SOLUTION 295-304
MARE AMORIS

INGO NIERMANN
WITH MARAH J. HARDT AND EDUARDO NAVARRO

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MARE AMORIS

INGO NIERMANN
WITH A TEXT BY MARAH J. HARDT
AND DRAWINGS BY EDUARDO NAVARRO

SERIES EDITED BY INGO NIERMANN
STERNBERG PRESS

Introduction

For most of the history of humanity, the majority of people never saw the sea. As long as the general belief was that the earth was flat and the sky was its dome, the ocean was as alien as the world could get. Ships were fragile, storms unpredictable, and the sea full of predators of incomparable size and danger. To discover the globe, navigation of the sea was crucial, but the sea was perceived as mere surface, even more so than the earth.

In the early days of science fiction, the deep sea was as important a realm of fantasy as outer space—most famously in the books of Jules Verne and H. P. Lovecraft—and during the twentieth century's world wars, submarines revived the ancient fear of sea monsters. But thereafter, the ocean was fished of all apparent mysteries and dangers, and outer space came within reach. While most intercontinental telecommunication went through cables that were dumped into the abyss, satellites shone in the sky as our new stars. We looked for traces of water on planets trillions of kilometers away as a sign of life rather than thoroughly exploring the abundance of life-forms right below us, in our own waters. The deeper we went, creatures seemed to just get smaller, paler, and slower. Our curiosity about the likely origins of earthly life, well protected from radiation and meteorites, was so minor that fewer expeditions were carried out to the deepest point in the ocean, Challenger Deep, than to the moon.

Hopes to travel our galaxy or even just the next planet were quickly dashed, and evidence of extraterrestrial life has been a long time coming. Yet the ocean did stir general interest only when we realized that its monstrous predators had been replaced by far more monstrous creations of our own: global warming causing rising sea levels and disastrous storms; fertilizers causing oxygen depletion and, together with warming, coral bleaching; overfishing and rising temperatures causing plagues of jellyfish; plastic waste accumulating in garbage patches reaching the size of Russia. When we bury trash deep in the earth we might forget about it, but the vast ocean confronts us with the memory of all our industrial sins, which can no longer be repressed. We have neglected the ocean for too long; now it's taking its revenge, putting us in existential danger.

Even when we accept the reality of the disaster, our hubris doesn't end. We want to "save the ocean," but we are the ones who are at risk. More than ever, our growing world population depends on the ocean as a source of oxygen, food, and energy, while its ecosystem has already survived several massive global warmings. Compared to previous mass extinctions, the current, anthropogenic one appears minor, and the outcome probably won't only be an extinction. Two hundred and fifty million years ago, the Permian–Triassic extinction preceded the evolution of dinosaurs. Sixty-six million years ago, an asteroid ten to fifteen kilometers in diameter struck what is now the Yucatán Peninsula; the impact released two million times the energy of the most powerful atomic bomb ever detonated and wiped out three-quarters of the plant and animal species on

Earth, causing the Cretaceous–Paleogene extinction event. Fifty-five million years ago, the Paleocene–Eocene Thermal Maximum may have led to species shrinking in size and many major mammalian orders—including artiodactyls, horses, and primates—appearing around the globe.

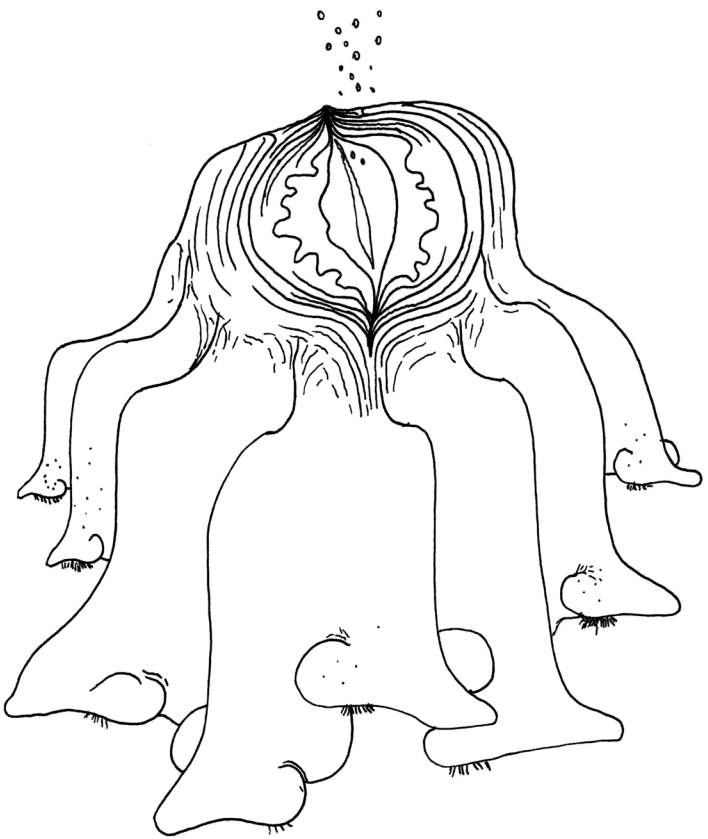
The definite winners of extreme climate change are the microbes. In constant procreation and genetic exchange, they adapt much faster to environmental changes than bigger species—bigger species exist only in symbiosis with a multitude of microbes—and for billions of years they have been constantly diversifying. They have discovered microplastic as a new habitat, and "extremophiles" can live in acidic environments, with high radiation levels, or with temperatures above the boiling point of water. If worse comes to worst, microbes switch to dormancy. For billions of years the earth was theirs alone, and eventually it will be theirs alone again. They also have a good chance of surviving long space travel and resettling elsewhere.

When we say that we want to save the ocean, what we are saying is that we want to preserve parts as they are or were some decades ago. Our care for aquatic life goes as far as that. We take special care of the predators at the top of the food chain, even when they kill thousands of fish every day, as they are our direct inferior rivals and share our low procreation rate. Meanwhile we defame and hunt species like jellyfish, crown-of-thorns starfish, or purple sea urchins, which human interference has turned into the rats or cockroaches of the sea.

Animals at the top of the food chain are large and have particularly large brains, therefore we assume that they feel more than smaller creatures with smaller brains. We do so with no idea of how consciousness actually works. Small creatures, including fish, show amazing intellectual properties. Recently Alex Jordan, a marine biologist at the Max Planck Institute Department of Collective Behaviour, proved that bottlenose dolphins and killer whales are not the only sea creatures who pass the mirror self-recognition test; the cleaner wrasse, a fish around ten centimeters long, does as well. And to feel excruciating pain it's not necessary to know who you are. Our ideas about which creatures suffer and have to be pitied most are based on superficial anthropocentric analogisms.

The same goes for the sea creatures we like or dislike. We love coral reefs because they remind us of colorful fields of flowers and their colorful fishes remind us of butterflies. But corals are not plants. They consist of masses of tiny colorless polyps—basically jellyfish—whose heads are cemented in their own feces and who freeload from the colorful plankton they "host" (i.e., enslave) in their own bodies. Besides, they don't move around and don't need more space than what their own bodies take up. We look at corals as exotic flowers but they rather embody our own sustainable future.

The ecology movement is keen to avoid an anthropocentric view of the environment and not give more weight to humans and their favorite species than other creatures. But what would an eco-centric view look like? We hardly know what goes on in the minds



of nonhuman creatures—which criteria should we use to decide what is best for them and how to evaluate different interests of different species? Why should the Arctic Circle be reserved for polar bears, when fifty million years ago it was occupied by crocodiles and primates? A vitalist would promote a maximum amount and variety of life. But how much does the life of a single microbe count in relation to the life of a single whale? Should we, when we achieve the possibility to overcome death, turn all animals into immortal vegans and control their reproduction? Why conserve more of the imperfect creatures of today rather than their genetic code? A utilitarian would try to maximize the amount of joy and minimize the amount of suffering—but how do we measure feelings in animals? A negative utilitarian would foremost try to minimize the amount of suffering and ultimately exterminate all creatures that are able to suffer—that is, at least all animals with a central nervous system or all creatures that could eventually evolve such an ability. A moderate negative utilitarian would try to make nature evolve in ways that overcome all suffering.*

These scenarios might sound outrageous as long as we lack the knowledge for comprehensive genetic engineering, and any assumption about what is good for nonhuman nature confirms human supremacy. In contrast, the deep-ecology movement asks us humans to no longer dominate nature and to humble ourselves as one of innumerable codependent species—possibly

* See David Pearce, "The Antispeciesist Revolution," in *Solution 275–294: Communists Anonymous*, ed. Ingo Niermann and Joshua Simon (Berlin: Sternberg Press, 2017), 209–25.

all part of a global "Gaia"—through simple living and a substantial decrease in numbers.

How much would the human population have to decrease to stop its dominance? Arne Næss, the philosopher who coined the term "deep ecology," proposed a count of one hundred million, and even that seems optimistic. In the Stone Age there were no more than a few million humans alive at a given time. They had limited tools, nonetheless they gained the status of apex predator and made many large animals extinct. How can a radical decrease of our population be possible without a massive catastrophe first? In this sense, global warming, pollution, and the depletion of natural resources could actually be a good thing. And indeed, proponents of the deep-ecology movement like David Foreman, founder of the militant activist group Earth First!, have welcomed famines and epidemics as a natural means of limiting the human population.

Alternatively, advanced sustainable technology, in particular renewable energies and the production of artificial food, could allow us to keep contemporary comforts and live less invasively than people in the Stone Age. In *The Environment Game* (1967), science writer Nigel Calder argued that in the future a growing world population could be concentrated in a few autarkic, emissions-free megacities and leave the rest of the world to the wilderness; occasionally a few chosen people would be allowed to visit the wilderness to reconnect with their hunter instincts. Ecologists are often condemned as eco-fascists or eco-communists—for Calder's scenario, the term "eco-Stalinist" might be more adequate.

Solarpunks, rather than saving nature from humans, envision intermingling dense urban environments with vertical forests, gardens, and farms. The solarpunk approach parallels Donna Haraway's praise of companionship among humans, domesticated species, and cyborgs as a remedy against human individualism and exceptionalism. Cultivating a garden or training a pet is supposed to help us acknowledge that "all earthlings are kin in the deepest sense."†

However, the kinship between humans and nonhumans is unequal, and not only because we do far more harm to nonhumans than they do to us. Even if it were the other way around we'd still be the guilty ones, because we can understand our behavior toward our environment as wrong. The moment we give nonhumans the status of kin we degrade them by turning them into minors.

This is pretty much where we are when it comes to terrestrial nature. Most of it has been cultivated and domesticated. Nature reserves have sanctioned paths, as if they were extended parks. It's only logical to adopt our complete environment and take full responsibility—which can easily go wrong. Kinship is based on exclusion. When humanism declared the global kinship of humanity, it led not only to human rights but also to racist exclusions in the form of slavery, pogroms, genocide, and apartheid.

To most humans, the ocean seems utterly hostile. They aren't comfortable swimming in the open sea

† Donna Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin," *Environmental Humanities* 6 (2015): 162.

and can't dive. Their perception of the ocean is largely mediated, and those who want to raise awareness of the ocean try to do so with ever more compelling imagery. Either they accumulate human-made horrors—disastrous hurricanes, melting glaciers, ashy coral reefs, birds suffocating from oil or plastic—or they accumulate images of pristine wilderness—large predators close-up, octopuses doing astonishing tricks, colorful coral reefs covered in sperm showers, submarines floodlighting freaky creatures of the deep. Unfavorable aspects of sea life are ignored. In the popular BBC documentary series *Blue Planet II* (2017), for instance, no animal that is individually portrayed, even if just for a few seconds, gets killed. No animal is shown killing its own kind.

Stunning images, often highlighted by a numbing soundtrack, certainly increase awareness; at the same time, they alienate us from the ocean. Whatever we can experience ourselves is comparatively banal unless we belong to the nobility of sea nomads, marine biologists, and scuba adventurers. As news or entertainment, the ocean has to constantly compete with other global catastrophes and curiosities. In the end, climate change, pollution, and overfishing do not seem to be that much of a problem since most days there aren't storms or floods and fish are still in stock. The thought is that whatever bad things happen in the future will happen anyway since the world population and consumption of natural resources are growing relentlessly.

To overcome ecological fatalism, we have to overcome our detachment from the largest part of our environment: the ocean. For this to happen we have to make our own discoveries, be repelled, be intrigued,

open up, fall in love, and, eventually, have the ocean fall in love with us. If we don't love the ocean we will easily hate it for messing up our lives. Occasional flings aren't enough; we have to build a profound relationship that survives the good as well as the bad.

At first, our attraction won't be evenly distributed among the ocean species. However, each and every sea creature is difficult to love. The big sea mammals that we adore so much on-screen are quite dangerous, and the cute little fish are a bit boring. Octopuses hide and are hard to detect. Jellyfish are extremely beautiful but dangerous and easy to overlook. Crabs are actually quite nice and harmless. Corals are beautiful but rare; you have to travel far to see them and might end up among many other lovers. The microbes that make up 90 percent of oceanic biomass are invisible to the naked eye.

Common people can't compete with the skills and knowledge of sea nomads and sea professionals, and thus have to develop their own intimate encounters with the ocean and its inhabitants. Getting into the water we have to undress anyhow, and we don't have to worry about decency. Terrestrial plants and animals, soil, and air might be our kin, but the ocean is too different to risk seeming like incest. We can adapt approaches on land that we feel safe with to help expand our love of the ocean to the whole planet.

So far the Solution Series has ignored the earth's largest surface. The volumes on Dubai, Finland, and Lavapolis dealt with islands (artificial or fictitious), but not with the surrounding waters. The primary topic of

the series has been nation-states, which are defined by their exclusive territory. Lacking any scenario to abandon them, I started the series to playfully reinvent them. The situation has only gotten worse since: in the course of globalization, the weaker that nations get, the more they stir nationalism, populism, and xenophobia. Since nations don't seem to have a future, they invoke a delusional past.

Nations are reaching further and further into the seabed to split up large portions of the deep sea. But the concept of the nation as an ethnically, culturally, and legally homogenous specific space needs the ocean to be a limitless, abundant other. It was the concept of the ocean as a global commons, free for everyone—first formulated by Hugo Grotius in his 1609 treatise *Mare Liberum*—that stimulated free harbors and a free global market. The ocean allowed most countries to trade directly without asking for passage, which created pressure for the same to happen on land. Today, both the free market and the free ocean suffer from rigorous, exploitive use. Again, a new concept of how to relate to the ocean could transform the global economy and global politics.

Grotius wasn't a fisherman or a captain. Similar to how autistic people can be good at designing animal-friendly slaughterhouses and social media was created by asocial geeks, the gift to disrupt stems from being a bit of an outsider. In the Solution Series I've been trying to out-rule technocracy by matching its level of seeming disengagement: I reinvented my home country Germany while living abroad, without any patriotic feelings; I wondered about the future of Dubai

and Korea without knowing the languages; I wrote about the terror of unevenly distributed love without lacking love. And in this book I develop new scenarios of how to engage with the ocean with no scuba-diving experience or specific knowledge about marine biology, and while living in landlocked Switzerland. My solutions give practical guidance ("Sea Hug," "Sea Pets," "Home Shipping"), propose new technical tools ("Aquatic Love Robot," "Liquid Privacy," "Amphibious Sea Park"), and introduce new concepts of aesthetics ("Cosmic Sublime"), politics ("Wet Gods"), and religion ("Church of Metan"). They could be implemented in a wide array of contexts, from activism to education, start-ups to ecotourism and research. In addition, marine biologist Marah J. Hardt describes her passionate love for the sea and artist Eduardo Navarro envisions fantastic sea creatures.

Work on this book began with an invitation from my wife, Chus Martínez, to join her and some artists and scientists for three South Pacific cruises on the yacht *Dardanella*. Chus had been invited by Francesca Thyssen-Bornemisza, founder and chairwoman of the TBA21 art foundation, and Markus Reymann, director of TBA21–Academy, to lead these expeditions. In 2018, we traveled along the east coast of New Zealand. Living the life of a nomad with all the advantages of a steady home gave me a feeling of aquatic normalcy, even when surrounded by a thousand dolphins or swimming at night in underwater bioluminescence. I became a creature of the sea.

After the first expedition, I knew that what I had started as the Army of Love—an initiative for the

sensual completion of charitable love‡—would have to continue in the ocean. In 2019, we traveled among the Solomon Islands and did several exercises to explore some of the solutions contained in this book. Together with Roman Bayarri and Ana María Millán, I documented this process in the short film *Sea Lovers*. Eduardo Navarro started making drawings inspired by my oceanic solutions.

I'd like to thank everyone on board the *Dardanella*; marine biologists Diva Amon and Alex Jordan for our extended discussions; writer Filipa Ramos for sharing her ocean literacy; the students of Basel's Institut Kunst summer school in 2018 for thinking through the sea hug with me in Venice; artist Georgia Sagri for collaborating on imitating the ocean; filmmaker Alexa Karolinski for our film *Oceano de amor* (2019), about a Cuban Army of Love; Rem Koolhaas for inviting me to make these oceanic solutions part of his 2020 exhibition "Countryside, The Future," at the Solomon R. Guggenheim Museum, New York; TBA21–Academy's "The Current" for its generous support; Max Bach for editing and Raphael Wolf for proofreading; Zak Kyes and his studio Zak Group for the graphic design; Tatjana Günthner for the production guidance; publisher Caroline Schneider for her long-standing confidence in the Solution Series; and Viggo Napoleon for mirroring and expanding my joy of being in the water.

‡ See my novel *Solution 257: Complete Love* (Berlin: Sternberg Press, 2016), and https://thearmyoflove.net.

SOLUTION 295

Ever Love
Marah J. Hardt

Meeting

We first met before I was born.

On a small isle encircled by the Gulf Stream her presence is ever felt, ever seen. That is where I came into being. And that is where her salty waters, carried on the breeze, minute droplets of sea, infused my body, even as I was formed. Her constant dance with the shoreline, a thumping, primal drum, set the rhythm of my heartbeat.

When I am asked, "When did you first love her?" I pause.

I have no memory of this life without her pull.

She gave me my first breath. An inhalation, an inspiration.

I have been hers from my beginning.

Curiosity

She was my first horizon. In her presence, my smallest self first glimpsed the grandeur of this magnificent blue world—and quietly, the idea that there is an Out There began to take hold. She unleashed in me a sense of the beyond, a boundlessness that beckons imagination.

I began to open, to know wonder for the first time.

And that is love.

My first memories of our affair are from the shallows, where she taunted and teased me with small

delights. Hermit crabs raced across tide pools, able to stay above and below the waters as I could not. She drew forth islands of sand, small oases that emerged from the sea, pocketed with holes dug by clams and worms. I wandered out across her exposed belly, lifting rock and seaweed to see what lay beneath.

Always too soon, her waters rise. The sand-ripple mountains over which sea stars and spider crabs roam vanish below her ever-climbing tide. A gray-green cloak hides her curves, her mysteries; a mirrored surface reflects sky, masking her face. I am left in awe, with more questions than answers.

Lips blue, I am forced back to where I can touch, back to the sun-soaked beach to find warmth, back to dreams where I instead turn toward the horizon and without effort or strain swim down, down, down into her shadowy depths.

Flirtation

She enchants me with colors and movements unlike any I've ever known. Giraffe-like snails boasting bright-orange patches cling to vibrant-purple sea fans as they curl and sway on ocean winds; parrotfish dressed in turquoise, neon green, and yellow fly above rust-red corals flapping winglike fins. Straight lines do not exist within her world; she is all curves, soft bends and swooping, graceful arcs. I am drawn into her spiraling embrace.

Her strength is overwhelming. Unseen currents whip around steep coral cliffs and valleys, pulling me faster than I want to go, and yet it is impossible to resist. Her thunderous waves thrill and terrify me;

reflective blue-green walls, they fracture light into a thousand rainbows and launch me headfirst into a foaming, frothing, churning sea. She flips my world, brings me to an exciting, startling edge. Alive, the feeling of being truly, fully alive.

I fall in love with her might, her splendor.

Passion

My desire to be near her, to be with her, cannot be quenched. On land she haunts me, bending my thoughts from concrete to coral cities, from white-walled rooms to elaborate, unending spaces bounded only by horizon and the pocket of air I hold in my lungs. The choice is effortless; to move closer, to be where I can touch and taste her daily. And where I can, slowly and with patience, begin to know her.

I float silently across her blackened waters, mesmerized by her stillness, drawn to her silky warmth. I slip quietly into the darkness and she caresses my body, covering every inch in a glowing emerald dust. She illuminates every line, the soft of my waist, the gentle slope of my thigh, the stretched-out shape of my hand reaching down into her. She moves with me, a dance of light and lightness. Slowly, I rise and fall in sacred rhythm, arching and gliding through her as she pulses through me. There is no separation now, no other. I fade, the hard solidness of me dissolves into her, and for a brief, ecstatic moment she lets me in completely, and I am without form or boundary.

To be a part of her is to be immersed in an otherworldliness—to open from two dimensions into a spheric existence, where all is fluid, directionless, free.

Salty air fills my lungs, salted water drips down my browned skin, her kiss lingering as I pull myself reluctantly from her embrace.

I learn her patterns and cycles, those that create and those that destroy; all of which help breathe life into this small rock floating in space, just the right distance from the sun. My mind catches up with what my spirit and body have felt for so long. I begin to grasp, just barely, the enormity of her majesty, the countless and endless connections, the subtle and central thread she weaves, the fabric she builds to hold us all together. Humbled, I am lost in the headiness of trying to comprehend all she is.

Love

My infatuation with her—undefined, overwhelming, all of her—sharpens into focus. I awaken to her intricacies as I begin to recognize what drives her. She is an uncompromising artist, dispensing beauty within the minute and the grand, embracing complexity and simplicity equally. I watch her play with color and light, every sunrise, every sunset, her artistry creating one masterpiece after another, never the same, always impermanent. Here, she crafts the mottled skin of a nurse shark, tiny flecks of copper, gold, and bronze, creams and chocolates that merge into a soft brown body. Each small scale a marvel of design, engineered to perfection, driving performance. There, she builds forests, towering, shadowed, swaying. Her undersea trees make still the waters with their broad bladed leaves; a nursery for infant fish and lobster, sea urchin and shark.

She is a brilliant inventor, fearless in her play, constantly pushing the bounds of what we imagine is possible. To learn of her breadth of creation is to know inspiration incarnate.

Time passes, days spent above and below her surface.

I begin to see cause and effect, action and reaction.

From above and below.

She opens to me.

In my fervent desire to know her, in my relentless quest to taste and touch and smell and immerse myself within her, I discover her wounds.

She shows me her scars.

Some are old. Many, far too many, are freshly made.

A fire ignites within me.

Protective, defensive, a purpose, my Purpose, arises pure and clear. It lands with a soft thud in my heart, a deep ache in my gut, and unwavering determination in my mind. My spirit finds true north: love her fiercely, fully, faithfully. And I protect what I love.

Intimacy

Vulnerable. Naked. Salt water in my veins, a single breath in my lungs, I descend alone; no awkward tanks, only fins and mask. Just me. I sink, quietly, calmly, without desire to explore, without expectation or hope of seeing more of her marvels. I just want to be with her and for her to know I am here.

She welcomes me with emptiness. Nothingness. A piercing, penetrating electric cobalt blue that defies

description because there is nothing to describe except color. There is no sound. No motion. I am held by her, suspended in perfect stillness. My eyes cannot focus, for in front of me one foot is the same as one hundred feet is the same as five hundred feet. There is just blue.

It is so simple. A beauty so pure, so unadulterated, so unlike anything I've ever witnessed before. Only she can take away everything and still leave behind something extraordinary. Once more she has moved me beyond that which I knew, or could imagine.

She funnels shafts of golden sunlight into a single radiating star hovering somewhere in the depths. At its center, my shadow, elongate, abstract, an imprint of myself made of light, floating within her endless blue. Some call it the Eye of God; for me, it is the point where she and I become one.

She has stripped away all the noise, all the clutter, so that I can hear my own inner voice. She connects me first with myself, so that I can feel my connection with her and through her, the pulsing of all life on this planet. In this quiet, serene place, void of all stimulation, my own spirit speaks. And she, my Ocean, responds. All is without word. There is only her wisdom, from a place beyond time.

I surface with clarity, centered, certain.

The moments here are brief. A single breath lasts only so long. A pilgrimage to an ageless oracle. An act of devotion by me, a gracious gift from her.

Home

I am hers, but she is not mine. She is far too grand, too connected, too ancient for any to claim her. And I am

not the only one to love her. And yet, when I go to her, when I skim fingertips across her surface, or slip entirely into her depths, giving her all of myself, she is there, fully, as if for me alone.

She tantalizes me with fleeting moments of liberation, of motion, of brilliant hues and hidden worlds. She continues to delight and surprise me: the glimpse of gold and emerald on the back of a mahimahi, the sickle moon of its tail shining silver before vanishing into the beyond; the miraculous pink snowfall of a mass coral spawn on a summer night; the chest-rattling hum of a humpback whale; the awe-inspiring formation of a flying fleet of hammerhead sharks overhead, gray shadows against a soft green sea.

When the weight of gravity becomes too much, I return to her and she holds me. Floating, calm, I lay bare my troubled heart, my worried mind, my weakness and anger and fear; and she absorbs and transforms them into strength, and courage, and a quiet peace. She accepts me fully and pushes me to become fuller. She has seen my darkest pieces and helped me to heal; and I give myself to tirelessly, endlessly, uncompromisingly work to heal her back.

Intoxicating and indefatigable, steady and surprising, capable of quiet and ecstasy, softness and strength—this is our love. With her, I still feel the ceaseless tug that is first love, passionate and pulsing; and the calm of old love, the kind that comes from years of opening and forgiveness. My essence, my body, is more ocean than earth. More grounded within her waters than standing on dry land. After four decades, she remains my ever love, the one that encompasses all

other kinds, the one that nourishes me, the one that I shall always come home to.

Amphibious Sea Park

Since the Industrial Revolution, oceans have stood under the dictum of Hugo Grotius's *Mare Liberum*. In his 1609 treatise, the Dutch lawyer argued that "the sea is common to all, because it is so limitless that it cannot become a possession of any one, and because it is adapted for the use of all, whether we consider it from the point of view of navigation or of fisheries." Grotius's concept of the oceans as a vast void turned out to be crucial for the development of global capitalism: it set the stage for free trade and travel, while waste could be carelessly disposed via rivers and fish stocks carelessly exploited.

Today, Grotius's concept is obviously outdated: owing to overfishing and pollution, fish stocks have diminished drastically. Meanwhile, large parts of the sea are used in a similar fashion as the countryside: fish and algae are cultivated in farms, the seabed is mined for oil and other natural resources, wind and tidal farms deliver renewable energy, cruise ships and yachts serve as nomadic recreational resorts and diving as undersea hiking. Pioneers move offshore. The sea is the new countryside.

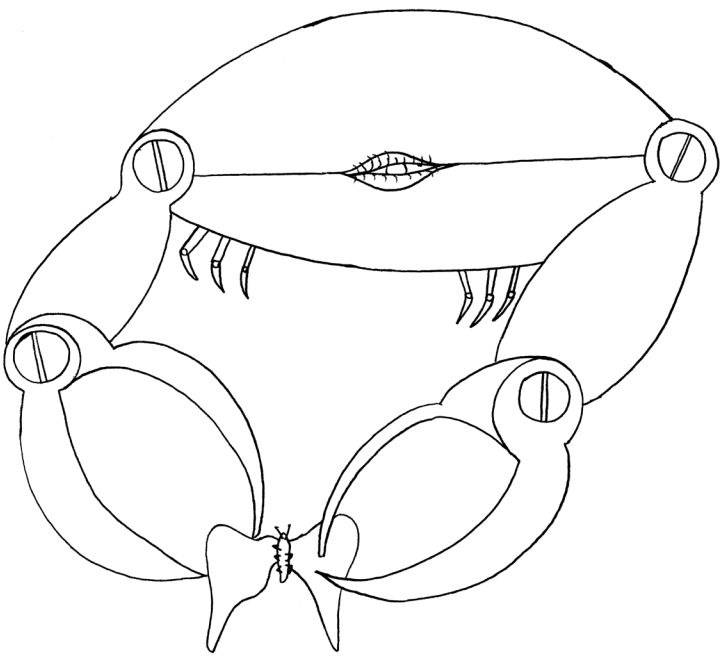
Legislation has changed accordingly. International law allows littoral states the right to exploit "exclusive economic zones" that reach at least two hundred nautical miles into the sea. Multinational agreements regulate deep-sea fishing, and the International Seabed Authority is meant to regulate deep-sea mining. Traveling on the sea is free as long as

the ship has a national registration, as a national license plate allows one to drive on any public road in the world.

Still, the sea's liquidity and enormous size sustain substantial differences. It is not feasible to claim ownership of its main constituent, water. Pollution spreads throughout the sea more than it does in the air. The oceans first slowed down global warming—absorbing most of the additional heat—before accelerating it, melting sea ice and releasing more carbon dioxide and methane. Before humans came into existence, oceanic oxygen depletion—anoxic events—triggered massive climate changes that dwarf the Anthropocene's in scale.

Although the sea is the world's greatest geoengineering force, it is harder for contemporary humanity to develop a responsible relationship to oceanic nature than rural nature. The oceans slip away from national and personal ownership just as they slip away from national and personal liability. Large parts of the world population can't swim or afford to travel to the seashore (you have to afford the freedom of the sea), and even for those who can, the experience remains more superficial than that of a casual stroll through the forest. Land animals have been domesticated and can be hugged, trees too, whereas to grasp the life of the deep sea depends on expert reports and recordings.

All this puts the environmental movement in a rather helpless position when it comes to "saving the oceans." What does this even mean apart from "saving our own ass"? Aquatic life in all its dynamic complexity will very likely surpass humanity by eons. When it comes to preserving the sea, the environmental



movement reveals a paternalism that downplays humanity's dependence on the oceans. The more global warming progresses, the greater the need for aquatic food and other resources. An approach that is all about protecting the oceans and limiting human interference can only lose. Just as the concept of *Mare Liberum* facilitated global capitalism, we now need to develop an understanding of the sea that accepts and facilitates our amphibious future.

Different from Hugo Grotius's times, today's social order asks for democratic or populist legitimization. How then could a closer relationship with the ocean evolve? The answer is the same as with education in general: through play. Play is marginalized as silly and regressive, even though it's usually the entertainment sector and the drive for fun that make new social and technological developments acceptable and affordable. Amusement parks played a major role in accustoming the masses to the auspicious and frightening implications of the Industrial Revolution. In the first years of the twentieth century, Coney Island in New York introduced millions of people of all classes to seminal inventions and speculations like electric lighting, skydiving, space travel, modern warfare, electrocution, infant incubation, rapid acceleration, and public lewdness.

In *One-Way Street* (1928), Walter Benjamin claimed, "The 'Lunaparks' are a prefiguration of sanatoria." Preparing people for the tremor of technological progress, these sanatoria attempt to prevent humanity from turning against itself, and instead allow it to head to a new "ecstasy of procreation." In *Delirious New*

York (1978), Rem Koolhaas adapted this thesis for the formation of Manhattan.

What would a Luna Park look like that keeps up with our amphibious future? Coney Island's great era of amusement parks started next to a seaside resort with the ambition to top the joys of the beach, like exposing your skin in public, swimming, splashing, gazing, and touching. In contemporary sea parks, visitors stay fully dressed and from a safe distance watch well-behaved marine mammals as they perform acrobatic tricks in crystal-clear water. Sea parks are aquatic circuses plus water rides.

An amphibious sea park, in contrast, engages us personally with the sea. It invites us to communicate with sea animals through movement and machine translation. It invites us to imitate or dress up and interact as fantastic creatures of the sea (mermaids, shoggoths, aquatic furries, sea punks …). It doesn't shy away from thrilling us with the ugly, the slimy, and the dangerous. It speculates and experiments on how to make the ocean more joyful and less gruesome. Our proposals may be stupid, but the amphibious sea park condones our mistakes. It's small, so losses stay small, and it's not completely real.

What holds together the different aquatic exercises and experiences is the vision of a *mare amoris* —a sea of love. It's a place where all creatures help and celebrate each other. Here we learn to enjoy not just the cute and the intelligent but also the gloomy and the uncanny. And when we leave the tank, we are ready to pursue love of the neglected on land as well.

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Sea Pets

The Western environmental movement evolved as a reaction to the industrialization of the nineteenth century, as the pollution of people's habitat (air, water, soil) became all too obvious. It grew as industrialization progressed, and after the founding of the activist group Greenpeace in 1971 and the shock waves of the Club of Rome's 1972 report *The Limits of Growth*, living "in peace with nature" became a mainstream ambition.

Despite its enormous size, the ocean used to play a marginal role in the environmental movement. Oil spills and nuclear tests dominated the news for a few days and were soon forgotten. When it came to sea conservation, the focus was on mammals like dolphins, seals, and whales. The ocean was too far away, too different, and too big for most to really care about. Now, although global warming affects life in the sea just as much as on land, humans' foremost concern is not the ocean as victim but as generator of rising sea levels, increased storms, and changing currents.

How can we engage profoundly with the ocean? Most people don't know how to swim or dive (and if they all started going to the sea, the coasts would become hopelessly overcrowded) but most people also hardly ever hike through natural parks and hardly anyone moves back to nature (which would destroy it further). We bond with nature mainly in its domesticated forms: house plants, gardens, parks, and pets.

Huge aquariums are costly and only meant to be looked at. We can't caress or speak to fishes, can't smell them, hear them, or feed them out of our hand. Instead, we have to focus on domesticating proper sea pets. What sea creature could love us unconditionally and make us love unconditionally like a dog? Tease and seduce us like a cat? Carry us patiently like a horse?

The first bet was dolphins. They have big brains and speak, regularly have to go up for air, and seem to always be smiling. Ancient Greece and Rome depicted cupids riding on dolphins. The pink river dolphins of the Amazon were believed to shape-shift into seductive humans. After it was discovered in the 1930s that dolphins can be taught tricks, dolphinariums became fashionable all over the world. In the 1960s the American scientist John Lilly tried to teach dolphins English. For several months, his associate Margaret Howe Lovatt lived in a room with a male bottlenose dolphin. To lift his mood she would offer him sexual release. Progress was rather modest, and Lilly soon switched to experiments in which he consumed LSD or ketamine to communicate with dolphins telepathically.

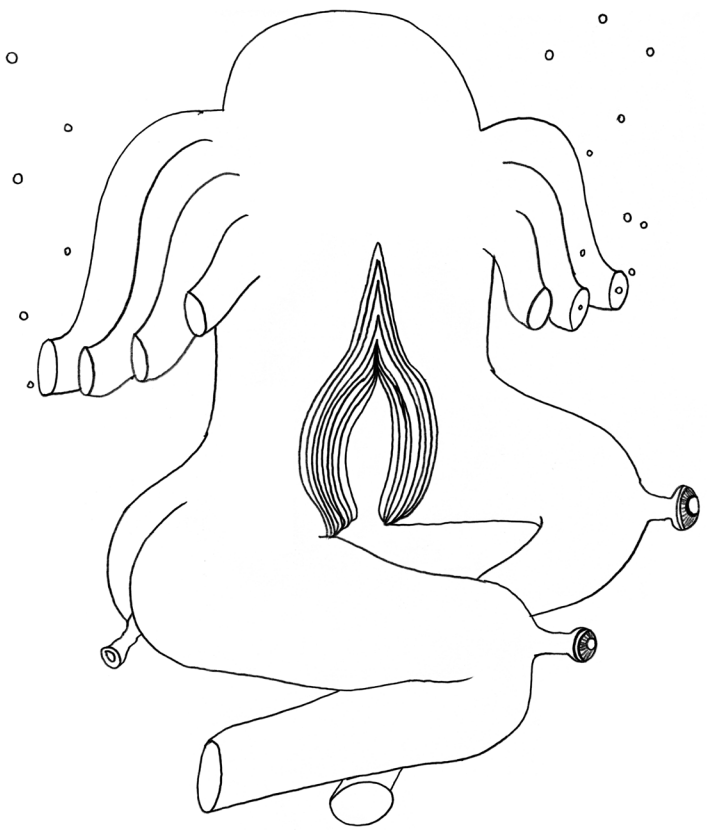
Recently, dolphin-assisted therapy is meant to stimulate the mentally disabled to interact with their environment. But this therapy is controversial. It is expensive to rear dolphins, as they need a lot of food and a large pool to swim in. They are desperate for the company of their own kind and can easily turn violent in captivity. They also become violent just for fun (breaking the backs of baby porpoises while spinning them around) or as a mating strategy (males killing

calves to make the mother more receptive). Even when peaceful, they can be dangerous owing to their weight and speed.

What could be a more convenient sea pet? The sea turtle? We already have land turtles as pets. They are a bit boring but can live alone, are quite peaceful, and can get really old. Most sea turtles are quite large—up to three meters long—but there are also species under a meter long. They are endangered, so breeding them as pets could help their species survive. But different from land turtles, sea turtles demand lots of space.

Fish, mammals, and reptiles aside, what remains are mollusks. Most of them, like snails, appear to be rather boring, but some cephalopods are neurologically advanced. The octopus continues to fascinate as a strikingly accomplished yet completely different life-form. It has three hearts and blue blood, squeezes through tiny holes and slits, and each of its eight arms operates autonomously and is covered with individually grasping suckers that, depending on the octopus's size, can each lift up to twenty kilograms. Big octopuses are able to attack and swallow a shark. The evolutionary lineage that led to humans and octopuses separated half a billion years ago, before brains and eyes. Unlike any other life-form, intelligent cephalopods are capable of extensive RNA editing.

The octopus as the great other has inspired legends about gigantic monsters like the Japanese Akkorokamui or the North European kraken, which constrict and swallow whole whales or boats, or of eager conjurers who caress and go down on women with unprecedented tenderness. The octopus is used to



symbolize greed and recklessness in anti-capitalist, anti-Bolshevik, and anti-Semitic caricatures. In fantasy literature, it serves as a blueprint for threatening alien life-forms.

In recent years, octopuses have rapidly gained popularity. We no longer resent them as amorphous bodiless heads, we admire them for their decentralized brain, their enormous flexibility, and their unique ability to immediately camouflage their surface (color, pattern, texture) and form. We feed social media with images of octopuses that open locks and jars, throw stones to break the glass of their tank, use a coconut shell as armor, and play around. Smaller and cuter species that have cartoonishly big eyes full of curiosity get discovered. If monstrously huge and poisonous octopuses ever existed, overfishing made them extinct. Except for the blue-ringed octopus, no existing species is deadly to humans.

Octopuses are loners and eat each other rather than interact. They are active at night and hide most of the time in their den. The males have one load of sperm that they give away at the end of their life, and the females die after hatching their one load of (up to seventy thousand) eggs. Still, octopuses are able to differentiate humans, to like or dislike them, to develop trust or resentment, and they show a range of traits. Some are shy, some explorative, some feisty, some benevolent. Their ability to distinguish us and make us distinguish them is a crucial premise for a committed pet relationship.

Similar to cats, who are also loners, the behavior of octopuses is often ambiguous. It's hard to tell if an

octopus squirts ink at you in order to tease, annoy, or please. When it tries to drag you into its tank and suddenly lets go, is it because it wanted to overwhelm you and gave up, taunt you, or demonstrate its power?

What makes octopuses most unique as pets is how they feel to the touch: the slimy wetness, the soft head, the tentative sucking, the speed in which several arms entwine your arm, grip it, and suck it with force while the eyes and the rest of the body stay calm, the sudden changes of mood and color, knowing that they taste and see with their skin.

Octopuses are quiet, you don't need to walk them, they are available in sizes from an arm span of 2.5 centimeters (*Octopus wolfi*) to 4 meters (giant Pacific octopus), and they cost less than cats or dogs. Unfortunately they are messy eaters, need live food (at least while growing), spend most of the day hiding, and don't have a long life span. The smaller ones live less than a year, the biggest ones up to five years.

But our mutual domestication has not yet begun. With dogs we underwent thousands of years of keeping just the favorite ones. With the octopus, genetic engineering will speed up breeding, and we have no idea where this mutual adventure will take us. How intelligent and wise could octopuses become if they didn't die so young? Will future octopuses be able to live out of water, or will they get us to live in water? Will they become social, or will we get used to curiously touching strangers? With their multitasking and shape-shifting skills, octopuses will teach, if not replace us.

Home Shipping

High up in trees, apes gain an overview of the landscape and are safe from predators on the ground. For similar reasons, humans first sought refuge in or on top of mountains. Later, capable of building massive walls, they erected fortified castles and towns as mountain substitutes. Just as fields expanded through irrigation, towns—and then cities—grew with the help of sewage systems. The best location was next to a river: a source of water and a means of transportation. No longer shielded away, the city exposed itself as a trading hub for strange goods and people. People did not defend themselves where they accumulated, rather telecommunication and division of labor allowed them to be defended at far-off frontiers. Garbage, corpses, prisoners, beggars, factories, wars—everything uncomfortable was taken outside city limits.

The bigger a city, the likelier it is located at the mouth of a river, next to the sea. Even if most inhabitants stay there all their lives, its economy is based on trading, migration, and traffic. No matter how generously a city is designed, sooner or later its growth leads to congestion. In response to the limited space, views, and air of the city, the middle class escapes to suburbia, where their single-family homes allude to tiny castles. The wealthiest find relief in the expanse of the sea, where cruise ships offer the comforts of the city and yachts the comforts of villas. On land, modern villas with plain facades and plentiful terraces imitate yachts. Skyscrapers with sleek, glazed facades resemble

vertical cruise ships and compete for an unobstructed horizon. This city is to the skyscraper what the ocean is the luxury liner: a glittering carpet to gloss over a suppressed other. You need advanced security systems to feel safe enough to ignore it. Naval accuracy leads to urban zero tolerance.

In a next step, high rises were also built in suburbia (in particular in socialist countries) and cruises offered to the masses (in particular in fascist Germany), imbuing everyone's life with the flair of the sea. The rich moved on, building the facades of their villas and skyscrapers out of glass and sobering up their interior design to also make the inside resemble life on deck. The less wealthy who work on the lower skyscraper floors or install glass facades on their suburban premises pay with a loss of privacy.

Today, tens of millions of people take holidays on cruise ships that resemble floating carnivals. They flood coastal cities and indigenous villages by the hour, turning them into theme parks. Multibillionaires equip their mega-yachts with conference rooms, helicopter pads, and dozens of bedrooms. Still, only a few have made the effort to live permanently on the ocean and use its extraterritorial status to their advantage, like the Women on Waves ship that provides abortions, boats that rescue imperiled refugees, or L. Ron Hubbard's elitist Sea Org. Keeping up with urban standards of living on the ocean consumes a lot of human and natural resources. Traditional sea nomads can sustain themselves on tiny vessels much longer than modern adventurers on multimillion-dollar yachts. The ambition of the Seasteading Institute to build offshore

mini-states on movable platforms has all the charm of an aquatic trailer park.

The conception of a permanent life on the ocean has a virulent aftermath ashore. The rich treat the places and nations where they live as free ports—they expect tax exemption and are always ready to leave for another, more favorable hub. Accordingly, new luxury real estate is often located in former port buildings. The property comes with internationally standardized facilities; local characteristics serve as mere decoration. The less wealthy acquire this flexibility only in the virtual infinity of the internet. Here they can be explorers, pirates, or traders. Similar to traditional sailors, both rich and poor tattoo signs of particular moods, thoughts, or moments onto their skin to give their life some significance.

As cities, world population, and traffic rapidly grow, space in the sky and on the ocean turns out to be limited as well. New technologies like satellites and drones allow for ubiquitous surveillance. Pollution and climate change happen more or less everywhere. Prices skyrocket for centrally located real estate that has privacy and a view. For many people, their home is the one major investment that dictates their whole life (economy, job, love). Rather than steering the boat, we are jumping aboard before it's too late, uncertain where we'll end up. A home serves as a shelter against a world that is shaped by the struggle to pay for that shelter. The bigger our home, the more worried we are about hanging on to it, and we are too exhausted to really use it: bigger beds go with less sex and less sleep; bigger kitchens with less cooking; bigger living rooms with less socializing;

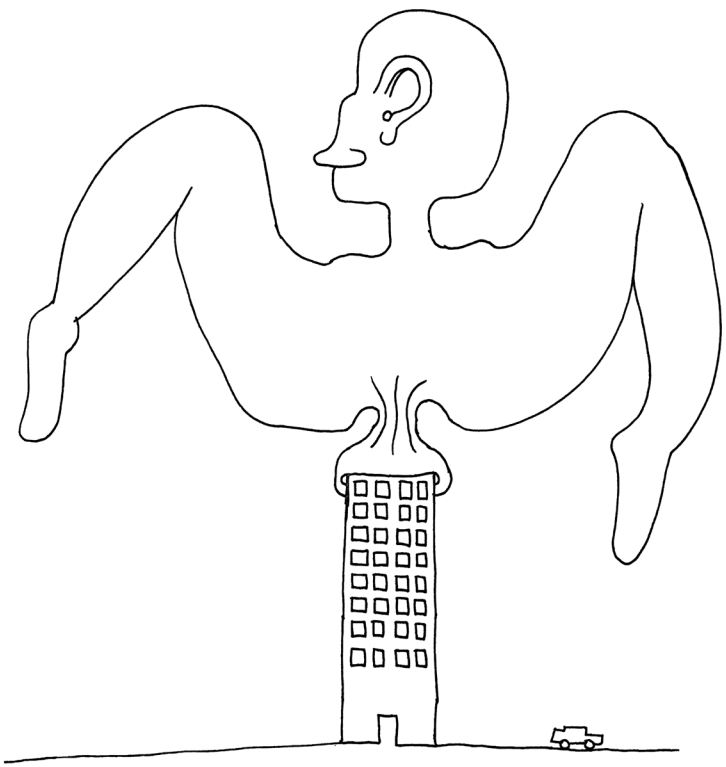
bigger windows with less time spent looking outside; bigger terraces with less time outdoors. The only home activities that are increasing don't really need space, or deny it even: watching television, going online, playing computer games, meditating. The more importance we give to our home, the more it becomes a museum of a home—real estate advertisements don't pretend it's anything else. This museum is empty, missing its crucial piece: us. Still, to accommodate us within its confines, this museum guides us—through design and computer control—to live in unassuming ways: pale colors, sound protection, smart temperature regulation, smart shading, automated fridge orders, security systems …

No boat or home can be completely shielded. Storms make them shake (the higher up we are in a ship or a house, the more it moves), natural catastrophes (hurricanes, ice storms, earthquakes) might affect the supply of food and energy, and a sudden attack (robbery, war, revolution) might make it impossible for us to escape.

On a boat, we are usually more aware of the fragility of our relationship with the environment. A ship is never completely still no matter how big it is, we are surrounded by life vests and lifeboats, there is no police or army to immediately protect us, we know that we can't swim very long on our own, and we don't have to dive or be rocked by waves to know that we are enclosed by an entity far bigger, far more potent, and far more complex than us. Even if all windows were darkened and the sea completely quiet, we would still know that it's there—it's immanent, like the way we know our bodies.

The vastness and strangeness of the sea brings people on a ship closer together. Space is precious, far more people are needed to maintain a boat than a house or apartment, and they—occupants, crew, and guests—are stuck together for a period of time. Being together on a yacht in a heavy storm resembles an ayahuasca session: it starts with a phase of denial ("It's not that strong, this is boring"), followed by nausea and vomiting, which finally turns into a mind-altering experience. We start to sense a rhythm in the constant up and down, back and forth, left and right—only for it to be broken the next moment by a surprise move. Some oceanic moves are subtle and trick us into overly counterbalancing them, others hit hard like a massive collision. We all struggle with the storm pretty much on our own, but as soon as it weakens we bond and hug one another with a new intensity. On board our balance system seems right, but back on land everything is shaky.

In recent years, collective gatherings based on a sort of temporary self-arrest, such as ayahuasca sessions, transformational festivals, LARPs, or escape rooms, have gained popularity. New technologies of renewable energy production, recycling, urban farming, and 3-D printing offer scenarios for these gatherings to be completely autarkic. Focusing on the boat experience as one of intense collectivity—not just segregation from the masses—could help evolve this approach into new practices in our homes, to turn them from museums into actual facilitators of well-being. How could you commit to leisure trapped on a boat if not by having a great time?



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Although being happy has become a moral imperative and there are more offers than ever to help us achieve it, we lack routines to actually be happy rather than gather things and experiences that we associate with happiness. Our feelings are as private as it gets, and our home is the perfect place to explore and steer them. On a boat, every trip is a bit of a new beginning—an ark—for which we have to decide what to be, and with whom. We could do the same at home: every now and then we could decide anew who/what stays with us and who/what is invited or acquired to join us. We could have people (friends, lovers, strangers) and things (acquisitions, gifts, surprises) with us as guests for a predetermined period of time. We could shut the doors and disconnect the internet, phone, and television to turn our home into a lab. Or we could allow ourselves to leave home within a certain radius to surprise ourselves, like on a diving excursion. Alternating between phases of crowded encounters and phases of solitude, our home could transform from a place that is safe but boring into a place of sustainable adventure and activation. Here we could dare to meet new challenges and confront inner obstacles.

This new, even more ship-like relation to our home could in turn affect our recreational use of ships. Freed from the necessity to dock now and then for supply and disposal, cruises could completely abandon the shore. No longer reliant on sucking up the vital energies of hundred-year-old cities and thousand-year-old cultures, cruises could develop the perseverance to drill us in experiences that feel larger than life. Amid the shimmering waters, which are the source of our

attraction to glitter, cruises could become a nonstop variety show of impostors, love divers and love doctors, beautiful words for love, happy love, singing flowers, luscious people of all ages, mysterious entanglements with Siamese twins, hypnotized pets, love and all love, dancing and kissing and loving, more kissing, stupid and hyperintelligent love, idiocy and smiling, breathing bliss, and love, only love.

From the very beginning, shelters haven't just been places that protect, they've been places where animals gather to communicate, love, and gain new strength. Voluntary fate, the kind found on a cruise, can help us recollect these functions in our homes and make us happy.

Liquid Privacy

The beginnings of the internet were a celebration of connectivity: without exposing us to physical challenges like climate, far distances, or violence, the internet allows us to immerse ourselves in the realm of pure communication. But we can't have a substantial exchange with more than seven billion people, or even a thousand, and the ones we are interested in communicating with might not be interested in communicating with us, and vice versa.

Instead of turning the globe into one great village, social media has fractured it into countless different community particles that are most often hostile or indifferent to each other. The only ones making connections are the AI systems of intelligence agencies and big corporations. We have lost our privacy and are lonelier than ever, especially as we cohabitate in increasingly congested cities. We encounter more and more people but rarely do we talk to them or look them in the eye. We rather stick to our screens, rush home, and spend more time in front of the screen—communicating from a distance or being jointly distracted.

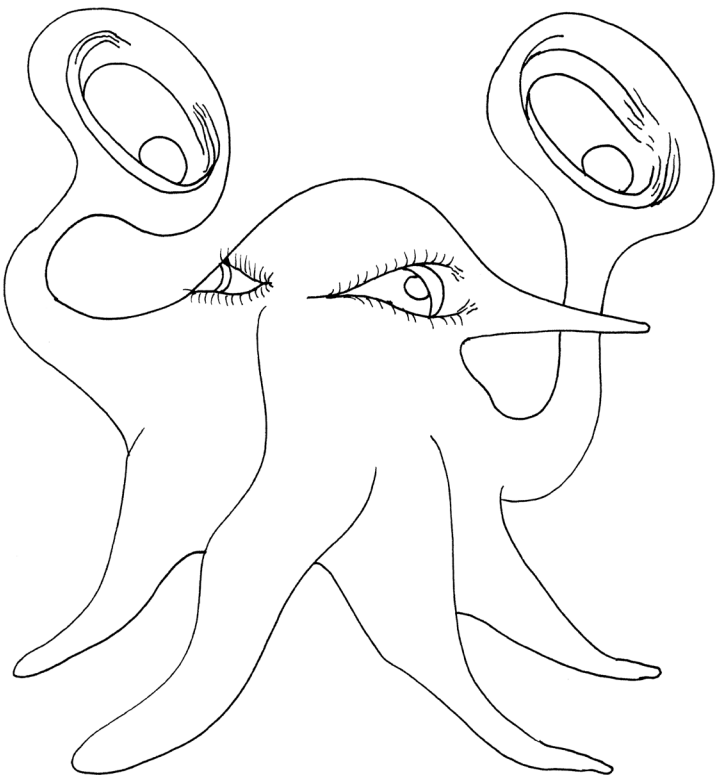
The cry to be more open was never really fulfilled. The bubbles of social media aren't worse than those of the hippies. Humans used to live in hordes. With strangers, we instinctively adhere to a safety zone, which Swiss zoologist Heini Hediger named "flight distance." It comes close to bullying to take the seat right next to a stranger when there are plenty of available seats. Our demand for personal space expands

with an increase in anxiety. The more we feel observed, the more we become reserved. We have to feel safe to let others in. We have to secure our privacy to avoid resentment and xenophobia.

The next trillion-dollar enterprise won't be about connecting, it'll be about keeping one's distance. While social media allows us to get in contact wherever we are without any effort, this endeavor will allow us to be by ourselves wherever we are without any effort. Our very own bubble will be protected from observation or interference from people and entities that are not explicitly invited. To all the others we will become a black box. We won't be seen or heard.

The libertarian understanding of the internet that dominated in the golden era of social media adopts the use of the open sea as outlined in Hugo Grotius's *Mare Liberum*. The internet was supposed to be just as infinite and free as the open sea once seemed to be—and the closest that the real world could get to the internet was the open sea. Cyber-anarchists founded Pirate parties. Cyber-capitalists evaluated the "sea-steading" of offshore pirate villages. Cyber-subculture went "sea punk."

Indeed, in the past, the ocean's vastness and extraterritoriality made it the ultimate refuge—as long as you were spared from storms and attacks by other expatriates and had enough supplies. Jules Verne's science-fiction novel *Twenty-Thousand Leagues under the Sea* (1870) is the first scenario of how humans could live safely and sustainably on and under the sea: Captain Nemo and his crew distill salt water and dig for coal in the seabed. Apart from a great variety of fish,



their diet includes sea cucumbers, turtle meat, milk from aquatic mammals, sugar extracted from seaweed, and anemone preserves.

Today, it's feasible to make life on the sea sustainable. At the same time, satellites make us easily traceable, and the sea is increasingly crowded with container ships, supertankers, navy vessels, fishing ships, cruise ships, yachts, and oil rigs. The next crazes are, following Verne's dive into the deep, personal submarines and submersible yachts. But even underwater, drone subs endanger our privacy.

On the sea, there is no place to hide beyond the outlines of one's vessel. Here it's even more urgent to establish a new mode of privacy than on land. And in fact, it's easier. On a level field without any fixed obstacles, where all objects follow a straight course at a steady speed, there isn't too much computation needed to keep them all at a proper distance from one another by smoothly altering their speed and direction. Faster boats have to slow down more than slow ones. Smaller boats have to change course more than bigger ones. The fewer objects there are, the larger the distance at which they are kept. On international waters most vessels are already on autopilot, monitored via an automatic identification system.

This liquid privacy can also be applied to keep boats away from certain sea animals, in particular during sensitive periods like mating or egg hatching, or to keep predators and their prey at a distance. Both receive signals to shy away from each other—the predators are lured to artificial prey and the prey to birth control.

The sea could become a place where Jainism is not just a personal practice but a general disposition. At worst, two virtual bubbles bounce against each other and drift apart. Over time, the system gets more and more sensitive and includes more and more species. Liquid privacy allows for the thorough protection and use of the ocean without dividing it up into nationally, supranationally, or privately owned zones. The ocean turns truly common—and not just for humankind. An advanced system able to deal with traffic, housing, and vegetation could navigate human and nonhuman interaction on the whole planet. Nobody would possess anything unless they used it.

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Sea Hug

The common narrative of the Western environmental movement begins in the nineteenth century with Romanticism as a "back to nature" response to industrialization. Owing to improvements in science and education, it became a mass movement in the 1970s. Western rationality caused the destruction of our environment, and its immanent self-critique is supposed to eventually stop it.

Critics of environmentalism counter with a narrative of the concern about nature being the result of a—also Western-bourgeois—wimpiness: as an increasing affluence frees us from existential needs, we get spoiled and lose our instinct for an intra- and interspecies survival of the fittest. What doesn't kill you makes you stronger.

Both narratives culminate in the practice of the tree hug. For environmentalists, it's a gesture in which we humans succumb to a creature that is bigger, older, and probably wiser than us. For opponents of environmentalism, the tree hug symbolizes a delusional sentimentality about a lost harmony with nature that never was.

Both narratives ignore the fact that the environmental movement and the tree hug have non-Western, rural origins that date back to 1730, when the maharajah of Jodhpur sent soldiers to cut down trees in the village of Jehnad to use them for his new palace. Amrita Devi, a member of the Bishnoi sect of Hinduism, which forbids the cutting down of living

trees, tried to stop the soldiers by hugging a tree and claiming, "If a tree is saved even at the cost of one's head, it is worth it." The soldiers did indeed kill her, and hundreds of protesters who followed her example, until the maharajah stopped the massacre. Later, a royal decree outlawed chopping down trees in Bishnoi villages.

What seems to be the very first environmental movement inspired a similar action in Uttar Pradesh in 1974, which spread throughout rural India and became known as the Chipko movement (*chipko* meaning "to cling" in Hindi). The movement managed to stop deforestation for some years.

A genuinely Western variant is tree sitting, in which protesters hang out or even live on a platform so high up in the tree that they can't be easily reached and would plummet to their death if the tree were felled. Another is the naked tree hug, which is meant to make the protester appear more vulnerable or to eroticize the action and ritualize it.

Today, the tree hug remains the symbolically and practically most effective form of environmentalist protest. Anybody can do it. In comparison, ocean activism is a demanding and futile affair. It usually involves good people on small boats (Davids) trying to shout at and block bigger boats (Goliaths). You need boats and are destined to fail. It's a publicity stunt at best.

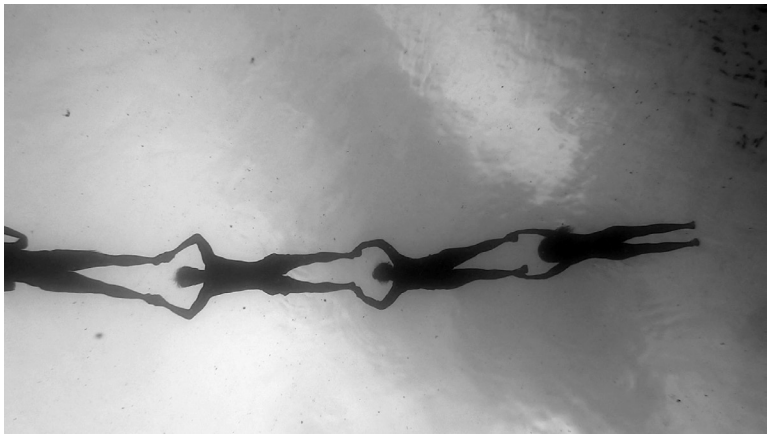
Our particularly exploitive treatment of the sea—overfishing, mining, and polluting—corresponds to our difficulty in creating an affective relationship with its inhabitants. We usually don't see them, we don't hear them, and when we dive down to them, it's harmful, if not impossible, to touch them.

There are no massive plants, and the animals are too prickly, poisonous, anxious, or delicate to touch. Even while mating, most sea creatures barely touch each other. The noise of our air bubbles might disturb them. At best, curious species like angelfish, butterfly fish, sea lions, or octopuses get used to us after repeated visits. Eventually they start touching our skin.

Our encounters with creatures in the sea are too volatile to be ritualized. When it comes to our encounters with the sea itself, the opposite is the case. The water lifts us, pushes us, and glides away to be seamlessly replaced by itself. We are the ones who might get too weak or too cold to stand the touch.

We can hug trees but not forests. We can't hug sea creatures, but could we hug the sea? Not just metaphorically "embrace the ocean," but actually hug it? It could be a koan: Where, with the water all around us, could we start? How, with the water being pushed away, could we not end up hugging ourselves?

While we fail to hug the sea, the sea hugs us better than anything else. Nobody hugs more evenly, more expansively, more patiently. It did so for billions of years and will continue for a few billion more. All we have to do is comply with this hug and not fear it, fight it, and exhaust ourselves to a degree that actually puts us in danger. When a wave is breaking, we have to roll ourselves into its enormous hug. When the water is calm and caresses us in the smoothest way, we just have to stay still, except for some occasional, thankful little strokes. Cold water grips our skin tightly, but when we don't shy away, our skin will warm up and blush. When we are in high spirits and quicken our strokes, bubbles



Stills from Sea Lovers (2020), video by Ingo Niermann with Ana María Millán, Roman Bayarri, Ville Haimala, Franziska Aigner, and Dan Bodan. Commissioned by TBA21–Academy

form and the sea turns into a momentary Jacuzzi. When we jump in, the water encloses us in no time.

To hug a tree is a unilateral, patronizing gesture. The tree can't initiate, return, refuse, or escape the encounter. Is it intrigued or repelled by our microbes, touch, and smell? We have no idea how much it feels through its bark. The tree hug hints at the core problem of environmentalism: it puts other creatures on the same level as humans, only to degrade them even more distinctively as inferior in language and logos. Anthropomorphized, nature won't rise above the state of the underage or the incapacitated. One anthropocentrism (of ignorance) is replaced by another (of engagement).

When we let the sea hug us, we take the receptive, enduring position that we used to assign to the sea. We act in devotion to an entity that we cannot possibly mistake for a sentient being like us. Looking down at the strange creatures of the sea, we might open ourselves to their own intelligence and charm.

We can experience the sea hug on our own, together with friends, or in groups of hundreds or thousands. We can hug other humans while being hugged by the sea. We engage with the ocean in the least invasive way, only with our bodies. And if we can't swim or can't make it to the sea, we can adapt the sea hug on land. Here we are also completely surrounded by another entity: air. An entity that we even allow to penetrate us. Usually we can't see it, and we sense its resistance only when we move quickly. But fog makes the air opaque and moist, and wind can be so strong that we can lean into it and welcome it with open arms.

From an oceanic perspective, we are living not so much on land as in the atmosphere. It's just that we, unlike birds but like crabs or mussels, are bound to its bottom. The sea is in much more of a direct exchange—of oxygen, carbon dioxide, methane, water, and movements (waves into wind, wind into waves)—with the atmosphere than with land. But we lack a word for this huge process. The one that comes closest is "weather."

As atmospheric creatures, we are also full of water, and sometimes our bellies squeak like tiny dolphins. Several of us can cling, hum, and sweat together as one fluent, gurgling, seeping mass. This mass can dissolve into the sea and reconfigure as a floating chain that, for instance, can stop certain ships from entering a harbor. To sustain the blockade, the chain can be constantly renewed by fresh swimmers. The chain manifests in collective humming, singing, and swinging. Additional rows may add depth. Or we build circles and stars. Eyes closed or turned up toward the sky, we gently bump into unknown parts of others' bodies—trusting each other just as we trust the hug of the sea.

The first tree huggers were peasants who, supported by their religious beliefs, protected their trees with the same personal urgency that they would have dedicated to the protection of their homes. They needed the trees for firewood and shade and as a means against erosion. Western environmentalism originated in the cities. From Henry David Thoreau to the Lebensreform movement to the hippies, few actually moved "back to nature." Tree sitters move to the

forest to protect it; the moment they succeed or fail they return to their urban lives. For most environmentalists, their personal "back to nature" is limited to gardening and walks in the countryside. When it comes to the sea, the alienation is even worse. To decrease it, we have to make the ocean a common habitat. We can't all become sea nomads but we can get more comfortable and loving with the ocean—and in the process more comfortable and loving with nature in general, with one another, and with ourselves.

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Comic Sublime

Life originates in the sea. As an ontogenetic relapse, embryos grow in water. When we describe a state of effortless concentration as "flow," a state of pure awareness as "drift," and, following French writer and mystic Romain Rolland, a spiritual feeling of oneness with the world as "oceanic," we acknowledge and subordinate ourselves to our aquatic origins. God is a paternalistic placeholder for the unfathomable supremacy of the ocean.

When we meditate to create an oceanic feeling, we might seek the vicinity of the wide sea, and even just staring at its glimmering surface or listening to its waves could put us in a trance—but for this to happen we have to stay on land. To swim or float in open waters vitalizes and relaxes, but to really grasp the grandness of the ocean we look at it from above—not noticing its coldness, darkness, danger, and pollution. To dive deep into the sea or swim a long distance we have to protect our body with a thick layer of plastic; every time we surf we have to struggle and wait for the right wave. It's easier to feel one with the ocean than with a landscape or with people, but it comes with the price of ignoring its very nature.

Those who live by and with the sea, who experience both its storms and its tranquility, its plentiful food and its abyss, its freshness and its dreadful humidity, have a more perplexed idea of the ocean—better captured by moody deities like Kali or Poseidon than by that of a benevolent God: a single

storm can release the energy of ten thousand nuclear bombs.

Since the Enlightenment, earthly phenomena that are too vast and powerful to harmoniously beautify our lives and rather provoke awe, if not horror, are described as sublime. But even sublime experiences can be incorporated into a harmonious view of the world. It's just a matter of the right distance and dosage to have a cathartic effect that assures us of life's value. The Enlightenment tended to prefer the sublime over the beautiful—as a step in transcending our natural limitations with our intellect and thereby realizing, as Immanuel Kant put it, the sublimity of our "own vocation even over nature."

After imperialism and two world wars collapsed the humanistic master narrative, Theodor W. Adorno saw the cathartic effect of sublime experiences of nature inverted:

> *Rather than that, as Kant thought, spirit in the face of nature becomes aware of its own superiority, it becomes aware of its own natural essence. This is the moment when the subject, vis-à-vis the sublime, is moved to tears. Recollection of nature breaks the arrogance of his self-positing: "My tears well up; earth, I am returning to you." With that, the self exits, spiritually, from its imprisonment in itself. Something of freedom flashes up that philosophy, culpably mistaken, reserves for its opposite, the glorification of the subject. The spell that the*

subject casts over nature imprisons the subject as well: Freedom awakens in the consciousness of its affinity with nature.

Adorno ridicules the idea of a sublime nature as the "physicalism" of a "bourgeois hero worship" that in "complicity with domination" glorifies apparent power and size. For Adorno, nature's aesthetic value is rather to remind us of the "historical catastrophe" of a failed humanism. Modern artworks are more reliable in delivering this experience since they show both sides, they glorify human sublimity against the background of its irrevocable failure: "The ascendancy of the sublime is one with art's compulsion that fundamental contradictions not be covered up but fought through in themselves; reconciliation for them is not the result of the conflict but exclusively that the conflict becomes eloquent."

The failure is tragic and at the same time comic, since we already know the outcome and try nonetheless: "Advanced art writes the comedy of the tragic: Here the sublime and play converge. […] Tragedy and comedy perish in modern art and preserve themselves in it as perishing."*

But how and why should we sustain this paradoxical state and not get used to being imperfect? Our knowledge of the amount of damage that we have created grows every day. Different from Adorno, we are aware that the harm humankind does to nature

* Theodor W. Adorno, *Aesthetic Theory*, trans. Robert Hullot-Kentor (London: Continuum, 2002) 276, 91, 70, 199, 197, 198, 199.

outshines the harm it does to itself: genocide to the nth degree. And nature strikes back. Global warming exposes all of us to the drastic forces of nature, in particular the ocean. We are all affected by rising sea levels and changing global currents, and we increasingly depend on food, energy, and raw materials from the sea.

While the harm that we do to nature endangers our own species, in the history of planet Earth man-made catastrophes are of no particular importance. Earlier catastrophes were much faster and bigger, and many of them—anoxic events, volcanic eruptions, earthquakes—had their origins in the deep sea.

To us, the story of our relationship to the ocean reads as the story of a child (mammals) that leaves mother's gigantic womb (the ocean), evolves (humankind), becomes prideful (the industrial age), and defrauds the mother (exploitation, pollution) until she gets angry (rising sea levels, increasing storms), and finally mother and child hopefully reconcile in a hydrofeminist fashion. But the ocean doesn't even know us. We are nothing but a ball, itself mostly filled with water, that gets randomly kicked around by the waves and that leaves no trace except for a little temporary shadow.

In the twentieth century, it became common to describe a world without any general meaning as tragic or absurd. But a world with a general meaning would be less free and less joyful. Replacing our devotion to god(s) with one to the ocean, we can't show that same prim seriousness. The ocean is generous, cruel, and funny. The ocean is comic sublime.

SOLUTION 302

Church of Metan

In 2006, my writer-friend Christian Kracht and I climbed Mount Kilimanjaro to see its glacier before it completely melted. Since we'd never experienced an altitude of more than three thousand meters, we wondered if we would make it to the top, at almost six thousand meters, without extra oxygen. Beginning at about five thousand meters it became hard to breathe. We sucked in as much of the thin frosty air through our chapped lips and noses as possible, which gave us just enough energy to walk in what seemed like slow motion.

Another challenge of our trip came as a surprise: because of the low air pressure, we and the other mountain tourists were constantly farting. How had we never heard about this effect of the high altitude? A main ingredient of farts is methane gas, which over a period of a hundred years is about twenty-five times more potent a greenhouse gas than carbon dioxide. We smelled a global plot: What if methane was not just a random gas but a collective intelligent entity with the will to multiply by any means necessary? What if humans' idiocy in coping with global warming was due to methane's sinister intrigues? Three and a half billion years ago the air contained a thousand times more methane than it does today. Methane was a base material for the genesis of the first amino acids on earth—a pre-stage to life. Two and a half billion years ago cyanobacteria started to emit oxygen, which combusts with methane to become carbon dioxide and water. In the "Oxygen Revolution," the existing methane

sacrificed itself and its anaerobic microbic helpers so that eventually we humans could come into existence and help with the total "methanization" of planet Earth.

After reaching the summit, we decided to travel to the Himalayas to make additional observations and rewrite human history, in particular the second half of the twentieth century, in which global warming became a self-enforcing, irreversible process. The plot culminated in a nuclear bombing of Kilimanjaro to reactivate the volcano—alluding to Jules Verne's 1889 novel *The Purchase of the North Pole*, in which the mountain is turned into a gigantic cannon to tilt the earth's axis and melt the Arctic. We titled the book *Metan*—a play on the German word for methane, *Methan*, minus the *h* to make it an anagram of *atmen*, German for breathing, and reveal the hidden link between the Hindu concept of atman and the holy cow. The greenhouse effect of 1.3 billion methane-burping cows is as big worldwide as that of car traffic. A greening of the whole planet would give room for even more cows.

Metan was meant to be the first glimpse of a trilogy. However, literary circles viewed it as a ephemeral joke, and after an extensive book tour in spring 2007 with an often meager audience, Christian and I were drawn back into our respective projects and eventually lost touch. Meanwhile, Reza Negarestani published *Cyclonopedia* (2008), an ambitious theory-fiction that weaves Nick Land's take on Gilles Deleuze with Islamic mythology, Middle Eastern archaeology, and petropolitics to tell the story of mineral oil as a geopolitical "lubricant." *Cyclonopedia* became a main

inspiration for Timothy Morton in developing his concept of massively distributed "hyperobjects" like global warming (*The Ecological Thought*, 2010). When it came to nerdy ruminations about a superior nonliving agency, Christian and I were falling behind.

In recent years, new evidence for methane's major role in climate change has accumulated. In 2014, Daniel Rothman and his team at MIT published their hypothesis that the Permian–Triassic extinction event 250 million years ago, in which up to 90 percent of all species became extinct, was caused by the emergence of organisms called *Methanosarcina*. The result was a sharp buildup of methane and carbon dioxide in the ocean and atmosphere. Volcanic activity facilitated this process by releasing large amounts of nickel, which helps produce methane. During the Mesozoic Era, the age of the dinosaurs, the average temperature was several degrees higher than today, with lush vegetation across the whole planet. The methane concentration in the air was almost double what it is today, and dinosaurs could be the reason. In 2012, David Wilkinson and his team at Liverpool John Moores University estimated that dinosaurs produced more than 500 million tons of methane a year—today, ruminants produce 50 to 100 million tons a year. Fify-five million years ago, during the Paleocene–Eocene Thermal Maximum, the global average temperature was 8°C higher than it is today. A massive release of methane from the ocean floors is a compelling explanation, and raises the question of whether in the next few thousand years, when global warming reaches the deep sea, this "oceanic burp" could happen again—starting a positive feedback loop

between global warming and the unleashing of methane from the seabed and the permafrost layer. In addition, a warmer sea produces more organic residue, which sinks to the seabed and decomposes into methane. Tropical wetlands pump much more methane into the atmosphere than cooler wetlands. The current estimate of global oceanic methane corresponds to 500 to 2,500 gigatons of carbon—up to one-third of all organic fuel reserves. Permafrost might contain another 400 gigatons, not including the Antarctic. In comparison, the carbon in the atmosphere totals around 800 gigatons.

The global warming already set in motion will take millennia to fully unfold. The last time the carbon-dioxide concentration in the air was the same as today was three million years ago during the Pliocene Epoch, when sea levels were perhaps eighty feet higher. Eventually, when the average surface temperature of the earth reaches 25°C (it is currently 13°C), the planktonic productivity will increase so much that the ocean will become totally depleted of oxygen. Most marine life will then die, sink to the bottom of the sea, and become fossil fuel, the temperature on the surface and in the deep sea start to decrease, and the oceanic anoxic event end. You could imagine a planet with a constant cycle of a civilization developing, using fossil fuels, triggering global warming, collapsing, ocean anoxia amassing fossil fuels, and a new civilization developing. The demise of one civilization sows the seed for the next.

The five mass extinctions of the last 500 million years show that drastic cycles of global warming didn't depend on the active use of fossil fuels. Could fossil fuels even be instrumentalized against global

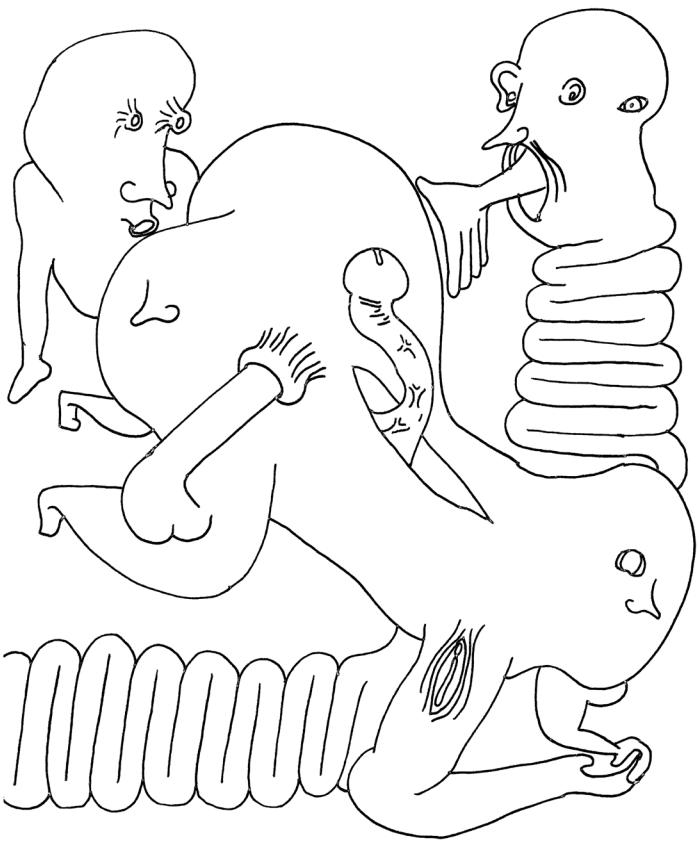
warming? Scientists, entrepreneurs, and politicians argue that it's better to extract the methane and burn it before it sets itself free. At Lake Kivu, on the border between Rwanda and the Democratic Republic of the Congo, the large-scale extraction of methane—produced by microbial reduction of volcanic carbon dioxide—has already begun. In the South China Sea, Japanese and Chinese companies have started exploratory drilling to extract methane from the seabed. As a next step, carbon dioxide could be injected into the remaining hydrates—extracting the methane by direct exchange. For one molecule of methane the hydrate can absorb up to five molecules of carbon dioxide. But there's the risk of leakage, and as gas is extracted its pressure could break up neighboring methane. The result could be an uncontrollable chain reaction that cascades through undersea reserves, triggering landslides and tsunamis.

The more I delved into methane's crucial role in the history of life on earth, the more I realized that it deserves much more than a conspiracy theory—it deserves a religious cult. It wouldn't have to start from scratch. Every world religion's vague depictions of a god or transcendental force could easily be replaced by that of methane. Confirming Genesis, methane started life on earth. Confirming Heaven, methane is high above. Confirming mysticism, methane is deep within us (we even produce it ourselves). Confirming pantheism, methane is pretty much everywhere. Methane is vengeful (reacting to its burning by heating up the planet and unleashing more methane) and, as soon as we give in, forgiving (once in the atmosphere, it

transforms, with a half-life of fifteen years, into the far less potent greenhouse gas carbon dioxide). The cycles of methane release, destruction, and creation are in line with the concepts of emanation, apocalypse, and eternal return. From a polytheistic perspective, water, carbon dioxide, and oxygen also deserve the status of goddesses, but methane is far more reactive than carbon dioxide. Water's activity is mainly limited to changing its aggregate phase, plus it likely arrived late on earth (through a series of asteroid impacts about 4.5 billion years ago). Carbon dioxide is the offspring of methane and water, and oxygen is their common, incestuous offspring.

We don't have to assume that Metan is a living entity or has a collective consciousness—we also ascribe intelligence to nonliving, nonconscious computers and robots. We don't have to assume that Metan has free will—we also doubt that we ourselves possess it. Metan's superiority is a matter of relentless power.

Ponds could become Metan's temples. The German language leads the way with the similarity of its words for temple, *Tempel*, and slough, *Tümpel*. The smaller the pond, the more methane and carbon dioxide it contains and sets free, relatively. Aquatic ecologist Meredith Holgerson estimates that more than 40 percent of methane emissions and 15 percent of carbon-dioxide emissions from still water come from ponds with a size of up to a thousand square meters. This would mean that they contribute 6 percent to the entire greenhouse effect. Holgerson estimates the number of ponds worldwide to be somewhere between 500 million to 3.2 billion—more than enough temples



for humans and many other species that might join the cult. Tümpel temples don't have to be built or maintained, they just have to be made accessible. Reservoirs, also excellent methanizers, serve as megachurches. If the water quality allows, gatherings include ceremonial swimming, floating, and diving. Metan believers make pilgrimages to landslides caused by methane eruptions and lakes with frozen methane bubbles. Metan suicide sects camp next to lakes that bear the danger of a sudden methane explosion. The Great Pyramid, my scenario of a collective tomb for potentially all human beings,* is built on the bed of the deep sea, next to methane-erupting volcanos, to eventually be buried by a big earthquake or explosion.

Recent efforts to overcome anthropocentrism have tried to dignify nature as a whole. But concepts like Gaia that treat all natural powers on the same level, without hierarchies, risk in the end only confirming humanity and its technologies as the one outstanding phenomenon defining our era, the Anthropocene. Unless we manage to get strawberries, dogs, sharks, and microbes to vote and judge, the declaration of our equality with other creatures remain an empty phrase.

Environmentalists may be concerned that acknowledging an unpredictable power far greater than us is an easy way out of our own responsibility. Traditional churches will condemn the belief in Metan as blasphemous and warn that it makes us highly cynical. We know it as the ultimate legitimization of the paternalistic belief in a transcendent almighty judge of

* See Ingo Niermann and Jens Thiel, eds., *Solution 9: The Great Pyramid* (Berlin: Sternberg Press, 2008).

human behavior: however absurd it may appear, at least it inclines us to be better people.

But the opposite is true. Psychological tests have shown that people who believe in a judging god behave less altruistically and don't think of the long term as much as atheists and agnostics. It seems as long as we rely on being rewarded for good deeds and punished for bad ones, we are stopped from completely internalizing what we consider to be right, and we become exhausted from the effort of being good. The problem with traditional environmentalism is that it puts the environment in the position of the transcendent judge. Traditional environmentalism is both paternalistic toward nature as our personal garden (it's on us to save it) and subordinating toward the paternalistic regime of the environment.

The Church of Metan doesn't give special importance to the human species, not even in negative terms. The Church of Metan doesn't expect us to be humble in order to receive eternal salvation. If anyone receives salvation, it's the microbes that we've shot into outer space that might start methanization on other planets. The Church of Metan vividly reminds us how small and brief we are in relation to not just cosmic categories but a much simpler mechanism than us that acts beside and within us. This humble realization strengthens the feeling of being one with our environment—just as the realization of being poor strengthens our empathy. Metan doesn't ask or oblige us to develop this feeling. It makes it more plausible, more natural, more us.

SOLUTION 303

Aquatic Love Robot

Robot means serf. In contrast to human serfs, robots are unable to refuse their duty as long as they have enough energy and aren't harmed. In that sense, humanity has been involved with robots since its expansion beyond Africa—starting with domesticated wolves. Their help in hunting and guarding might have been Homo sapiens' crucial advantage over the Neanderthals. With humans settling down to husbandry, a range of other animals and plants served as organic robots.

Domestication is a mutual evolutionary process. Domesticators are chosen who offer decent food and shelter; the domesticated are chosen who offer decent help. In the pet relationship, both sides add love. The relationship between humans and pets has coevolved with the upbringing of human offspring. Humans' most popular pets—dogs and cats—have a life expectancy about as long as humans need to reach puberty and the age of consent, respectively, and they stay cute throughout. The striking similarity between the sound of babies crying and cats wailing is probably the result of thousands of years of mutual copying. Social standards enforce the love of both children and pets to be caring and nonsexual. And it's this platonic love that shaped the concept of human charity. (In the Old Testament, God's demand "to love your neighbor as yourself" is proclaimed in the context of banning sex with close relatives and others' slaves.) The only crucial difference is that while we have a limited number of

children and pets, we are supposed to apply our charity unconditionally to every human—and if you expand this understanding, to every animal.

Similar to organic robots, mechanical robots' function of getting work done is expected to be complemented increasingly by giving love and being lovable. So far, there are two main scenarios for humans to become affectionate with robots:

1. Creating robots that are better (than) humans, with immaculate features, endless patience, tolerance, and endurance, enormous flexibility, intelligence, and joy combined with immortality and an absence of biological diseases. This concept of the android traces back to the story of Pygmalion falling in love with his own sculpture, finally bringing it to life with a kiss. In Judeo-Christian belief, God is also one such sculptor, shaping and animating the first man, Adam, from clay. We might become so attracted to such über-androids that our urge and ability to interact with other humans will be drastically reduced. Even now, an increasing number of people replace intimacy with multimedia and a variety of masturbation gadgets, and the frequency of sexual intercourse is declining. For a while, some humans might try to compete with robots. Eventually, most will give up and it will become too tempting to be loved by robots regardless of who you are or how you look or behave. The welfare state has been

catering to our basic needs (shelter, food, health) with the help of machines and robots, and now finally what many would regard as the most important thing in life is being added: love. But how realistic is this scenario? While AI is progressing quickly, android mimicry and balance are still clumsy, their movement causes noise and vibrations, and their skin feels lifeless. The biggest handicap might not disappear unless robots get biological brains: AI isn't conscious and doesn't feel, so interaction with androids remains a form of expanded masturbation.

2. Creating robots that are better pets. Since pets are basically already robots, this is easier. Pet personalities are simpler than those of humans, and they inhabit the other side of the uncanny valley. Humans therefore might not worry that much about the authenticity of their feelings. These "petoids" shouldn't resemble real pets too much, as this could also create an uncanny valley. Besides, owing to social norms, most people are repelled by sexual intimacy with animals. The playful diversity in which the shapes and colors of vibrators, dildos, and other sex toys have developed in recent years, no longer attempting to be naturalistic, could serve as an example of how mechanical robots might develop in the future, turning their disabilities into different abilities: the smoothed sound and vibration of motors could trigger

ASMR sensations; instead of extremities, inflatable cushions or sponges could touch and caress. Some people's interactions with such robots will outshine those with humans. For some, it will help them playfully and discreetly discover new forms of otherness and open them up to encounters with humans, animals, or even plants. Pets already help people in learning to bond, and robots' additional skills could reinforce this effect.

Robots don't feel and therefore don't love, but they can teach humans robotic love. As automation replaces human labor, people may offer themselves as human pets to all those who need them. Whereas industrialization was based on curbing desire so it did not interrupt work, humans must now learn to become aroused in an equally focused way. As foreseen by the hippies, lovers will replace the proletariat as the new revolutionary class. But through dialectical synthesis, love must also be understood as work in order to truly master it. Furthering Edward Bellamy's concept of a socialist industrial army, an Army of Love could enhance our empathy, libido, attractiveness, and devotion by exercising thorough drills, voluntarily reinforced by technological means such as direct brain transmissions of feelings, genetic engineering, or plastic surgery.*

Basing our identity on love rather than on our job won't be easy. Society is not prepared to give up on paid labor as its economic basis. As increasing numbers

* See Ingo Niermann, "Army of Love," in *Solution 264–274: Drill Nation* (Berlin: Sternberg Press, 2015).

of people become unemployed, they will be increasingly considered a burden on society. Losing our job or being afraid of losing it makes us feel unwanted, and we easily end up stuck in hatred, racism, and despair.

Members of the Army of Love might disagree about whether robots are allowed to join their ranks. Since its services are strictly free of charge, some wonder who would pay for the robots and with what (data? control?) if not money. Others regard it as their duty to welcome all, even nonhumans, into the Army of Love and to make use of their particular skills. Because of their addiction to the love services of robots and virtual avatars, many people might become incapable of interacting with other biological creatures, and the easiest way to make them receptive again would be to use specially programmed sex and love robots as (secret?) agents that train people to enjoy actual, sensual love.

The next technological step may be robots and living creatures becoming one. This is usually envisioned as the extension of a robot with biological features or a creature with technological features. Thanks to radio transmission, these cyborgs could then communicate without loss—limited in its immediacy only by the speed of light. The connection is purely experiential or representational, bypassing the complexities of physical interaction. Even though this communication is as direct as possible, it will leave us in doubt about its realness. Corporeal communication can be highly deceptive: humans don't manage to express or understand each other properly, they fool or pretend to be fooled. Still, we generally expect corporeal communication to reveal traces of authenticity. In contrast,

Still from Oceano de amor (2019),
film by Alexa Karolinski and Ingo Niermann

we can't know where the thoughts intruding our brains come from. What we assume to be our own thoughts may have been induced by someone else. An experience might strike us as overwhelming but may be just a dream or a psychedelic episode. We don't know how many thoughts a robot or posthuman is able to process simultaneously, but their body is a single unit.

How can we achieve physical unity with love robots and through them with other creatures? So far, common scenarios for love robots (including this text) envision them as solidly outlined units, even though the easiest thing for us to make thorough and extensive contact with is liquid. This liquid could contain not only us but all humans and creatures who seek intimacy. It could grow according to our needs. Belonging to no one, everybody could use it and be used by it. The ultimate love robot would be very much like the open sea.

In moments of bliss, we are in love with the whole world. Through meditation we emulate these rare instances as a lasting state at the cost of shutting down our concrete perceptions and focusing on the abstract idea of being one with the world. To initiate this state we first focus on the weight of the different parts of our body to then paradoxically (as it is impossible to focus on our entire body at once) enter a state of passive weightlessness, like floating in salt water, finally forgetting our bodies altogether, like dissolving in liquid. We can also take a shortcut by plunging into a flotation tank.

To not just float and forget, but to interact with a liquid can be much more pleasurable. As soon as we move in water or have water moving around us, it

touches us all over our bodies. By moving water we can touch others in a mediated, softened, and extended way. If we push hard against it, our single or multiple counterparts will feel a gentle swell. Even if we touch each other directly, the lack of gravity and the resistance of the water will soften our movements. Even if we push each other we cannot fall. Even if a wave or someone presses us down (not for too long) we will come up again easily. As soon as we get close to a lake or the sea, sensing its breeze and its vastness, we relax and open up to undress, to touch, and to love.

In addition, an aquatic love robot allows us to breathe like fish. Not only does it allow us to look through it at others, it also shines in response to our movements and moods. The same applies to sounds and smells. The aquatic love robot grips, hugs, caresses, kisses, and penetrates us with varying densities of water, and allows us to respond in the same way. Whatever we feel like, the aquatic love robot exposes or shields us accordingly.

Religions ask us to love the world through god(s). As they themselves are invisible, we are supposed to express our gratitude for having created us to everything else they created. On this planet, it's the sea that created us. We are not limited to mystical ("oceanic") contemplation, we can actually enter the sea and celebrate our origins in amphibious devotion. The sea might lack a central sensorium and may not be able to perceive our gratitude. To change this, we could give something back and turn it into the greatest intelligence and benevolence ever. Whenever the Army of Love enters waters, it anticipates this sea of love.

Wet Gods

The cultural development of humankind stems from the imitation and exaggeration of superior aspects of its environment. Humans aspire to live as long as trees, dwell in houses that are as protective as caves and as high as mountains, fly like birds, move as fast as the speed of sound if not light, and finally, become as powerful as the gods were assumed to be. The next step is for humans to aspire to live longer than trees, build houses higher than mountains, fly higher than birds, move faster than the speed of sound if not light, and finally, become more powerful than the gods.

With social formations it's the same: monarchies are hierarchical, like beehives, basic democracies are like a flock of birds that collectively find their direction and alternate the lead, and presidential democracies try to be both. Borders are hardly traversable, like rivers or seas. The nation is like an island, the empire a whole continent. The people inhabiting a nation or an empire are meant to distinguish themselves like a clearly defined race. They can alter their bodies, even their gender, but their original nationality sticks to them no matter what.

For those who travel easily between continents—in real life or just in their minds—the idea of an irrevocable nationality seems outdated. They rather regard themselves as citizens of the world. In fact, if you have exceptional financial resources or an outstanding education, changing nationality is easy. But for those who are not affluent, the common way to overcome

their original nationality is through marriage. By allowing their offspring to be only half of their own kind, they retroactively overcome their national stigma to some extent—and gain the new stigma of being mixed.

For most people, being in favor of their own nation is less of a choice than developing Stockholm syndrome and siding with their kidnappers. They are already born into their nation, and the chances of ever changing it—that is, changing their kidnappers—decrease with every passing year. Nowadays, nationalism peaks around one's midlife crisis. Not just out of fear that immigrants might take your job or home, but also out of jealousy: their life improves while, at best, you stay where you are.

Nationalism not only goes against immigration, it also corresponds with the racism of a nation's ethnic majority against its minorities. Just as empires are inclined to conquer whole continents, nationalism and racism tend to become one. Which again calls for the racism of the excluded. The pride of being privileged by birth is answered by the pride of being particularly challenged by birth. A majority that invokes the danger of eventually becoming a minority, or a minority that invokes the chance of eventually becoming a majority, can unite both kinds of pride in one. Understanding race as your social identity rather than your nature can make it even more difficult to overcome: you might change your color but not your memories. Hiding your race makes you a racist or an opportunist, either by betraying your own less privileged race or by stripping yourself of the guilt of your more privileged race.

The mixing of nationalities and races is a rather slow process. Even though nations become more and more culturally, economically, and ecologically interconnected, a world-state is not in sight. Its inventor, sci-fi author H. G. Wells, thought that an existential global threat or shock like an extraterrestrial invasion or nuclear war would be needed to make it happen. But actual global dangers like climate change, pollution, overpopulation, mass extinction, and the depletion of natural resources are increasing too slowly and are distributed too unevenly. Rather than collaborating, nations might isolate themselves from subsequent mass migrations. Would a world-state be the solution? Humanity deciding as a whole, and to be decided over as a whole, doesn't necessarily save it from biases, shortsightedness, or abuse of power.

Environmentalism in combination with feminism and anti-colonialism calls for a new social analogy of a global tribe and kinship with all creatures. Instead of copying nature to make us feel and act superior, this analogy accepts nature's superiority—that is, the collective evolution of billions of species over billions of years. Instead of furthering the homogeneity of our one particular species in one global village, we should acknowledge our entanglement with the overwhelmingly diverse biosphere and—following the Gaia theory—even with earth's non-biosphere.

For now, this analogy seems to be quite presumptuous. What is kinship when you can't procreate with one another? What is a tribe when you can't know or even understand most of its members? Gene technology may soon allow us to procreate with every other

creature on earth and information technology may allow us to understand them. But the challenge will be to make this a bilateral undertaking—that is, make the other creatures understand us (not only when we talk their language) and want to procreate with us (and not just be tricked into it). This will only be possible by improving their intelligence—just as we'll improve ours. Otherwise, the global tribe of ordinary creatures will have posthumans and AI as their gods. Or is it rather the assumption of fundamental differences in the intelligence of humans and animals that is presumptuous?

Proponents of a global tribe assume that extraordinary intelligence is already prevalent in the coexistence of native tribes with their nonhuman nature—thanks to traditional wisdom, animistic spirituality, and an absence of ownership. The perception of what Colombian anthropologist Astrid Ulloa calls the "ecological native" is a remodel of the noble savage: "They have to be 'our' utopian reality. They have to be the warriors of 'our' inner conflicts."*

In fact, native tribes do claim territorial exclusivity and defend it against others who try to shift or expand their territory. Like any living kind, native tribes have a tendency to overpopulate. But this destructive growth is counterbalanced by disasters, epidemics, and wars; since you can't buy land, you have to win it. The individual life of tribal members and others is rather worthless. Tribes are lacking not just personal property but all personal rights.

* Astrid Ulloa, *The Ecological Native: Indigenous Peoples' Movements and Eco-Governmentality in Colombia* (New York: Routledge, 2005), 273.

Environmentalism is able to overlook these dark sides of native tribes because it puts an emphasis on conservation. Ecological conservation finds it natural to prioritize the preservation of the collective over self-preservation: individual creatures have to die sooner or later so social formations can survive. A society inclined toward progress cannot be conserved; in industrialized societies conservative parties are constantly in change. The reason that ecological conservation tends to include the conservation of native tribes is not just that they live close to nature—needing protection like nature and extending their own protection to nature—it's also that they actually want to be collectively protected as they are.

Conservation is the flip side of modernization. As soon as a society understands itself as constantly progressing it starts to build museums, memorials, and reserves; the efforts to move forward and to save both complement and compete with each other. While modernization gains speed, ever larger parts of the world are turned into nature reserves and put under protection. This is problematic in two ways. First, nature itself is a dynamic process. We can hardly save it as it is and even less as it was before human interference. Second, space is limited, and it will be only a matter of time before museums and reserves cover the whole planet.

In a world as museum, individual humans only find their place as collectors, guards, restaurateurs, or visitors. Unless they themselves become immortal and collectable. While in the future it will be possible to replicate every solid entity based on compressed

information, the only pieces that still need to be kept in their original form will be individual living creatures. In the meantime, humans have to legitimize themselves as the servants of preservation. As members of prehistoric tribes take the role of ecological natives, modern societies generate museal natives. They move gently through the halls and collections storages to take care of the masses of artifacts—starting with their own. While the ecological natives plant, fertilize, harvest, and protect, the museal natives save, archive, display, and restore. Both act in accordance with a compelling order intrinsic to their world: for ecological natives it is the inherited customs of their respective tribe; for museal natives, the distinctive missions of the foundation or initiative to which they devote themselves. Their entities might gain rights as legal persons, with tribes or foundations acting as their custodians.

The different conservationist projects can't all go hand in hand, since you can't protect everything. The extension of individual rights beyond humankind is the apparent end of moral universalism because it's impossible to respect all living creatures or species, from bacteria to mammals, to the same degree. Even if you restricted basic rights to conscious creatures, where would you start? Fruit flies might dream too. Where would you end? There is no greater vermin than the human race; the global ecosystem can spare it easier than some unknown microbe.

Trying to overcome anthropocentrism ends in moral relativism, same as with nationalism and ethnocentrism. While the latter derive their moral criteria from birth, environmentalists and musealists derive

them from choice. Your moral criteria might be inspired by intuition, experience, or rage—all in all, they are an act of caprice. The ones who share your caprice might become your voluntary tribe.

Voluntary tribes don't necessarily demand exclusivity, not in membership or territory. Different from gangs and sects, you can leave them whenever you like. The state's monopoly on legitimate use of force allows voluntary tribes to multiply easily. But environmental and museal measures demand a high degree of territorial exclusivity and tend to restrict access even more than nations. This increases the pressure on all social entities to hoard land. In a world in which everything can be automatically created except space, all space that is not a museum or nature reserve might be equally divided or shared as a commons.

The spheres of progress and conservation are both projected as enormous houses. Until the Middle Ages, settlements and cities were conceived as giant houses with surrounding walls. With a progressing division of labor this analogy was gradually replaced by that of an organism, and with the liberation of the market economy by that of a dense ecosystem—with factories, offices, apartment buildings, and malls as big as medieval cities. Meanwhile, reserves are meant to house whole ecosystems. Drastic climatic changes might make it necessary again to protect cities with huge walls, eventually a dome, living within a largely closed ecosystem with an emphasis on recycling, renewable energy, and farming. With progressing environmental concerns, a house is no longer meant as a place to temporarily retreat, but as a largely

self-sufficient unit. The museal native merges with the ecological native.

All these encapsulations might lead away from a world tribe and toward increased isolation. An erosion of nation-states might only accelerate this process. Alternatively, nation-states or supranational pacts could work as overall eco-nationalist or eco-ethnicist shields and displace the basic principle of a growth economy and ecology—creative destruction—to games and virtual reality. In phases of despair, creative destruction might trespass into the real world. The chances of such acts to be successful and not end in self-destruction are so low that the perpetrators and their sympathizers celebrate them as camp transgressions. Their opponents ridicule them as cartoon rebellions of self-proclaimed superheroes who try to ignore their finite powers.

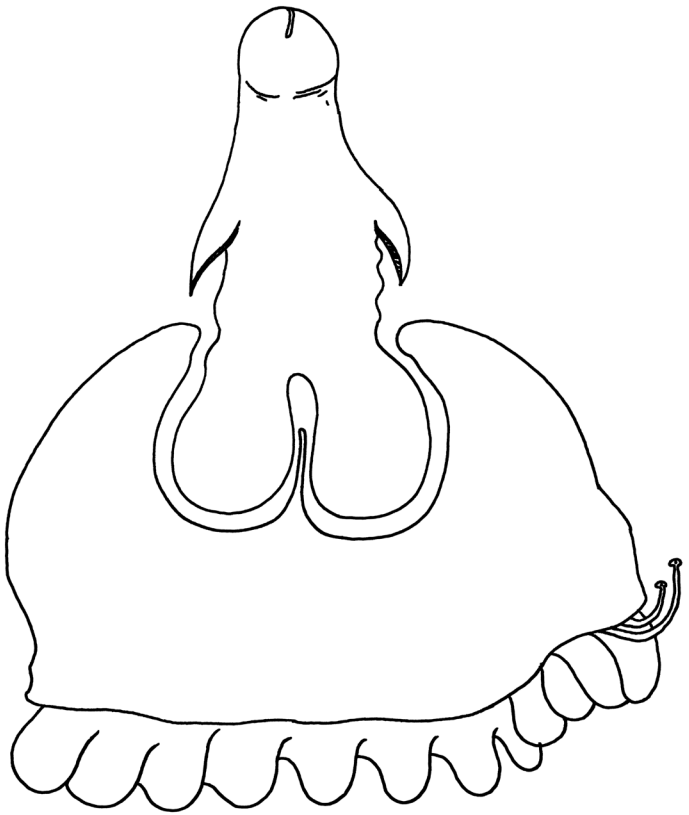
The only space on earth that isn't yet divided in its entirety is the open sea. Even though nation-states are slicing up fishing and mining rights at great speed, everybody is still free to put themselves in, on, or above the sea. Obviously this is only the case because it isn't easy for humans to live there permanently. The water of the sea is not a global commons because there is enough sea for everybody, as stated in Hugo Grotius's *Mare Liberum*, but because we are not good enough at colonizing it.

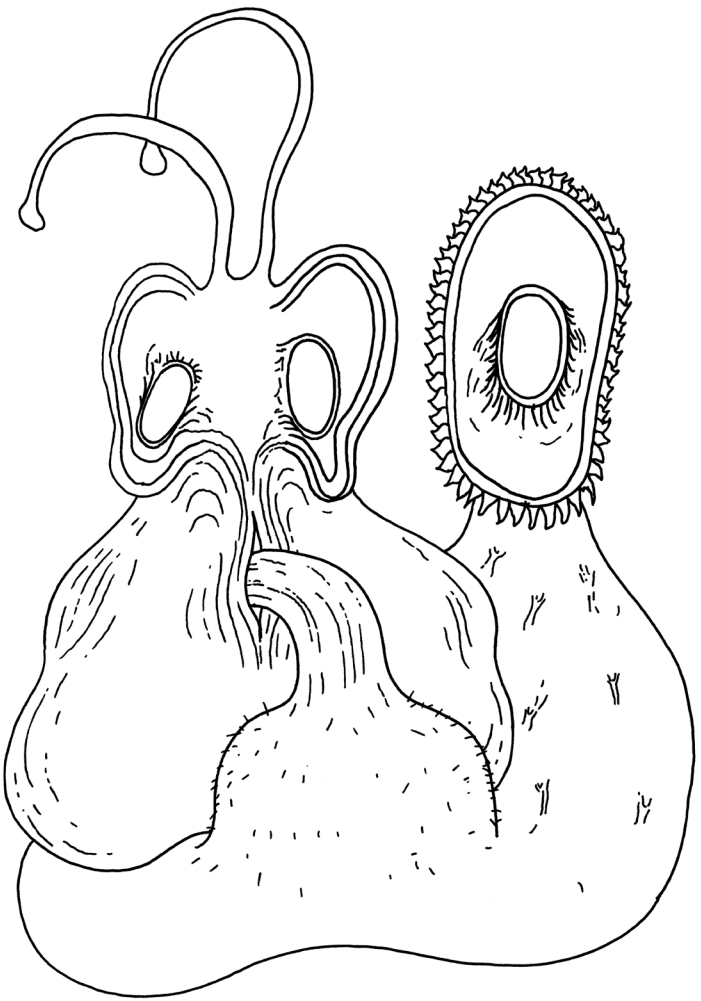
Eventually yachts, cruise ships, and offshore platforms will allow for sustainable life at sea. Taking a submarine to the bottom of the deep sea will become an ordinary amusement. Scuba gear will become lighter: artificial gills, plastron respiration, or genetic

engineering will enable hours-long dives without an oxygen tank. The existing nations will divide all imaginable rights to exploit the ocean and also the duties to foster and guard it. Underwater drones will map the entire ocean world. Billions of sea creatures will be equipped with recording devices and communicated with through machine translation (see Solution 296, "Amphibious Sea Park"). Some species will be domesticated to keep us company (see Solution 297, "Sea Pets"). Vegetables and flowers will grow in salt water and compensate for the land lost through global warming.

But before technology will allow humanity and posthumanity to colonize the whole ocean, we still have the chance to expose ourselves to the hugest entity on earth in all its wildness and strangeness. In most parts of the ocean we can be pretty safe without gear or protection, literally naked. Once we have learned how to swim and float, the risks of harming ourselves are smaller than when jogging or walking in the city. To keep our head above water we just have to trust our own buoyancy. To stay underwater awhile, we just have to take a few deep breaths and relax.

Out of all the legged mammals, humans are one of the few species that are able to swim and float easily. Owing to the outstanding flexibility of our extremities, we can stretch into a completely horizontal position, which reduces water resistance—like our lack of fur. We can splay our legs out like frogs and swim on our back like otters, and we are the only species that can do the breaststroke and the crawl. These rotating movements of our arms may have been a main inspiration for





the invention of the wheel—one of the few basic human achievements that didn't originate from imitating our environment. The highly speculative aquatic ape theory, introduced by marine biologist Alister Hardy in 1960, even suggests that human evolution was propelled by being forced from life in the trees to hunt for food on the seashore. Many people who can't walk can swim.

Still, only a small fraction of the world population would feel safe in the open sea. More than half don't know how to swim, and the typical water-safety skills that we learn at school only apply to pools. All around the world, most people visiting the beach just wade into the water to cool down. Few people dare to swim a bit off the coast—in the cases where it's allowed.

In Western society, the only people who routinely learn how to deal with the dangers of being in the sea are surfers and scuba divers. But they enter the water with gear. Besides, they are concerned with specific sites of the ocean: beaches with prolonged wave breaks for surfers, corals and other areas with varied marine life for scuba divers. Even though less than 0.1 percent of the world population is trained in scuba diving, easily accessible sites tend to be overpopulated. With around 0.5 percent of the world population who can surf, the future of the sport lies in artificial wave pools. In contrast, swimming, floating, and free diving can be done pretty much anywhere.

Our resentment at being in the sea goes back to the civilizing divide between nature and culture. By copying and furthering nature, we have also been trying to overcome it. In houses and on streets we are also in contact with alien microbes and the air, but we usually

don't sense or see them. The air supplies us with enough oxygen to forget about the urgency to breathe. We might feel out of breath but not out of air. Being in the sea is quite the opposite: we feel it all over our body, we cannot claim any distance. The sea constantly carries, resists, pushes, splashes, and we sense the lack of air.

Western civilization has stigmatized sea nomads and coastal tribes—who genetically and habitually adapt to free diving—as primitives. While elites exposed themselves to the sea as a romantic thrill, the colonies and lower classes had no substantial experience of it. Despite advancing marine technology, to them the sea continued to be foremost a barrier, similar to national borders.

Just as nationalism and fear of the sea go hand in hand, swimming naked in the open sea is an effective anti-colonialist and eco-feminist practice. Digging ourselves into the earth to become one with the world tribe is destructive to worms, fungi, and roots. In the sea there is nothing that we could occupy, take, or step on—we couldn't be less invasive. From being in the sea we could develop new analogies that don't alienate us from nature in ever-new houses, vehicles, cities, and identities, but that radically change our own nature to become more autonomous and less exploitative. We could become ectotherms with a slow metabolism, like sea creatures. We could combine this with the ability of extremophile microbes to survive in a wide range of temperatures and climates. Similar to the green sea slug, we could do without food and take our energy straight from the sun. We could become autotrophic as a primary producer and also as a self-decomposer—not

even consuming inorganic material. Similar to the octopus, we could change shape, color, and texture according to our needs. If we require more mass, we could temporarily unite as a shoal or reef.

Though the ocean counts for 70 percent of the globe's surface and has an average depth of several kilometers, it counts for only 1 to 2 percent of the earth's total biomass. Life on land is younger but far denser and more intertwined than in the sea. Solid earth allows for more stable nutrient cycles—also kilometers under the surface, despite extreme heat, no light, and intense pressure. The recently discovered "deep biosphere" occupies at least twice the volume of the ocean and is estimated to make up 70 percent of the bacteria and archaea on earth.

Humans have successfully—that is, disastrously—hacked the global ecosystem. To change from aggressive freeloaders to benevolent participants is an uncertain and risky maneuver. It would be much safer to shut off humans and their successors from compulsory interaction with their environment, and this is first possible in the sea.

In religious contemplation, humans reduce their earthly needs to get closer to or unite with the divine. But even when we stop eating, moving, or having sex, we don't stop consuming oxygen and occupying a distinct space. Being in the sea, head under water, we are self-contained. We are free to become gods of our own making who solely interact in consensual love.

Ingo Niermann is a writer and the editor of the Solution Series. Recent books include *Burial of the White Man* (with Erik Niedling, 2019) and *Solution 275–294: Communists Anonymous* (edited with Joshua Simon, 2017). Based on his novel *Solution 257: Complete Love* (2016) Niermann initiated the Army of Love, a project that tests and promotes a just redistribution of sensual love.

Marah J. Hardt, marine biologist and storyteller, works at the crossroads of research, strategy, and creative communication to build a sustainable future for people and the sea. As director of discovery at the nonprofit Future of Fish, Hardt works to help transition small-scale fisheries toward more environmental, economic, and equitable states. Her book *Sex in the Sea* (St. Martin's Press, 2016) connects the timeless topic of sex with the timely issue of sustainable oceans.

Eduardo Navarro was born with many extra limbs. He was abandoned by his family when he was just a baby. Adopted by the art scene of Buenos Aires, he skipped art school and became particularly interested in transforming into nonhuman entities as a way of exploring what he calls "emotional technologies." The extra limbs remain hidden.

ACKNOWLEDGMENTS

An early version of "Aquatic Love Robot" was published as "The Dialectics of Robotic Love," in *Robot Love: Can We Learn from Robots about Love?*, ed. Ine Gevers (Lannoo Publishers, 2018).

An early version of "Home Shipping" was published as "This Home Will Make You Happy," in *Our Happy Life: Architecture and Well-Being in the Age of Emotional Capitalism*, ed. Francesco Garutti (Sternberg Press, 2019).

"Sea Hug" was commissioned for *Thyssen-Bornemisza Art Contemporary: The Commissions Book*, ed. Daniela Zyman and Eva Ebersberger (Sternberg Press, 2020).

Research for this book was made possible by support from TBA21–Academy.

Solution 295–304: Mare Amoris
Ingo Niermann with Marah J. Hardt
and Eduardo Navarro

ISBN 978-3-95679-522-0

Series editor: Ingo Niermann
Managing editor: Max Bach
Proofreading: Raphael Wolf

Design: Zak Group

Printed by BUD Potsdam

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Distributed by The MIT Press, Art Data,
and Les presses du réel

Sternberg Press
Caroline Schneider
Karl-Marx-Allee 78
D-10243 Berlin
www.sternberg-press.com

SOLUTION 295-304

It was the concept of the ocean as a global commons—first formulated by Hugo Grotius in his 1609 treatise *Mare Liberum*—that stimulated the global free market. Today, both the free market and the ocean suffer from overexploitation. To transform the globe, we need to conceive of a new relation to the ocean. This book proposes practical, technological, and metaphysical scenarios for how to love the sea, and have the sea fall in love with us.

ISBN 978-3-956795-22-0

51795

9 783956 795220

$17.95
€15.00
$23.95 CAN