to be published in 2021 by Routledge. It includes (references to) strands of *PhoEf* research.

Lastly, Bartaku’s research compo-st-archive pages *PhoEF: The Undisclosed Poiésis of the Photovoltaic Effect*, hosted on FoAM’s (<http://fo.am>) libarynth: <https://libarynth.org/luminous/phoef/>.

^{xv} A key momentum in Ingold’s line of thinking is when he proposes to render nouns into verbs using the gerund or < -ing > grammatical form. Key concepts like agency, become, human, reindeer – *Baroa*

b. – I add – are transformed. Agencing, because Ingold argues, “If agency is not given in advance of action, as cause to effect, but is rather ever forming and transforming from within the action itself – if it is always in question rather than presupposed as an answer...”; Humaning, since “To human is a verb. [...] To lead a life is to lay down a line”. The same for reindeer, and I would add *Baroa belao-baraiing*. A becoming then, Ingold sees as “... neither one nor two, nor the relation of the two, it is the *in-between*” (2015, pp. 117-118).

From here, via the way in which the initial hidden design of the brain reader has morphed, we slide into another new wording. The successive movements of hand-pencil-tracing-plastic-lines-on-paper that – due to a coincidental momentum in SERDE’s ceramix workshop – fixates into a ceramic hand-crafted piece, seems to be corresponding with Ingold’s (2015, p. 122) description of “form, rather than being applied to the material, is emergent within the field of human relations.” He calls “... this kind of making-in-growing anthropo-ontogenetic – or anthropogenic”. [...] Things are what they do” and he exemplifies with fire “... it is of the essence that it burns.” (2015, p. 122). Is it then of the essence of

Baroa b. pigment that it stains? (cf. supra, essence or existence.)

^{xvi} See Emanuele Coccia’s notion of a “cosmology of mixture... everything is in everything” (2017, p. 71).

^{xvii} Katia-Kaisa Kontturi quotes here Erin Manning, in the situating of the notion of becoming in this field of 21st century thought: “... the strand of recent scholarship that works with vital matters, often in conjunction with Deleuze and Guattari’s philosophy, is new materialism.” (2018, p. 14.)

^{xviii} This is to say that new materialisms approach the world by focusing on becomings of both organic and inorganic materialities not as such, but *in relations*. Crucial here is the understanding that materialities constantly reactivate their potentials for being and thus extend from the already-known towards the future (Tiainen, Kontturi & Hongisto 2015c, p. 5). This gives new materialism its (contested) emphasis on the new. This ‘new’ is not “a novelty ... concerned with the capitalist sense of the newest new, but novelty as the creation of mixtures that produce new openings, new vistas, new

complexions for experience in the making” (Manning 2016, p. 58).

^{xix} See in this context and intuition also Joan Brassil’s oeuvre – installations and poetry. See among others, Susan Ballard’s take on *The Energy of the Life Game is all in the Membrane, Y’Know* from 1981-1982 (Kahn 2019, pp. 316-325).

I V R E F E R E N C E S

“ The primary role of words.

In some cases, the written language on a thing may become that important that the carrier is almost forgotten in the daily use. This is the case with literature, lists etc.... This may change when the object is transferred to an exhibition.”

Dirk Sloodmaekers^{xix}

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A C K N O W L E D G E M E N T S

I write here a short story on the making of the monograph, as a way of fundamentally thanking everyone and Anything that is mentioned in these lines below.

The ink that you see and smell, making new *Aronia* on the verso side of the cover is the result of experimentations by Katarina-Dimic Misic, Monireh Imani, Risto Koivunen and Prof. Patrick Gane from the Department of Bioproducts and Biosystems, School of Chemical Engineering, Aalto University.

The ink, when it was still called sap, is pressed from the frozen pomes of twenty-two *Aronia mitschuriniis*, aligned on the East-West axis that separates tiny playing humans from cars.

The texts and illustrative matter are laid out for us by Annukka Mäkijärvi, who also made the artwork for the cover. She was recommended to me by Essi Viitanen, who handed the initial production process of the book over to Annu Ahonen (Aalto ARTS Books). She made sure that time and the budget remained our friends and introduced the paper that you are touching.

A substantial part of the illustrative material originates from artists and scientists who were so kind to let me use it here. The reducing of text errors is thanks to the proofreading by Liz Dexter (Aakkosto Oy) and Christina Stadlbauer.

The guidance of the PhD process, from the first contacts with Aalto University until the end five years on, is done by my supervisor and advisor Helena Sederholm. With support through subtle and effective choices of words and images, whenever the circumstances required it – be they administrative, time or conceptual hurdles.

In guiding the contents of the monograph, Helena was joined by Tere Vadén – luckily recommended to me by Prof. Juha Varto – who many times re-positioned the light on the narration of the practices. He particularly increased my awareness of the way I have been working and how this kind of work can be situated. Also important in this regard are the reports of the pre-examiners of the artworks and the monograph: they are Laura Beloff, Esa Kirkkopelto, Marietta Radomska and Vytautas Michelkevicius. The practice-based PhD has been financially and practically supported by the School of Arts, Design and Architecture, Aalto University.

The roots of the monograph lie at the *Baroa b.* plantation, finding their ways in the fertile biotope that is provided by the SERDE interdisciplinary art group and their companions in Aizpute and beyond.

In the monk-like period of writing, my dearest beloved ones supported me at any time, especially with huge positive and crucial effects on reducing tension and stuckness. Regular visitations to *Baroa b.* and its companions during Otaniemi campus

(OBDP) walks provided similar moments of release and inspiration.

In the folds and cracks of the lists of *those to be acknowledged* remain the entities that have been spinning into the constellation that you have been reading: those that are clearly mentioned in the monograph, and those invisible in the writing, but have been essential, too, in the processes. Wrinkly and compressed these lists end up now, on top of the equally endless amount of food containers that are daily disposed of on the university campus. This is a side-effect of a virus that – whilst the monograph was slowly growing – silenced the ambient noise in the Earth's upper crust, generated by the restless human that it is now a part of.

I thank you, dear reader, for your time, patience and presence.

A B S T R A C T

Five 'mere happenings' at the *Baroa b.* plantation in Latvia instigate four strands of art enquiry. They imply morphings of a plant's name, its shape and of plant-art perception and cognition.

Through a method of play as in improvisational music, a meshy constellation comes to be with a mixture of entities playing along. The leaky loops of making/thinking include micro- and photobiologists, bio-, solar and fake labs, clay, a brain reader, ceramists, artists, designers, herbalists, alchemists, chance, a JMW Turner painting, joyful accidents, re-enactments, hand-painted photovoltaics, microbes and their fluorescent pigments and plantations.

The focus of the narration is on experiences with detailed accounts of the applied protocols for in vitro plant and microbial growth, dye-sensitised solar cells and ceramix, as well as for invented gifts and imaginary solutions.

By emphasizing the experiential, the reader gets a grounded notion of what a fundamental transversal and enquiry-based practice might entail that is fused by the arts.

A critical re-view of process-based practice is provided by the notion of *becoming* in the theories on reality by Tim Ingold and Federico Campagna.



*Bartaku is
an artist
researcher.*

This monograph speaks about an art practice that addresses a plant while following signals from a plantation in Latvia. Through five *passages* the reader is becoming part of a growing-in-making mixing of bacteria, breath, bone china, ether, soil, linen, light, anthocyanins, brain reader, electricity, pH, plant(ation), presence, and mulberry paper.

An enquiry into the renaming of the plantation plant into *Baroa belaobara* crystalizes into a taxonomic breath-wording protocol. Experiments in creating a new shape for the dominant botanical name touch upon photobiological, gene-editing and hidden plantation protocols. Plant colorants as light-to-electric agency in a glass solar panel painting entangle with JMW Turner's *Snow Storm*. Performative happening protocols reveal hidden designs of a brain reader that transform into ceramic sculptures. They describe as well ways to create gifts for a crocodilian wheat grain and a prime minister of a country turned into a plantation.

In *BerryBabe* detailed descriptions of experimentations, interventions, collaborative making-thinking processes sliding through art, science, craft and philosophy, provide an insight in how plant signals – when taken seriously – play into poetic commenting on the big, the small and the in between.



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