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ART-SCIENCE INTERACTION

Cyborg Encounters: Three Art-Science Interactions

Ayşe Melis Okay · Burak Taşdizen · Charles John McKinnon Bell · Beyza Dilem Topdal · Melike Şahinol

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Abstract This contribution includes three selected works from an exhibition on *Cyborg Encounters*. These works deal with hybrid connections of human and non-human species that (might) emerge as a result of enhancement technologies and bio-technological developments. They offer not only an artistic exploration of contemporary but also futuristic aspects of the subject. Followed by an introduction by Melike Şahinol, *Critically Endangered Artwork* (by Ayşe Melis Okay) highlights Turkey's ongoing problems of food poverty and the amount of decreasing agricultural lands. It displays seeds of a promising endemic plant to mitigate these problems using the seeds of the *Thermopsis Turcica*, a herbaceous perennial endemic plant. *Ecomasculinist Pregnancy* (by Burak Taşdizen and Charles John McKinnon Bell) follows the design fiction methodology and illustrates a future scenario through a patient's diary and the medical letters he receives during his pregnancy with an extinct sea-lion. *Polluted Homes* (by Beyza Dilem Topdal) is a fictional art installation consisting of polychaete species evolved in time under the ecological circumstances prevalent in the Bosphorus and the Sea of Marmara today. These works show, that manufacturing life has consequences, not only for the human body and its physical appearance, but also, for example, for gender orders, the social structure of society, and even the environment, and thus for (re)shaping (non)living matter and their environments. This Art-Science Collection intends to provide an impetus for debate about the extent to which cyborg encounters should be taken seriously.

Keywords Cyborg Encounters · Plant enhancement · Multispecies ethnography · Ecomasculinist pregnancy · Polluted Homes · Cyborg macro-fauna species

A. M. Okay · B. Taşdizen · B. D. Topdal
Graduate School of Social Sciences, Özyeğin University, Istanbul, Turkey
e-mail: melis.okay@ozu.edu.tr

B. Taşdizen
e-mail: burak.tasdizen@ozu.edu.tr

B. D. Topdal
e-mail: dilem.topdal@ozu.edu.tr

M. Şahinol (✉)
Orient-Institut Istanbul, Istanbul, Turkey
e-mail: sahinol@oiist.org

C. J. McKinnon Bell
Girton College, Cambridge University, Cambridge, UK
e-mail: cb561@cam.ac.uk

Introduction (by Melike Şahinol)

This Art-Science Collection is a combination of three works presented at the 2019 exhibition *Cyborg Encounters* as part of the conference STS TURKEY (http://ststurkey.net/) at Istanbul Technical University (ITU). *Cyborg Encounters* offered an experience

of a universe, in between past, present, and future constituted of hybrids born from the coupling of humans and nonhumans, beyond species and genders. It lived in the duality of integrated circuits and feelings of monachopsis, defying the order of things, and has provided a view through an art-science kaleidoscope onto a set of cyborg variations [1]. The artworks for this exhibition were jointly developed based on the seminar "Qualitative Approaches in STS: Cyborgs and Technobodies" (Özyeğin University, "Design, Technology and Society", held by Melike Şahinol). During this seminar, students dealt with the topic of body modification, human enhancement, cyborgs, its sustainability as well as future body images in art and design, becoming familiar with central topics concerning relationships between body, identity, technology, and societal issues.

Three of the works were further developed for this publication. They show an entanglement of fiction and reality against the background of cyborg theories, human enhancement, feminist technoscience, and politics of dis/ability. The contributions refer to the human organic as well as to modifications of plants and changes in marine life as a result of the nature-culture reciprocal relationship. At the same time, these contributions show that "[h]uman pathways not only are bound up with other species, such as microbes, plants, and animals," but "also with technology" [2], representing a provocation to deal with the consequences of the awareness of this interrelation and rhizome-like connection between nature and culture.

Critically Endangered Artwork (by Ayşe Melis Okay)

Critically Endangered Artwork, 2019

Seeds of Vuralia turcica, Glass Containers, 13 × 22 × 8 cm

It was my first encounter with *Piyan*, in 2016, when I visited Nezahat Gökyiğit Botany Garden, the only botany garden of Istanbul that is located near the highway in Atasehir. It was springtime and *Piyan* was charming with its golden yellow flowers. I was more astonished when I learned that it is in the ex situ protection plan in this botany garden of Istanbul. *Piyan* is the local name of *Vuralia turcica*. It is called *Piyan* or *Eber Sarısı* (*Eber's Yellow*) in Afyon and Konya. *Vuralia turcica* is on the red list of the International Union for the Conservation of Nature and Natural Resources (IUCN) and labeled as critically endangered since 2000.

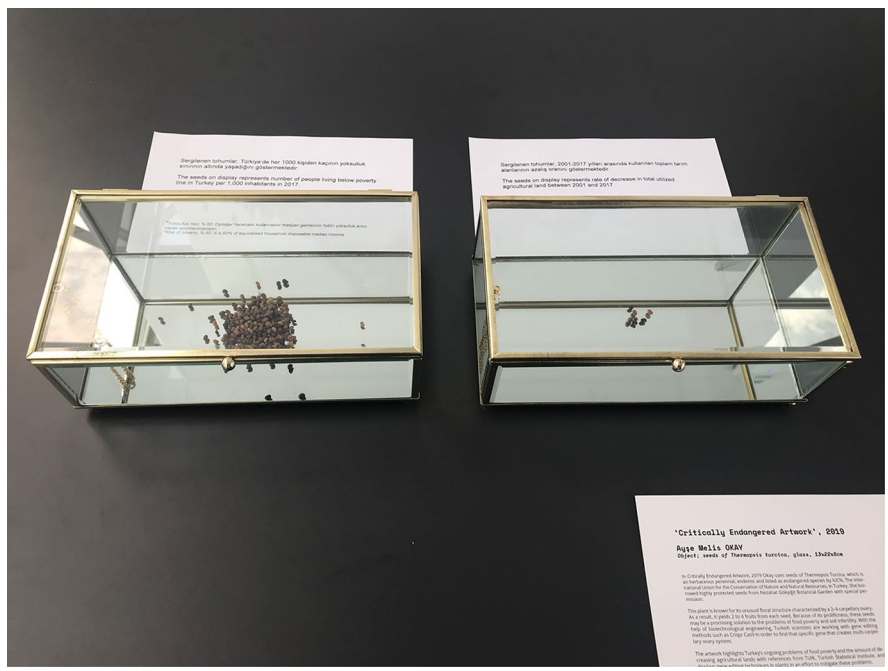


Fig. 1 Ayşe Melis Okay, *Critically Endangered Artwork*, *photo 1*. View from the exhibition "Cyborg Encounters" at the STS TURKEY conference at ITU, 2019

The species of *Vuralia turcica* in the provinces of Afyon and Konya are threatened with extinction due to agricultural activities such as deforestation and water irrigation. *Vuralia turcica* is an endemic plant that likes to live in muddy terrains between Eber and Aksehir lakes along the Sultan mountains. The specific microclimate between Eber and Aksehir lakes and the Sultan mountains is forming a great environment for the perennial herb. Recently, however, life on planet Earth has become difficult for *Vuralia turcica.* The provinces of Afyon and Konya, where it is endemic, are also Turkey's prime areas for agriculture. Peasants in the region, feeling the ever-intensifying burn of capitalist agriculture, are looking to expand their fields, and as such, they have been pushing into the areas where *Vuralia turcica* has been living, unbeknownst, for centuries. Concurrently, it is now stuck between the expanding fields of cherries. Deforestation, overuse of groundwater, increasing use of pesticides, and artificial fertilizers that affect the soil and water health of the region are thus pushing *Vuralia turcica* into extinction (Fig. 1).

On the other hand, scientists are attracted to the species due to a specific gene that leads to a multi-carpellary

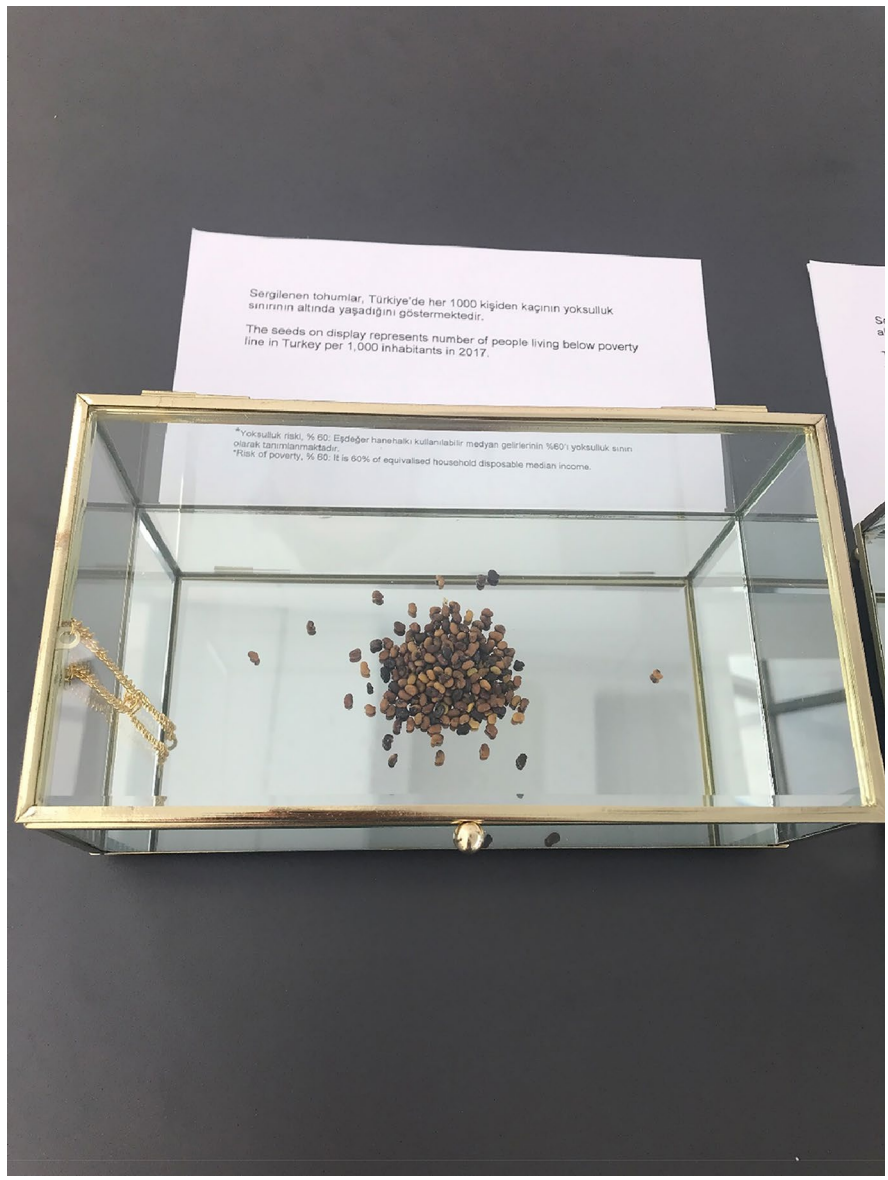


Fig. 2 Ayşe Melis Okay, *Critically Endangered Artwork, photo 2*. View from the exhibition "Cyborg Encounters" at the STS TURKEY conference at ITU, 2019

ovary. As a result of the feature of the multi-carpellary ovary, the plant gives three or four fruits per flower, while another species from the same family of *Fabaceae* gives only one fruit. This specialty makes the plant unique among 18,000 plants in the same family.

In this artwork, I investigate how *Vuralia turcica* is interpreted differently across multiple geographies. What do these interpretations tell us about the ways in which social relations are constructed around *Vuralia turcica*, particularly in the process of gene research for commercialization? And, looking at *Vuralia turcica*'s course of (differing) translations from the field to the lab, what can we say about the ways in which ecosystems are treated in the Anthropocene (Figs. 2 and 3)?

Critically Endangered Artwork shows seeds of *Vuralia turcica* in two glass containers. One is implicating the people living under the poverty line in Turkey while the other one is presenting the amount of decreasing agricultural lands with references from the Turkish Statistical Institute (TUIK) and displays seeds of a promising endemic plant to mitigate these problems. This art-science interaction work follows semiotics and illustrates ratios of two problems of Turkey.

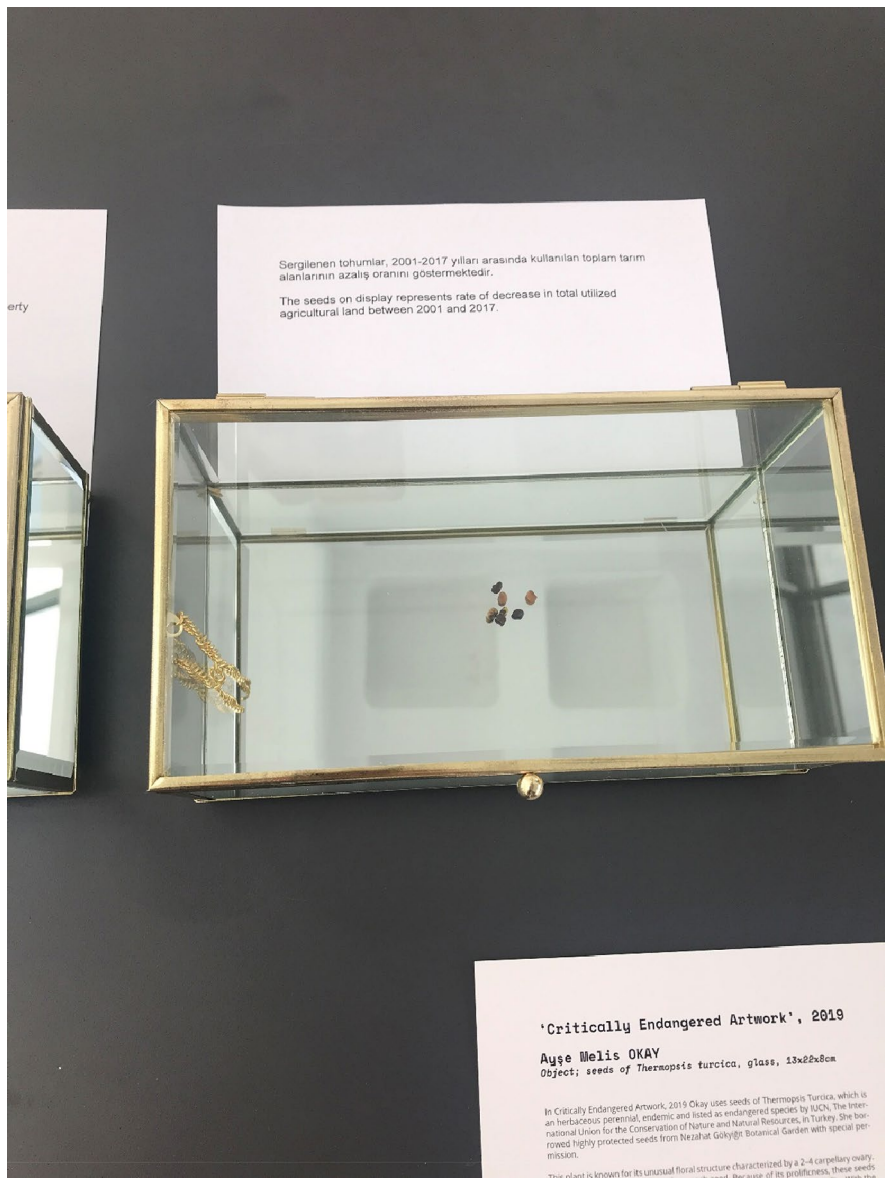


Fig. 3 Ayşe Melis Okay, *Critically Endangered Artwork, photo 3*. View from the exhibition "Cyborg Encounters" at the STS TURKEY conference at ITU, 2019

At the same time, it questions the value ascribed to the artwork as well as to its material content, critically endangered seeds. Critically endangered species is a category of the International Union for the Conservation of Nature and Natural Resources (IUCN). The artwork takes its name from the red list of threatened species of IUCN (Fig. 4).

I find interpretations of the same plant in multiple geographies and how those perceptions are completing the reality of *Vuralia turcica.* The life of *Vuralia turcica* in both geographies is both a means of survival and a way of resisting industrial agricultural development and can only be fully understood through an analysis of relations of species between terrains and laboratory. Expanding agricultural lands and water irrigation bring *Vuralia turcica* into extinction. However, I argue that the extraction of the multi-carpellary gene will be utilized by the same dominant mode of agriculture. An analysis of relations between terrains and laboratory through *Vuralia turcica* will reveal how conventional agriculture is shaped by modern biotechnology. While conventional agriculture leads to the extinction of *Vuralia turcica*, its survival comes with biotechnology to be used again in conventional agriculture. This cycle from the terrains to the lab and from the lab to the terrains shows how modern biotechnology differs from conventional agriculture.

The artwork studies social and political impacts of possible plant enhancement manufacturing, metaphorically showing and implying effects of organic–inorganic and human-nonhuman entanglements. Reconstructions of seeds of *Vuralia turcica* through practices of biotechnology and gene editing technologies are articulated through it. The human is the link here, bonding a plant with a technology, while plant enhancement is questioning the nature-culture duality.

The artwork was informed by texts written by Knorr-Cetina [3], Haraway [4], and Kirksey and Helmreich [5]. The installation brings science and conceptual art together with a skeptical interpretation.

Ecomasculinist Pregnancy (by Burak Taşdizen and Charles John McKinnon Bell)

Introduction

We find ourselves in a world slowly recovering from a climate catastrophe, and with humanity in need of redefinition and redemption. Sea levels and temperatures have risen unsustainably, and ocean biodiversity is depleted. Humankind can no longer simply adapt—it needs to fundamentally change its connection to, and place within, nature. Various voluntary co-operative

Fig. 4 Ayşe Melis Okay, *Critically Endangered Artwork*, photo 4. View from the exhibition "Cyborg Encounters" at the STS TURKEY conference at ITU, 2019

schemes exploring new relationships with the Earth have been founded across the depleted planet, amongst them The Campaign for Sustainable Masculinities. Through voluntary surrogate mothering of an infant, the baby Steller sea lion Mononoke, the ex-hunter/fisherman Yiluak goes through a conscious intervention on his body leading to further physical and mental transformation, development of a bond with a person of another species, and a new ethical consciousness, care ethics, that subverts old West's individualistic rhetoric and ecological transformation of the societies on Earth.

Resurrecting Steller Sea-Lion Project

Funded by The National Institute for Explorative Medicine, Resurrecting Steller Sea-Lion Project is a collaboration between the Center for Ocean Recovery (CfOR) and the Campaign for Sustainable Masculinities (CfSM) and aims to repopulate Steller Sea Lions (Eumetopias jubatus), a marine mammal that went extinct in November, 2034, primarily due to habitat degradation and offshore gas and oil exploration, and secondarily due to their interactions with fishermen leading to careless but unintended injuries and deaths. Steller Sea Lions play a crucial role in the marine ecosystem as their microbiome contains high numbers of bacteria that are able to metabolise the elements of iron and phosphate, which are significant for the growth of the first tier in the marine food chain, phytoplanktons. Consuming carbon dioxide, phytoplanktons help to decrease the excessive levels of this compound present both in the atmosphere and in the oceans. For this reason, the repopulation of the extinct Steller Sea Lion allows us to heal the depleted oceans, and thus hope for a more livable planet in the future.

In order to enable their survival in our post climate-change planet, Steller Sea Lions' genetics have been carefully manipulated by geneticists. They will be brought to life by volunteer human mothers, female or male, through 6-month pregnancy. After birth, the volunteer human mothers will take care of them until they reach maturity.

Adopting a feminist approach to our ethics, we are aware and reflexive of our positionality as humans in bringing an extinct species back to life in a potentially hostile environment to which they are now foreign. Resurrecting Steller Sea-Lion Project strongly condemns domestication and slavery of any species and any anthropocentric approach to decision-making.

For further information, please contact us at recoveringoceans@cfsm.org.

Regards,
Resurrecting Steller Sea Lion Project

4045 Robson St
Vancouver BC V6B 3K9

recoveringoceans@cfsm.org
+1-613-555-0188

Supported by

THE NATIONAL INSTITUTE FOR EXPLORATIVE MEDICINE · center for ocean recovery · campaign for sustainable masculinities · Resurrecting Steller Sea-Lion Project

Letter 1. Resurrecting Steller Sea-Lion Project Leaflet.

Day N° 01: Encounter with the Project Leaflet

Today, I came across a leaflet of this project called Resurrecting Steller Sea-Lion Project. Apparently, this is an ecofeminist project, a collaboration between The National Institute for Explorative Medicine,[1] *The Center for Ocean Recovery*[2] *and The Campaign for Sustainable Masculinities.*[3] *What caught my interest is the gender aspect to it—I wonder how they combine masculinities with nature. It says on the leaflet that males as well as females could sign up to deliver this extinct marine mammal called the Steller sea lion. I never thought giving birth would be considered sustainable. To the contrary, I've always imagined myself to be an anti-natalist. But maybe that changes when you give birth to an extinct animal…. They say the animal will be released into the ocean and collaborate with scientists. That sounds a bit like animal labor to me. Is this really ethical? That's apparently human-centric. I don't know. I myself used to hunt fish for sustenance when it was legal, so I'm in no position to judge, I guess. Really though, us humans have caused nothing but trouble on the planet. My partner and I have been sympathetic to adopting a child from Europe and are still considering it. Europe has become such an unfortunate place to be in, battling regular heat waves, droughts and climate migrants. Instead of producing more and more humans, probably one of the most detrimental species, why not adopt an already suffering one from a less privileged geography? Obviously that marine mammal rests in peace now, so why bring it back to this planet?*

Ecomasculinist Pregnancy

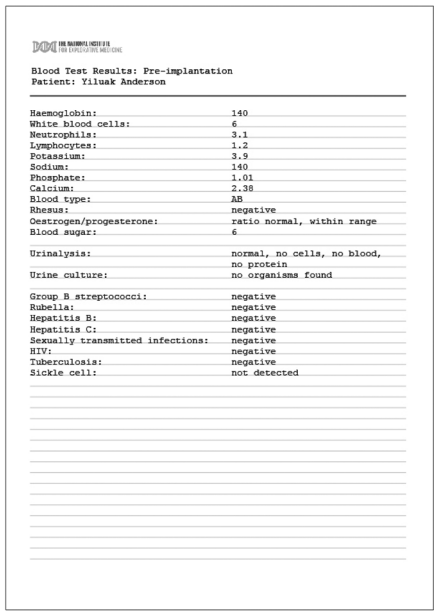
Yiluak first undergoes hormonal transformation with estrogens and progestogens, allowing his gonadotrophic rhythms to echo those of previous mothers. When his body is ready, he is implanted with a womb grown from his own stem cells—yet these are cells which Yiluak has voluntarily provided, and in which the single transcription factor sry, which made him develop his male gonads and soma, has been inactivated. He becomes pregnant with the implantation of the cyborg egg in his cyborg womb and enables the growth of the fetus

[1] The National Institute for Explorative Medicine is a fictional medical institution in Canada, experimenting in medicine, pushing technology's limits to its very end.

[2] The Center for Ocean Recovery is a fictional marine research center in the west coast of Canada, working on the recovery of the oceans and the biospecies, focusing on marine mammals such as the Steller sea lion.

[3] The Campaign for Sustainable Masculinities is a fictional ecofeminist initiative found by vegan + queer activists, academics and scientists, addressing first and foremost the oppression of genders, species and nature-cultures.

with traditionally female hormones; he lactates, injecting himself with prolactin and oxytocin, and forms the maternal bond.



Blood Test Results: Pre-implantation
Patient: Yiluak Anderson

Haemoglobin:	140
White blood cells:	6
Neutrophils:	3.1
Lymphocytes:	1.2
Potassium:	3.9
Sodium:	140
Phosphate:	1.01
Calcium:	2.38
Blood type:	AB
Rhesus:	negative
Oestrogen/progesterone:	ratio normal, within range
Blood sugar:	6
Urinalysis:	normal, no cells, no blood, no protein
Urine culture:	no organisms found
Group B streptococci:	negative
Rubella:	negative
Hepatitis B:	negative
Hepatitis C:	negative
Sexually transmitted infections:	negative
HIV:	negative
Tuberculosis:	negative
Sickle cell:	not detected

Letter 2. Pre-Implantation Blood Test Results of Yiluak.

Resurrecting Steller Sea-Lion Project

Dear Yiluak,

We are very happy to inform that the pregnancy has been successful. You are now entering a phase of 6-month pregnancy, throughout which the Institute for Explorative Medicine will be supporting you. Throughout your pregnancy, you will continue taking your medicine and we will have regular controls once a week. These will take place at the Institute.

From this point onwards, you will be supervised by Dr. Omar Steesk. Dr. Steesk will meet you once a week in his office to check the growth of the fetus, and to see how well you are doing.

In case of a medical emergency, you need to contact our Emergency Hotline 555. Dr. Steesk will share his personal contact information in the next appointment just in case. If you have any questions, please don't hesitate to contact us.

Regards,
Resurrecting Steller Sea Lion Project

4045 Robson St
Vancouver BC V6B 3K9

recoveringoceans@cfsm.org
+1-613-555-0188

Letter 3. Yiluak's Pregnancy Result Tests Positive.

Day N° 24: Dizzy on Hormones

Today I feel very nauseated. All the hormones that I've been taking make me feel like this process should not have started at all. The thought of experimenting with one's body, by taking hormones, sounded liberating at first. Like Paul B. Preciado,[4] *when he would take male hormones just to experiment before his sexual transition. Hormone injection isn't an easy process. As a biological male, I don't produce the necessary hormones for the growth of a fetus, human or animal, so I must inject these. The hormones arrive weekly from the institute in a shiny green box and are separated into a variety of hormones. Each has different instructions and quantity restrictions which I must adhere to on a daily basis. This can be tricky but is no different from taking any other body-alerting drug, such as prep or testosterone or heroin. The green box contains 6 different vials: estrogen, progesterone, prolactin, oxytocin and placental lactogen. The hormones are nasty and rough, entering my body with a cold smack from the refrigerator that my partner and I share. I keep them on the shelf next to the mayonnaise. The needle stings entering my body; I must hold a breath every time I do this—I hate injections. My partner would have to help me in the beginning, distracting me and forcing the injections by surprise. It wasn't an easy process. But the injections became less of a problem when I started seeing the effective change in my body. I must nourish this thing inside me.*

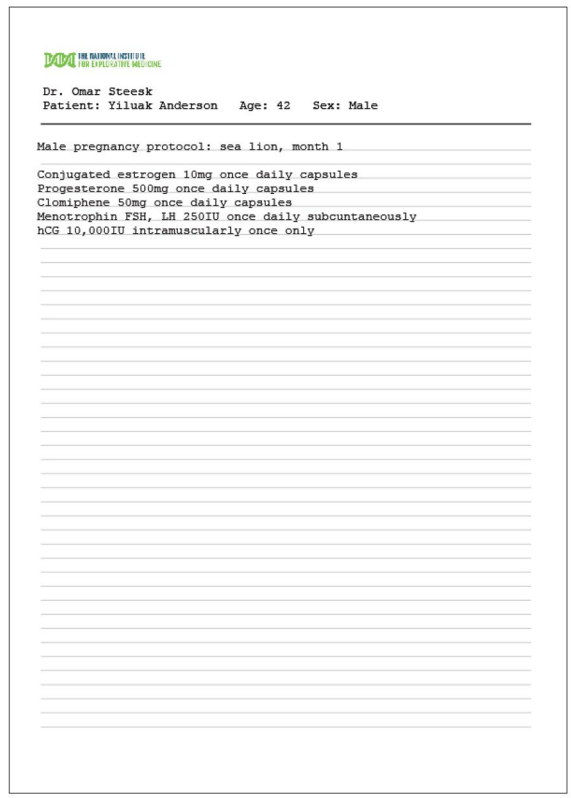
But maybe this is becoming too much? Is it, really? The feeling of holding a baby Steller sea lion in my arms once I give birth to it? Still, I won't be the first one to see a Steller sea lion after their extinction decades ago. People at the institute told me this is the second round they are doing this project, so there have been those before who went through this. So, I know this will work and I should be proud of what I'm doing. But even feeling a bit proud makes me feel guilty. Who am I to feel proud about? As a cis male, although a queer one, I should hold myself back a bit, and not turn this into a heroic act of manhood. Isn't this program what

[4] Paul B. Preciado, the author of *Testo Junkie: Sex, Drugs, and Biopolitics in the Pharmacopornographic Era.*

it's about? Unlearning our masculine past, helping to build a more feminine future? Women have been doing this for thousands of years. They are still doing it with this project. Simone is going through her second pregnancy in this second round. She is not complaining at all. She is happy to contribute to Earth in any way she can. And look at me, not being able to deal with feeling even a bit nauseated. I'm such a crybaby! But I have the right to be one. Maybe I represent the crying kind of masculinity. Shut up now.

Day N° 30: Day of Impregnation

I wake up, feeling the baby growing inside me. My back hurts and feels like it's been growing overnight; the hormone injections have been working. I can feel my body changing and evolving. My body is in the space between genders, parenting, a cyborg body and queer carrier bag of life. The baby kicks, making a small stabbing pain against the synthetic flesh exterior of the artificial womb. The womb bulges slightly, with an almost unnoticeable limb-shaped disturbance. I wasn't prepared for this visceral reminder of something growing inside me. The jolt of the limb takes me back to this feeling and the day of impregnation. My partner was with me; he would hold my hand as the artificial flesh fused with my body. The womb felt warm at first, having held a steady temperature just above room temperature in the incubator lab. It didn't take my partner and I long to decide that we didn't want to birth a human; it didn't quite align with our political views as a couple. Pawing my womb, I could feel the young sea lion expanding, getting larger. The time of a sea lion in the womb is much less than that of a human; they take 6 months as opposed to 9, so this was also a practical decision for first-time parenting. Maybe our next will be a dolphin; they take longer. The impregnation was fast and painful. The after feeling was weird; the male body is not equipped by nature for mothering; it is an anarchistic act, especially that of mothering a Steller sea lion. Like anal sex, it is a changing of nature. A queer biotech evolutionary anarchic act, queering the laws of nature with slippery liquid synthetic plastic bags. The initial fittings and test runs of the womb were interesting. I would compare it to having a wet jellyfish grafted on your body. Slimy and wet but optimistic, aspirational, I am changing my own body with this jellyfish, please accept this jellyfish, I found myself saying. Synthetic flesh is an interesting material: Polycarbonate mixed with Vaseline and some circuit boards. Fiber optics linked to the surface glow if impregnation is successful. The lining is watertight, holding in bodily fluids and the growing baby, the whole package feeling jelly-like, softer than a natural female pregnancy, perhaps even improving on the environment and conditions. This is what it feels like on my body, growing and changing, I must protect it at all costs. I feel what the baby feels, I'd been told the process is like a natural birth, the fetus becomes as much a part of you. But this birth goes further than that. My body feels like a biopolitical playground for body politics and anarchy. A queer meshing of interspecies repopulation evolutionary tactics. My body is political, a gender-fluid homosexual who is pregnant with a sea lion.


Dr. Omar Steesk
Patient: Yiluak Anderson Age: 42 Sex: Male

Male pregnancy protocol: sea lion, month 1

Conjugated estrogen 10mg once daily capsules
Progesterone 500mg once daily capsules
Clomiphene 50mg once daily capsules
Menotrophin FSH, LH 250IU once daily subcuntaneously
hCG 10,000IU intramuscularly once only

Letter 4. Month #1: Doctor's Prescription.

Letter 5. Month #1: First Trimester Ultrasound.

Day N° 72: Reading to the Baby

I relax into the hormones by making an herbal tea and picking up my copy of Companion Species[5] *by Donna Haraway. I start reading and feel like I should probably let Mononoke hear. I start reading aloud; it's good to talk to animals, right? Then, when they hear my voice outside the womb, they will trust me and feel the biological bond that we have shared. This connection will be important when we make separation into the wild, the altruistic parting of mother and child at birth once they are strong enough.*

[5] *Companion Species* is one of Donna Haraway's works, in which she discusses the dog as the species humans have historically developed close relations with, building co-dependency.

Many of the serious dog people I have met doing my research emphasize the importance to dogs of jobs that leave them less vulnerable to human consumerist whims. Weisser knows many livestock people whose guardian dogs are respected for the work they do. Some are beloved and some are not, but their value does not depend on an economy of affection.

Reading Haraway, my concerns regarding animal labor vaporized. This sea lion is a sea lion; she won't be domesticated. She will work in the oceans, making the planet a better place to be. My love for her does not assign her a value, or any value at all. My birth is an ecological act of kindness, a favor in the repopulation of species, and recovery of the oceans. I will not contain this animal, but rather use our queer maternal bones to reconnect with it on occasion. Like seeing an old friend and making eye contact across the room, we will recognize our offspring in its own autonomous environment, undomesticated.

Day N° 180: Giving Birth to Monokoke

When I compare it to the impregnation, giving birth was not as painful as I imagined it to be. Because it's not a conventional birth, the scientists must have imagined it all the way through to make it more pleasant. I remember lying in the Operation Room WK9 of the Institute for Explorative Medicine, surrounded by scientists, all wearing their fancy, monochrome blue medical clothing with even their gloves matching their look. I remember imagining this look on a runway, with scientists' extra serious faces, straight out of a fashion show from the 2010s. Fashion used to appropriate everything, so why not this? They keep a small pool next to me, to put Mononoke once she's out. Yes, that will be her name, an encouragement for her to stay wild and untamed. After the birth, we'll spend some more weeks together at home, so that I could breastfeed her and swim with her. The milk that I will be producing will speed up her maturity, the scientists told me. The thing about swimming... My partner insisted on getting a house with a pool, I always thought it was fancy, still think so. But it worked for our benefit; this was one of the condi-

tions the program reinforced—mothers need to own pools for the baby to swim in.
My partner holds my hand so tight, never leaving me alone with my anxious thoughts. He has been with me till day 1, and physically shows me that he will be there in the future. Although I signed up for this myself, he is more than happy to show support for something I believe in. He is one of those rare people that would never disappoint you. He is a rare species. Just as I am lost in all these thoughts, drugs hit me, making my vision blurry, the sounds muffled, and my body numb. My hand is left hanging and a knife cold as ice suddenly touches my synthetic womb….

Following Birth

Yiluak gives birth to their child Mononoke and cares for the newborn, including producing milk for its sustenance, then freely releases it into the ocean. After its release into the wild, Mononoke contributes to the ecosystem and the healing of the vulnerable Earth through her very existence: like a cyborg ocean police, she reports back to scientists on ocean patterns and on any potential mistreatment of ocean life in a sustainable way, while breaking down dangerous metabolites in a way necessary for ecosystem survival.

Day N° 191: Watching Monokoke Swim, Contemplating

I inject my 10-mg daily prolactin and oxytocin and go outside next to the pool where, I hear, Mononoke is swimming. I am sitting on a chair next to the table, with my notebook and Companion Species next to me, reading, writing annotations and watching Mononoke. She is growing each day, her fur getting lighter in color, her swimming getting more agile, her communication becoming clearer. She is becoming stronger, more trusting. How enthusiastic she looks in an environment that is not even faking the climate of the North Pacific Ocean. Will she continue being this happy in the great white ocean? I remember reading some old publications on marine mammal behavior patterns and their social nature—Mononoke is no exception. I catch her watching me in the pool, jumping in water from time to time. I read this as a sign of her trying to impress me, her mother. I applaud her with a big smile, my eyes watering. I was never this emotional; this is estrogen kicking in and I am not complaining at all.

Play between humans and pets, as well as simply spending time peace by hanging out together, brings joy to all the participants. Surely that is one important meaning of companion species. Nonetheless, the status of pet puts a dog at special risk in societies like the one I live in—the risk of abandonment when human affection wanes, when people's convenience takes precedence or when the dog fails to deliver the fantasy of unconditional love.

I can't help but think of the day she is going to leave. I have connected to her so much that it physically hurts. It's become a recurring thing that I get headaches toward the evening, thinking anxiously if she is fit enough to survive in the oceans. Will she be able to make some company? They are not supposed to mate, so will other Steller sea lions bother to get to know her? I am trying to erase these thoughts from my mind, reminding me that all these are anthropomorphisms. I need to tell myself Mononoke is a different species, with different needs, unlike humans. She may not need any company for her entire life, and be quite okay with it. But she is a sentient being, and the articles say that they are social animals. I can definitely tell that she feels happy at this moment, and she might feel depressed in the oceans. What I should do is trust the institute and the scientists that will be watching her watching the oceans. And maybe I should stop listening to ANOHNI.[6]

Swim with me my mama when I dive
In the ocean of death, I will cry
If I am not with my family
You could be my friend eternally[7]

Mononoke and I have certainly developed a bond. I find it both similar to and different from my relationship to the family dog Laika. It is similar because Mononoke constantly reminds me of Laika; her enthusiasm for play, the feeling that she sees me as another being, the fact that we do communicate…. Plus the fact that Steller sea lion

[6] ANOHNI is an artist whose work tackles issues from drone warfare to surveillance, torture and ecological destruction.
[7] The Great White Ocean—Swanlights, Antony and the Johnsons.

babies being called as pups, like puppies. Still, it's a different kind of relationship. At times, Mononoke is very foreign, just like I wanted her to be. She is not a land animal, so it's not like she'll lie next to me watching TV. She will never adapt; her nature rejects domestication. Not that I wish to domesticate her; I think to bring back an extinct species to Earth just for personal amusement would be highly unethical and exploitative. How I feel is the interspecies bond that I have shared with Laika and Mononoke are different. And Mononoke and I could even be considered as sister species considering the biotechnological interventions on our bodies that connected us in the first place. The square tracking gadget implanted on her neck right after birth not only helps scientists to track her, but also helps me to track her mood. That's how I know she becomes more positive when she swims in the pool, or when she sucks my milk. The technology bringing us closer, and the fact that I gave birth to her and breastfeed her, I feel my relationship with Mononoke is on a whole different compared to that of Laika. She, along with all those hormones, helped me become this person that is more in touch with their emotions.

Day N° 200: Monokoke Leaves

Today marks the end of our journey with Mononoke. A team of scientists will arrive soon to pick her up, to drive her to Broughton Archipelago,[8] *the usual spot where sea lion babies safely swim away, they told me. They informed me that I could also join them, but I kindly rejected. I want to say her my goodbye in my own pace, at our home, where we have spent months together. It's so very difficult for me today, but I feel so stupid feeling that way. It's time for us to take some responsibility, and it's my turn to shoulder some of it. I just wish I had more time with her, more time to show her how much she means to me. Part of me just wants to keep watching her progress, watching her grow. I know this is extremely selfish, and it really is time for me to let go—to let her be. I can see her through the window, sleeping next to the swimming pool under weak sunlight breaking through the clouds. Sometimes, she sleeps in water, but this time, it feels like she wanted to enjoy a little bit of sunlight. I'm amazed how much she's grown physically. She was 10 cm big when the institute sent me her first ultrasound image. It's amazing what technology is capable of, taking stem cells from the human's body, turning it into a womb, impregnating it with the egg of an already gone, foreign species. Now, she is sleeping right in front of me, showing me how there is still hope for this planet. Some decades ago, we humans were almost viruses on this collapsing planet. But now, I can see that we are recovering, not through curling in a cave and moss, or gathering wood for fire,*[9] *but through embracing technology, seeing salvation through it. She deserves to explore the world around her, and it's too selfish for me to say no. Not that I could. It's selfish but yet I'm still so proud of her, proud of who and what she is becoming. It's time to lay down all my feelings of self-satisfaction. Now it's her turn to get bigger while I get smaller. I hear a car approaching. I feel that it's time for her to go now. I can't imagine how much I'll miss her tomorrow. But it's time. It's time.*

[8] Broughton Archipelago is a group of islands on the coast of British Columbia, Canada. The archipelago with its rockeries is one of the Steller sea lion destinations.

Polluted Homes (by Beyza Dilem Topdal)

Introduction

Polluted Homes is a fictional art installation consisting of polychaete species evolved in time under the ecological circumstances that Bosphorus and Marmara Sea face today. Known as the ecological corridor, Bosphorus is a home to many different non-humans ranging from the bottom in deep sea sediments to the shore.

In the proposed alternative reality, the sea creatures mingle with pollutants as allies. This installation as an art practice between reality and fiction is subverting the dualistic approaches such as human and non-human, machine and organism, or social and biological. The art piece has emerged from the inspiration coming from laboratory visits that kick-started the Ph.D. research of the artist. Inviting the viewer to participate in a world-making practice [6, 7], the work is informed by design fiction [8], multispecies ethnography [9], and cyborg and crip literature [10–12]. While the biological and

[9] Hopelessness—HOPELESSNESS, ANOHNI.

social reality of 0.5-cm critters are woven with anthropocentric destruction, such tiny organisms enlarged on a sand dune collected from the shores of the Bosphorus become an intervention at the gallery space. The evolved species are in kinship with pollution to come into life again [10]. *Polluted Homes* was led by the question: if the life of marine fauna depends on the well-being and ability of the sea, what is the disabled agency of critters telling us?

Polluted Homes

Polluted Homes is a series of macro-fauna fossils collected in 3019 from the sand dunes where Bosphorus is located today. The piece is an extension of the artist's Ph.D. research "Critters of Crippled Seas" that she started at an ecology laboratory where scientists identify marine benthic organisms taken from sediment samples, aiming to monitor the health of Bosphorus. During this indexing process, the body is separated from the identity as the critters become a live data source. With qualitative data from laboratory visits, interviews and field walks at Poyrazkoy and Garipce, cyborg macro-fauna species had emerged (Fig. 5), based on the participant interviews where sometimes science and imagination were intertwined.

While juxtaposing the present and the future, the artwork is drawing attention to the life possibilities in post-human environments. It proposes speculative cyborg bodies, where the cyborg is a hybrid notion of animal and pollution [4]. These critters and seashells have evolved through the circumstances of heavy metal and polycyclic aromatic hydrocarbon (PAH) accumulation in the bottom of the sea (benthic area) where they used to live. They live with an elongated and tangled few-meters-long palp to catch food in blurry waters, solidifying in their metallic protective shells as more heavy metal accumulates in the crippled sea. Crippled sea is the

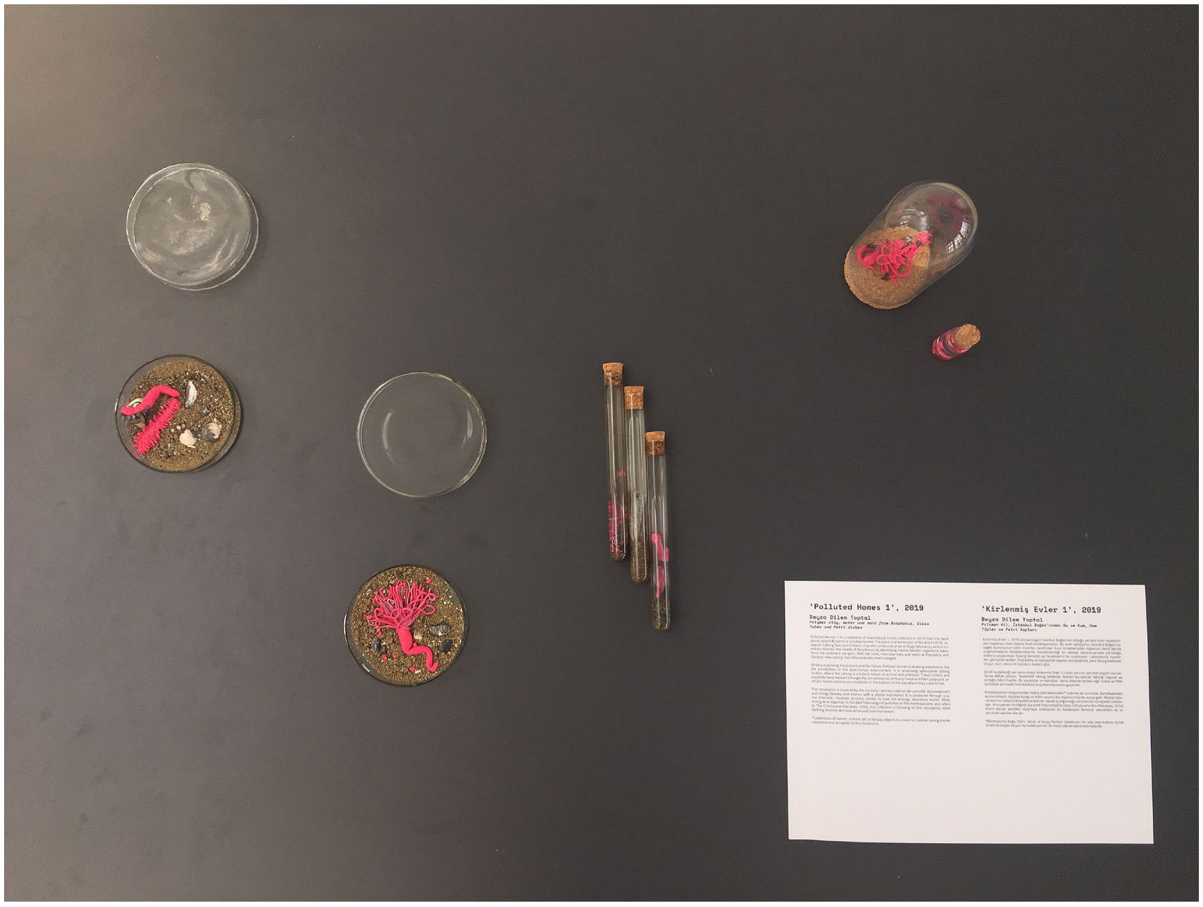


Fig. 5 Beyza Dilem Topdal, *Polluted Homes*, *front view 1*. View from the exhibition "Cyborg Encounters" at the STS TURKEY conference at ITU, 2019

response of Bosphorus to how it can take on new life forms instead of trying to survive in the Anthropocene. The pink color of fossil forms is alluding to the rose bengal ethanol that is being used today in the ecology laboratory that dyes macro-faunas during the experiment (Fig. 6).

The installation brings fiction and science together with an ambiguous, playful expression. The sculptures are produced through a labor-intensive, ritualistic process, similar to how the ecology laboratory works. In contrast to the dark futurology of the Anthropocene, the collection is referring to the livable Cthulucene [13]. While focusing on the resurgence, the agency of critters is tackling feminist crip technoscience and post-humanism [14–17].

In search of other possible lives, this artwork is influenced by principles of critical design and conceptual art. The conceptual language of the installation stems from the speculative design perspective proposed by Dunne and Raby [8] who define the future not as a destination but a means to make one's imagination flourish.

Accordingly, critical design can be playful, provocative, and even dark: "It is more about the positive use of negativity, not negativity for its own sake but to draw attention to a scary possibility in the form of a cautionary tale" ([8] p. 35). While life out of polluted sediment ruins fosters [18], evolved species on the sand dune provoke the reality. Looming as the opposite of what natural science is, the sea keeps on waving crippled.

While the first version of the artwork was exhibited at the group show *Cyborg Encounters* initiated by Dr. Melike Şahinol during the *STS Turkey Conference* at Istanbul Technical University (Fig. 5), the second version of the project has been exhibited with new species at the+D Gallery during the Sonar 2020 festival at Zorlu Performance Art Center, Istanbul (Figs. 6, 7, and 8).

The latest iteration of this piece has been exhibited with new species designs at Pilot Gallery, Istanbul, during the group exhibition "What Water Knows" curated by Azra Tüzünoğlu (Fig. 9). The fossils were displayed on the sand dune leaking from the wall offering the viewer an encounter with the other possible states of being of the sea, inviting them at the corner of the gallery to think about the relationship we have established with Bosphorus. These enlarged sea worms are bodies that are likely to exist and invite

Fig. 6 Beyza Dilem Topdal, *Polluted Homes, side view 1.* View from the exhibition at Zorlu PSM, 2020

Fig. 7 Beyza Dilem Topdal, *Polluted Homes, front view 2.* Second view from the exhibition at Zorlu PSM, 2020

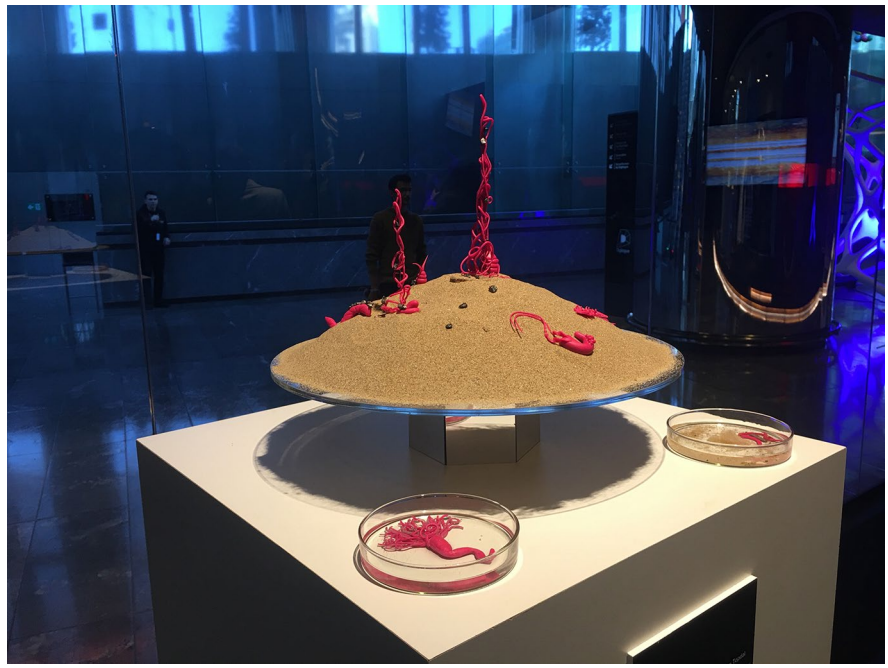


Fig. 8 Beyza Dilem Topdal, *Polluted Homes*, *pink-colored critters made of polymer clay over a sand (from Kilyos, Istanbul) dune placed on a circular plexiglass pedestal. Two other species inside glass petri dishes with salty sea water; all installed on the corner of a white plinth*. Close-up view from the exhibition at Zorlu PSM, 2020

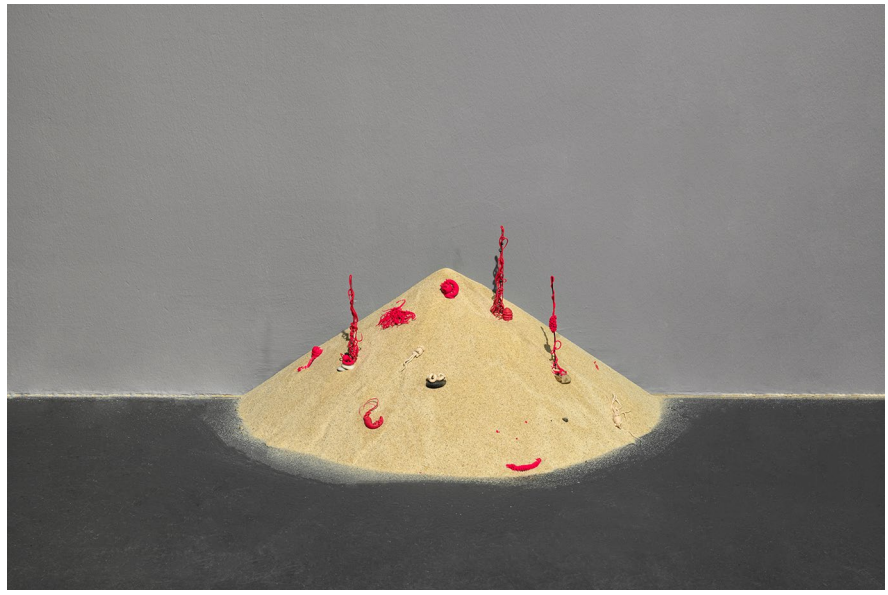


Fig. 9 Beyza Dilem Topdal, *Polluted Homes, polymer clay sculptures and sand placed on the floor by the wall.* View from the exhibition "What Water Knows" at Pilot Gallery, Istanbul Turkey. Image belongs to Zeynep Fırat, 2022

Fig. 10 Beyza Dilem Topdal, *Polluted Homes, side view 2.* Close up photo from the exhibition "What Water Knows" at Pilot Gallery, Istanbul, Turkey, 2022

the viewer to go closer, engage and explore them with a careful gentle look (Fig. 10).

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