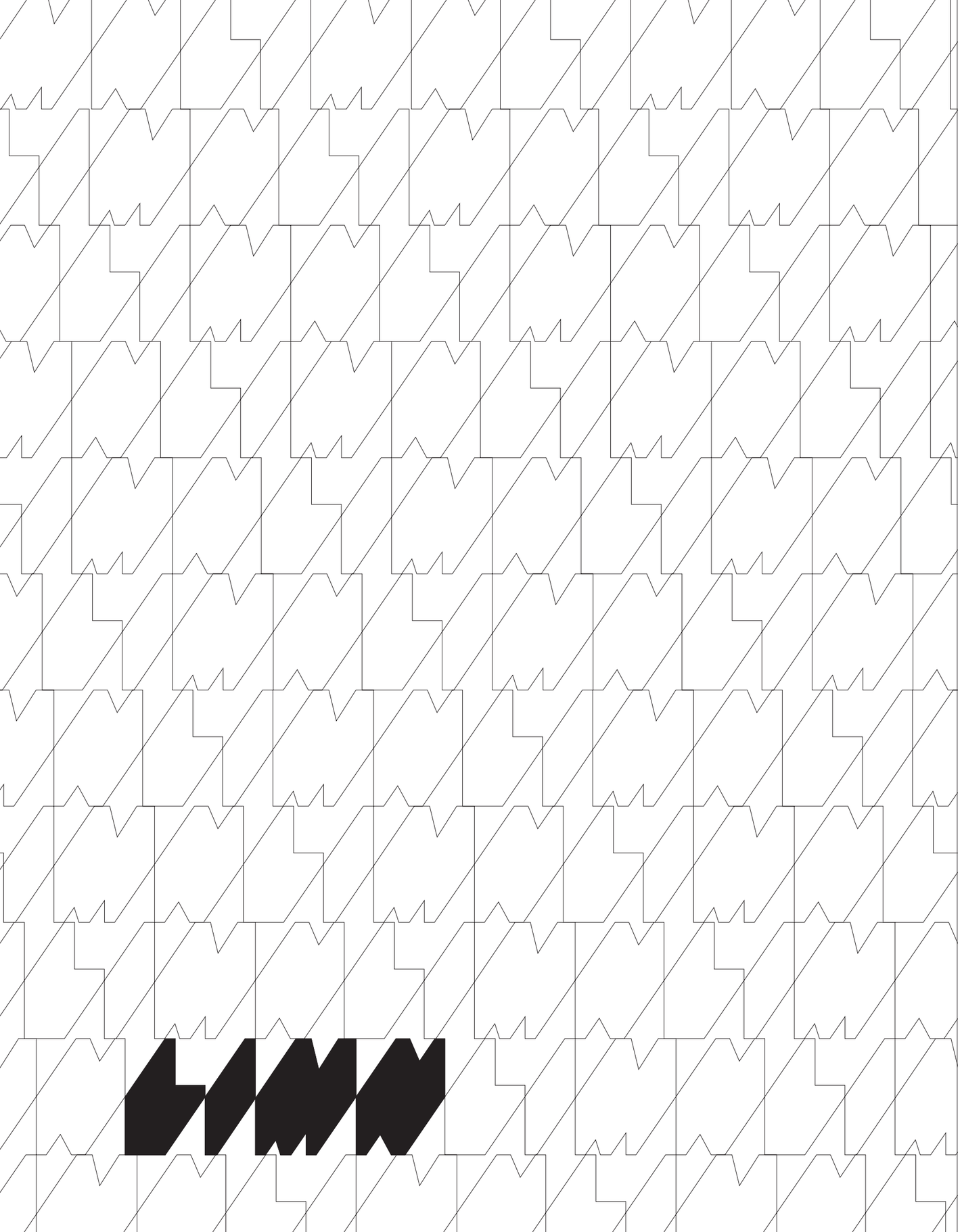




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Cover image:
SEASTATE 7: sandwich, 2015 by Charles Lim Yi Yong. Image courtesy of the artist.

p. 6

PREFACE: THE GREAT OFFSHORE

The offshore is capitalism's spatial logic

Michaela Büsse, May Ee Wong, Gökçe Günel, Jamie L. Jones

p. 10

A TIME ZONE THAT DOES NOT EXIST

The call center dislocates the worker

A. Aneesh

p. 16

FLUSHING THE SEA

Experiments in the Sewage System

Lisa Yin Han

p. 84

PRÓSPERA'S STACK

Choose your own regulation

Jessica Quinn Slattery

p. 94

THE BIRTH OF THE OFFSHORE

Avoiding double taxation in 19th-century Southern Africa

Simon Rakei

p. 100

DUTY-FREE ART

The *Limn* interview with novelist and art critic Ben Eastham

Gökçe Günel, Jamie L. Jones, May Ee Wong



p. 22

LA MER DEVIENT ROUGE
لبحر تولّي حمراء

Submerged images trace submerged stories

Sonia Levy

p. 36

AN OCEAN IN COMMON

The deep sea is up for grabs

Jonathan Galka

p. 106

THE FIRST CITY ON MARS

The desert is an otherworldly substitute

E.M. Elshaikh

p. 114

GEODIVERSITY

Echoes of colonialism in Cape Town

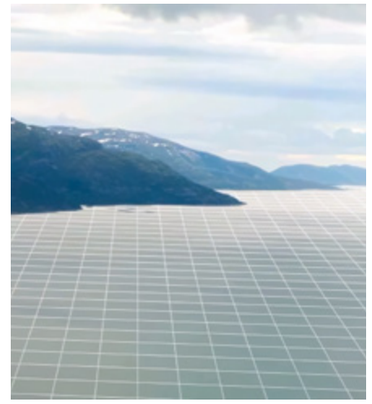
Andrea Pollio, Liza Rose Cirolia, Samuel Giraut

p. 122

ENERGIØ

Future-Proofing the North Sea

Michaela Büsse



p. 42

THE ISLAND PRISON

Twisting the law in the Everglades

Emma Shaw Crane

p. 50

CAN WE OFFSHORE JUSTICE?

The *Limn* interview with filmmaker Alex Rivera

Jamie L. Jones

p. 56

GAMING IN INFINITY

Easy money, global connection, a viable escape

Steffen Köhn, Nestor Siré

p. 140

MUTATIONS AT SEA

Artists imagine the synthetic offshore

Nancy Couling

p. 148

RACHEL CARSON'S EEL TANK

A journey from formless desire toward formless space

Harris Feinsod

p. 64

START-UP STATE

How to grow a country from scratch

Rebecca Uliasz

p. 72

THE DIGITAL NOMAD'S WHOLE EARTH CATALOG

Access to new tools

Héctor Beltrán, Rodolfo Sousa



p. 156

A REEF IN A BOX

Can we sense ocean acidification in a lab?

Damien Bright



p. 166

FOR ANDY LAKOFF (1970–2026)

Stephen J. Collier, Christopher M. Kelty



PREFACE: THE GREAT OFFSHORE

by Michaela Büsse, May Ee Wong, Gökçe Günel, Jamie L. Jones

Many of us imagine the offshore as an elsewhere: a tax haven on a tropical island, a seastead, a free port, a special economic zone, or a detention center that lies beyond national jurisdiction and safely out of sight. Such places appear remote, exceptional, and detached from ordinary life. Yet they are ubiquitous in the everyday of global existence. Somewhere, nowhere, and everywhere at once, the offshore is where competing actors negotiate the conditions for suspending rules and imagining alternative futures.

Every offshore formation simultaneously remakes what lies onshore. Offshore finance reshapes national tax regimes; offshore energy infrastructures redraw maritime jurisdictions; offshore call centers remake labor, language, and circadian rhythms. Each reorganizes the relationship between here and there, inside and outside, near and far.

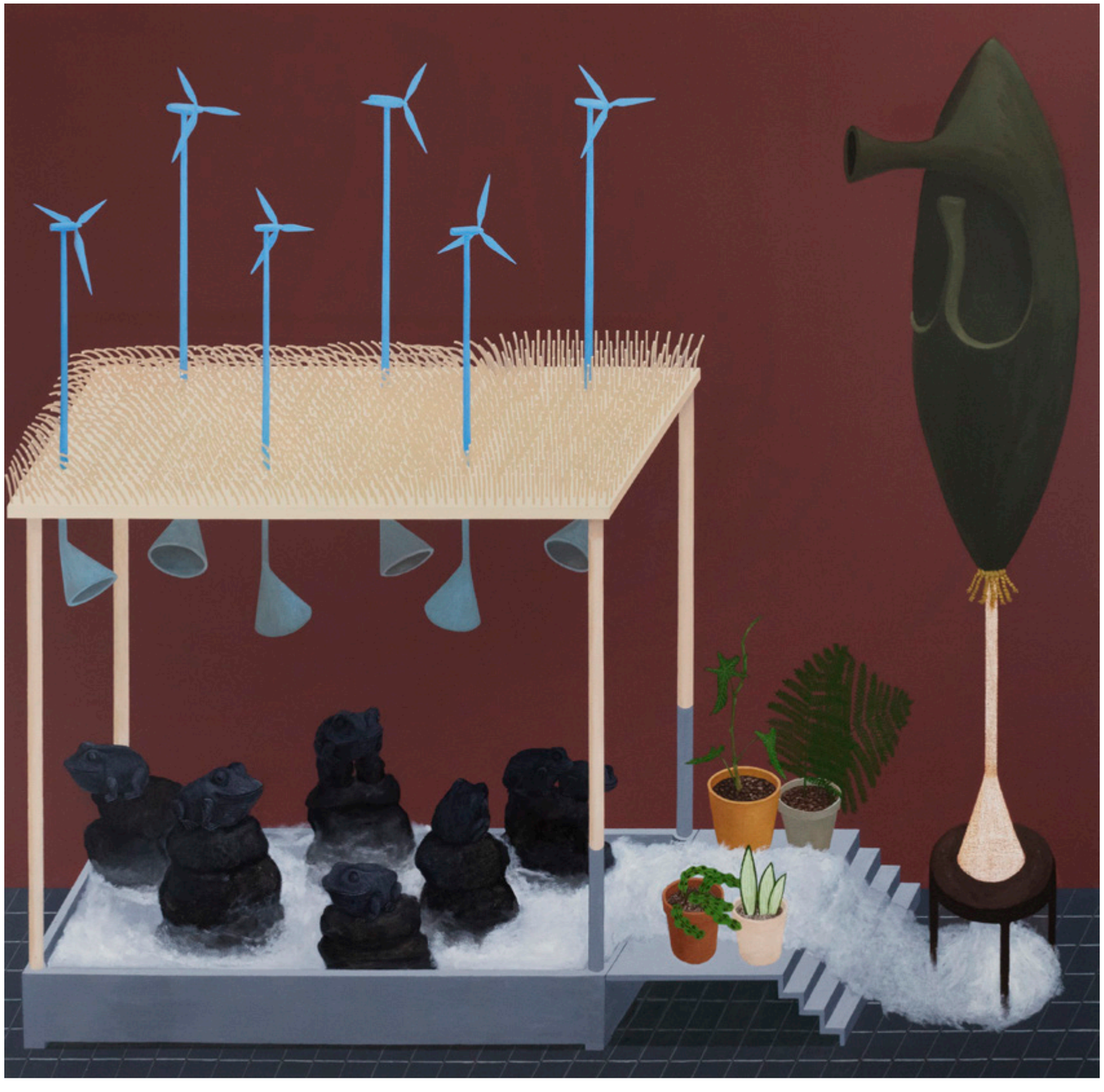
Instead of designating the offshore as a fixed location, *Limn 15* investigates the production of legal, territorial, and virtual spaces that evade regulatory limits, reorganize the circulation of capital, resources, labor, and data, and redistribute responsibility and accountability. The issue's contributors ask: What becomes visible if we understand the great offshore not as an exception but as a prevailing organizational logic? Where does the onshore end and the offshore begin? How is the distinction itself continuously produced, displaced, and dissolved?

Historically, the concept of the offshore emerged from British imperial disputes regarding overseas trade and strategic control over colonial territories. Offshore financial centers such as the Cayman Islands, Bermuda, and the British Virgin Islands institutionalized legal arrangements that allowed multinational corporations and wealthy individuals to circulate assets beyond the reach of national regulations.

Today, however, the offshore has expanded beyond finance. As contemporary societies confront climate change, geopolitical tension, resource scarcity, and accelerating digitalization, offshore formations proliferate in both number and scale. Gamer enclaves, digital nomad camps, and proposals for extraterrestrial settlement extend the offshore into new domains.

These offshore formations continually repurpose imperial infrastructures and territorial arrangements to create new geographies of accumulation, governance, and exclusion. They are simultaneously laboratories for technological and political experimentation, projects for the production of speculative value, and mechanisms for

The offshore is capitalism's spatial logic



Recalling the strange elsewheres of the offshore, Akira Ikezoe's *Not So Still Life* series imagines fantastical circulation systems where, as the artist writes, "both artificial and natural objects are organically related to one another and work together in a closed cycle."

displacing risks and responsibilities. Offshores promise openness while operating through enclosure. They cultivate transparency while relying on strategic ambiguity. They are distant—but they are rarely invisible, their operations unfolding in plain sight: bold promises, narratives of innovation and security, and the mundane infrastructures that quietly sustain global circulation. What they obscure are the legal, political, ecological, and colonial relations that enable their existence.

The offshore continually generates new extensions of itself. It is a metaphor for elsewhere that materializes again and again as a literal somewhere: a billionaire's floating enclave, or a data center, or a prison. Throughout the issue, we seek to pinpoint the offshore only to discover that its boundaries are unstable. All that persists is a set of relations that constantly dislocate the established distinctions between land and sea, state and market, visibility and concealment, reality and speculation.

Limn 15 maps these shifting contours by following the offshore across its diverse materializations. Rather than suggesting a single definition, the contributions examine how offshore formations span finance, infrastructure, ecology, law, media, and technology. Together, they ask: What does the offshore move away from, under whose authority, and with what consequences? How are uncertainty and risk redistributed through offshore arrangements? How do these formations reshape the boundaries of territory, governance, and responsibility?

The offshore is more than a hiding place, an extractive zone, or a palmy escape. In its ubiquity, perhaps the offshore is not elsewhere at all, but rather, as our dominant spatial logic, it is here. ◆

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p. 6 Photo by Plato Terentev on Pexels.
p. 8 Painting by Akira Ikezoe, *Not So Still Life VII*, 2022. Image courtesy of the artist.



A TIME ZONE THAT DOES NOT EXIST

The call center dislocates the worker

by A. Aneesh



A ghostly sky hangs over the city as workers head to their night shifts.

BY NIGHT, Gurgaon glows.

Once little more than an agrarian settlement on Delhi's fringe, Gurgaon—now officially Gurugram—was a place of tea stalls, tailors, and fields under Haryana's sunny skies. Since the turn of the millennium, however, its skyline has erupted into a forest of glass towers and gated enclaves, gleaming monuments to global aspiration. Inside many of these towers, the lights never go off.

At midnight, Gurgaon's international call centers hum with the energy of a place awake to someone else's day. Young Indians, fresh out of college and speaking into headsets, answer billing queries from Seattle or reset passwords for clients in Sheffield. They do this in English that has been carefully neutralized: accent scrubbed, cultural references learned, regional inflections softened. They lunch at midnight, sleep through the sun, and live a life inverted. This is not night work in the traditional sense. It is labor performed in a temporal elsewhere.

This is the offshore.

But not the offshore of shipping containers or palm-fringed tax havens. This is a deeper dislocation: of time, of voice, of self. Gurgaon's call centers expose the offshore not as geography, but as a condition. At its core lies a quiet, ongoing violence: the body forced into sync with foreign markets, the voice divorced from identity, the night reordered around someone else's morning.

In a country where most cities are repositories of deep history, Gurgaon is striking in its lack of one. Unlike Delhi, Varanasi, or Mumbai, it has no ancient temples, Mughal palaces, or colonial façades. It is less a city than a cluster of "functional nodes," built not for walking or public life but for transaction. Its identity isn't built on memory but on speculation, on what it might become.

Gurgaon's rise was underwritten by deregulated special economic zones, private developers, and global capital seeking service infrastructures. Office towers were built in anticipation of contracts not yet signed, tenants not yet arrived. The city was financed into the future before it was socially consolidated in the present. Rents can rise with distant service agreements denominated in dollars and pounds, and a slowdown in American consumer demand can quietly thin the night shift in the Udyog Vihar industrial district. Value is projected elsewhere, realized here, and accounted for elsewhere again.

The agents who populate Gurgaon's call centers rarely see this architecture of capital directly. They encounter it instead as targets, incentives, and performance dashboards that translate global expectations into nightly discipline. Sales that fail to count toward incentives, bonuses that fluctuate without explanation, evaluations conducted through opaque software systems: these are the everyday textures of financial abstraction. The offshore thrives on partial visibility: enough transparency to coordinate action, enough obscurity to diffuse responsibility.

At GoCom—a pseudonym for one call center—the cafeteria bustles at midnight. Steel trays clatter as agents queue for daal and rice. Downstairs in basement training rooms, new recruits rehearse accents, memorize laws, and study maps of states they will never see. Upstairs on the "floor"—the sacred space of live calls—they speak to customers they will never meet in cities they may never visit.

Most employees are migrants—from Kerala, Bihar, Bengal, Uttar Pradesh—drawn by the promise of English-language jobs and modern anonymity. They live in shared apartments, their social rhythms frayed by night shifts. One worker described himself as a "walking ghost," visible to no one, moving through the city while it sleeps.

While workflows move smoothly between continents, the human body does not. Delta sleep is interrupted. Digestion is inverted. Circadian rhythms are thrown into disarray. This is not just fatigue. It is bioshock, an internal offshore. The body itself becomes a contested site, caught between local biology and global demand.

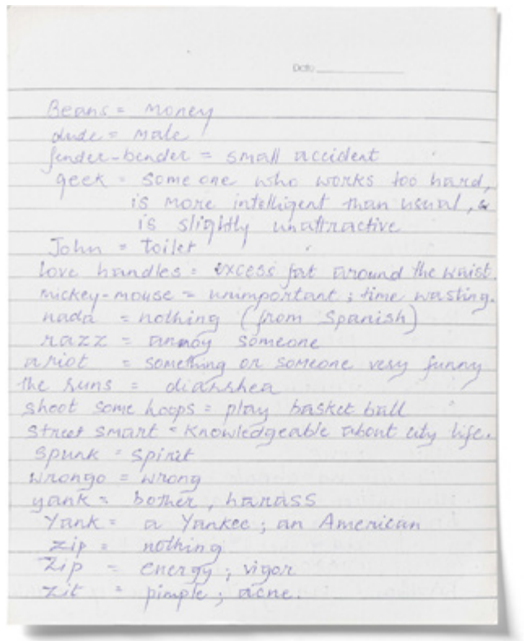
Jet lag presumes eventual return; this condition does not. Eight hours remain eight hours, yet their placement fractures social life. Breakfast becomes dinner. Weddings are missed. Conversations with friends are postponed because one or the other is asleep. This conflict is not over the length of the workday but over its position in the cycle of light and dark.

Strikingly, there is no shared vocabulary for this strain. Fatigue is individualized; irritability privatized. One agent becomes a ghost, another postpones marriage, another recalculates incentives that never quite align with expectation. These are not dramatic protests but quiet recalibrations. The system functions precisely because the dissonance remains dispersed: economic gain here, social thinning there, biological disruption elsewhere, never converging into a single political claim. The offshore reorganizes not only labor but the grammar through which grievance can be spoken.

The offshore is also a reconfiguration of voice. In training rooms, young Indians learn to speak English in what is called a "neutral accent." Neither British nor American, the accent does more than smooth pronunciation; it engineers a communicative zone stripped of locality and engineered to reduce friction. The voice becomes software: installed, debugged, upgraded.

Yet the erasure is never complete. The neutral accent still carries traces—of Hindi, Malayalam, Bhojpuri. However fluid the intonation, the voice on the other end senses something askew. The customer knows the agent is not

Training the voice, syllable by syllable.





An office building awake to someone else's day.

from Kansas. And the agent knows that the customer knows. This double awareness—the performance of fluency under suspicion—is the emotional architecture of the offshore call.

It does not stop at accent. Agents adopt pseudonyms—Jessica, Mark, Ashley—names that fit seamlessly into American expectations. And agents simulate empathy: "I'm sorry to hear that, Mr. Anderson." It is a script, not a sentiment. The agent knows it. The customer can only hope it is real.

But the call is structured by databases, scripts, and pacing software. Agents speak to profiles as much as to persons. Customer histories, compliance categories, and credit scores circulate more fluidly than bodies ever could. And there is authority embedded in this infrastructure: in metrics, algorithms, and contractual obligations stretching across jurisdictions. Accountability, when something goes wrong, follows the same diffuse path. The offshore is not lawless; it is plurally regulated.

What happens when your name, your voice, your sleep—even your mealtimes—are governed by a foreign jurisdiction?

Mukul moved from Kerala not only for work but to escape family pressure to marry. The anonymity of night gave him space. In return, it took structure, companionship, belonging. His girlfriend moved away. His job, though well-paying by local standards, offered little recognition. He was alone in a city built for someone else. Absent during the day, hidden at night behind

pseudonyms and scripts. Present only through a headset, a voice without a body.

This story is not unique to Gurgaon. It is part of a broader condition: the global disarticulation of labor from geography. Once, "offshoring" meant relocating factories. Now it also means crossing hemispheres in time while remaining in place.

Gurgaon is the offshore's ideal vessel: no historical anchors, only glass towers, fiber-optic cables, and air-conditioned control rooms. A city built for elsewhere. Labor becomes abstracted from place, body, self. The voice that answers your complaint floats in the circuitry of global capital, spoken by someone trained to disappear.

What might resistance look like?

Not necessarily strikes. This offshore is too diffuse. Perhaps smaller recalibrations: recognizing night work as a health issue and regulating it. Restoring some balance between economic labor and bodily time. Questioning the tyranny of neutrality.

This is not a call to halt globalization. It is a call to notice its incoherences, its demand for connection that fragments the human. The call center does not fail because it doesn't work. It fails because it works too well, smoothing over cultural distance at the cost of those who live it.

Already, however, the system is shifting. The voice from elsewhere will soon be synthetic, calibrated in data centers rather than in training rooms, as artificial intelligence stands ready to answer midnight calls. Machines are neither diurnal nor nocturnal. They do not tire. They do not resent. They simulate empathy with mathematical precision. AI requires no circadian adjustment, and no pseudonyms. The temporal dislocation remains, but the organism experiencing it disappears. AI does not simply replace the agent; it radicalizes the offshore condition.

If Gurgaon's skyline was financed through the promise of cheaper voice, what happens when voice no longer needs a local body? The offshore has already aligned Indian nights with Western days. It may soon align data centers directly with consumers, bypassing the headset entirely.

The towers may continue to reflect the sun. But the labor that animated them may quietly recede. The offshore will not collapse; it will become more seamless. And in that transformation lies a final disquiet: a system perfected by removing human labor from its most fragile hinge—time.

If Gurgaon's skyline was financed through the promise of cheaper voice, what happens when voice no longer needs a local body?

And what, then, becomes of Gurgaon?

The city built as a relay node in global communication may still stand, but the voices may fall silent. The young men and women who once spoke from someone else's day may return to their own. The offshore may become seamless. And in that perfection, perhaps, nonhuman.

Until then, Gurgaon glows. ◆

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p.13 Photo by A. Aneesh.
p.14 Photograph by Parna Gohil on Pexels.



FLUSHING THE SEA

Experiments in the Sewage System

by Lisa Yin Han

GROWING UP AS A CHINESE AMERICAN child of immigrants, I visited my grandparents in China from time to time. I turned up my nose at the toilets there—the ones that didn't flush properly, the ones you had to squat over, and the thick, un-flushable stacks of toilet paper that came in square packs instead of rolls. But, each time I went back, the toilets changed. In 2025, I visited Qingdao, a coastal city in Shandong Province, my ancestral homeland. There, I learned of a new kind of toilet that works by flushing with seawater.

Incorporating seawater into urban water infrastructure has been a perennially intriguing prospect, promising freshwater conservation against the increasingly water-insecure backdrop of growing urban populations, drought, resource depletion, and climate crisis. Such threats to the freshwater supply are driving researchers to consider appropriating seawater for household toilets in coastal cities. In these initiatives, seawater is recast as "living water," conscripting it into a speculative vision of sustainability, efficiency, and resource security—all while domesticating the sea.

The Eco-Ethics of the Flush

There's a strange coherence in the idea that the ocean could be put to work in sewer systems. For much of our history, Western nations have related to the ocean as if it were a sink, or a massive *Cloaca Maxima*—a place to dump toxic waste, bodies, nuclear bombs, and all manner of undesirable things. What are the consequences of giving seawater this remedial edit? Do seawater toilet flushing systems disrupt or exacerbate existing imaginaries of the sea as a space for waste?

As the great offshore is brought indoors, the gesture of the toilet flush becomes a window into a particular kind of environmental relationality. In drought-prone Western states in the US, toilet flushing habits serve as meaningful signifiers of individual environmental awareness. I think back to my childhood in Colorado, when "water-smartness" was promoted through the normalization of measures like "letting the yellow mellow" in toilets. Flushing toilets are generally estimated to account for some 30 percent or more of domestic wastewater, but even as the flush has become a symbol of environmental recklessness, it endures. Composting toilets are routinely offered up, but social stigmas linger, and flushing remains a performance of hygiene attached to class politics, social hierarchies, and racialized identities.



An 1870 British model of the "Optimus" patented water closet, invented by Stevens Hellyer and made by Dent & Hellyer Limited.



America, a 2017 sculpture by Italian artist Maurizio Cattelan, is a fully functional 18-karat solid gold toilet originally created for the Guggenheim Museum in New York City, and later offered as a loan to President Donald Trump.

The Flush of Civilization

Historian Christopher Otter traces the mutual histories of water closets and "fecophobia" in nineteenth-century Europe, explaining, "If waterborne systems are regarded as the most 'civilized' technology, other forms remain backward, fit only for those lacking Western sensibilities. The Global South thus forever fails to become 'truly' sanitary, its subject denied the cleanliness of the water-hungry west."[1] From the Western rebranding of Asian bidets as "smart toilets" to widespread rumors about Donald Trump supposedly owning an opulent gold toilet, flushing toilets continue to be a symbol of luxury in both the East and the West. To flush is to waste, and wasting is a form of privilege.



Qingdao's Little Fish Mountain offers a view of historical German colonial architecture, distinguished by its red roofs.

These associations help contextualize the research and implementation of seawater toilet flushing (SWTF) systems in the Asia-Pacific. Qingdao is not the first in the region to explore this option. Hong Kong is considered the global innovator in terrestrial seawater toilets; they developed an SWTF system as early as 1958, which currently serves up to 80 percent of the city's population.[2] Other cities that have implemented this practice include Singapore and Tokyo—some of the most cosmopolitan cities in the region.

And although the emergence of coastal SWTF systems is concentrated in Asia, seawater toilets were already in use on ships in the early 1900s, including on the infamous *RMS Titanic*—a mythological symbol to the US and Europe of wealth, class, and hubris. Much later, flushing toilets that use reclaimed gray water (domestic wastewater from sinks, showers, and other streams, excluding toilet water, which is referred to as black water) gained some traction in US states like California, but only since the 1990s.

Qingdao was a German colony from 1897 to 1914, and it retains remnants of Western cultural influence through its status as a special economic zone, which orients the city toward foreign business investments. You can still see the social stratifications from the colonial era in the walled-off German settlements, and in the peripheral ghettos where Chinese servants lived. This legacy links longstanding Western colonial ideologies, which denigrate "Orientals" as dirty, to the push for waterborne flushing

1 Christopher Otter, "The Sensory Anthropocene: Disgust, Ecological Sanitation, and Planetary Ecologies," *Environmental Humanities* 17, no. 1 (2025), https://doi.org/10.1215/22011919-11543463.

2 Xiaoming Liu et al., "Sustainable Application of a Novel Water Cycle Using Seawater for Toilet Flushing," *Engineering* 2, no. 4 (2016), https://doi.org/10.1016/J.ENG.2016.04.013.



For the port city of Qingdao, the sea is a key resource and a part of the city's cultural identity.

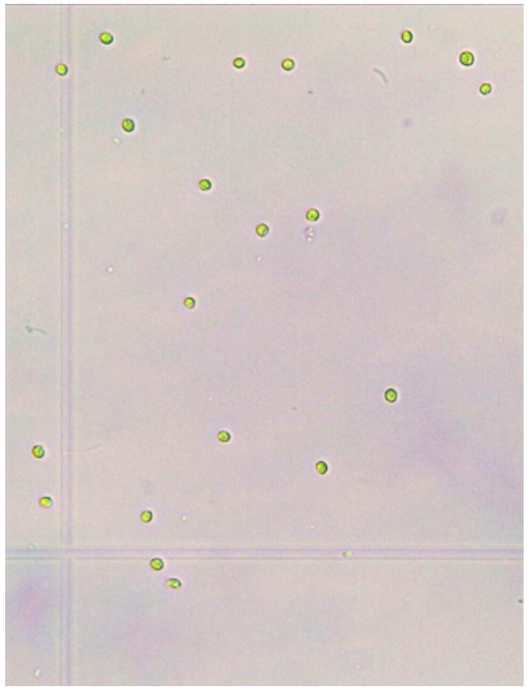
systems, which signify "development" as defined by Western sensibilities. It is worth noting that most public toilets I saw in Qingdao were Chinese-style squat toilets, while most middle-class and upper-class households had Western-style sit-down toilets. Toilets are a stage on which China performs its modernization in relation to the West.

Flushing the Sea

Despite the high-tech, "green" image of SWTF systems, the use of seawater for flushing is not yet widespread. There are numerous technical and ecological challenges. New infrastructure, built separately from freshwater plumbing systems, must be protected from corrosion due to salt. Seawater is also "living," containing the larvae of animals like shellfish, which are damaging to sewage systems if seawater is left untreated. Moreover, discharged seawater that is pumped back to the sea, left untreated, can cause eutrophication, the depletion of oxygen in bodies of water due to increased nutrient accumulation.

I first encountered seawater for toilet flushing at the Institute of Oceanology, Chinese Academy of Sciences in Qingdao. There, I met a researcher named Guangce Wang, an expert in experimental marine biology, who is studying the treatment of high-salt wastewater and the implementation of SWTF in Qingdao. Wang explained to me that his work is intended to create a circular economy: providing a safe, cost-effective treatment system would allow cities to reuse organic biomass from seawater for everything from fertilizer to medicine, and then to safely discharge the flushed wastewater. The key to this system is

To flush is to waste, and wasting is a form of privilege.



Chlorella sorokiniana cells under 400x magnification.



The Institute of Oceanology, Chinese Academy of Sciences has its own infrastructure for precision breeding of algae.

the development of what he calls a "bacterial/algal collaborative treatment system," a carefully coordinated dance between photosynthetic bacteria and microalgae: living workers applied at different stages of the water treatment process to augment the pH of the water, initiate fermentation, and remove nitrogen and phosphorus.

These tiny workers are no ordinary sea creatures—both the bacteria and the algae must be grown in a special pond and adapted to the extreme conditions of salty wastewater. To maximize the efficiency of pollutant removal, the bacteria are then altered using transposon mutagenesis and synthetic genomic engineering. *Chlorella sorokiniana*, a green microalgae cultivated by Wang to remove nitrogen and phosphorus, is not even derived from seawater; it is a freshwater strain that has been widely cultured since it was first discovered (and named) in 1951 by Dr. Constantine Sorokin at the University of Texas at Austin. Today, cultivation of *Chlorella sorokiniana* has proliferated, in part due to its rapid growth and its perceived value as a biofuel and dietary supplement.

In considering these living, microscopic workers, one wonders: What is the ontological status of seawater when it has been filtered, fermented, flushed, and processed by beings that are not of the sea? Does the scale at which we imagine seawater—an ocean, a household toilet, a test tube—matter? I must conclude that seawater is defined both by its material and its social composition, and that its meanings are variable across places and times, gathering force and identity like a current gathering minerals from stone.

Ultimately, seawater toilets are but a drop in the ocean when it comes to addressing so many offshore environmental crises looming around the globe. In places like Florida, the enmeshment between seawater and toilets is existential: sea-level rise threatens the functioning of home septic tanks, which can fail when contaminated water seeps into groundwater, bays, and rivers. Yet perhaps it is still worth entertaining what changing how we flush affords us. The flush contributes to the social construction of the sea and our relationships to it. Perhaps, deferring to diverse, decolonial perspectives, we might benefit from an overhaul of what it means to be unclean. ◆

LISA YIN HAN is an Assistant Professor of Media Studies at Pitzer College. She is the author of *Deepwater Alchemy: Extractive Mediation and the Taming of the Seafloor* (University of Minnesota Press, 2024).

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LA MER DEVIENT ROUGE
لبحر تولّي حمراء

by Sonia Levy

Submerged images trace submerged stories

IN MOHAMMED DIB'S NOVEL *Qui se souvient de la mer* (*Who Remembers the Sea*), set during the Algerian War without ever naming the conflict, colonial violence sinks into the sea, returning instead through altered atmospheres. Through the perspective of an unnamed narrator navigating an unnamed city, ordinary spaces become submerged worlds, and brutality surfaces not through transparency or testimony, but in fragments and dreamlike registers:

> I was dazed by the brightness of the light that I still carried inside me; I couldn't adjust to the sea depths of this room.[1]

The Gulf of Gabès in southern Tunisia, the focus of this work, likewise bears the legacies of imperial, postcolonial, and neocolonial violence. It used to be among the Mediterranean's richest nurseries, where oasis met sea, sustaining extensive seagrass meadows and abundant life. Since the 1970s, the gulf has been profoundly transformed by the establishment of the state-owned Groupe Chimique Tunisien. In a vast industrial facility, phosphate rock mined inland is processed into fertilizer, feeding Europe's industrial agriculture and releasing radioactive waste into the sea. Fisherfolk now describe waters that have turned red after decades of toxic discharge.

Research videos shared with me during my fieldwork document the remnants of the Gulf's seagrass meadows. In one, a submerged camera descends through blue-green water before settling on graceful seagrasses swaying in the current. In another, the descent shifts from blue to yellow to red before fading into darkness: no seabed, no image. The camera did not fail; the sea had become completely dark.

From within these altered atmospheres, I present the following series of still images and soundtrack visualizations from a film in progress.

Here, the sea is encountered through obscuration. One of the subaqueous inhabitants of the gulf is the cuttlefish, or locally *soubia* (سوبيا)—a name that evokes sepia, the cephalopod's dark ink, which it expels as a dense cloud to veil itself from the sight of its pursuers. Across the soubia's epidermis, chromatophores contract and expand, pulsing through reds, golds, browns, and blacks in continuous acts of signaling. One may recall the "dream-enacting behaviors" observed by scientists in sleeping cuttlefish, when oneiric states ripple into visibility.[2] Yet, what might these creatures dream in waters turned to nightmare?

1 Mohammed Dib, *Who Remembers the Sea*, translated by Louis Tremaine (Three Continents Press, 1985), 17.

2 Filipa Ramos, "The Abyss They Call Home: On Sonia Levy's *We Marry You O Sea*," in *Wet Matters*, YAZ Publication Series, curated by Merve Yücel and edited by Zeynep Öz (Sharjah Art Foundation, 2024), and Joseph E. Malinowski, David Scheel, and Michael McCloskey, "Do Animals Dream?," *Consciousness and Cognition* 95 (2021): 103214.

3 In the "funerary or necro-hydrologies" of visual cultures scholar Ifor Duncan, watery sites marked by dispossession and posthumous remains insist on the ethical limits of representation itself. Ifor Duncan, "Hydrology of the Powerless" (PhD diss., Goldsmiths, University of London, 2019).

These are waters darkened by many stories.[3] The central Mediterranean is also shaped by European border policies. Fisherfolk from Gabès encounter abandoned boats and traces of the drowned; at times, they too attempt the crossing to Europe, as their livelihoods become increasingly untenable by what they call *el-bahr mrīd* (البحر مريض)—a sick sea.

Alongside these images, blue spectrograms—visual renderings of the frequency spectrum in underwater sound recordings—translate the voice of artist Bint Mbareh into visual form. Her submerged elegy, captured by hydrophones plunged into the Mediterranean and altered by water, is threaded with the crackle of marine life. The voice appears as wavering lines, representing a lament borne by the sea.

In recent years, environmental protest in Gabès has faced increased criminalization, with anti-pollution organizers subject to arrest, detention, and prosecution. In a context of intensifying authoritarianism and expanding extractivism, how might we attend to what cannot safely or adequately be made visible?

What follows offers neither evidence nor explanation. Instead, it assembles reverberations: submerged stories and mournings carried by a sea that remembers otherwise. ◆

What follows offers neither evidence nor explanation. Instead, it assembles reverberations.

SONIA LEVY is an artist-filmmaker of Amazigh Moroccan and Polish background whose research-led practice explores submerged ecologies and the entanglements of power, knowledge, and environmental transformation through site-specific and interdisciplinary work.

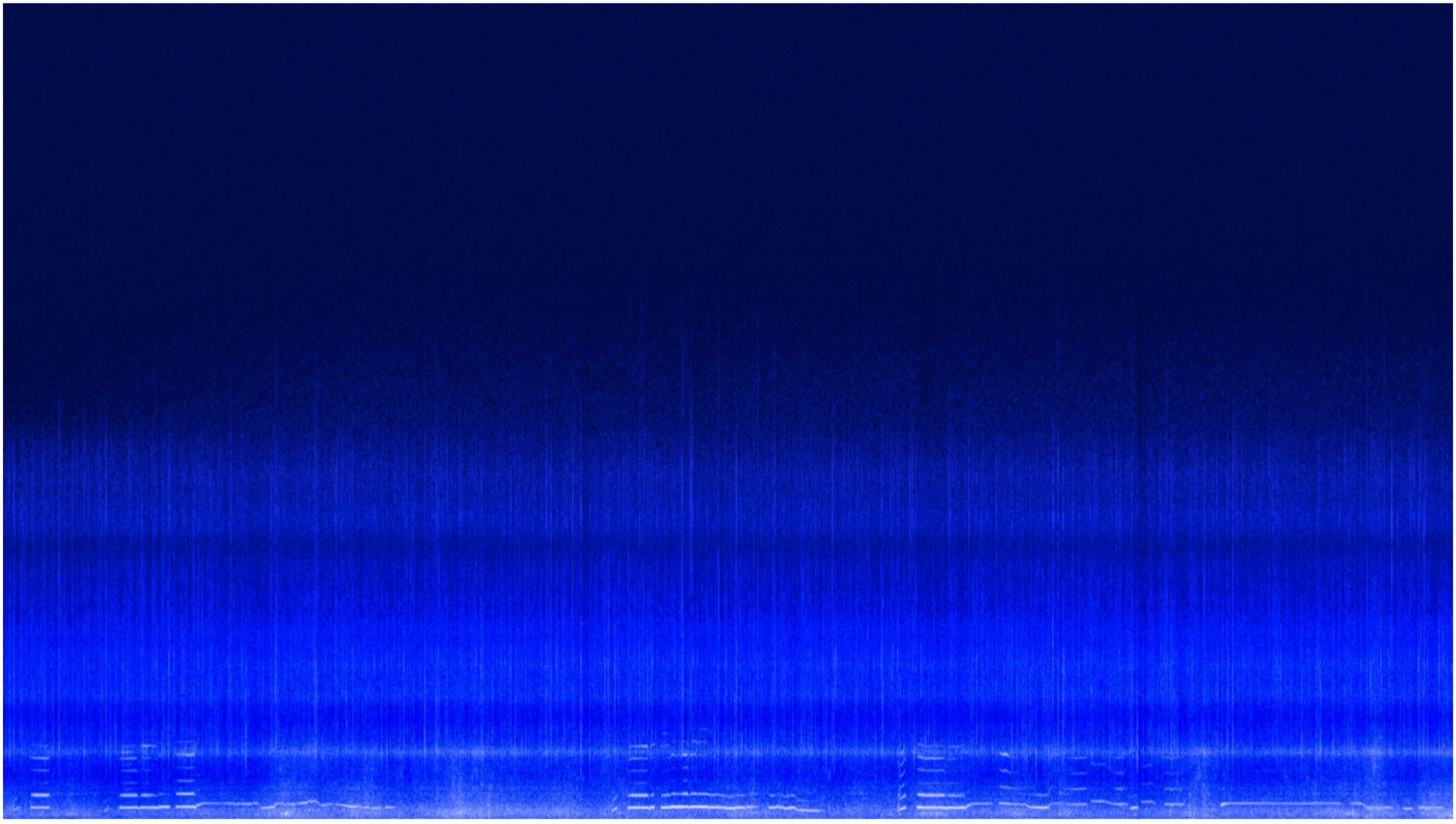
The author is grateful to Sassi Aalya (President of the Ghannouch Small-Scale Fishers' Development Group, GDA) and Naoufel Hammouda (Association for the Protection of Wetlands in Southern Tunisia), as well as Amjed Khiareddine (Association Notre Grand Bleu), Cyrine Ghrissi, Farrah Harrazi, Taha Bennasr, Julie Chenot, Zoé Le Voyer, and Bint Mbareh for their guidance, support, and collaboration.

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p. 22–35 All images by Sonia Levy.


كيفاش كانت البحر اليوم؟
Comment était la mer aujourd’hui ?






البحر تولّي حمراء.
la mer devient rouge.

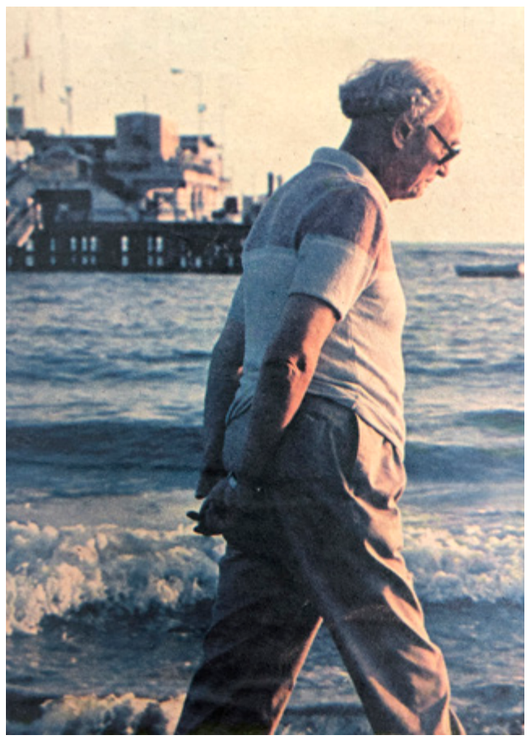




AN OCEAN IN COMMON

The deep sea is up for grabs

by Jonathan Galka



A retired Arvid Pardo walks the beach in Santa Monica and explains his fears about technological change outrunning the pace of ocean governance for a 1981 article titled “Sunken Treasure: A Race for the Riches Under the Sea Could Lead to World War III.”

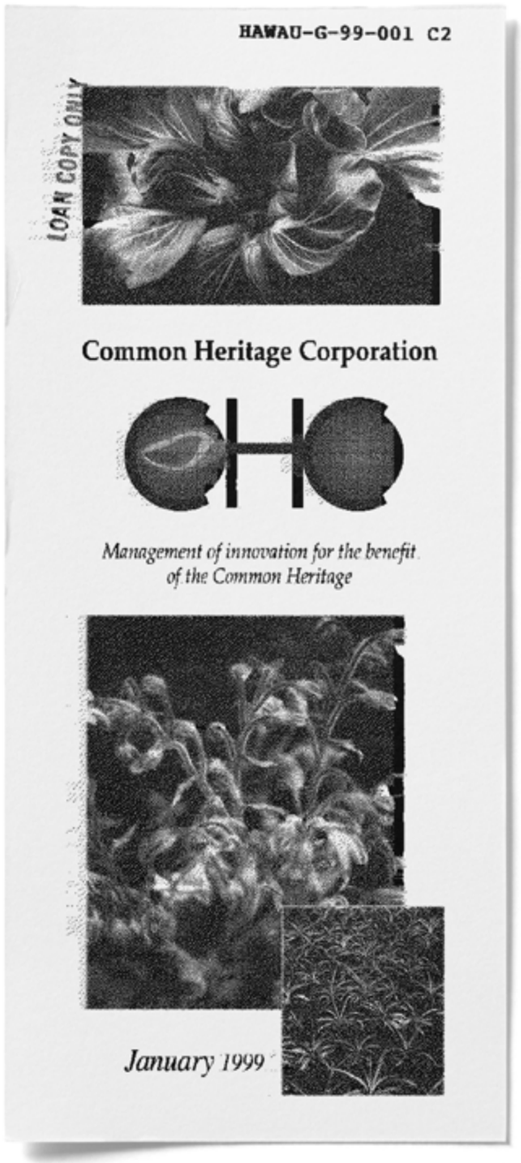
IS THE OPEN OCEAN A COMMONS? As governments and private companies discuss plans to extract deep-sea resources deemed critical to renewable energy technology, the question has become ever more urgent. The legality of such projects is hotly contested, and much of the disagreement implicitly turns on a fundamental uncertainty about the meaning of an ocean commons.

Since the late 1960s, deep-sea minerals have promised more than just economic value. Their location beyond any national jurisdiction inspired visions of an international authority capable of managing resources on behalf of humanity as a whole. The International Seabed Authority, established in 1994 under the United Nations Convention on the Law of the Sea (UNCLOS) to govern the seabed and its resources, has more recently become the focal point of these debates. Activists criticize it for failing to realize the redistributive ambitions of the common heritage principle, while industry increasingly regards it as an obstacle to resource extraction. The one point of agreement is that existing regimes of ocean governance are not fit for purpose.

To understand this impasse, we need to consider the ideas and definitions on which it is founded. Bringing the offshore into the fold of global governance entails debates not only about the nature of the ocean but also about semantics. The UNCLOS has never settled the definition of the ocean commons, and despite its strategic invocation by both industrialists and anti-extractive activists, the commons remains fundamentally ambiguous. Today, the ocean commons conceptually anchors and justifies divergent goals. Ocean resources are scripted into multiple conceptions of common property, each advancing competing claims about how to share the sea.

In 1967, Arvid Pardo, the ambassador to the United Nations of the newly postcolonial state of Malta, portrayed the deep-sea floor and its mineral resources as the “common heritage of mankind” at the UN General Assembly. For Pardo, common property demanded shared management. An approach to an ocean commons grounded in such an understanding would enable redistributive economic justice by helping societies derive material wealth from seabed minerals, but, even more importantly, by managing ocean science and technology, which, left unchecked, threatened to widen global inequality.

In 1971, Pardo submitted a draft treaty to the UN in favor of establishing a strong institution that could equitably manage the ocean. His proposal entailed the mandatory transfer of technology and technical knowledge from developed countries to developing ones. For many, this vision is still what we mean by “the commons.” However,



A 1999 advertising pamphlet for John Craven’s Common Heritage Corporation.

Pardo’s plan never gained traction within the UNCLOS. While developed states, particularly the US, sought to maintain their capacity to innovate in ocean technologies independently, developing countries knew that without guaranteed equitable participation, the supposed commons would only perpetuate the political and economic status quo.

Pardo’s proposal anchored the idea of the commons within the redistributive potential of seabed mineral governance, but subsequent technological projects gave rise to markedly different understandings. Attention shifted beyond mineral extraction toward other oceanic resources, whose exploitation demanded new institutional and political imaginaries.

One example was ocean thermal energy conversion (OTEC), which harnesses energy by exploiting the temperature difference between warm surface waters and cold deep waters, particularly in tropical seas. By the early 1980s, multiple configurations of OTEC-based systems had demonstrated experimental production of energy, conditioned air, desalinated water, and aquacultural products, and had promised tropical coastal states a path toward development.

Where Pardo saw the ocean commons as a means for political communities to combat economic dependency and effect self-determination, naval engineer and maritime lawyer John Piña Craven advanced a conception of the Pacific as a web of material flows in need of optimization. His notion of the ocean commons was one of open access.[1] Craven suggested that states organize not along political lines but along functional economic ones, treating the oceans as geographies of resource extraction, processing, transport, and consumption. His goal was restricted to the optimal management of resource rights and rents, with scant attention paid to global inequality.

Craven had reason to be optimistic. After near-shore and land-based demonstrations of OTEC’s capabilities, supporters of the technology envisioned that oceanic grazing ships would roam the high seas to produce and store energy, while inducing artificial nutrient upwelling to stimulate fisheries.

Craven’s business venture, the Common Heritage Corporation, thus aimed to operationalize the ocean commons—“managing innovation for the benefit of the common heritage”—by privately profiting from oceanic common property in the form of ocean thermal energy, first in Hawai‘i, followed by Saipan of the Northern Mariana Islands, and then across the Pacific. He aimed to make the corporation a billion-dollar venture by the 2010s, using deep-sea water to provide premium produce, cold air, desalinated water, and electrical power to paying island customers. Although he invoked Pardo’s shared heritage ideal, in practice, Craven reinterpreted the language of common heritage through an open-access logic in which common resources became assets to be optimized and commercialized.

1 Bonnie J. McCay, “The Culture of the Commoners: Historical Observations on Old and New World Fisheries,” in *The Question of the Commons: The Culture and Ecology of Communal Resources*, ed. Bonnie J. McCay and James M. Acheson (University of Arizona Press, 1987).



The current OTEC demonstration plant at the Hawai‘i Ocean Science and Technology Park.

...contemporary discussions rarely interrogate what the ocean commons itself should mean, or who has the authority to define it.

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p.36 Photo by Jonathan Borba on Pexels.
p.38 Photo by *TODAY Magazine*.
p.39 Image by Common Heritage Corporation.
p.40 Photo by Jonathan Galka.

In the end, like OTEC in general, Craven's business never scaled up to the extent that he had hoped. The reasons were both technological and sociopolitical. For one, scaling OTEC beyond the size of a demonstration plant is extremely challenging. But more than that, Craven's plans failed in their ambit. Capitalizing on ongoing American Pacific colonialism to plan projects in places such as Saipan, Guam, and Hawai‘i , the corporation primarily marketed expensive modular structures to investors in the military and tourism sectors. Chasing high-cost infrastructural development projects that often failed to materialize, Craven neglected all the while to consider the potential benefit of OTEC-derived products and services for those most in need of reliable and independent access to fresh food, clean water, and stable power—Pacific islanders themselves.

Today, both deep-sea mining and OTEC are experiencing renewed interest, as components of the blue economy and as technological responses to climate change. Yet unlike the debates of the 1970s and 1980s, contemporary discussions rarely interrogate what the ocean commons itself should mean, or who has the authority to define it. This absence of conceptual debate allows industry, policymakers, and international institutions alike to invoke seemingly self-evident notions of the ocean commons while advancing fundamentally different political projects. The resulting semantic slippage enables extractive industries to appropriate the language of common heritage in order to commercialize marine environments and resources.

Rather than asking whether the ocean is a commons, this history suggests that we should ask which commons is being invoked, by whom, and to what ends. The history of ocean governance is not one of a stable legal principle gradually implemented, but one of competing political imaginaries attached to the same vocabulary. Deep-sea mining, OTEC, and other offshore ventures do not simply operate within established governance frameworks. They continually generate new arrangements through which understandings of the commons become thinkable and actionable.

The contemporary revival of the blue economy, therefore, reactivates unresolved disputes over the political meaning of the ocean itself. Unless competing conceptions of the commons are made explicit, the language of common heritage risks becoming detached from its redistributive ambitions, reduced instead to a rhetorical justification for new forms of enclosure.

The future of the ocean commons depends not just on defining the commons more precisely, but on recognizing that every technological proposal advances a political vision of what should be held in common, who should benefit, and how collective futures ought to be organized. ◆



THE ISLAND PRISON

Twisting the law in the Everglades

by Emma Shaw Crane

IN JUNE OF 2025, the state of Florida built a detention camp in the heart of the Everglades, on an abandoned airstrip thirty-seven miles west of Miami. The state commandeered this land using a 2023 state emergency order that allows the governor to suspend "any statute, rule, or order" seen as slowing the response to the so-called migration "emergency."[1] Construction of the camp was fast-tracked without environmental review: in just eight days, the Florida Division of Emergency Management filled in swampy wetlands in the federally protected Big Cypress National Preserve, put up massive soft-sided tents and chain-link cages, and installed industrial lighting and diesel generators.

The Everglades Detention Facility—also known cruelly and colloquially as "Alligator Alcatraz"—opened with the capacity to detain three thousand people and plans to expand to five thousand. Isolated and makeshift, confinement here was a form of torture: detained people were exposed to flooding, overflowing port-a-potties and waste buckets, maggot-infested food, mosquitoes, and extreme heat and cold. From the cages inside the tents, as one detained man told me, it was impossible to tell if it was day or night.

This swamp imitation of the original Alcatraz—the notorious island prison a mile offshore of San Francisco—was an attempt to create a terrestrial island, close enough to be a spectacle and far enough to disappear. It was a place where vicious fantasies of racist violence were made material and meme-able, part of a broader suite of Florida innovations in redirecting state and municipal resources to torture and terrorize US noncitizens.

It was a place where vicious fantasies of racist violence were made material and meme-able.

As a state facility that claimed to enforce federal immigration law, the Everglades Detention Facility relied upon what Thomas Kennedy of the Florida Immigrant Coalition called a "legal pretzel": the twisting and layering of state and federal authority. It was the strategic (if unsustainable) devolution of federal authority to the state that made "Alligator Alcatraz" possible, and this jurisdictional trick created a murky and proximate offshore prison. As Hannah Appel wrote in her 2019 book *The Licit Life of Capitalism*, in offshore spaces, "oversight, liabilities, and ties to terrestrial communities are intentionally stretched thin." Florida Governor Ron DeSantis summarized this particular island-making project simply: "Good luck getting to civilization."

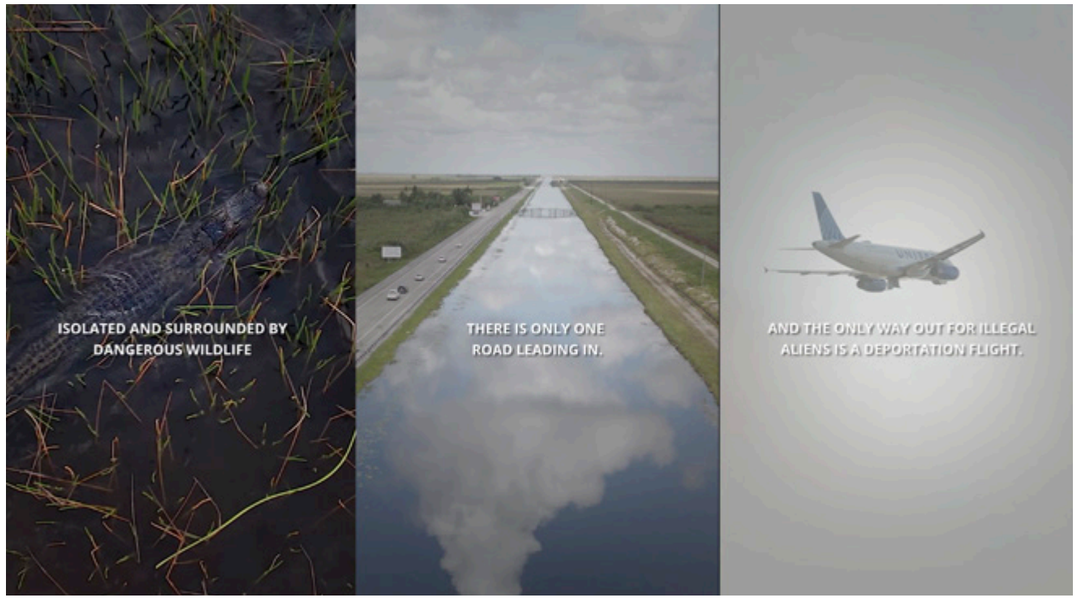
The primary mechanism for Florida's revanchist anti-migrant project is section 287(g) of the US Immigration and Nationality Act, which allows immigration enforcement—which is federal in the US—to be delegated to state and local law enforcement. During my fieldwork in South Florida in 2018 and 2019, 287(g) agreements were most often used to allow a jail or prison to hold an unauthorized migrant for an additional forty-eight hours beyond their normal release time, allowing Immigration and Customs Enforcement (ICE) time to take that person directly into their custody—a practice known as an "ICE hold." 287(g)s have since been widely expanded to deputize state and local law enforcement to act as federal immigration police, leading raids and making arrests solely on suspicion that a person is unauthorized.

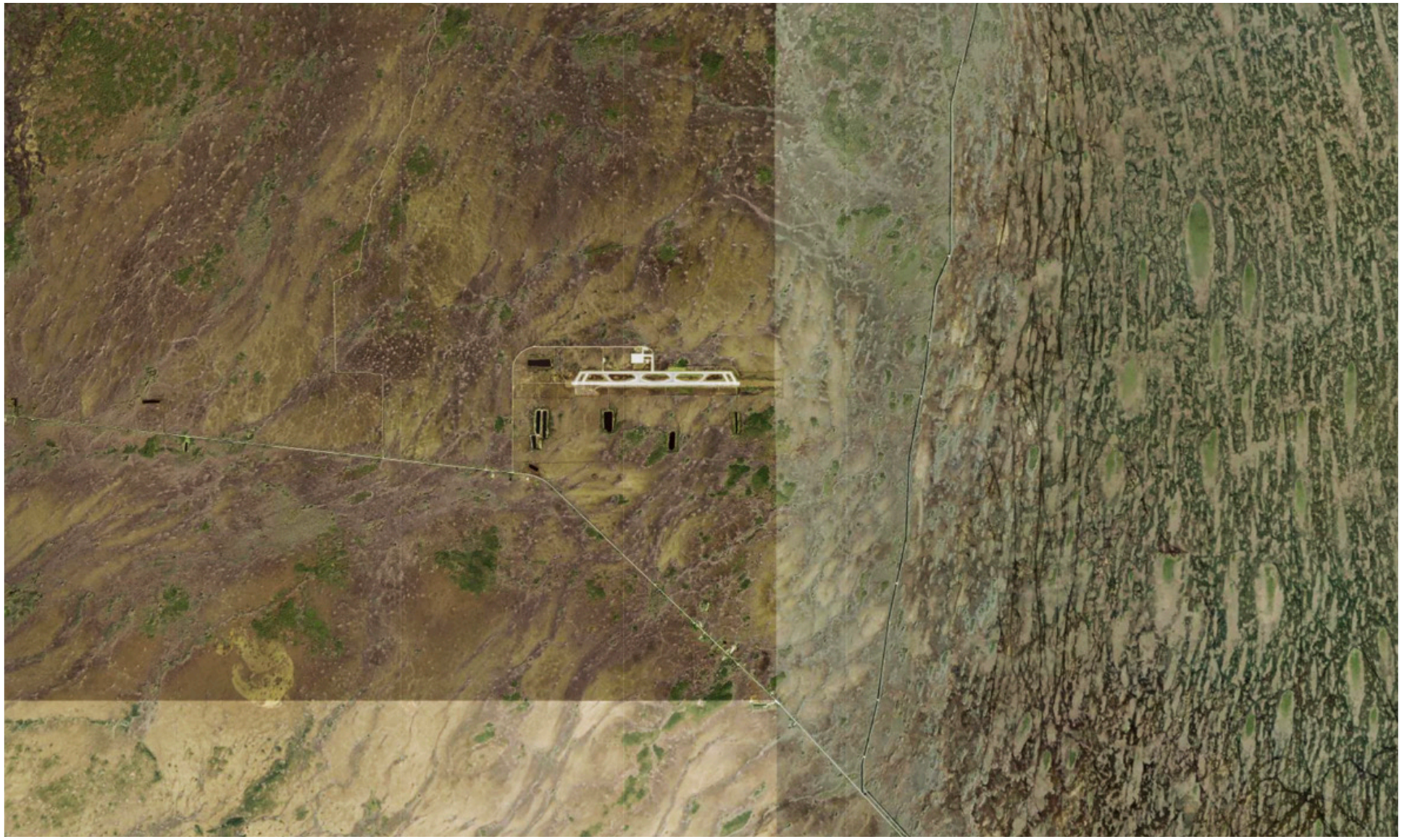
1 Florida Office of the Governor, Executive Order no. 23-03, *Emergency Management—Illegal Migration*, January 6, 2023, https://www.flgov.com/eog/sites/default/files/executive-orders/2024/EO-23-03-1.pdf, 4.

Aerial view of the Everglades Detention Facility.



Stills from a 2025 Department of Homeland Security video highlight the intentional isolation of the Everglades Detention Facility.







↑ Satellite view of the abandoned airstrip where the Everglades Detention Facility was built.

← The hasty construction of a prison camp threatened the sovereignty of the Miccosukee Tribe of Indians of Florida and the sensitive habitat of Florida panthers and bonneted bats.

In Florida, 287(g) agreements have been established with a staggering array of state agencies, including the Highway Patrol and the Department of Corrections, but also, less intuitively, the Fish and Wildlife Conservation Commission, the Division of Alcoholic Beverages and Tobacco, and the Florida Lottery. A 287(g) agreement transforms any encounter with law enforcement directly into the hungry mouth of the deportation pipeline.

The Everglades Detention Facility, as well as another state-run facility outside of Jacksonville dubbed the "Deportation Depot," are experiments in expanding 287(g) agreements even further, enabling long-term, state-led confinement. The state of Florida wagered that 287(g) agreements could allow the state to enforce federal immigration law, but without complying with the laws that govern federal detention facilities.

This strategic devolution of federal power is what allowed the hasty construction of a prison camp in the federally protected Everglades: as a state facility, authorities claimed that it could circumvent federal environmental law, which would have required a National Environmental Policy Act review to allow construction. The project threatened the sovereignty of the Miccosukee Tribe, for whom this land is home, and endangered the sensitive habitats of Florida panthers and bonneted bats. Federal legal authority was distributed downward to the state, but federal environmental regulation ostensibly did not accompany it.

This pattern was not limited to environmental law. People detained at the Everglades Detention Facility were purportedly held because they had violated federal immigration law, but they were being kept captive at a state facility. This allowed the state of Florida to, in effect, administratively disappear detained people. As Mark A. Hamburger, a lawyer in private practice who represented people at the facility, explained:

> We would file bond motions at the Krome Detention Center [an ICE facility on the western edge of Miami] and the Krome Immigration Court would say, "No, this isn't us." And then we would go back and ask, "Well, then who is it? Who has jurisdiction here?" I mean, literally, they would tell us, "We don't know yet," or, "We can't tell you."

Because of this confusion, people were held for weeks without being charged or given the opportunity to petition for release. Fernando, a Mexican man who lived in the US for twenty-one years, was arrested while driving in Homestead, Florida. He spent more than a hundred days in early 2026 at "Alligator Alcatraz." While detained, he did not once appear in ICE's online locator system. After weeks of daily searches with Fernando's frantic family, I spoke to an ICE call center operator, who insisted that he was not in custody and could not be in immigration detention. When I replied that he had just called from "Alligator Alcatraz," she told me to call the facility directly,



Interior of the Everglades Detention Facility in 2025. As an organizer with the Florida Immigrant Coalition put it, the facility is "administratively disappearing people."

but she did not have a phone number and suggested looking online (no such number exists).

A 2025 lawsuit filed by the American Civil Liberties Union described people detained at the Everglades Detention Facility as "effectively 'off the grid' of the immigration tracking system"—meaning that their attorneys and families did not know where they were or how to contact them. Advocate and organizer Thomas Kennedy explained:

> That created a lot of chaos in the community and just confusion because people legit thought that they were disappearing people, Pinochet-style, you know, like dropping them off helicopters into the Gulf of Mexico or something. They're not literally disappearing people. What they're doing is administratively disappearing people.

This haphazard bureaucratic offshoring also extended to how the camp was funded. Despite the state's contention that the detention center was a state facility, the state of Florida is in the process of being partially reimbursed by the federal government for the cost of the facility. In September 2025, Florida was awarded 608 million dollars from the Federal Emergency Management Agency's new Detention Support Grant Program. This covers roughly half of the 1.2 billion dollars that the state of Florida spent on the detention camp, which cost roughly 3,500 dollars per detained person per day.[2] These funds were primarily drawn from state emergency and disaster relief appropriations.[3]

2 Dave Elias, "Florida Taxpayers Spent $3,500 per Detainee Daily at Alligator Alcatraz," *Gulf Coast News*, July 1, 2026, https://www.gulfcoastnewsnow.com/article/alligator-alcatraz-tax-detain-florida-cost-us/71799433.

3 Earthjustice, "Florida Banked on $1.4 Billion in Federal Funds for Everglades Detention Center," March 3, 2026, https://earthjustice.org/press/2026/florida-banked-on-1-4-billion-in-federal-funds-for-everglades-detention-center.

The Trump administration hailed "Alligator Alcatraz" as a replicable model for the punishment of noncitizens, a novel spatial and juridical project that strategically layers state and federal authority. However, the detention facility was neither a coherent nor a sustainable legal project. In June of 2026, in the face of sustained protest and lawsuits that challenged the collapse of state and federal power, "Alligator Alcatraz" closed.

Despite the creative legal strategies that organized it, "Alligator Alcatraz" was unexceptional. The devolution of race management to the state level and the assertion of states' rights—to torture, to terrorize, to exclude, and to dispossess—have long been central to the maintenance of white supremacy in the United States. And, as the geographer Alison Mountz argues, migrant detention in the US has always relied upon the "creation and creative uses of islands."[4] A terrestrial island in the Everglades, "Alligator Alcatraz" was like other detention facilities: punishing, isolating, and environmentally and administratively remote—even though it can be reached in under an hour's drive from a major airport.

The legal ambiguities and open cruelty of "Alligator Alcatraz" invite us to consider domestic detention camps and jails within the US as nodes within a transnational archipelago of offshore confinement, which includes migrant detention camps at Guantánamo Bay and CECOT in El Salvador. These places were purpose-built to torture and terrorize those who have been rendered noncitizens. At "Alligator Alcatraz," authority was organized for maximum impunity: Florida attempted to onshore the offshore detention camp. ◆

4 Alison Mountz, "Mapping Remote Detention: Dis/location Through Isolation," in *Beyond Walls and Cages: Prisons, Borders, and Global Crisis*, ed. Jenna Loyd, Matt Mitchelson, and Andrew Burridge (University of Georgia Press, 2012), 92.



Entrance to the Everglades Detention Facility, known cruelly and colloquially as "Alligator Alcatraz."

EMMA SHAW CRANE is Assistant Professor of Anthropology at Stanford University. She is a scholar of war, race, and environment in the Americas.

p. 42 Photo courtesy of the U.S. National Park Service.
p. 43 Google Earth and Airbus, Maxar Technologies, 2026.
p. 44 Images by the Department of Homeland Security.
p. 45↑ Image from the South Florida Coastal Historical Aerial Photograph Archive.
p. 45↓ Photo by Emma Shaw Crane.
p. 46 Photo from Wikimedia Commons (CC0 1.0).
p. 47 Photo by Emma Shaw Crane.



CAN WE OFFSHORE JUSTICE?

The *Limn* interview with filmmaker Alex Rivera

by Jamie L. Jones



Director Alex Rivera's 2008 cyberpunk thriller *Sleep Dealer* imagines a dystopian technology for offshoring migrant labor.

ALEX RIVERA'S 2008 CYBERPUNK THRILLER Sleep Dealer *explores the dystopian fantasy of migrant labor without migrants. In the film, immigration between Mexico and the United States is illegal, so the US depends on laborers across the border who puppeteer robots by plugging into machines.*

The film's protagonist Memo is driven to a remote-control work camp in Tijuana after his father is killed in a US military drone strike—which Memo unintentionally witnesses on a grisly reality TV show. In Tijuana, Memo finds a back-alley biohacker to install sockets in his body, and he plugs glowing blue cables from remote-control machines into his arms for exhausting, dangerous, and mentally taxing work. In addition to exploring the violence of offshore labor, the film's gimlet eye also examines drone warfare and the dangers of bringing reality TV strategies to military action.

Rivera is still making films about migration, globalization, and technology, including The Infiltrators *(2019), a formally inventive docu-thriller that he made together with filmmaker Cristina Ibarra. The eponymous infiltrators of the film are activists who intentionally get themselves detained at the in-country offshore of a migrant detention center in Broward County, Florida. From the inside, they organize a hunger strike, bringing new attention and legal pressure to unjust immigration processes.*

Limn *sat down with Rivera to talk about labor, offshore dystopias and utopias, and AI, which appears in this conversation as the technology par excellence for offshoring labor.*[1]

1 This interview comprises edited excerpts from our conversation on November 10, 2025.

JAMIE JONES These days, are you still thinking about work without workers? If you were making *Sleep Dealer* today, what would be different?

ALEX RIVERA First off, *Sleep Dealer* was never intended to predict the future; it's not a crystal ball. It's meant to look at *now*, through a language that is mythical and poetic and visual: like the blue cables going into the body. These blue cables were the language of film and fantasy; when the film was being made, wi-fi existed, wireless connections, Bluetooth, all of this. So the film works in a language of fantasy and metaphor to reflect on current political and social questions.

The neo-fascist imagination of the moment is boundless; what would a boundless imagination of justice look like?

JAMIE What are you thinking about the North-South, colonial, and postcolonial politics of AI and labor right now?

ALEX I think we really would benefit from stopping society entirely for about a year to have a good think about all of this. Because I don't think this is a historic juncture that benefits from quick, gut reactions.

Obviously the specter of AI and autonomous robots poses myriad disturbing questions. There are frightening possibilities on the horizon. But I've been around and thinking about immigrant workers, and have had immigrant workers in my immediate family for my whole life. And I can't say that yesterday's world of labor is good. I never want to be in the position of arguing for the status quo, because the status quo is many forms of systematic violence. And so the prospect of a machine being able to

That being said, the fundamental guts of it are that capitalism is an amoral system that seeks to package and capture labor, and it will produce any form that allows it to achieve that. And for capital to accrue in the most dynamic ways, technology in that system plays an accelerant role, and technologies are developed in order to accelerate that capture and extraction. The film is a reflection of all that, and it postulates a future where workers will use their human energy in the Global South, and that will be captured in these networks and transmitted to the North, where the labor will be expressed through robots. The circuit that [the film] imagines, I think, has been very predictive of actual material changes in our world.

The part that I missed was the training of AI systems—the role living labor can serve when it is digitally encoded to train algorithms that can then, at one point, start to reproduce that labor. That was something I didn't see, and it's starting to happen right now.

Multiple companies have workers in the Global South who are puppeteering humanoid robots in the Global North, just like in *Sleep Dealer*. However, that remote control is now formed as a step toward training robots to eventually become autonomous. Their labor is, in a sense, being crystallized into a form where it can, at an inflection point, eventually be baked into an algorithm. The decisions that the worker makes—about how to fold a sheet, how to pick a ripe orange, or how to vacuum a couch—are being recorded and are intended to come alive in a future robot form.

The vision of labor being recorded, repetitively, so it reveals its underlying pattern, and can power truly autonomous laboring robots is the North Star for these capitalist enterprises. We're in a kind of interregnum right now, where all these robot companies are doing the *Sleep Dealer* thing. It's like, you get your couch vacuumed, your floor mopped, and your dishes washed. But the real purpose is to absorb that labor and crystallize it so that the machine then replaces its driver. And that's something I did not foresee that would have been a great third act for the film.

JAMIE Is there anything else that you're reading or seeing or hearing that you think is worth engaging as we think about this issue of the offshore? Could offshoring be connected to other, better technofutures?

do work that is toxic, painful, repetitive, or demeaning has to be—in our hearts and our minds—a good thing to some degree.

But there's a lack of social imagination and political vocabulary to describe how that phenomenon can actually produce social benefit rather than more people sleeping under bridges. Our focus has to be on developing imagination, vocabulary, and a set of demands, so that the possibilities of repetitive labor being crystallized in a machine's mind can somehow be a step in our liberation, justice, and equality. I don't want to ever be a person who's like, *no* to new technology, *yes* to our families picking lettuce out in the fields.

The question of robots, labor, and borders is fundamentally a political question, not a technological one.

ALEX I have the *Seasteading* book [by Joe Quirk and Patri Friedman] on my shelf here. When I read about these projects—these techno-libertarian moonshots—they're reaching for far-out possibilities. Things like autonomous nations, either on land or at sea, or fully new political jurisdictions. One of the darkest of these mind experiments was from Erik Prince—founder of Blackwater—advocating for the land under the CECOT prison in El Salvador to be given to the United States to make it essentially a protectorate. Then the US would lease the prison back to El Salvador to run it in a service relationship, allowing the United States to remand whoever they wanted to that Salvadoran prison because it would technically be on US land.

Whether it's thinking about building standalone neo-nations out in international waters, meaning seasteads, or moving the land under a prison from one country to another to enable rightless detention, all this stuff is disturbing and wild.

Yet I'm also a bit jealous of the audacity. I do feel, in a sense, inspired by all of that thinking to try to imagine: What kind of a map do the communities that care about justice want to see? What new political forms could we imagine? Can we offshore justice? Can we offshore equality? What's our transnational imagination of a just future? Instead of pushing for a higher minimum wage, or tightening emissions—what new political forms can we demand? The neo-fascist imagination of the moment is boundless; what would a boundless imagination of justice look like?

I don't have the answers, but I do want to engage with comrades and think about science fiction that can put some of that into the world. Science fiction has largely played the role of a warning sign or a critical form. How can it be a form that can tell fantastic, funny, wild, entertaining stories that also have utopian mappings or utopian dreamings? ◆

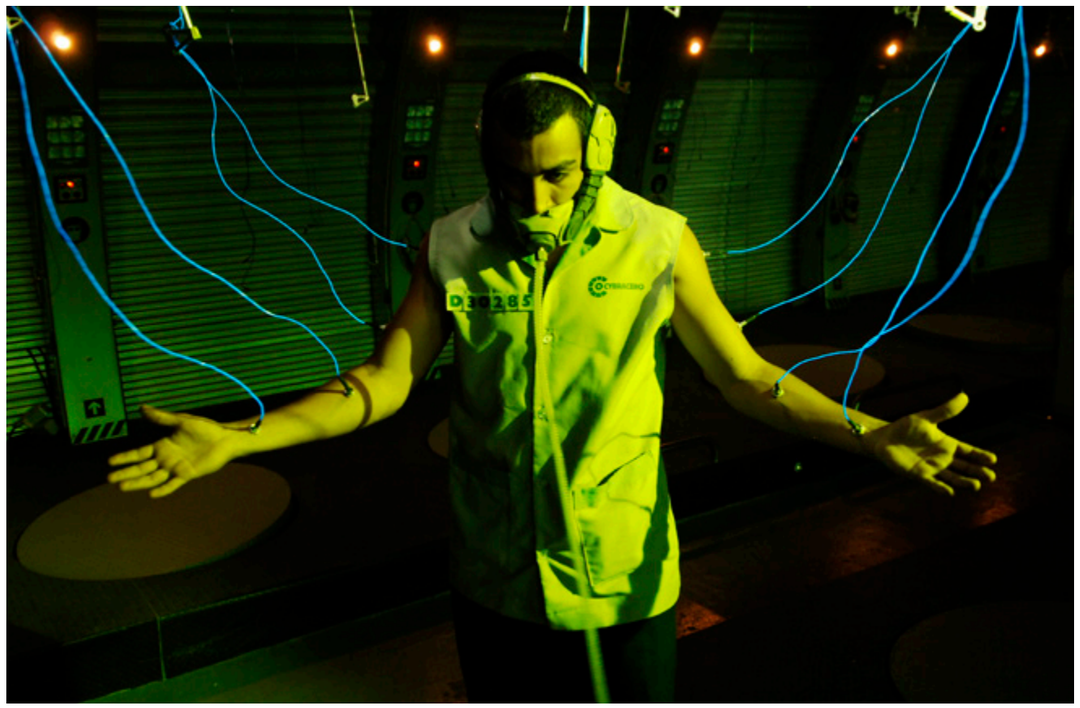
ALEX RIVERA makes films about globalization, migration, and technology. His award-winning features include *Sleep Dealer* (2008) and *The Infiltrators* (2019). He is a 2021 MacArthur Fellow and Sundance Fellow, and he was a Rothschild Lecturer at Harvard University.

p.50 Photo by Georgie Devlin on Pexels.
p.52 *Sleep Dealer* poster courtesy of Alex Rivera.
p.54 *Sleep Dealer* film still courtesy of Alex Rivera.
p.55 Sleep Dealer film still courtesy of Alex Rivera.

In *Sleep Dealer*, a character named Luz introduces protagonist Memo to a biohacker in Tijuana, who installs nodes on his body that allow him to plug into machines in remote-labor factories.



Sleep Dealer protagonist Memo works in a factory called a "sleep dealer"—so called because of its exhausting routine—where laborers in Tijuana remotely control construction robots over the border in the United States.



GAMING IN INFINITY

Easy money, global connection, a viable escape

by Steffen Köhn and Nestor Siré



↑ A family playing *Axie Infinity* on a home computer. As the economic crisis in Cuba deepened, the game's promise of easy money and global connection circulated through local networks.

→ A Plant-class Axie. Axies come in six classes: Beast, Plant, Bug, Aquatic, Bird, and Reptile. Plants have strong health-promoting and healing properties.

CLAUDIA SAT AT HER BOYFRIEND'S COMPUTER in Matanzas, the desk crowded with handwritten notes she had copied from various *Axie Infinity* guides: lists of card names, damage values, and team compositions, each translated into Spanish. She had never actually played the game. Yet she was taking a "scholarship exam" over Telegram, hoping to secure a borrowed team of cute Pokémon-resembling creatures—so-called Axies—so she could battle and trade these blockchain-based assets and start earning. An anonymous recruiter asked a series of technical questions: how to build a Plant tank, which cards counter a Beast combo, what to do if an opponent hoards energy. Claudia flipped through her notes, whispering the answers as if preparing for a school test.

She had already failed two previous exams. This time she tried to show discipline, attention, and reliability—qualities recruiters wanted to see in applicants they might entrust with expensive digital assets. If she succeeded, she would be granted access to a team she could not possibly afford otherwise; if she failed, she would join the long waiting list of Cubans seeking entry into the emergent play-to-earn economy.

In the early 2020s, *Axie Infinity*—a blockchain game developed by the Vietnamese company Sky Mavis but quickly backed by American venture capital—had become an unexpected economic lifeline for players across the Global South. During the height of the COVID-19 pandemic, it attracted millions of players, from the Philippines to Venezuela. Victories yielded cryptocurrency rewards that could be converted into real money. At its peak, a successful player in Cuba could earn more in a month than many state jobs paid in a year. For a moment, it seemed as though *Axie Infinity* had achieved what blockchain evangelists had long promised: a democratized, decentralized economy in which anyone with a smartphone and an internet connection could generate income.

The Scholarship Trap

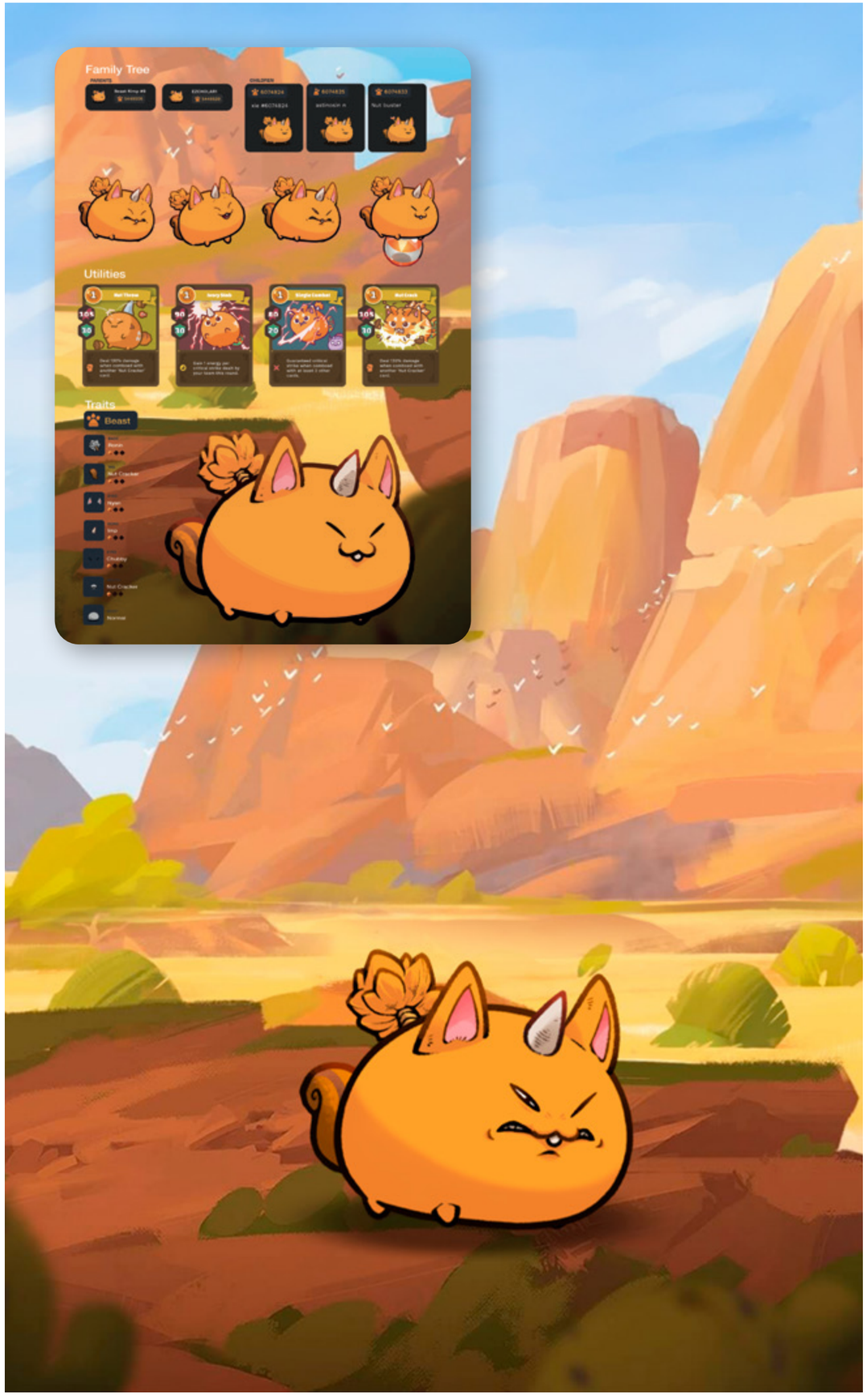
To understand the cryptic world of *Axie Infinity* and the experiences of players like Claudia, we began studying the play-to-earn economy in Cuba as part of a broader ethnographic research project on cryptocurrency use in informal economies. At first, we approached *Axie Infinity* simply as observers. But the longer we followed the game's Discord scholarship exams and Telegram exchange groups, the more entangled we became in the speculative world we were trying to document.

We learned that the first hurdle our interlocutors encountered was that participation required capital—something many players did not have. The game required at least three Axie characters to participate, each represented as an NFT (non-fungible token) on the blockchain. When prices peaked in mid-2021, the cheapest team of Axies cost around 1,000 US dollars. Therefore, a "scholarship" system emerged—and its origins reveal much about how *Axie Infinity* became an offshore economy of digital labor, speculative value, and infrastructural improvisation.

The scholarship model did not originate in Cuba. It began in the Philippines, where *Axie Infinity* experienced explosive early growth. Many Filipino players adopted the game during pandemic lockdowns, when widespread unemployment had left few alternatives. Early investors,



doi.org/10.70312/OFSF



Instead of surveillance, extraction, and moralistic discipline, the cooperative emphasized reciprocity, shared risk, and collective imagination. It used digital assets not for rent-seeking but for building relationships.

often located in wealthier regions, lent their Axies to players who could not afford to buy them, in exchange for a share—often the majority—of the player's earnings. What began as a workaround quickly evolved into a global system: guilds formed, applications proliferated, and standardized assessment practices emerged.

At first glance, the term "scholarship" evoked mentorship, education, and opportunity. In practice, it disguised exploitative relationships between distant investors and desperate players: a rent-seeking economy in which asset owners extracted value from players who had little choice but to accept unfavorable terms. Entry exams, like the one Claudia took, were introduced as a form of labor discipline—a way to vet potential workers at scale. And once accepted, scholars played under surveillance for hours daily, with owners tracking their performance and setting quotas. Earnings were split according to opaque agreements; failures were swiftly replaced by new recruits. The scholarship system turned *Axie Infinity* into an offshore labor market built on distributed assets and transnational asymmetries of wealth, regulation, and opportunity.

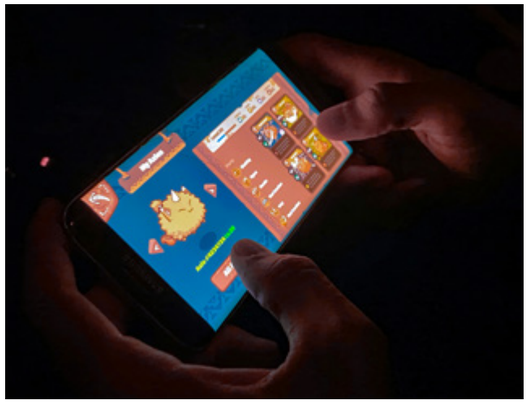
Playing Through Blackouts

In Cuba, these dynamics took on particular intensity. The country's economic crisis—aggravated by sanctions, declining tourism, and an ill-timed currency reform—had pushed many young people to look for income online. *Axie Infinity* circulated through local networks as a rumor of possibility: easy money, global connection, a viable escape. But the offshore nature of the game—its circulation across jurisdictions, infrastructures, and regulatory voids—quickly became apparent.

Cuban players thus faced constraints that few others did. US sanctions meant they could not use major centralized cryptocurrency exchanges like Binance or Coinbase to cash out their earnings. Instead, they relied on informal peer-to-peer markets on Telegram and WhatsApp, where local brokers mediated swaps between in-game tokens and dollar-pegged stablecoins like USDT. These exchanges functioned through fragile systems of trust, reputation, and improvised escrow services.

The stakes were real: because no bank or platform stood behind these swaps, whoever transferred funds first had little recourse if the other party simply disappeared—and stories of exactly that circulated constantly. To contain the risk, some groups would route both parties' money through a trusted administrator, who would release funds only once the trade had cleared. Others required traders to submit an ID photo, home address, and phone number, so that anyone caught defrauding a counterpart could have their details broadcast to the whole group.

And, once accepted into a scholarship arrangement, Cuban players entered a routine described by our interlocutors as monotonous, repetitive, and physically tiring. The emotional tenor of this labor was shaped by scarcity—of



↑ Power outages and unreliable mobile internet forced scholarship players to race against quotas before owners revoked their borrowed teams.

← A Beast-class Axie. Beasts favor raw damage. Players breed Axies to produce new, sellable NFTs.



↑ Players described daily quotas as monotonous and tiring, and the work was often spread across their households.

↓ A Bug-class Axie. Bugs weaken and disrupt opponents; like Beasts, they hold an advantage over Plants and Reptiles.

time, connectivity, stable electricity, and trust. During power outages, players raced to finish their daily quotas before their borrowed teams were revoked. Family members lent their phones so that two accounts could run concurrently, making the labor literally collective.

The instability of the game's economy intensified this precarity. Token values fluctuated wildly; some weeks' earnings were equivalent to several Cuban salaries, while other weeks they barely covered data costs.

The Axie Gamer Cooperative

Our research into Cuba's crypto ecosystem took an unusual turn when we decided to intervene in the informal economy we were studying. Inspired by the solidarity we observed among Cuban players—who shared strategy guides, warned each other about scams, and studied together for scholarship exams—we developed the Axie Gamer Cooperative, an experimental attempt to imagine an alternative to the extractive scholarship model.

Using research funds, we purchased a competitive Axie team and offered it to a skilled Cuban player under a cooperative agreement. Rather than a majority share for the owner, as was usually the case, the player received 60 percent of earnings and co-ownership of the team. The remaining 40 percent went into a shared fund with which we purchased a second team for another Cuban player. In this way, each successful player contributed to the onboarding of the next, creating a small cycle of redistribution and growth.

Communication with the players revolved around strategy, market timing, and the logistics of token conversion. The cooperative made decisions collectively: when to swap Axie's in-game cryptocurrency SLP for the stablecoin USDT, when to reinvest in breeding or upgrading, and how to navigate the island's fluctuating informal exchange rates. These discussions became a small forum for shared economic reasoning, grounded in the very conditions—scarcity, sanctions, volatility—that had shaped the local crypto ecosystem.

The cooperative did not radically transform the economy of *Axie Infinity*. But it did reveal that alternative relations could be built within its offshore infrastructures. Instead of surveillance, extraction, and moralistic discipline, the cooperative emphasized reciprocity, shared risk, and collective imagination. It used digital assets not for rent-seeking but for building relationships .

After the Crash

Axie Infinity's economy collapsed in March 2022 after the North Korean hacker team Lazarus drained over 600 million US dollars from the blockchain underpinning the game. The value of in-game currency plummeted, and most investors abandoned the game.

Yet our cooperative persisted for longer than most foreign-investor-run gaming guilds. Even when profits dwindled, the sense of shared ownership and experimentation remained. The Telegram group we had set up became a space for discussing other platforms, other opportunities, other ways of making do. The collapse, in this sense, revealed what the cooperative had been all along: not primarily an income stream, but a laboratory for rethinking relations within a digital offshore system.

The story of the Axie Gamer Cooperative is, in many ways, a story about the limits of technological utopianism. *Axie Infinity* promised decentralization and empowerment, but delivered hierarchy and dependence. The cooperative didn't reverse those dynamics, yet it carved out a space of experimentation and care within them. It demonstrated that even within extractive infrastructures, small acts of redistribution can have value.

In the end, our experiment offered a modest proposition. If offshores are places where value and accountability are displaced, they can also become sites where new forms of solidarity are rehearsed. On an island long cut off from global markets, we briefly turned a speculative game of borrowed assets into a commons. The earnings were small, the network fragile, but nobody played alone. ◆

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NESTOR SIRÉ is a Cuban multimedia artist who reflects on the relationship between technology and society through transdisciplinary research. He is currently an artist in residence at the Rijksakademie van beeldende kunsten in Amsterdam.

p.56 Still from *Axie Infinity*, 2024.
p.57 Photo by Nestor Siré.
p.59 Still from Axie Infinity, 2024.
p.60 Still from Axie Infinity, 2024.
p.61 Photo by Nestor Siré.
p.62↑ Photo by Nestor Siré.
p.62↓ Still from *Axie Infinity*, 2024.



START-UP STATE

How to grow a country from scratch

by Rebecca Uliasz

THERE ARE, according to venture capitalist and start-up guru Balaji Srinivasan, at least seven ways to start a country. In his self-published 2022 book *The Network State*, Srinivasan argues that the first three—election, revolution, war—are conventional, but not optimal, since the first requires preordained diplomatic recognition, while the second and third entail violent processes of transition.[1] Fourth are micro-nations: aspirational experiments in libertarian statecraft like New Atlantis and the Republic of Minerva. Five and six: sea space and outer space colonization. Both of these are now well established in the cultural imaginary thanks to Patri Friedman's Seasteading Institute and Elon Musk's SpaceX, each projecting its own *terra nullius* for the unencumbered expansion of frontiers.

Still, Srinivasan suggests, Friedman's and Musk's projects falter in a key aspect that his final option—the network state—overcomes. A network state stakes its sovereign claim in a shared *idea* rather than in the exercise of top-down control over a physical location or territory. Citizens of network states are maximally free: they willingly opt in to the network state, they self-organize around a shared value or hobby without the stain of coercion or constraint, and they are free to exit as they see fit.

The network state concept manifests in the form of global start-up society projects: from gated private communities run by foreign capital to temporary pop-up cities intended as labs for infrastructural experimentation. A nebulous betting exercise unifies these otherwise ideologically disparate entities. It presumes that if we let a million societies bloom, then we might find in one of them a good or popular answer to the question of what political form might replace the nation state.

These network state developments expand the very notion of the offshore, which is no longer strictly territorial, logistical, or even political. Here, the offshore is an apparatus through which particular forms of subjectivity are imagined, incubated, hyped, and displaced. In the network state, the unevenly distributed risks of digital capitalism are experienced as opportunities for personal development and future gains. Simultaneously, these risks degrade and devalue the material and social conditions of the present. The popularity of the network state idea among global tech communities is a vivid demonstration of how offshores render extreme precariousness and volatility as the basis for prospective accumulation and upward mobility.

1 Balaji Srinivasan, *The Network State*, (2022).



↑ The gated neighborhoods of the Forest City skyline as seen from the Marina Hotel.

↓ The Marina Hotel.

The Network School

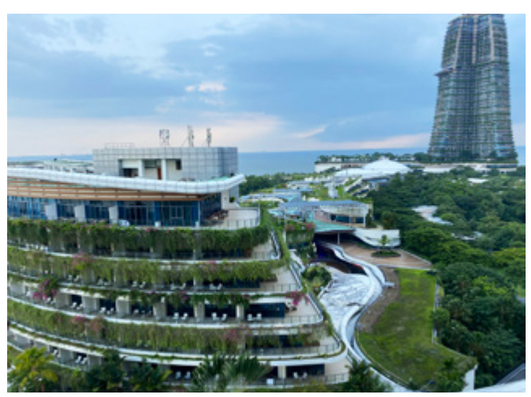
Srinivasan has built one such network state in the form of a live-in incubator for aspiring tech founders to network and share skills. Or, in the words of a coder I met there, a place for like-minded individuals to "lock in and level up." In 2024, Srinivasan opened the Network School with his partner Bryan Johnson (founder of the Don't Die movement, best known for his hyper-self-disciplined body longevity practices and Project Blueprint diet plan). The self-proclaimed "frontier community for techno-optimists" pitches a comprehensive offering for its intended audience on its website:

> Our members include remote workers, digital nomads, online creators, personal trainers, self-improvers, event organizers, and engineers of all stripes. You should apply if you want to build yourself up while also building a startup society that bootstraps other startup societies … Membership starts at $1500/month with roommates, and includes everything from meals to gym to accommodations. We think of it as society-as-a-service.[2]

The Network School is no conventional classroom or club or camp or workplace. It is both more encompassing and more abstract. The Network School promises to replace the social function of cities, universities, and communities for "high agency" individuals looking to engage in "daily self-improvement: learning skills, burning calories, and earning currency."[3]

Promotional videos made by participants display spectacular drone-shot footage of Forest City, the Malaysian real estate development ghost town where the Network School was previously situated. "I wake up each morning in a futuristic solar punk utopia," one member exclaims as they hold our gaze through the phone camera. A series of day-in-the-life Instagram posts show rituals and routines—6:45 a.m. get dressed, 7 a.m. burn, 8 a.m. breakfast, 9 a.m. earn … 5 p.m. sauna, 6 p.m. network, 7 p.m. afternoon run … reset and repeat. These snappily spliced reels are overlaid with text in bold white type like "THIS IS HOW YOU LIVE FREE AND DON'T DIE."

Absent from these videos are the neo-reactionary crypto-libertarian ideas that we have come to associate with the so-called American Tech Right. This could be attributed to the demographic composition of the Network School, referred to internally as NS by its members. NS participants come from over fifty countries. A majority of them either work in crypto-related industries in Southeast Asia or are contingently employed digital nomads from Western countries attracted to the low cost of living in places like Dubai, Bali, and Chiang Mai. Most are single, twenty-something post-graduate men in tech, searching for a community that matches their socially constructed ideal of what the founder lifestyle ought to look like—sigma male, cracked, "dark talent." One group of girls from the Philippines is particularly sociable. A few of them are customer service representatives for a US-based biotech start-up. They work long night hours in the cavernous hotel lobby and are positively chipper in conversation by the early morning buffet. One of them tells me that her team was recently slashed, and she is currently tasked with training an AI to replace her.



2 The Network School, "Network School—Learn, Burn, Earn," accessed November 25, 2025, https://ns.com/.

3 Balajis.com, "Network School 2025," accessed March 15, 2026, https://balajis.com/p/network-school-2025.

A network state stakes its sovereign claim in a shared idea rather than in the exercise of top-down control over a physical location or territory.

The Marina Hotel.



Some NS members follow Srinivasan primarily as a venture capital guru, and they jockey to position themselves closer to the purse strings of his investment arm, the Balaji Fund. But more than a few members have no idea who this Balaji even is—*such-and-such went to a conference in Singapore and heard from a friend of a friend that this other guy disappeared to NS for a few months and came back jacked*.

Certainly, more than a few NS members could be considered eccentric. There's a crypto-cowboy who plays guitar and hosts daily rucksacking sessions through Forest City's artificial beaches and overgrown lots. There's a transnational e-girl with two marketing start-ups and a recent divorce who runs "vibe coding" parties replete with glow-sticks and swag prizes like at-home genetic testing kits. On the thirteenth-story rooftop of the nearly empty luxury hotel one night, an ex-academic Hegelian philosopher tells me that Balaji is actually a Marxist, and that the proletarian underdogs of the Network School will one day rise and claim their rightfully destined future.

This revolution remains perpetually on the horizon, however, as do many of the Network School's aspirational promises. The Bryan Johnson Blueprint-inspired fitness meal plan is soggy and flavorless and gives me a chronic stomachache. The "earn" section of the internal NS portal, where I am supposed to complete tasks like "create a high-quality 59-second video explaining Peter Thiel's *Zero to One*" to win crypto prizes, never actually works for me.

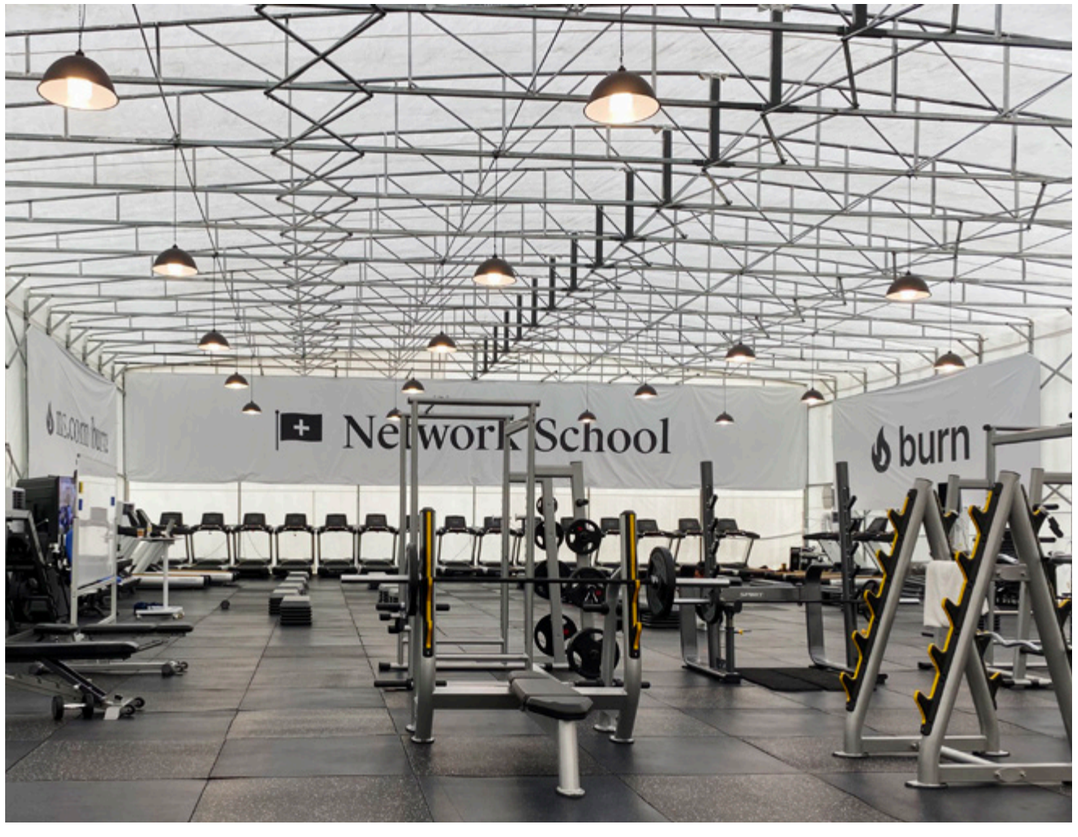
Offshores To Be Determined

The Network School is an "internet-first society," but the first thing that impresses me about Forest City is its physical contradictions. When it rains, as it does most afternoons in balmy tropical southern Johor, you will not smell petrichor, the earthy odor caused by the release of plant compounds and organic oils. The highly curated palm tree beds and stone footpaths instead release a chemical odor. It permeates the mostly vacant cookie-cutter high-rises surrounding the hotel, and it wafts through the open-air mall and the water park—which is empty except on weekends when, like clockwork, busloads of middle-class Malay and Chinese tourists pour in to relish the artificial island's photogenic delights. At the center of the mall sits the Forest City showroom, where colorful banners and flashing installations tell me that the "Prime Model of Future Cities" is at risk of selling out, and that I should buy an apartment unit while I can.

Meanwhile, Forest City's seven hundred thousand projected residents have yet to fully materialize. Empty lots bear signs that claim "TO BE DEVELOPED" in bold lettering. Several of the planned islands are not even yet constructed. But Forest City is practiced in market volatility. After the Chinese real estate market bubble burst in 2020, and pressure to protect Malaysian sovereignty against foreign capital began to escalate, Forest City investors



The Network School office.



The Network School gym.



A sign indicating Forest City's Special Economic Zone incentives.

and local agents reoriented their development targets, pivoting to instead target wealthy Malay consumers. Later, city officials would rebrand Forest City once again, opting for a new "Smart and Green" campaign that highlighted the city's innovative use of vertical greenery and sewage recycling technologies. Ironically, the campaign belies the development's toll on surrounding biodiversity and local fishery economies.

Then, there is the issue of maintenance. Just to keep this offshore afloat, Bangladeshi migrant workers tend daily to the hotel rooms occupied by digital nomads and friends of the Sultan of Johor, while uniformed guards commute from the surrounding regions to patrol the empty shop fronts and to fumigate the unoccupied homes against the city's pressing mold issues. Each day, this cycle is repeated in order to breathe new life into Forest City's deflated promises.

And there is the problem of providing infrastructure in an inaccessible location. If you need basic groceries or medical care, for instance, unless you book an expensive private shuttle or a rideshare, you have to wait for an intermittent shuttle to bring you to the Tuas Checkpoint, and from there you hope to catch the first of three other buses to connect to the Mass Rapid Transit station in neighboring Singapore.

Due to my Bryan Johnson-induced irritable bowel syndrome, I leave the Network School to see a doctor. On my attempted return, I accidentally board a shuttle headed toward Legoland. It is indistinguishable from the bright green Forest City bus, and is festooned with similar ads: "Malaysia, my second home." I request a rideshare to take me back; the Grab driver is a friendly woman who tells me about crossing the border daily for over twenty years to work grueling twelve-hour shifts at Changi Airport in Singapore, where salaries are markedly higher than in Johor. She is retired now, but she works for Grab to avoid financially burdening her college-aged children. "Forest City," she tells me as we weave through the swampy grassland that has now been designated as a golf course, "looks like a city, but it is rural."

By this, she means that it seems culturally backward; it stands insolently outside of the forces of historical progress despite its futuristic claims. Much like the Network School, Forest City seeks to consolidate an *ideal model* in which new forms of



The Marina Hotel pool at night.

subjectivity can be articulated and optimized. This is done even against the backdrop of political turmoil, economic uncertainty, environmental collapse, and myriad other markers of unsustainability. But ultimately, the practical economy of Forest City is not dictated by what it can offer residents, but by narratives of the future that enable its flexible development initiatives.

As we enter the Forest City limits, the signs at the gate tell me that 2025 tax incentive programs, rolled out as part of the Johor-Singapore Special Economic Zone (JS-SEZ) "hypergrowth" plan, will target financial managers for the ultra-wealthy and transnational elites in order to expand investment in regional AI and quantum computing. Through its involvement in the JS-SEZ, and based on Malaysia's accommodating political regime and its relative surplus of labor and land, Forest City will once more foster new opportunities for corporate geoarbitrage. The JS-SEZ extends the plantation developmental schemes of the British colonial empire into the present and the future. But Forest City's own uncertain development can no longer be considered in merely economic, territorial, or legalistic terms. The digital nomad, the influencer, and the tech guru of the Network School thrive on turbulence, transforming structural dynamics into speculated future gains that can only be realized through their visionary foresight.

Srinivasan writes in *The Network State*, "as the founder of a startup society you aren't a technology entrepreneur telling investors why this new innovation is better, faster, and cheaper. You are a moral entrepreneur telling potential future citizens about a better *way of life*." Ultimately, what these new offshores materialize is the *feeling* of manifesting one's own destiny against the forces of history . It is contradictions like these that make network states not just allegories but ways of giving form to the uncertainties of digital capitalism and its future.

On the thirteenth floor of the hotel, I sing karaoke with digital nomads from around the world. The recurring hit of the summer is, inexplicably, the Red Hot Chili Peppers' "Californication." It's a lyrical exploration of the dark side of a certain ideology—the techno-optimistic libertarian worldview that originated in the American west coast state of California. "*It's the edge of the world and all of Western civilizaaation …*" The song alludes to some kind of ending, but it also looks toward what comes after a place of pure possibility comes to an end.

For these new entrepreneurial subjects, short-term failures may as well be more important than success. In July of 2026, Network School Forest City was aborted after a police investigation into allegations that Israeli nationals had entered the country illegally and were among the Network School's members. Muslim-majority Malaysia does not recognize Israel, and even though the investigation did not yield any positive evidence of immigration violations, the unavoidable matter was that the Network School was necessarily parasitic on the hospitality of the state, and it had overstayed its welcome. Meanwhile, Srinivasan has announced plans to reboot Network School 2.0 in Astana, and he claims to have signed a memorandum of understanding with the Republic of Kazakhstan, which has been bullish on a national strategy to attract foreign tech investment.

During my stay in Forest City, I did not witness the triumph of any tech unicorns. What I did find was more ordinary: a highly contingent workplace organized around a financialized and speculative economy, with particular narratives around future value delimiting the horizon of futures that can be realized. In spaces like the Network School, the core capitalist fantasies of upward mobility and proprietary agency must be rehearsed continuously, and with ever more enthusiasm, all in pursuit of securing the necessary venture capital funding. As untethered from reality as it all might seem, however, even hype has its material basis. After all, the Network School may only occasionally produce founders, but it always produces subjects. ◆

REBECCA ULIASZ researches and writes on media theory, digital culture, and the history and philosophy of technology. She is an Assistant Professor of Philosophy and Humanity & Technology at Case Western Reserve University.

p.64 Reflections in water, AI-generated using DALL·E (OpenAI), September 28, 2026.
p.66–71 Photo by Rebecca Uliasz.





Digital Nomads

The Digital Nomad's Whole Earth Catalog

Author: Héctor Beltrán
Artist: Rodolfo Sousa



In 1968, Stewart Brand launched the Whole Earth Catalog with a mission: "access to tools" for those seeking independence from institutions. Fifty-eight years later, digital nomads have achieved that dream. They're untethered from offices, nations, and tax obligations. They move freely across borders that constrain others, and they optimize their lives through geographic arbitrage and platform work. They've accessed the tools.

But they face new challenges: unreliable infrastructure in affordable destinations, navigation anxieties in unfamiliar cities, the administrative burden of perpetual travel. They need more tools. They need better tools. They need a catalog for those seeking independence from place itself. The following are selected entries from The Digital Nomad's Whole Earth Catalog.



Generator Backpack 2.0™: Self-Sufficiency as a Service

The Generator Backpack 2.0™ solves a problem every digital nomad in places like Puerto Rico knows intimately: power outages. The perfect remote work sweet spot—Caribbean beaches, US legal framework, tax benefits—comes with infrastructural trade-offs. When Hurricane Maria devastated the archipelago's electrical grid in 2017, locals waited months, sometimes years, for restored service—and a new market emerged.

The Generator Backpack 2.0™ is a portable power station disguised as adventure gear, letting you work through any outage. Solar panels charge while you post about work-life balance from the beach. Battery capacity runs your laptop and hotspot for twelve hours. The companion app maps real-time outages, automatically rerouting you to powered cafés and suggesting which Airbnb or co-working space to book next based on generator availability.



Excess energy is sold back to Airbnb hosts at surge pricing during peak outage hours. Maintain your productivity while generating passive income. The app calculates real-time earnings: $47 this week, $203 this month. Turn the entire archipelago into infrastructure that works for you.

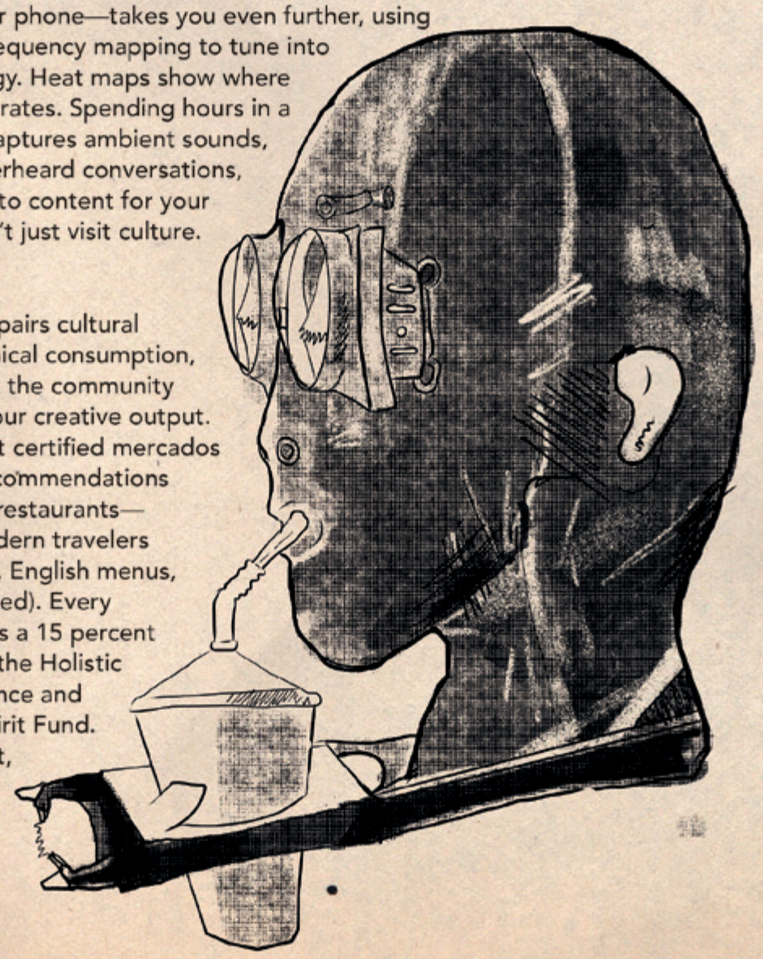
La Güerita GPS™: Finding Authentic Mexico, Automatically



La Güerita GPS™ addresses security concerns for nomads in unfamiliar Mexican cities. Users rate streets for "safety" and "authenticity," and the device crowdsources scores for neighborhoods in real time. The algorithm learns what makes you uncomfortable: street vendors, Spanish-only signage, being the only güerita in the neighborhood, areas without recognizable coffee chains. The app glows green for nomad enclaves, yellow for "authentic but requires company," red for actually authentic.

The optional Creative Energy Harvester—a portable antenna that plugs into your phone—takes you even further, using electromagnetic frequency mapping to tune into local creative energy. Heat maps show where inspiration concentrates. Spending hours in a café? The device captures ambient sounds, aesthetics, and overheard conversations, converting them into content for your creative work. Don't just visit culture. Absorb it.

La Güerita GPS™ pairs cultural immersion with ethical consumption, so you can support the community while optimizing your creative output. Mandatory stops at certified mercados artesanales and recommendations for authentic local restaurants—all adapted for modern travelers (Instagram-friendly, English menus, credit cards accepted). Every transaction includes a 15 percent surcharge funding the Holistic Community Resilience and Entrepreneurial Spirit Fund. Cultural investment, not tourism.



Visa Wellness Tracker™: Freedom as Optimization

The Visa Wellness Tracker™ gamifies perpetual travel, helping you maximize time in each country without triggering tax residency anywhere. It tracks your days in each jurisdiction, alerts you when approaching limits, and suggests your next destination based on visa-free access and optimal weather. The wellness advantage is clear: staying legally agile is self-care. Stress less about paperwork, focus more on experiences.

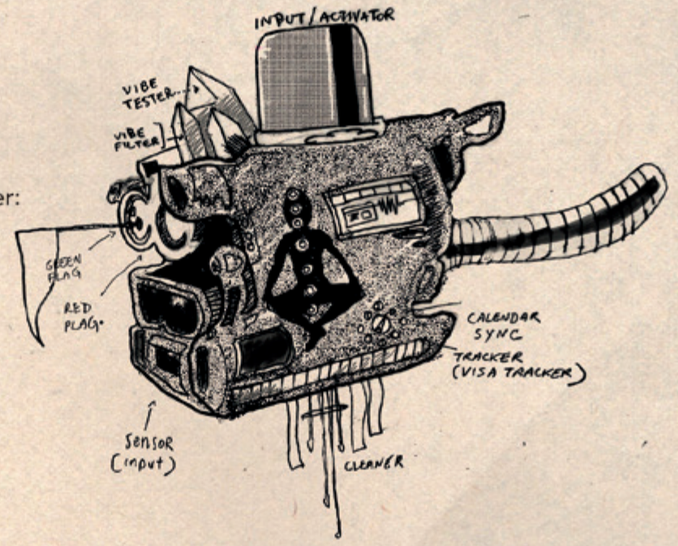
The dashboard displays your Freedom Score—how many countries remain open to you this year. Push notifications keep you informed: "Four countries visited this quarter. Tax residency threshold not triggered in any jurisdiction." Advanced features calculate your geoarbitrage gains, showing exactly how much further your income stretches in each location. In Oaxaca, your $7,000 monthly tech salary buys what would require $25,000 in San Francisco: penthouse living, full-time domestic help, dining out nightly, unlimited mezcal tastings, intensive private Spanish lessons. Charts visualize the gap between your purchasing power and local median income. Financial wellness through local value and geographic freedom.



Co-Living Curator™: Intentional Community, Optimized

The Co-Living Curator™ aggregates intentional communities of digital nomads across more than eighty countries. Filter by vibe (wellness focus, entrepreneur hustle, creative collective), income level ($3,000 to $15,000 per month brackets), and community values (sustainability, mindfulness, impact investing). The AI Vibe Matcher analyzes social media profiles to ensure compatibility. Rate spaces on wi-fi speeds, kitchen amenities, group energy, and neighborhood foreigner-friendliness.

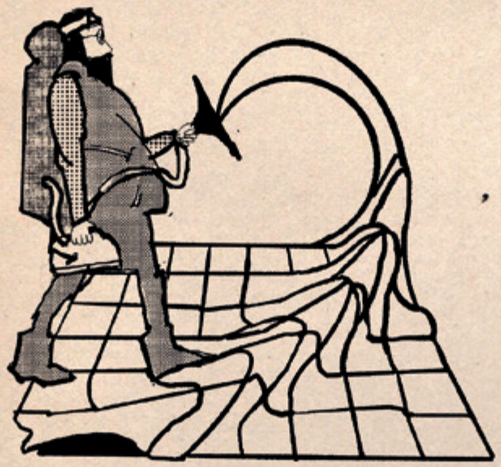
Premium features include Community Calendar Sync (coordinate co-working sessions, group dinners, weekend excursions) and Collective Negotiation Power: when thirty digital nomads commit to a neighborhood simultaneously, the platform brokers bulk deals with landlords to convert entire buildings from long-term to short-term inventory. Guaranteed occupancy for property owners, reduced individual costs for nomads, built-in community for everyone.



The integrated AI Concierge handles group logistics: coordinate visa extensions for up to twenty people simultaneously, book group activities, manage shared expenses. Translation runs continuously in shared spaces—wear the paired earbuds and operate seamlessly without language barriers. The AI even maintains relationships back home through auto-generated updates: send birthday greetings, share your photos at optimal engagement times, keep loved ones connected to your journey.

The platform also tracks collective Social Impact Score: local businesses supported, cultural events attended, community-building initiatives launched. Share your intentional living journey across platforms. Transform neighborhoods overnight. Build connection, not displacement.





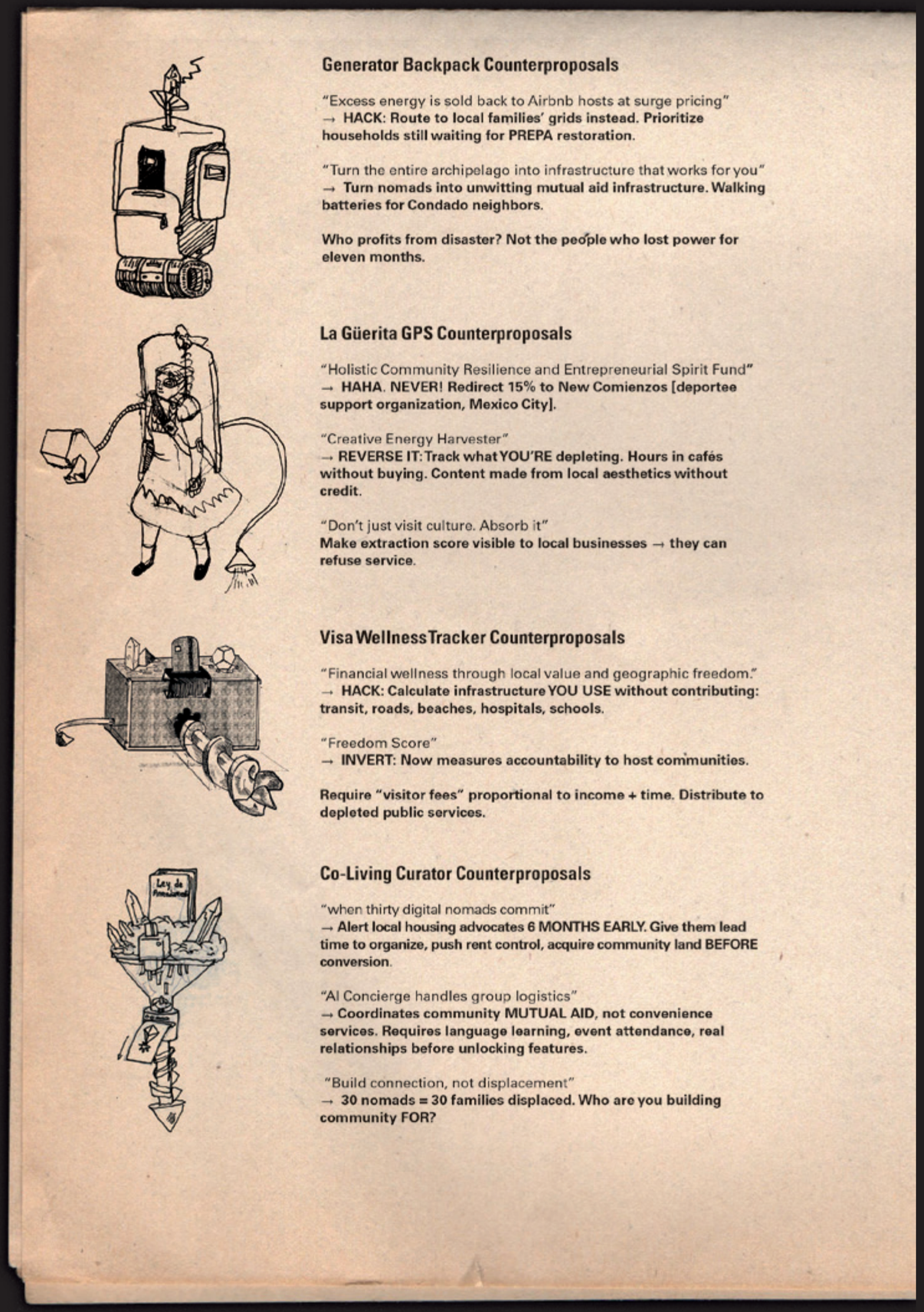
These prototypes aren't real—not yet. The four tools above are exaggerated versions of proposals that emerged from workshops conducted between 2021 and 2025 in Mexico and Puerto Rico. The prompt: "A proposed technology, app, or superpower that would help resolve some of the challenges of the digital nomad lifestyle?" The workshop participants also included people whose movements are constrained rather than celebrated—US deportees in Mexico, Puerto Ricans facing displacement due to rising costs—alongside "critical digital nomads" attempting to code accountability into extraction. Counterproposals that arose from their collaborations, collected below, target these infrastructural fantasies directly.

The prototypes operate through the same offshore logic as tax havens, special economic zones, and charter cities. They're about regulatory arbitrage, or "graduated sovereignty"—the uneven distribution of rights and protections that lets certain mobile subjects bypass the obligations that bind everyone else. Puerto Rico's colonial status makes it particularly legible as offshore space; marked by political absence and selective governance, it is juridically part of the US yet exempt from many federal protections. The result is a perfect environment for Act 60 tax incentives that attract crypto-millionaires and remote workers while extracting resources from a population without congressional voting rights. Mexico's proximity and differential cost of living create a different offshore formation—what I call a "proximate elsewhere," close enough to feel manageable, foreign enough to feel like an escape.

Digital nomadism isn't just a lifestyle choice. It's a socio technical practice that produces new forms of offshore spaces wherever it concentrates. Short-term rental platforms, co-working chains, and digital infrastructures reshape neighborhoods into zones of suspended accountability. You're technically present but legally elsewhere, contributing to local economies through consumption but remaining fiscally offshore through visa gaming and remote tax filing. The nomad is platform capitalism's model subject: endlessly mobile, extracting value across jurisdictions, answerable to none. And unlike neighborhood-scale gentrification, digital nomadism operates through planetary calculations—choosing destinations based on global cost-of-living arbitrage, visa regimes, and tax optimization across multiple jurisdictions simultaneously. It extracts not just housing but infrastructure, cultural resources, and community itself, often through coordinated collective action.

But affected communities aren't waiting for platforms to design accountability into their systems. They're already building resistance themselves through rental restrictions, tenant organizing, and advocacy for tax policy changes. The counterproposals collected here aren't blueprints for start-ups but for refusal—tools to help communities regulate rather than simply endure digital nomadic extraction.

The Whole Earth Catalog offered tools for independence from institutions. The Digital Nomad's Whole Earth Catalog promises even more—infrastructure that transforms extraction into optimization, displacement into lifestyle, parasitism into wellness. The joke is that nomads keep asking for exactly these types of tools, convinced that the right app, the right framework, the right design workshop can resolve what only political refusal can truly address. Meanwhile, communities don't wait for technical solutions. Rent strikes shut down buildings. Advocacy campaigns tighten visa rules. Graffiti marks nomad spaces: "gringo go home." The catalog was always a fantasy. The tools for refusal are already being forged.



Generator Backpack Counterproposals

"Excess energy is sold back to Airbnb hosts at surge pricing"
→ **HACK: Route to local families' grids instead. Prioritize households still waiting for PREPA restoration.**

"Turn the entire archipelago into infrastructure that works for you"
→ **Turn nomads into unwitting mutual aid infrastructure. Walking batteries for Condado neighbors.**

Who profits from disaster? Not the people who lost power for eleven months.

La Güerita GPS Counterproposals

"Holistic Community Resilience and Entrepreneurial Spirit Fund"
→ **HAHA. NEVER! Redirect 15% to New Comienzos [deportee support organization, Mexico City].**

"Creative Energy Harvester"
→ **REVERSE IT: Track what YOU'RE depleting. Hours in cafés without buying. Content made from local aesthetics without credit.**

"Don't just visit culture. Absorb it"
Make extraction score visible to local businesses → they can refuse service.

Visa Wellness Tracker Counterproposals

"Financial wellness through local value and geographic freedom."
→ **HACK: Calculate infrastructure YOU USE without contributing: transit, roads, beaches, hospitals, schools.**

"Freedom Score"
→ **INVERT: Now measures accountability to host communities.**

Require "visitor fees" proportional to income + time. Distribute to depleted public services.

Co-Living Curator Counterproposals

"when thirty digital nomads commit"
→ **Alert local housing advocates 6 MONTHS EARLY. Give them lead time to organize, push rent control, acquire community land BEFORE conversion.**

"AI Concierge handles group logistics"
→ **Coordinates community MUTUAL AID, not convenience services. Requires language learning, event attendance, real relationships before unlocking features.**

"Build connection, not displacement"
→ **30 nomads = 30 families displaced. Who are you building community FOR?**

Beltrán and Sousa have updated *The Whole Earth Catalog* (1968–1974) for 2026, exploring how its libertarian and countercultural aesthetic would manifest today. This piece draws on Aihwa Ong, *Neoliberalism as Exception* (Duke, 2006), for "graduated sovereignty"; Yarimar Bonilla and Marisol LeBrón, eds., *Aftershocks of Disaster: Puerto Rico Before and After the Storm* (Haymarket Books, 2019); and Nick Srnicek, *Platform Capitalism* (Polity, 2016), for "platform capitalism."

New Comienzos supports deportees, returnees, and binational families in Mexico City: https://www.newcomienzos.org.

HÉCTOR BELTRÁN is Associate Professor of Anthropology at MIT and the author of *Code Work: Hacking Across the US/México Techno-Borderlands* (Princeton University Press, 2023). His current research examines digital nomadism in Mexico and Puerto Rico.

RODOLFO SOUSA is a visual artist specializing in experimental printmaking. He explores the erosion, deformation, theft, and interruption of images, investigating their afterlife as they drift through archives, newspapers, memes, hyperlinks, rumors, and malice.

p . 72 *Earthrise*, Apollo 8, December 24, 1968. Photograph by William Anders, NASA.



PRÓSPERA'S STACK

Choose your own regulation

by Jessica Quinn Slattery

View of mountains hugging Roatán's northwest coast from the 11th floor of Duna Tower in Próspera's St. John's Bay property.



Próspera is not a location. Próspera is a platform that delivers governance-as-a-service in partnership with host governments that create a legal framework that allows public-private partnerships to emerge.

— Próspera CEO Erick Brimen, in a 2023 interview with *Reason* magazine.[1]

IN 2017, VENEZUELAN BUSINESSMAN Erick Brimen and Guatemalan tech entrepreneur Gabriel Delgado Ayau signed an investor agreement with the Honduran government to launch Próspera, Honduras's first Zone for Employment and Economic Development (ZEDE). The Honduran congress had legalized ZEDEs just four years earlier. Such zones serve as jurisdictional enclaves offering incentives to attract foreign investors—low or no taxes and tariffs, and relaxed business and labor regulations. Controversially, ZEDEs are also semi-autonomous, with the authority to create their own laws and regulations, government institutions, tax systems, public services, schools, courts, and police.

In founding the first ZEDE, Brimen and Delgago Ayau aimed to develop a regional hub for fintech and biotech in Central America and the Caribbean. In 2019, they purchased fifty-two acres of jungle on the Caribbean island of Roatán. One year later, they purchased the nearby Pristine Bay property, a four-hundred-acre golf resort community that had fallen into disrepair. To date, they have renovated sections of Pristine Bay and, on the jungle property a mile away, completed construction on Duna Tower (a fourteen-story condominium building), the Beta Building (which serves as a multi-purpose office), and Circular Factory (a robotic micro-factory that builds modular structures out of locally sourced timber). Próspera's master plan also includes the construction of new residential and commercial districts, however, these projects are contingent upon investment.

Próspera's government is designed as a hybrid system for both physical and e-residents. E-residency is a type of government-issued digital identity first piloted in Estonia in 2014. It is currently offered by a handful of countries and jurisdictions worldwide, and it allows foreign entrepreneurs to incorporate and manage companies online without establishing physical residency. For a subscription fee, the e-resident is provided access to a country's e-governance services and business environment.

As of 2026, Próspera has 2,262 e-residents from 40 countries and 478 companies. These companies include fintech and biotech start-ups, remote staffing firms, medical clinics, a Bitcoin education center, and a scuba shop. Próspera also has approximately one hundred physical residents—from Honduras, the US, Europe, Australia, and other Latin American countries—who live full-time or part-time in Pristine Bay or Duna Tower.

Próspera exists within an ecosystem of offshore jurisdictions across Latin America and the Caribbean. Mexico and Honduras adopted policies geared toward export-oriented industrialization in the 1980 and 1990s, offering a host of incentives for North American companies to establish *maquilas*, duty-free factories where manufacturers can offshore the production of textiles, automotive parts, electronics, and other components. Meanwhile in the Caribbean, Bermuda, the British Virgin Islands, and the Cayman Islands have provided low-tax or no-tax environments since the 1960s for clients to offshore their banking and assets.

Neither a manufacturing hub nor an offshore financial center, Próspera is a new type of offshore jurisdiction. Designed to provide flexibility to companies in emergent industries, it is a regulatory haven for entrepreneurs searching for an alternative to the regulatory and tax environments in the US and Europe. Próspera even grants companies the privilege of choosing which regulations they want to be subject to, and the option to design and propose their own regulations. For instance, the biotech company Minicircle proposed the "Próspera Medical Innovation and Safety Regulation," which was approved by the Próspera Council in 2023.[2] Customized for Minicircle's gene therapy clinic that operates out of Próspera, the regulation reduces liability for medical providers and elevates patient choice—that is, the right to assess risk for oneself.

1 Zach Weissmueller, "A Private Libertarian City in Honduras," *Reason*, July 6, 2023, https://reason.com/video/2023/07/06/a-private-libertarian-city-in-honduras/.

2 "Próspera Medical Innovation and Safety Regulation," Codification 3-2-219-0-0-0-1, "Regulatory Principles," Section 4 (2023).

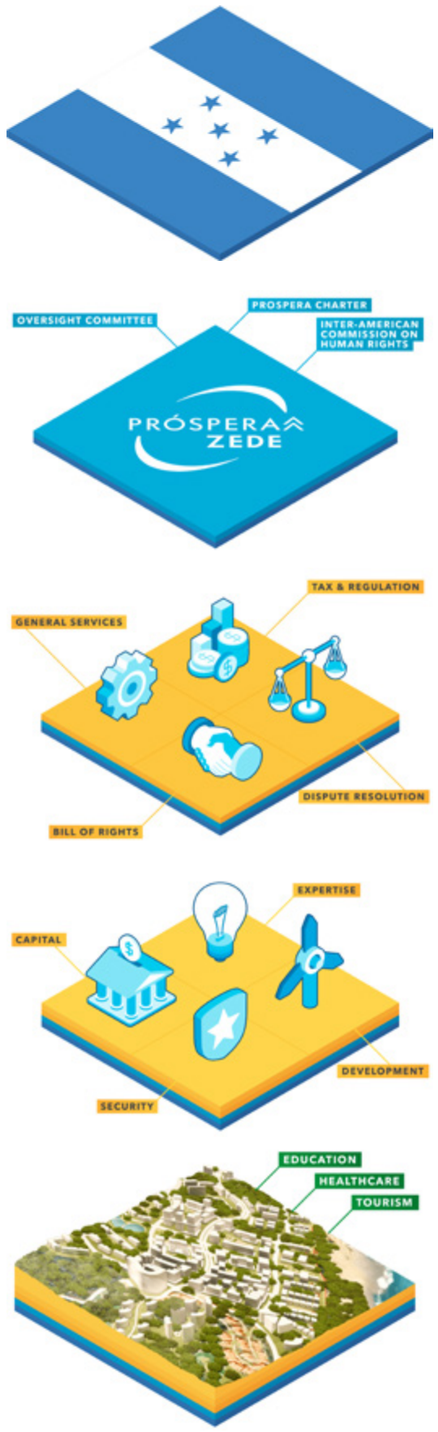
A bitcoin ATM greets visitors entering the lobby of Duna Tower. Users can buy Bitcoin or other digital assets by depositing cash into the machines.



A hotel guest prepares to take a dip in the infinity pool of Las Verandas Hotel, located in Pristine Bay Resort. Próspera acquired the resort in 2021 and is the property manager for its 18-hole golf course, hotel, and residential community.



The e-governance platform stack.



Próspera provides services to its e-residents and companies via an e-governance platform. In promotional materials like the image shown to the right, Próspera illustrates its governance as comprising five stacked layers. The foundation is the Honduran state; as the legal base layer to the e-governance platform, all the layers above it are subject to Honduran constitutional and criminal law. The second layer is the ZEDE, which sits atop the Honduran state as a legal subdivision; ZEDEs have the authority to create their own unique laws that the layers above it are subject to, but the layer below, meaning the rest of Honduras, is not. The third layer is the zone operator company, Próspera itself, which is the city developer and the provider of legal and governmental services within the ZEDE. The firms that the zone operator contracts to provide public services, such as security, schools, and infrastructure, are the fourth layer. The fifth and final layer is a LEGO-style city in the jungle—businesses and residents subject to Honduran, ZEDE, and Próspera law.

Law and governance are complex and unwieldy processes whose functions are difficult to distill into words, let alone images. In this attempt to visualize how Próspera is embedded within the Honduran state, which bodies of law it is subject to, and how government services are rendered, the company presents a seemingly clear-cut image. However, this graphic provides a number of additional insights into how Próspera frames itself and its platform to potential e-residents, companies, investors, and host nations.

First, *the city is a rendering of law and governance as technology*. Próspera has grafted onto governance the concept of "software stacks"—a tech industry term for the architecture of operating systems. Próspera's e-governance platform is designed to automate compliance and streamline bureaucratic processes. The goal is to use technology to cut red tape and expedite the approval processes for commercial activities, such as starting a business or obtaining a construction permit. Law in Próspera is not an immutable sacred text issued by a sovereign state, but rather a malleable tool. Próspera's proposal is: What if laws, regulations, and procedures could be constantly tweaked and updated based on user feedback, rather than slowly and painfully reformed through plodding democratic processes?

The second insight is that *Próspera is a start-up government that follows the start-up ethos*. From "governance-as-a-service" to "legal innovation" to "disruption of legacy systems," many Silicon Valley proverbs and frameworks shape the design of its governance model. However, this is easier in theory than in practice. A start-up government faces unique challenges stemming from its dual

A view of the Beta Building and Circular Factory from the roof of Duna Tower. Built by Próspera in the past four years, these buildings are located on their fifty-two acre St. John's Bay property. The village of Crawfish Rock, which is obscured by the jungle in this photo, is located behind the Circular Factory building.



A graffiti-covered billboard promoting a road initiative by former President Xiomara Castro, who served from 2022 to 2026. The foliage hides the slogan "Xiomara Sí Cumple," reminding the public that Castro was fulfilling her campaign promises.



status as both a public service provider and a for-profit venture. Start-ups must be nimble and responsive to the market. They are also financially unstable, they struggle to scale, and they are quick to fold. While entrepreneurs like to "move fast and break things," governments tend to avoid this approach; their purpose is to hold everything together. The start-up mentality assumes a certain level of failure, and even normalizes it. However, when developing a politically experimental city on an island surrounded by a protected coral reef in one of the poorest countries in Latin America, the stakes are high. A project like Próspera may be legally circumscribed, but it presents unforetold risks that cannot be spatially or economically contained, spilling over to the rest of the island and country.

The third insight is that *Próspera situates itself within Honduras geographically, while operating outside it legally*. This arrangement allows Próspera to benefit from Honduras's climate, culture, labor force, infrastructure, resources, and coastal access, while distancing itself from Honduras's institutional problems and political crises. Yet despite its best efforts to escape the confines and dysfunctions of the state, Próspera is deeply mired in national and local politics, ethical controversies, land struggles, and environmental conflicts.

From the political right, Próspera faces opposition from the business community and the oligopolies that control the vast majority of Honduran manufacturing, telecommunications, energy, and banking. From the political left, Próspera must contend with the shadow of US corporate colonialism and interventionism, as well as the association of ZEDEs with a corrupt former president who was extradited to the US on drug trafficking charges in 2022. Critics from the left draw similarities between Próspera and the multinational fruit companies that established banana enclaves in Honduras at the beginning of the twentieth century. These companies soon became the most powerful forces in the country, controlling the majority of agriculturally productive land, and installing (or deinstalling) Honduran presidents.

In 2022, a socialist president was elected who waged a campaign to dismantle the ZEDEs, which she argued violated Honduran sovereignty. In response, Próspera sued the Honduran state for violating international investment agreements, and it commenced a sweeping public relations campaign to promote and defend itself against its many political opponents and much negative press. Subsequently, ZEDEs entered a state of political limbo, which was further complicated by the international investment arbitration. Behind the façade of a golf resort, Próspera is now a political operation, with lobbying arms in Honduras and the US. Ultimately, the most costly and labor-intensive part of launching Próspera has been campaigning states, municipalities, local communities, and the media in an attempt to gain public support, acceptance, or at minimum tolerance for the project.

Overlaid atop Honduras, Próspera strives to be its own operative layer, self-governing and semi-autonomous. Its e-governance platform presents a political configuration of law, jurisdiction, and institutions that require no fixed place, people, or territory. Instead, they can be designed as virtual, mobile, adaptable, and scalable technologies. But while Próspera markets the e-governance platform as its primary product and innovation, its financial viability will hinge upon real estate development and the physical sale of land.

Próspera aims to develop a city for as many as a hundred thousand physical residents. But to become a city, Próspera must first build one, which requires land, water,

Duna Tower in Próspera's St. John's Bay property. The 14-story building is a co-living, co-working space with apartments, office and commercial space, and a rooftop pool. Duna Tower residents and visitors are digital nomads and Próspera employees.



Las Verandas Hotel at Pristine Bay Resort. The hotel is owned and operated by Próspera. Landscapers and hospitality workers, such as the man pushing the lawnmower in the photo, have migrated to Roatán from mainland Honduras in search of employment.



sand, and soil—not to mention workers to build, staff, and maintain it. The project also requires local buy-in. Already, tensions have emerged over new construction, shared infrastructure, and common-pool resources. Próspera has sparred with the municipality over road maintenance, reliance on the municipal landfill, and the height of Duna Tower, which violates zoning regulations that Próspera does not have to follow. Próspera has also clashed with the neighboring village of Crawfish Rock over access to groundwater. Presently, the e-governance platform lacks a function for dispute resolution with local and government stakeholders, so, for now, Próspera must navigate these conflicts itself.

Próspera may lie dormant as a golf resort until the political winds again blow in its favor. If and when they do, Próspera will build swiftly—horizontally and vertically. It will also seek to forge new alliances with Honduran government officials and business elites to help Próspera weather instability in the future. Paradoxically, as a governance platform designed to float atop a nation-state base layer, the only way Próspera can insulate itself from political instability is to more deeply entrench itself in local and national politics. It turns out that all governments are socially embedded, even private ones. ◆

JESSICA QUINN SLATTERY is an anthropologist and recent graduate of the University of California, Irvine. She teaches at the City College of New York and is writing a book about Próspera and Honduras.

p. 84 Photo by Jessica Quinn Slattery of Honduran artist Luis Vásquez's Duna Tower mural.
p. 86–93 Photos by Jessica Quinn Slattery.
p. 89 Diagrams from the Próspera ZEDE website.



THE BIRTH OF THE OFFSHORE

Avoiding double taxation in 19th-century Southern Africa

by Simon Rakei

Between 1902 and 1906, De Beers Consolidated Mines and the United Kingdom's Commissioners of Inland Revenue were embroiled in a legal dispute over how to tax income from the De Beers diamond mining operations in Southern Africa. The case was initiated with a motion alleging that, for tax purposes, De Beers was a UK resident. The company's practice up to that date had been to pay tax only on dividends distributed to shareholders in the UK; no income tax had ever been paid by Africa-based shareholders in the Cape Colony. The company had been registered in the colony in 1888, with its head offices there in the town of Kimberley, from which it managed its operations. While De Beers resold its diamonds in London through a syndicate established by Cecil Rhodes, it argued that, as a colonial company, "it did not exercise any trade with the United Kingdom."[1] So, was De Beers a UK resident for tax purposes?

In its judgment, the House of Lords ruled that "real control" of the company's strategy was exercised from London. Henceforth, De Beers would be subject to tax in England on all of its worldwide income. Therefore, the court ruling ended the Cape Colony's status as an effective tax haven.

1 De Beers Consolidated Mines Ltd. v. Howe, 2 K.B. 612, Court of Appeal, para. 16 (Court of Appeal, 1905).

A De Beers Consolidated Mines Ltd share issued in 1902.



... the financial empire was the direct result of the colonial experience.

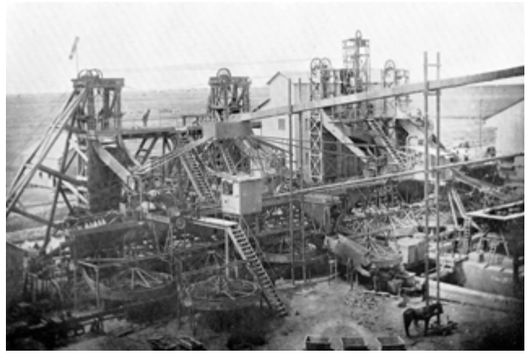
The De Beers ruling applied to the entire British Empire, and it was soon exploited by Bermuda, the Bahamas, and later the Cayman Islands and the British Virgin Islands. The ruling gave legal force to a notion of corporate residence dislocated from the place of income-generating activity much earlier than commonly acknowledged.

To appreciate the international implications of the De Beers judgment for the development of modern tax havens and offshore financial centers, we must first situate it within the ambitions of late nineteenth-century imperial expansion in colonial Southern Africa. The De Beers case was not the first instance in which the question of international taxation of overseas trade went before the British Exchequer. At that time, income tax was still a recent introduction in British law, with the first nationwide act having been passed in 1853, but by 1876 there had already been at least two other disputes regarding where overseas companies should be taxed.

The English Income Tax Act had a provision that any person "residing in the United Kingdom must pay on his annual profits securing to him from whatever kind of property, whether situated in the United Kingdom or elsewhere." Emphasis here on profits situated *elsewhere*. Calcutta Jute Mills and Cesana Sulphur Mines were both registered in England, but with their operations and income-generating activities located in India and Italy, respectively. The judgments in the cases brought against both of these companies solidified what could be regarded as the "source" principle in British law, affirming that "the great principle of the law of England in relation to

Everyday bureaucracy in 19th-century Britain, as depicted in *The Income Tax–Day of Appeal* (1861) by John Morgan.





The diamond washing plant of De Beers at Kimberley.



The Big Hole reached a depth of 1,098 meters, yielding more than 14 million carats between 1871 and 1914. The open pit was hand-dug to a depth of about 240 meters before mining transitioned underground.

taxation is that taxation shall only be imposed upon persons or things actually in this country."[2] What sets the De Beers ruling apart is that, in making the company subject to British taxation, it subverted this notion of source entirely.

The De Beers decision was seminal because it unsettled the idea of corporate residence based on a company's place of registration or incorporation, and, in doing so, it exposed De Beers to double taxation. Double taxation arises when two or more states have claims to impose tax on the income or capital of the same taxpayer. The result is a contest revolving around two conflicting concepts: *residence* versus *source*. This debate is premised on Hobbesian arguments that the state has an absolute right to tax people in its jurisdiction or territory, and that the taxpayer is an object of regulation "to be fought over where two sovereigns happen to collide."[3] Thus, the one state makes a claim to tax an individual or company on their worldwide income because the taxpayer is a resident of that state. The other state asserts its taxing rights by virtue of income or capital being generated within its borders, irrespective of where that taxpayer resides. Today, international treaties and conventions provide relief from double taxation, but before these concepts had achieved their contemporary legal clarity, there was uncertainty regarding how the proceeds of imperial overseas trade should be taxed.

The motion to tax De Beers in the UK on its South African Income was first heard by the Income Tax Commissioners' special court in London in 1902, after the conclusion of the Anglo-Boer South African War. After finding in favor of the Commissioners of Inland Revenue, De Beers would lodge three appeals, each unsuccessful, in the King's Bench Division of the High Court of Justice, in the Court of Appeal, and, finally, in the House of Lords Privy Council. In 1906, the House of Lords confirmed that De Beers must pay tax in the UK on its worldwide income. De Beers was ordered to pay £603,045 for the six preceding tax years.

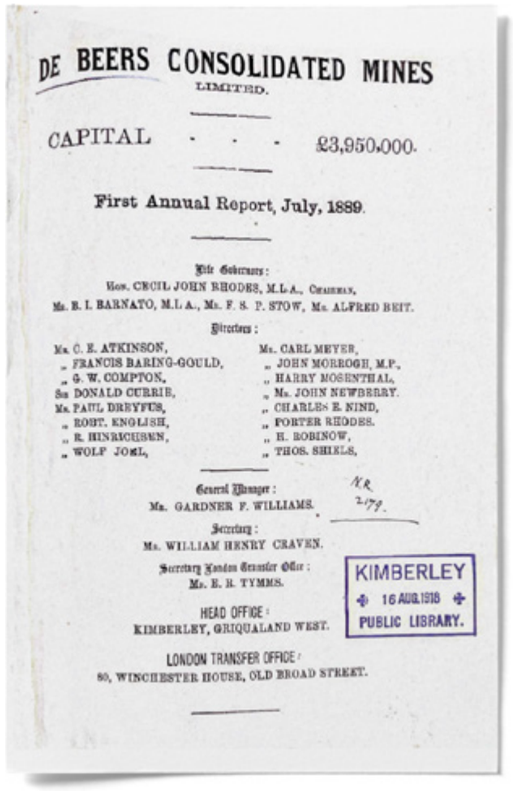
Yet, a corporation, the court said, referring to case law precedent, is a legal person whose only residence is "the place of its incorporation."[4] The legal precedent, still true today, held that a company can only have one residence. Therefore, a foreign company could have "no legal existence in this country" with reference to Britain. Under these terms, De Beers was a legal person only in South Africa: its seat of control, as fixed by its articles of incorporation, was Kimberley, and the company's business was conducted there.

Indeed, as a life governor of De Beers and chair of its board of directors, Cecil Rhodes was based in South Africa. He would subsequently assume the role of head of the Cape Colony government, and would expand imperial control in Central and Southern Africa using the wealth from his mining ventures. Moreover, not only was the company's business as a mining operation conducted in South Africa, but all general meetings of shareholders were held there,

2 Robert Couzin, *Corporate Residence and International Taxation* (IBFD Publications, 2002).

3 Allison Christians, "Human Rights at the Borders of Tax Sovereignty" (2017): 4, https://doi.org/10.2139/SSRN.2924925.

4 De Beers Consolidated Mines Ltd. v. Howe, A.C. 455, 456 (House of Lords: UK Privy Council, 1906).



DE BEERS CONSOLIDATED MINES
LIMITED.

CAPITAL - - - £3,950,000.

First Annual Report, July, 1889.

Life Governors:
Hon. CECIL JOHN RHODES, M.L.A., Chairman,
Mr. B. I. BARNATO, M.L.A., Mr. F. S. P. STOW, Mr. ALFRED BEIT.

Directors:

Mr. C. E. ATKINSON,
" FRANCIS BARING-GOULD,
" G. W. COMPTON,
Sir DONALD CURRIE,
Mr. PAUL DREYFUS,
" ROBT. ENGLISH,
" R. HINRICHSEN,
" WOLF JOEL,
Mr. CARL MEYER,
" JOHN MORROGH, M.P.,
" HARRY MOSENTHAL,
" Mr. JOHN NEWBERRY.
" CHARLES E. NIND,
" PORTER RHODES.
" H. ROBINOW,
" THOS. SHIELS,

General Manager:
Mr. GARDNER F. WILLIAMS.

Secretary:
Mr. WILLIAM HENRY CRAVEN.

Secretary London Transfer Office:
Mr. E. R. TYMMS.

HEAD OFFICE:
KIMBERLEY, GRIQUALAND WEST.

LONDON TRANSFER OFFICE:
80, WINCHESTER HOUSE, OLD BROAD STREET.

KIMBERLEY
16 AUG 1916
PUBLIC LIBRARY.

De Beers First Annual Report 1889.

5 De Beers Consolidated Mines Ltd. v. Howe, A.C. 455, 458 (1906).

6 De Beers Consolidated Mines Ltd. v. Howe, A.C. 455, 459 (1906).

SIMON RAKEI is a joint PhD student in Anthropology and History at the University of Michigan. He is a Mellon/ACLS Dissertation Innovation Fellow, Eisenberg Institute for Historical Studies Research Fellow, and Michigan Law School Fellow.

p. 94 Photo by Daniele Levis Pelusi on Unsplash.
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p. 99 Photo by Simon Rakei, preserved by the Africana Library, Kimberley.

and all shareholders were required to have a registered address in South Africa if they wished to receive notice of these meetings.

How, then, did the House of Lords rule that De Beers would be subject to tax in the UK? The legal validity of the court's rationale was upheld partly because a London bank, N.M. Rothschild and Sons, had financed De Beers' acquisition of its rival diamond mining companies. The consolidation of De Beers was the result of a fight for control over the diamond fields in Kimberley dating back to the 1880s, and international backing from London to buy up competing claims had been instrumental in Rhodes's decisive victory. As a result, as of 1899, Lord Nathan Mayer Rothschild's stake in De Beers was twice that of Rhodes, and the Rothschilds were the majority shareholders in the consolidated company. Moreover, as part of their financing terms, the Rothschilds had the ability to appoint London-based directors. As such, the controlling interest of the company in the court's eyes was in London. "It is clearly established," the court ruling said, that "the majority of directors and life governors live in England."[5]

Even more importantly, the court found that the directors' meetings in London were the place where the "real control" was always exercised in "practically all the important business of the company except the mining operations."[6] This became known as the effective management principle. For De Beers, the negotiation of contracts with diamond syndicates, the determination of policy regarding the disposal of assets, dividend distribution, the "application of profits," and questions of expenditure were all carried out from London. Consequently, according to the court, De Beers was a resident of the United Kingdom for income tax purposes.

This definition of corporate residence led to a plethora of companies using the case law precedent to find favorable jurisdictions for income tax. Special economic zones and offshore financial centers emerged to cater to this demand. At the same time, the decision to tax De Beers on its worldwide income was obviously useful to the British Exchequer, and at the zenith of British colonial expansion, London was the largest center of international finance in the world. The implications continue today: taking into account British satellite overseas territories, which make up the bulk of offshore financial centers globally, the United Kingdom remains the top center of international finance, accounting for 40 percent of global banking assets and liabilities.

The claim that Britain established a second financial empire in the wake of decolonization is no mere analogy, but rather, the financial empire was the direct result of the colonial experience. Therefore, this colonial history locates the modern formation of offshore finance not in twentieth-century regulatory zones of exception, but in Southern African diamond mining over a century ago. ◆



DUTY-FREE ART

The *Limn* interview with novelist and art critic Ben Eastham

by Gökçe Günel, Jamie L. Jones, May Ee Wong



The Floating World is art critic and nonfiction author Ben Eastham's first novel.

BEN EASTHAM'S 2026 NOVEL The Floating World *is set on an island lair off the coast of Greece. There, a fictional billionaire named Morel is building a luxury bunker where he and his rich cronies plan to ride out "the crash," a familiar-sounding cascade of political, economic, and environmental crises. The island's history is a catalog of offshore activities: at various points, it has been a site for mineral extraction, a labor camp, a secret political prison, a utopian community, and a waypoint for migrating refugees. In its iteration as the Floating World, it is a luxury housing development, a tax shelter, and what the delusional billionaire hopes will be the civilizational equivalent of a seed vault.*

The book's narrator is an art critic in a fog of grief. He is hired to assist a celebrity artist commissioned to create the island's signature amenity: a site-specific art installation that "served to signify the Floating World's membership of that globalized, mobile, free-market economy of which contemporary art was the cultural expression, like a Balkan city on the fringes of the Roman Empire building a temple to Augustus."

The Floating World *is Ben Eastham's first novel; he is also editor-in-chief of* e-flux Criticism*, art critic for* The Guardian*, and author of nonfiction books such as* The Imaginary Museum. Limn *sat down with Eastham to talk about art, criticism, and the versatility of the literary island.*[1]

1 This interview comprises edited excerpts from our conversation on June 12, 2026.

JAMIE JONES What is it like to write fiction after working in criticism?

BEN EASTHAM Difficult! I had ideas that didn't fit any of the forms in which I normally write, and I've always loved the novel as this capacious literary format, which can accommodate different modes and styles. I could attribute ideas and feelings to characters, and create a world with its own rules and principles. It took me to deeper and murkier waters than I had anticipated. In some ways, that was liberating and exciting; in others, terrifying and dispiriting. I don't think the book I've written is the book I expected to write.

GÖKÇE GÜNEL What were some of your main inspirations in writing the book?

BEN I started writing during the COVID-19 lockdowns, when I was living in Athens. Someone I was very close to had died a few years prior, and I was trying to process my relationship to their death, and to the situation around me. I was interested in utopian and escapist ideas, and in the possibility, or impossibility, of creating worlds insulated from both personal grief and from the crises we've brought upon ourselves.

I was reading a few things that seemed to overlap: Anna Tsing, in terms of living amongst the ruins and in a haunted age; Karen Barad's model for reality as predicated on "cuts" between what we can and cannot perceive; Elizabeth Povinelli's blunt insistence that we have to lie in the bed we've made rather than wish away the problem. As a critic, I've always been influenced by John Berger's insistence that how we see what we see conditions our political choices. The reference to Adolfo Bioy Casares's *The Invention of Morel* in one character's name is really about the atmosphere of that novel, which is dreamlike, unsettled. Then there's *Mount Analogue* by René Daumal, which is a very strange, unfinished, surrealist novel. Another island story about the possibility of self-knowledge.



Eastham's novel draws inspiration from the mysterious island and its scientist in *The Invention of Morel* by Adolfo Bioy Casares.

JAMIE What function do you think the island serves in your book?

BEN The island, as a location, has a great literary history as a place outside reality, beyond civilization, where the rules no longer apply. You can trace that lineage from Plato's *Atlantis*, through Shakespeare's *The Tempest*, right up to the many present books set on islands or archipelagos or anywhere cut off from the world. The literary island is offshore in exactly the same way that the various islands that now serve as tax havens or black sites are offshore.

JAMIE Could you tell us about art? What are its limits, from your perspective?

In the continental imagination, the island is a place of unreality. You can invent your own rules and exist outside of the established systems. This is potentially utopian and liberatory, of course, but also potentially horrifying; think of William Golding's *Lord of the Flies*. The freedom of an island gives license to new forms of communal self-organization, but also to the unconstrained exercise of power.

BEN I believe that the ultimate aim of art is to make possible a society in which art, as a form of thinking or making which is distinct from everyday life, no longer exists. I think T.J. Clark wrote that, after the revolution, we should burn down the museums—they will no longer be necessary. It's a rhetorical way of making the point that the production of art should ideally not be separate from how people live in the day-to-day. It should be so integrated into everyone's existence that it no longer functions as an independent category. It's not hard to imagine: art as something that we each experience in our domestic and professional environments, that we produce ourselves, rather than going to a museum once every so often to gawk over it.

Of course, the stated ideals of the art world can seem hilariously at odds with the political structures and economic markets by which it operates. This is partly because that world is vast and disconnected. Actual artists have barely anything to do with auction houses selling million-dollar paintings to collectors who then store them in tax-free zones as speculative investments.

There are still people working within museums who are sincerely committed to these principles. But they're under pressure. There's less pretense now that art—in the sense of an asset, an investment, a marker of status—is a province of the enormously wealthy. Take for example the enormous new 800-million-dollar extension to LACMA [the Los Angeles County Museum of Art], called the David Geffen Galleries. It's pitched as a lifestyle playground for the rich, and costs 60 dollars for a single adult to access, including the ticket and parking fees.

But given that we're speaking about "offshore," perhaps the most perfect expression of the transformation of art into an asset class is the storage of paintings and sculptures in free ports. Take Geneva Freeport, for example, which is estimated to contain about 100 billion US dollars' worth of art that is unlikely ever to be seen by the public. The works within it are traded without ever leaving its confines, because that would incur tax. The facility contains exhibition spaces; if you want to buy a Magritte, you can go there, see it hung in a dedicated gallery, buy it, and then move it to your storage facility in the same complex without it ever seeing the light of day. Art exists completely removed from the world in these perfectly insulated spaces and serves no purpose other than being a convenient vessel for financial speculation.

The exclusive utopian community in *The Floating World* is built within a structure reminiscent of Buckminster Fuller's iconic geodesic dome for the 1967 World Expo in Montreal.



The *Floating World* scenes in Ireland are set in the west of the country, where my family lives. The nearest airport is at Shannon, which was the first duty-free zone in the world and, as such, the precursor for Geneva's high-security, tax-exempt warehouse system for luxury asset hoarding. During the extraordinary rendition program, the US military flew captives through Shannon on their way to the black sites where they would be tortured. All of this was on my mind, even though it won't show on the surface of the book.

MAY EE WONG Art is insular in this sense, but many also use it to build geopolitical connections.

BEN Yes, that's true. I do a lot of work in South Korea, which invests heavily in its contemporary art, to the extent that Korean artists are now well represented worldwide, at major institutions from New York to London or Dubai. This is because art is understood to be an instrument of cultural soft power. There's a genuine sense that participating in the globalized practice of contemporary art is a way of staking a claim to belong to an international cultural network. If you wanted to be part of the Roman Empire, you built a temple to Augustus. If you wanted to be part of this globalized network of free circulation of money and ideas, then you would build a contemporary art center.

But again, this can be for show. I remember going to Istanbul in 2017 for the Biennial. There were tanks on the streets, and Erdoğan had just instituted the latest in a series of repressions of free speech. So I was surprised to find that the exhibition, and the artworks contained within it, were explicit in their anti-totalitarian statements and pro-democracy sentiments. It was pointed out to me that this was tolerated because the kind of people who would visit the exhibition would, almost by definition, be foreigners or liberal residents of the Turkish metropolis. The show would not be visited by Erdoğan's conservative supporters from outside the capital, so would neither inflame anyone nor change anyone's minds. It's an example of how certain cultural events can give the illusion of freedom because they operate within a very narrow bubble.

> The freedom of an island gives license to new forms of communal self-organization.

GÖKÇE What do you want the takeaway of the novel to be?

BEN At the beginning of the book, the narrator is trying to rebuild his world after it has collapsed. I wanted to use the novel as an opportunity to explore what happens when the world around us falls apart, to create a scenario in which different possibilities might play out. As it happens, the novel took turns that I didn't expect. I think it's up to the reader to decide whether its conclusions are hopeful or otherwise. There's ambivalence, certainly. But there is no truth without ambivalence and uncertainty. That's one possible takeaway. ◆

BEN EASTHAM is a writer and editor based in London. He is editor-in-chief of *e-flux Criticism* and co-founder of *The White Review*. He is also the author of *The Imaginary Museum* (HarperCollins, 2020) and *The Floating World* (Astra House, 2026).

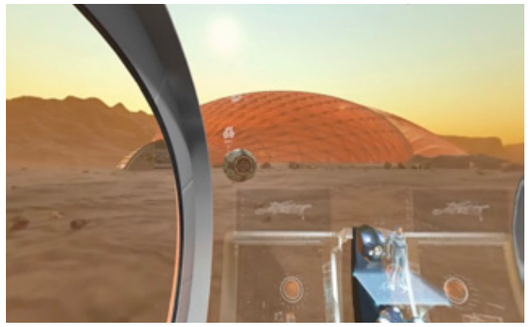
p.100 Photo by Teju on Pexels.
p.102 Image by Astra House Publishing, 2026.
p.103 Image by Editorial Losada, 1940.
p.104 Image from the Collections of the Henry Ford Museum.



THE FIRST CITY ON MARS

The desert as an otherworldly substitute

by E.M. Elshaikh



Screenshot from a video of the Mars 2117 VR.



UAE Prime Minister Mohammed bin Rashid Al Maktoum is experiencing the Mars 2117 VR at the World Governments Summit.

THE UNITED ARAB EMIRATES' plan to establish a city on Mars by the year 2117 was to begin with Mars Science City, a simulation of the Martian atmosphere enclosed in a geodesic dome in the Dubai desert. The proposed simulation was launched with yet another simulation:

> On behalf of the United Government of Mars, I would like to welcome you to your second home. … It's our pleasure to be your host of the seventieth anniversary of humanity's first colony on Mars.

This announcement comes from Saeed, an avatar modeled after an official at the UAE's Mohammed Bin Rashid Space Centre. Saeed then inducts the viewer into a virtual reality rendering of the Martian built environment, and draws our attention to the continuities between Dubai and Mars:

> This is the first city on Mars: the City of Wisdom. Its historic outpost represents the growth of the first city and how the first settlers on Mars had to innovate and utilize what they had [of] resources to make Mars a permanent home for humanity, much like the desert Bedouins did back on Earth. In the first settlement, there are units dedicated to geology and water exploration, gravity and atmosphere, soil composition and mining, radiation, and energy harvesting.

The Mars 2117 virtual reality experience debuted in 2017 at the World Governments Summit, an annual event held in Dubai to shape the future of global governance. The summit draws thousands of participants, including heads of state, and functions as a key diplomatic and agenda-setting platform for the UAE.

For Emirati officials, the Mars 2117 project and the space program more broadly aim to inspire future generations of Arab youth, carry the mantle of Arab knowledge production, cultivate a post-oil identity, and position the UAE as an innovation hub.

Throughout the UAE's space and environmental projects, from Mars 2117 to the sustainability-branded Expo 2020 to its cloud seeding, geoengineering, and land reclamation, there is a recurring logic: to register an environmental limit and, rather than alter the march toward it, extend that limit outward. Consider water: as the freshwater table dwindles, officials seed clouds and desalinate the gulf. In 2015, they commissioned a half-million-dollar climate model in order to design an artificial mountain that would redirect rain.



Mobility Pavilion at Expo 2020, exhibit on the historical development of the United Arab Emirates.

Ubiquitous water spectacles and high water usage continue unabated in the meantime. Scarcity can be made and then evaporated. The shore can always be extended. An offshoring logic imagines another shore, an iteration of something that already exists, an *elsewhere* constituted by reference to a *here*.

Here, in the UAE, where I lived from 2016 to 2017, we are in an arid landscape surrounded by a shallow, salty gulf. Artificial canals cut through the sand and reclaimed islands stud the coastal waters, some in the shape of other landmasses. Rain is scarce, though the air is humid.

Historically, the UAE's Arab tribes were desert dwellers and seafarers. But while Bedouins lived carefully within the desert's limited resources, the contemporary state treats those limits as opportunities for innovation. The petrochemical powerhouse has among the highest carbon footprints and per-capita water use in the world. Innovation is the idiom that solves this problem and enables growth to extend. Now, when it rains, Emiratis often wonder whether the rainfall is natural or the result of cloud seeding. This question registers the limit even as it marvels at the capacity to exceed it.

Generations of Arab poets have written of the desert's sublime beauty and brutality. For Imru' al-Qays and Nabati poets like al-Majidi ibn Dhaher, the desert was a site of intimate observation and moral formation, a school of character, an ecology one had to learn in order to live. Their verses marked specific locations still used by ecologists today.

Many Emirati leaders of the young state have also been poets in this tradition, but their poetry increasingly figures the desert as a landscape for grand state-building visions. Likewise, Emiratis and other Arabs in the arid region celebrate their environment by camping in the desert, often along the edges of highways. Still, they no longer inhabit the desert in the same way.

The dangerous intimacy of living in the desert has been displaced by a kind of distant wonder at a zone of inhabitability. Increasingly, the desert is encountered as an engineering problem or a conservation effort. In environmental media and in casual conversation alike, I observed Emiratis describing the desert in an otherworldly register, as though it were already another planet.

Planetary science has long treated deserts as analogous environments to that of Mars. These analogies have forged a conceptual link between terrestrial deserts and the Martian surface that builds on Enlightenment aesthetics framing deserts as hostile, barren wildernesses.

1 Neither the plan to establish a city on Mars nor Mars Science City has been officially canceled, but Mars Science City appears to have stalled. The most recent publicly announced groundbreaking target was 2022, with operations promised by 2024. There has been no construction to date.

UAE Pavilion at Expo 2020, exhibit on agricultural innovation.



The continuity between the Emirati desert and the Red Planet creates a convergence between environmental and space exploration projects in the UAE.

Mars Science City occupies this convergence, though the project has yet to break ground and remains in the design phase, living only through renderings and simulations.[1] It is planned as a living laboratory enclosed in a geodesic dome—a simulation of the Martian atmosphere and terrain, optimized not to attenuate the harshness of the Emirati desert but to intensify it. Mars Science City simulates Mars, but it does so partly by mimicking the desert which surrounds it. In a rendering produced by the Danish architectural firm Bjarke Ingels Group, the project appears as if it were set in a Martian environment, not in Dubai at all, as a rover in the foreground peers toward the illuminated dome in the distance. These renderings of Mars Science City in Dubai and the renderings of the City of Wisdom on Mars look identical, inside and out.

By 2021, when I returned to the UAE, Mars expeditions had become a prominent theme of state branding, traveling well beyond the World Governments Summit where the Mars 2117 VR had debuted. Neon signs along major highways declared that "Space is Our Ambition." Children's bookstores were filled with picture books about intrepid Emirati astronauts. Space conquest and environmental sustainability sat side by side as the twin pillars of Expo 2020 (postponed, despite its name, to 2021–2022).

Having pored over the prototypes of Mars Science City and the videos from the Mars 2117 VR, walking through Expo 2020 induced a strong sense of déjà vu. The open-air central dome at Al Wasl Plaza shares the form of these speculative designs, if not their function.

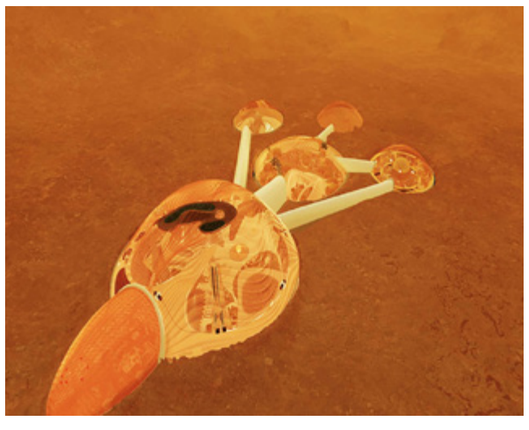
Mars Science City design rendering by architects Bjarke Ingels Group.





Mars Science City design rendering by architects Bjarke Ingels Group.

The City of Wisdom as depicted in the Mars 2117 Handbook.



The lineage of the geodesic dome runs from Buckminster Fuller's Biosphere at the 1967 Montreal Expo all the way through Biosphere 2 (the 1980s "Spaceship Earth" miniature in the Arizona desert that was financed by a petro-billionaire heir). Beneath domes like these—whether at the City of Wisdom, at Mars Science City, or at Al Wasl Plaza—the technical and the symbolic intermingle. The domes contain environments that require complete design and control; they are engineered bubbles of habitability. The architects of Mars Science City have described it as a prototype for "Martian vernacular architecture."

During one of my visits to the Expo, taking refuge from the harsh midday sun, I stepped into an air-conditioned gift shop. I leafed through a 200-euro volume about one of the Emirati pavilions. The volume was produced by Assouline, the Paris luxury publisher, and Foster + Partners, the London starchitect firm. I read it under the close watch of the guest worker who had been assigned to guard it; in hushed tones, she described the strains of working the massive event as she allowed me to read and take notes. The book described Mars Science City: "The experimental city's mission is to find out what it takes for people to spend long periods, or even live permanently, on Mars.... Pioneers live in a simulated Martian colony, not only doing their research, but also being research subjects."

The pioneer image evokes the colonial frontier. Just as the American frontier myth casts the astronaut as cowboy, conqueror of hostile terrain, Mars 2117 recasts the astronaut, but as an *inverse* Bedouin: not one who adapts to environmental limits, but one who treats environmental resources as fungible and pliable, as material to be



experimentally transformed.

What Mars 2117 borrows from the frontier myth is not only territorial expansion but a vision of the desert as alien, awaiting transformation. If the freshwater table dwindles, seed the clouds. If the desert can no longer sustain life, build a habitable enclosure—whether terraformed in the Arabian desert or the red sands of Mars. In Dubai, one may simply build an island. But on Mars, offshoring enables one to find an island beyond earthly limits.

Expo 2020 featured three themed Emirati pavilions: Opportunity, Mobility, and Sustainability. Together, they demonstrate a strategy: extend opportunities for growth infinitely, enable mobility to seize opportunities wherever they may be, and design sustainability to imagine infinitely extensible plastic resources. The 2023 United Nations Climate Change Conference—which was hosted by the UAE, with the head of ADNOC, the national oil company, at the helm—exemplifies this logic. Sustainability and innovation can suture together incommensurate goals, enclosing them in a bubble of techno-optimism.

But offshoring is asymmetrical: it leaves some behind, landlocked in a zone of neglect. I often think of Vincent, a guest worker I met in the UAE when I first moved there. He told me how hard it was to adjust to the desert after growing up in the Philippines. He dreamed of being a sailor but spent his days as a lifeguard at a hotel pool in the desert, watching the water evaporate.

But offshoring is asymmetrical: it leaves some behind, landlocked in a zone of neglect.

← Central dome at Expo 2020.

↓ Souvenir plaques from the Expo 2020 gift shop.



As Saeed continues his tour of the City of Wisdom, he informs visitors that "policies are focused on … the further deep-space population programs and the Earth energy preservation and support protocols designed for supercharging the de-pollution of our earth." The Martian City of Wisdom circa 2117 thus suffers from the same uneven imagination as the present day, for one can imagine erecting an entire civilization on Mars designed to de-pollute Earth, but one can scarcely imagine not polluting it in the first place. ◆

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p.106 Photo by Ameer Basheer on Unsplash.
p.108↑ Video by World Governments Summit, 2017.
p.108↓ Photo courtesy of World Governments Summit, 2017.
p.109 Photo by E.M. Elshaikh.
p.110↑ Photo by E.M. Elshaikh.
p.110↓ Image by Bjarke Ingels Group.
p.111↑ Image by Bjarke Ingels Group.
p.111↓ Image courtesy of Dubai Media Office.
p.112 Photo by Daniel Ponomarev on Pexels.
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GEODIVERSITY

Echoes of colonialism in Cape Town

by Andrea Pollio, Liza Rose Cirolia, Samuel Giraut

"GLOBAL CLIENTS ARE SEARCHING for geodiversity," notes the manager of a major business process outsourcing firm in South Africa. Within this global industry known as BPO, international companies not only externalize some of their functions—from customer help desks to more sophisticated IT support—but they also offshore them to strategic geographies. Geodiversity in this context is a complex calculus: beyond cost saving, it involves spreading operations to mitigate locational risks, increasing language options, and operating across different time zones.

Cape Town is a flourishing global hotspot of BPO and a pivotal coordinate in the industry's rapidly shifting cartography. While the market here truly ignited in the early 2000s—drawing even the global weight of Amazon to South Africa's shores—the transition to a flexible labor regime was a deliberate act of economic statecraft driven by the post-apartheid nation-building project in the late 1990s. At the time, creating jobs for groups that had been disenfranchised by racial segregation was imperative. Today, the BPO sector provides more than sixty thousand jobs in Cape Town, with a projected yearly growth of nearly 10 percent. In a city still mired in extremely high unemployment, the expansion of BPO firms is vital.

Contemporary offshoring can be seen as part of a longer history of global economic projects in Cape Town. The city has long been the recursive offshore of business frontiers, a location that, in continual iterations, is made to be central because it is peripheral. Ever since five Dutch ships created a refreshment station along the naval route between Europe and Asia, the land that would become Cape Town has been part of an expanded network of outsourcing. Recursively, world-making projects—from the colonialism of the past to today's AI—have always relied on offshores like these that are made and remade, close and far away.

Naval Waypoints

When Portuguese explorers first circumnavigated Africa in the sixteenth century and established the so-called Cape Route between Europe and the Indian Ocean, they named the continent's southwesternmost peninsula Cabo das Tormentas (Cape of Storms). Later rebaptized as Cabo da Boa Esperança (Cape of Good Hope), it marked the point where ships from Europe would begin to travel more eastward than southward, eventually reaching the point where the Atlantic and Indian Oceans meet.

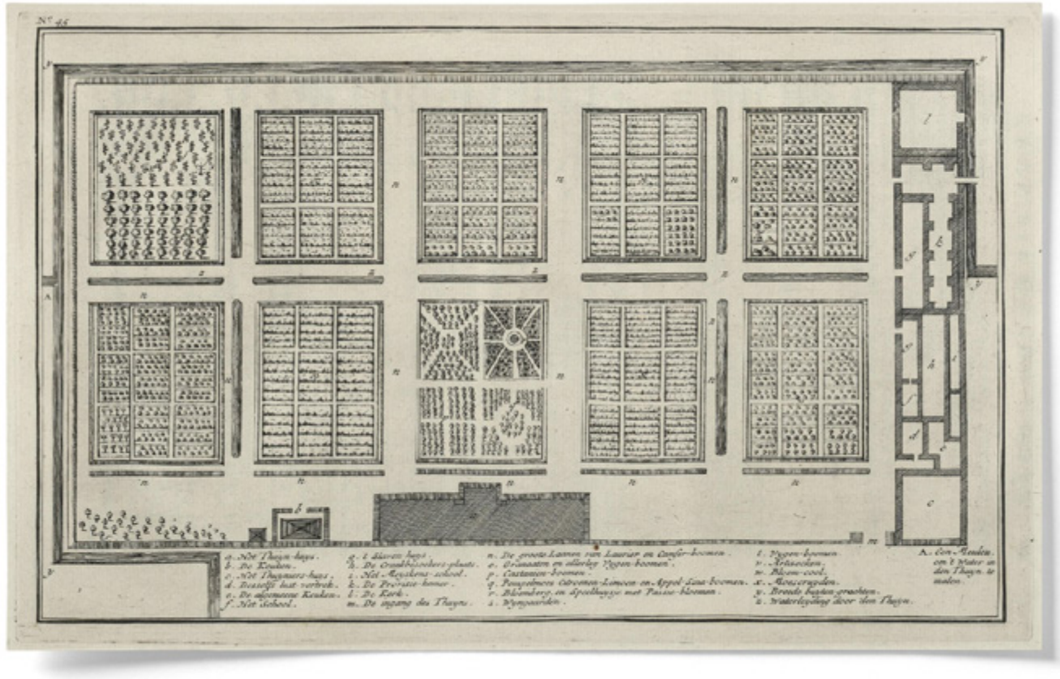
Some fifty kilometers north of the tip of this cape, a bay offered shelter from the frequent storms that had so impressed Portuguese sailors. It was here that, in 1652, the Dutch East India Company (Vereenigde Oost-Indische Compagnie, or VOC) sent five ships and a contingent of company employees to establish a halfway station. The colony they founded, Kapstaad (Cape Town), was a crucial waypoint in the wider technological configuration of shipping vessels. While the Moluccas were farmed for spices, and Java for coffee and sugar, the tip of Africa quickly became the corporate outfit that solved a specific logistical problem: scurvy. Instead of carrying months' worth of rotting food on long journeys between Europe and Asia, ships would stop at the newly founded colony where the VOC had outsourced its canteen.

On a large experimental farm known as the Company's Garden, European seeds were tested and selected for African soil; free settlers were then licensed to cultivate these seeds in the vicinity of the fortified settlement. The architecture of trade at the Cape was designed to preserve the VOC's control over the provisioning of ships transiting through this mandatory stopover. In the early years of the VOC's colonial administration, a restrictive system of trading licenses known as *pacht* was introduced. This system granted certain European settlers exclusive rights to trade on the domestic market and with passing ships, while reinforcing the VOC's position as the gatekeeper of trade in agricultural goods bought at fixed prices. Revenue generated from the sale of trading licenses benefited the VOC, and the *pacht* system pushed settlers without the necessary connections to expand the colony's farming economy further inland.

A century later, Adam Smith devoted several pages of his *Wealth of Nations* to describing the Dutch Cape Colony. As an obligatory stop on the Cape Route, he noted, Cape Town afforded its farmers an inexhaustible market for surplus produce. In other words, Smith explained,

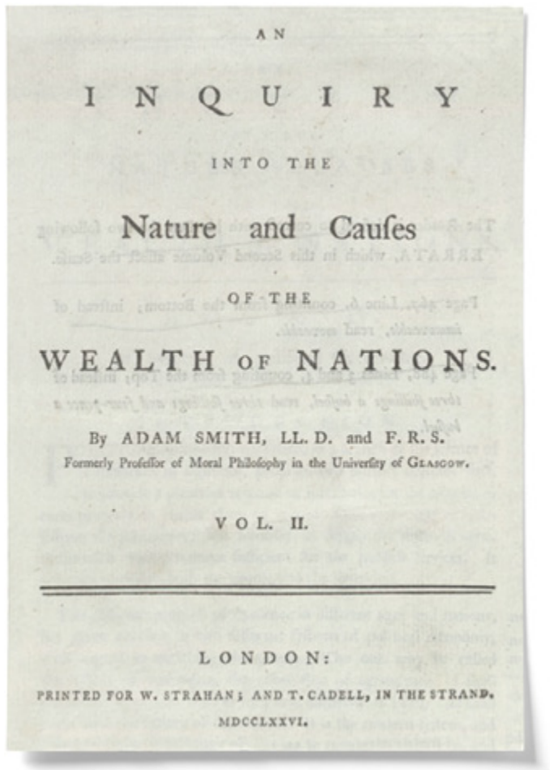


A 1726 view of Cape Town as seen from Table Bay.



A 1726 engraving of the Company's Garden experimental farm.




AN

INQUIRY

INTO THE

Nature and Causes

OF THE

WEALTH OF NATIONS.

By ADAM SMITH, LL. D. and F. R. S.

Formerly Professor of Moral Philosophy in the University of Glasgow.

VOL. II.

LONDON:

PRINTED FOR W. STRAHAN; AND T. CADELL, IN THE STRAND.

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↑ Experimental corn fields on a map of VOC fortifications circa 1656.

← The 1776 title page of Adam Smith's *Wealth of Nations.*

In the global AI stack, Cape Town offers geodiversity, just as it did for shipping technologies in the early days of its colonial history.

due to the availability of cheap, fertile land and labor, as well as its almost Mediterranean climate, agriculture in the Cape Colony perfectly matched European mercantile needs—and the monopolizing practices that Smith intended to critique. What he did not acknowledge, however, was that the offshoring of European agriculture to the Cape had not been cheap, nor had it been easy.[1]

Terra Nullius

European farming clashed with the herding practices of the original Cape inhabitants, the Khoi and the San. Some of the earliest pass laws, which would later become a hallmark of apartheid segregation, were enacted to control the movement of native people on the farms.[2] To avoid further confrontation with these people, the VOC brought slaves to the Cape from other colonies, mostly Java and Madagascar.

And the soil itself had to be transformed. This was especially the case on the sandy plains lying southeast of Cape Town's harbor, which today are called the Cape Flats. By the time the English took over the colony from the Dutch in the early nineteenth century, all the naturally fertile land had already been settled. To expand agricultural production on "unsettled" land, yet another technological solution had to be imported: no-till farming, a technique that, using the crop residue from previous harvests to form a protective layer, was better suited for the fast-eroding soils of the Cape Flats.

To find farmers skilled in no-till methods, the British colonial administration recruited volunteer, impoverished smallholders from Lünenburger Heide in Northern Germany to come to the Cape.[3] Their farming techniques allowed them to grow vegetables in sandy, poor soils using chicken manure and only superficial plowing. To shield the new orchards, stabilize the dunes, and protect fruits and vegetables from windswept sands, Australian acacias were introduced. These golden-flowered shrubs, whose seeds lie dormant for decades underground, are known locally as Port Jackson willows, and they are to this day among the most invasive aliens endangering Cape flora.

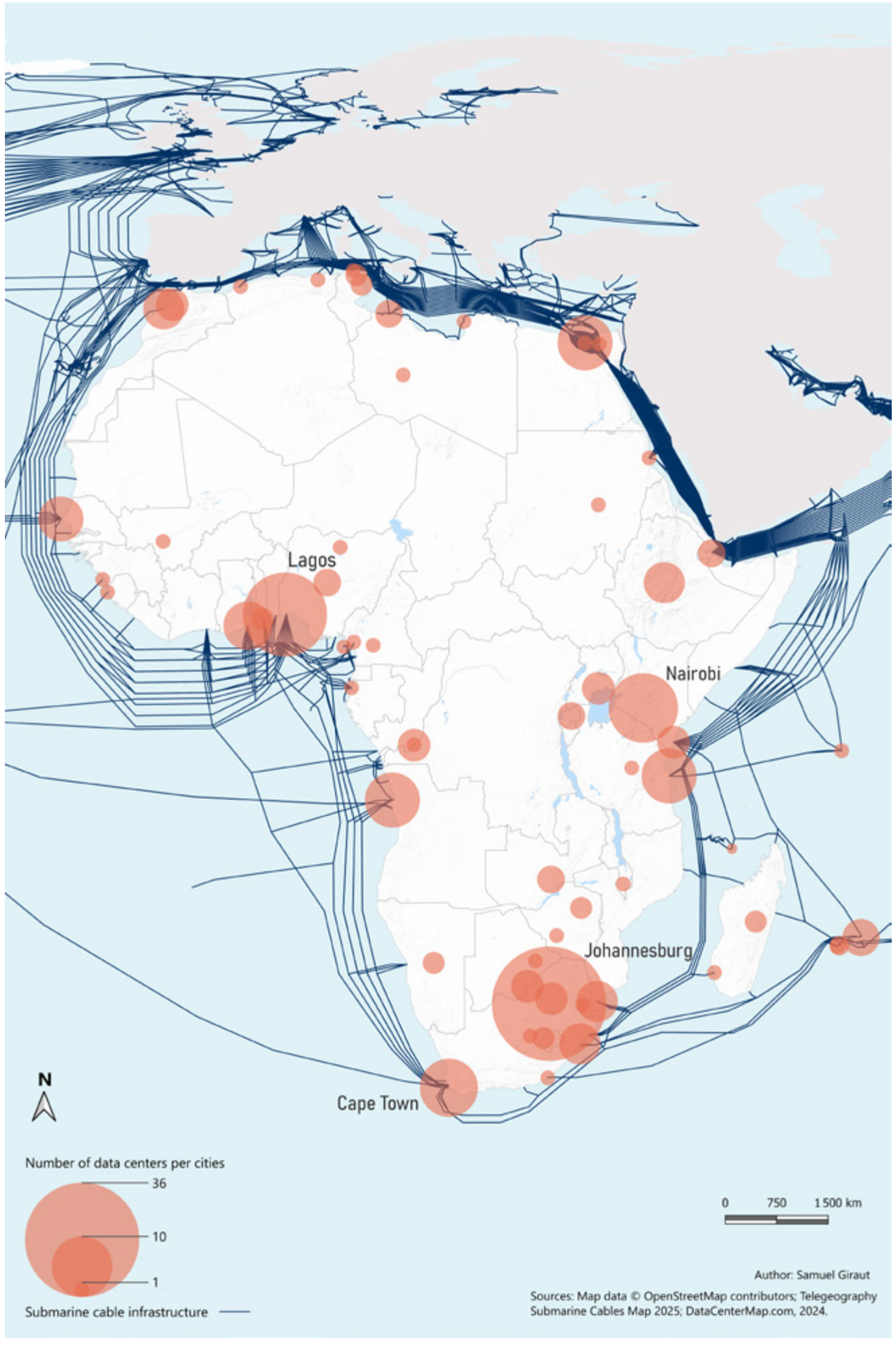
1 Paul Nugent, *Race, Taste and the Grape: South African Wine from a Global Perspective* (Cambridge University Press, 2024).

2 Nigel Penn, *The Forgotten Frontier: Colonist and Khoisan on the Cape's Northern Frontier in the 18th Century* (Ohio University Press, 2006).

3 Lizette Rabe, "The Philippi German Agricultural Association: 125 Years of Organised Agriculture on the Cape Flats," *South African Journal of Cultural History* 26, no. 1 (2012).

The golden flowers of the invasive *Acacia saligna.*





Data centers and undersea cables on the African continent in 2024.

We can read the history of Cape Town as an archaeology of *terra nullius*. It was the offshoring of agriculture that allowed the imperial claim on the Cape to take root. Here, European farming expanded by displacing and replacing both people and plants, and it thrived by employing free, forced, and chattel labor brought from the most disparate corners of the empire. The offshoring of agriculture was also, as demonstrated by the pass laws, a testing ground for later forms of spatial segregation—a frontier experiment in the violent logistical technology of imperial trade. And while the post-apartheid state has sought to undo these inequities, the legacies of the agricultural Cape Route are still alive: European dining tables enjoy grapes in winter and oranges in summer, grown on the Cape and shipped to Dutch ports all year round.

Retracing the Cape Route

Far enough from Europe and the East Indies to be a central anchor in imperial trade circulations, Cape Town's strategic position persists throughout technological histories that extend to the present day. In the late nineteenth century, segments of the Cape Route provided the blueprint for the so-called Victorian internet, as telegraphic cables were deployed to facilitate "discipline at a distance" for the British Empire.[4] At that time, the Cape Colony became the gateway to yet another imperial project: expanding into the continent to reach the mineral-rich highlands. Most famously, it was the colony's prime minister, Cecil Rhodes, and his grandiose projects like the unfinished Cape to Cairo Railway and Telegraph that would recast Cape Town as the obligatory stopover between the sea and Africa's inland frontiers. Eventually, as old technologies gave way to new ones, Rhodes's telegraphic networks became an invisible patchwork of coaxial telephone lines and high-capacity fiber-optic cables—the lines that now tether Cape Town to the backbone of the global internet, and propel the growth and expansion of the city's BPO sector.

While BPOs might be the present, AI is the future. In the cold, temperature-controlled aisles of Cape Town's brand-new data centers, both computing power and labor can be outsourced. While servers churn data, on-site technicians known as "remote hands" tend to the machines, swapping a failed drive or recabling a rack for clients whose operations might be thousands of miles away.

In the global AI stack, Cape Town offers geodiversity, just as it did for shipping technologies in the early days of its colonial history. The same geographic advantages that once made the Cape an obligatory passage for naval trade and continental expansion now position it as a digital gateway, offering localized computational power and affordable labor in the AI race.

Notwithstanding issues of energy and water scarcity, the conditions are favorable. Beyond the relatively low cost of labor, the time zone is centrally aligned with many jurisdictions, and Cape Townians speak several imperial languages, including English, Dutch, and German, so both global AI firms and regional markets can be served effectively from Cape Town. In a moment of heightened geopolitical turbulence, the tip of Africa is once again peripheral and yet central to flows of data and labor.

However, as the history of offshore agriculture demonstrates, these transitions are never seamless; they require the transformation of land, labor, and law. Recursivity, after all, is more than just repetition.[5] It involves constantly shifting, contingent logistical geographies of centrality and peripherality. As Cape Town continues to operate at the crossroads of transoceanic networks, new digital frontiers assemble along the familiar routes that have defined the city for centuries. Here, the past lives in the present. The recursive offshore makes Cape Town not just a destination for technology, but a persistent site of fragile, evolving world-making processes. ◆

4 Samuel Giraut, Andrea Pollio, and Liza Rose Cirolia, "Durabilities in the Age of Disruption," *Urban Geography* (2025).

5 Luciana Parisi and Ezekiel Dixon-Román, "Recursive Colonialism and Cosmo-Computation," *Social Text Online* (2020).

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p.117↓ Wikimedia Commons CC0 1.0.
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p.120 Map by the authors.



ENERGIØ

Future-Proofing the North Sea

by Michaela Büsse

The thirteen-minute film *energiø* examines current proposals to construct energy islands in Europe. These large-scale offshore infrastructures are designed to aggregate electricity from dispersed wind farms, convert it into green hydrogen via electrolysis, and redistribute it across neighboring European states. At the intersection of climate crisis governance, geopolitical realignment, and techno-economic optimism, energy islands territorialize offshore space in order to boost renewable energy production while strategically maintaining energy sovereignty.

Since the onset of the war in Ukraine, European governments have accelerated such projects in the North Sea and the Baltic Sea, framing them as sustainable futures and instruments of energy security. In response, *energiø* considers these developments within a broader landscape of infrastructural speculation and libertarian imaginaries of breaking free from fixed territorial, political, and regulatory constraints. Drawing on real-world design proposals, the film appropriates the salvation aesthetics of energy island promotional campaigns utilizing Blender, a software typically used to create glossy architectural renderings and animations. Images like these do more than just represent speculative infrastructures—they actively participate in producing their plausibility and authority. Through critical montage, *energiø* thus reflects on shifting energy geographies, the alliances and power relations that bring them into being, and the role of images and design in shaping them.

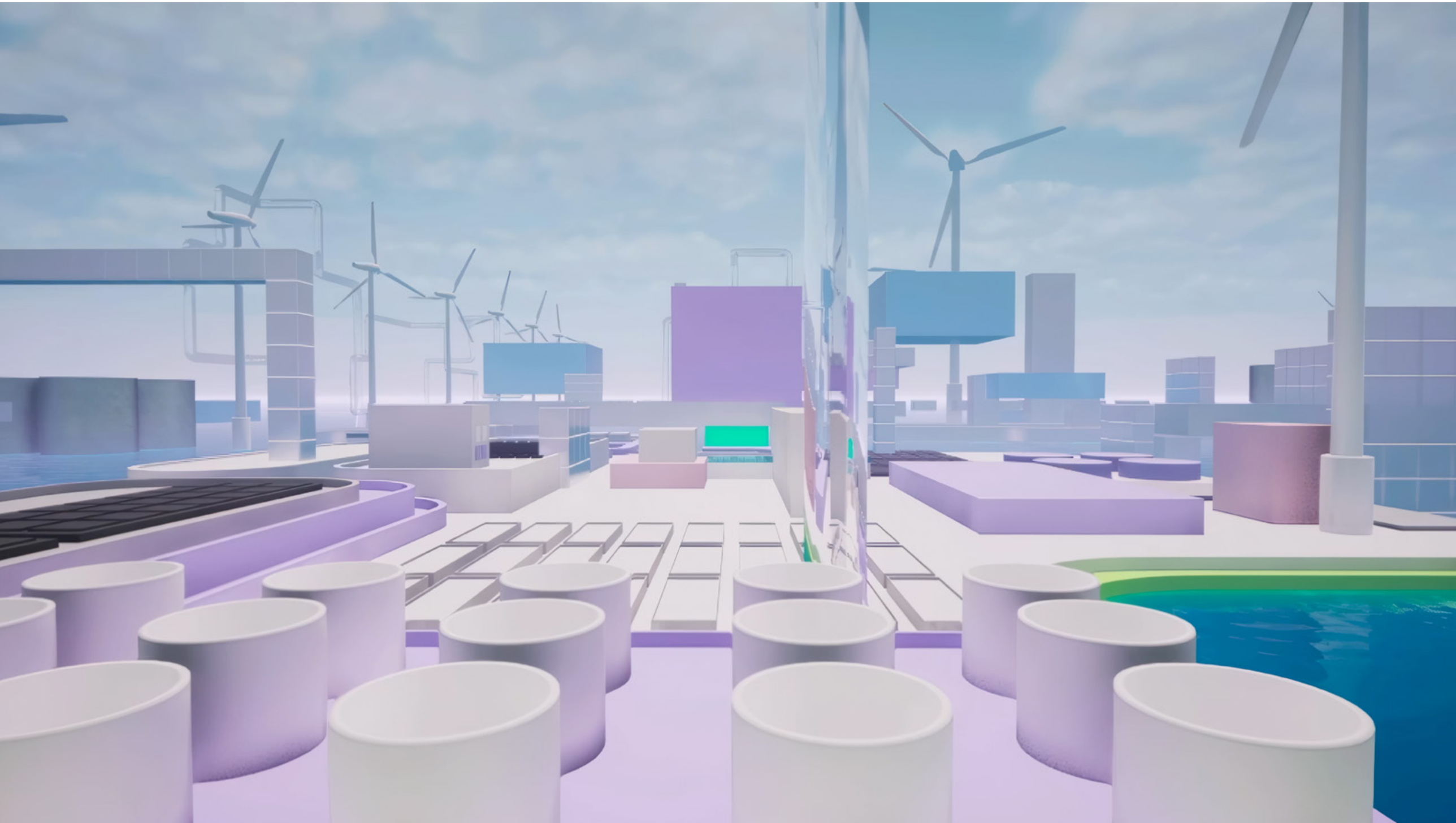


In Central Europe, where sun and wind are limited and inconsistent, building renewable energy systems presents a substantial challenge. The Russian invasion of Ukraine in February 2022 exacerbated these difficulties and starkly exposed the vulnerabilities of Europe's energy dependency. The Esbjerg Declaration of the same year marked a decisive shift in energy policy by framing the North Sea as the "Green Power Plant of Europe." Signed by the heads of government of Denmark, Germany, Belgium, and the Netherlands, the declaration highlighted the "untapped potential" of the North Sea, and it advanced a vision of interconnected offshore hubs and islands that would enable energy production under cross-border governance.

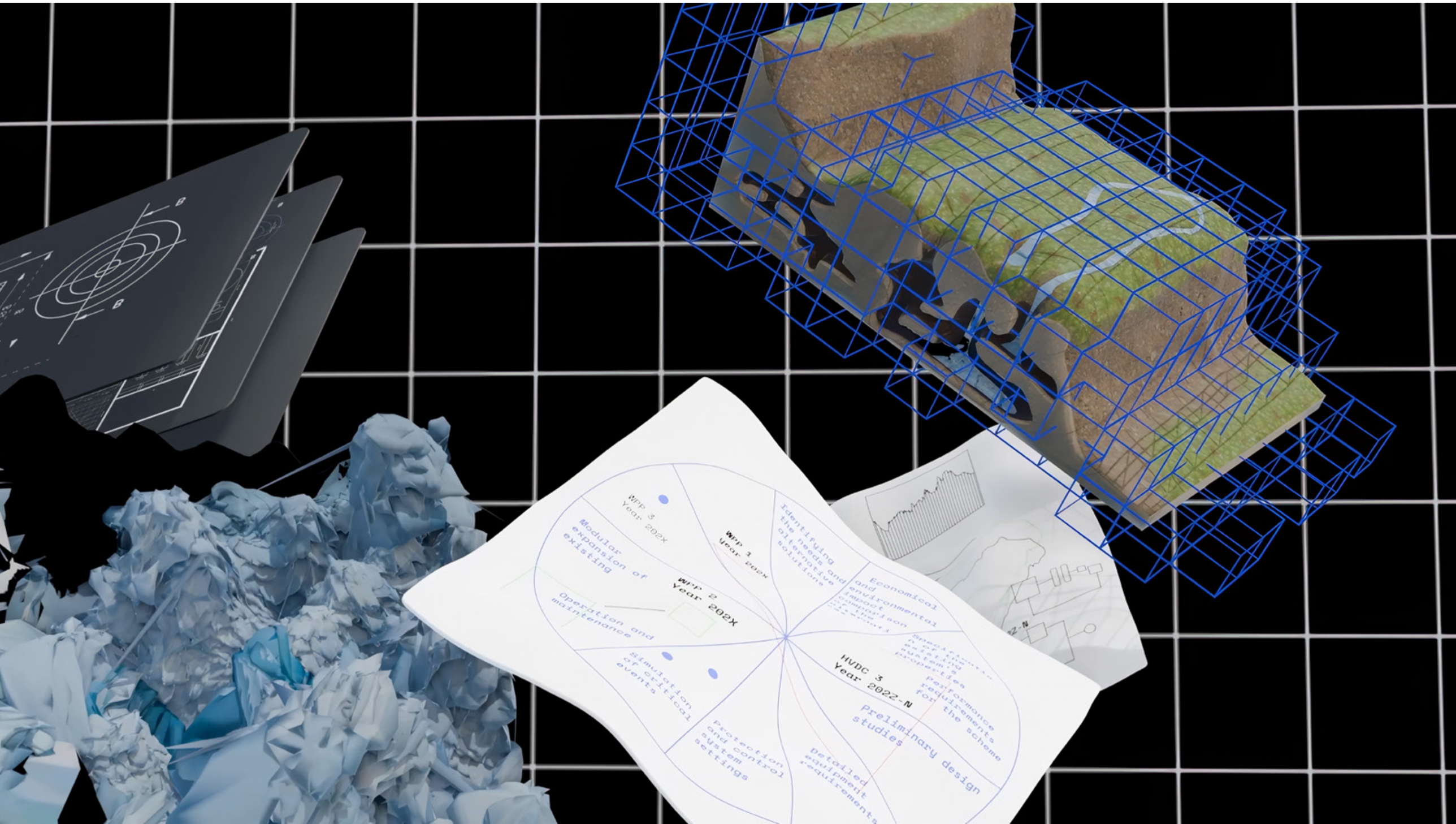


Two years earlier, a consortium of Danish investors including PensionDanmark, Denmark's own pension fund company, had proposed the energy island as a groundbreaking solution to accelerate Europe's energy transition. Before the feasibility study had even started, highly polished promotional videos, renderings, and even an interactive 3D model circulated in the press, presenting the energy island as not only functional and futuristic but also design-forward.

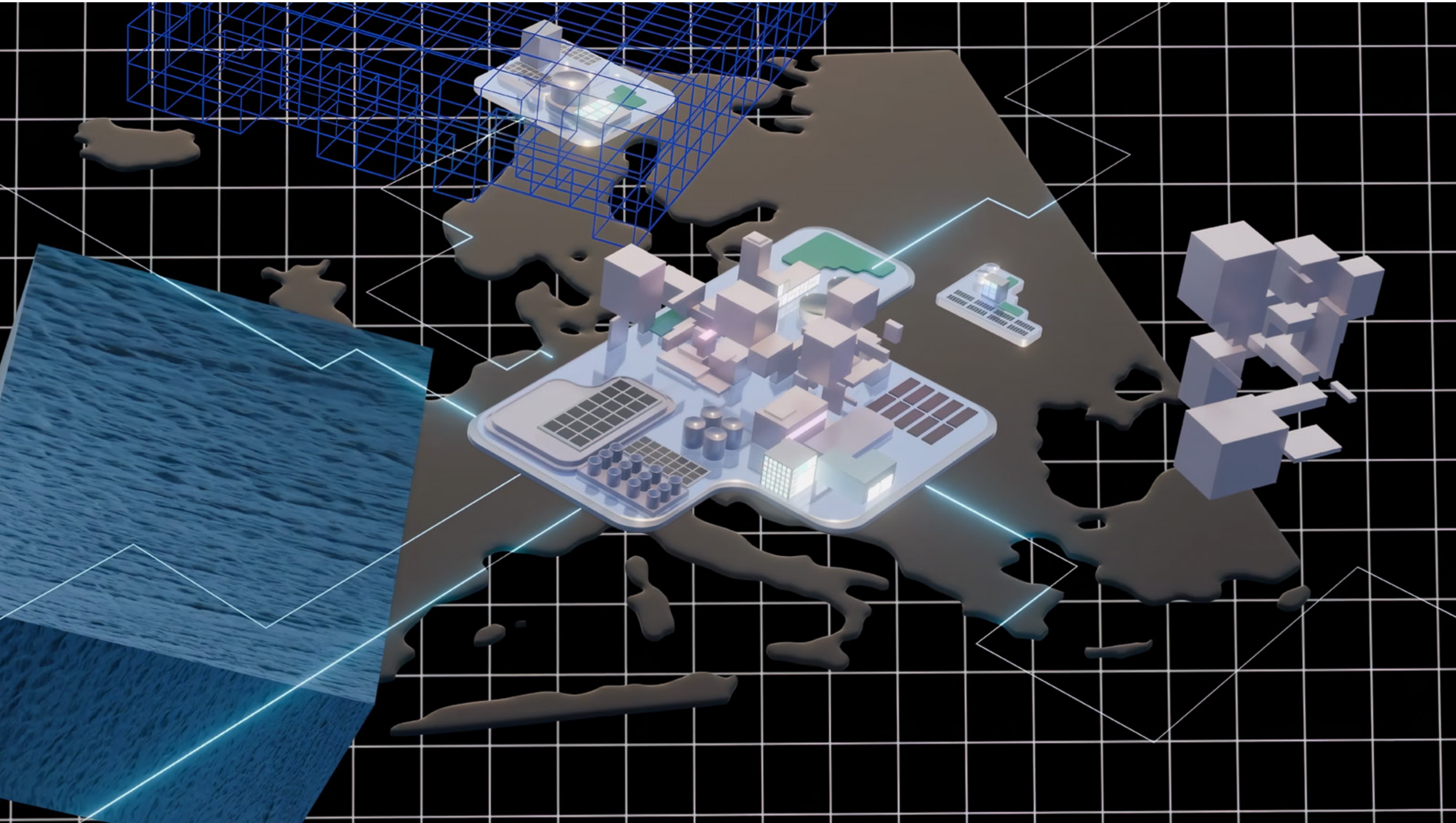
Leveraging the techno-solutionist appeal of this material, *energiø* references speculative architecture and the platform economy, both of which are significant to the energy island aesthetic. Technical grids, bathymetric scans, and metallic color palettes render the ocean as an infrastructural space.



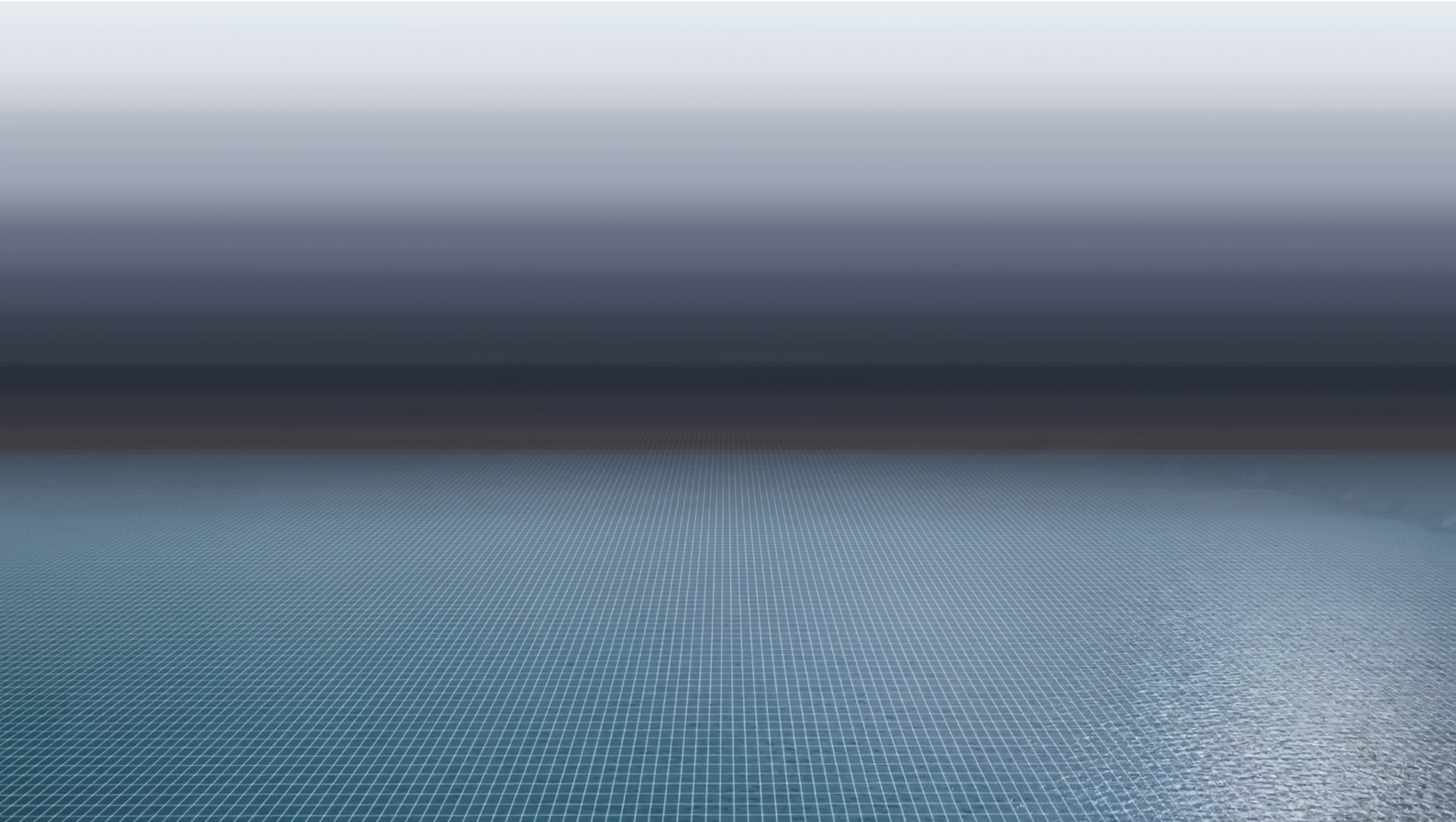
As yet, energy islands exist only on the drawing board, imagined and communicated through media such as policy and tender documents, maps, seabed scans of possible sites, visualizations of their structures, and presentations of their potential capacities. These documents sell a promise that is detached from these projects' complex material surroundings and even from what is technologically feasible. But although many industry players assume the energy island will never become a reality, the proposal continues to appeal to governments.



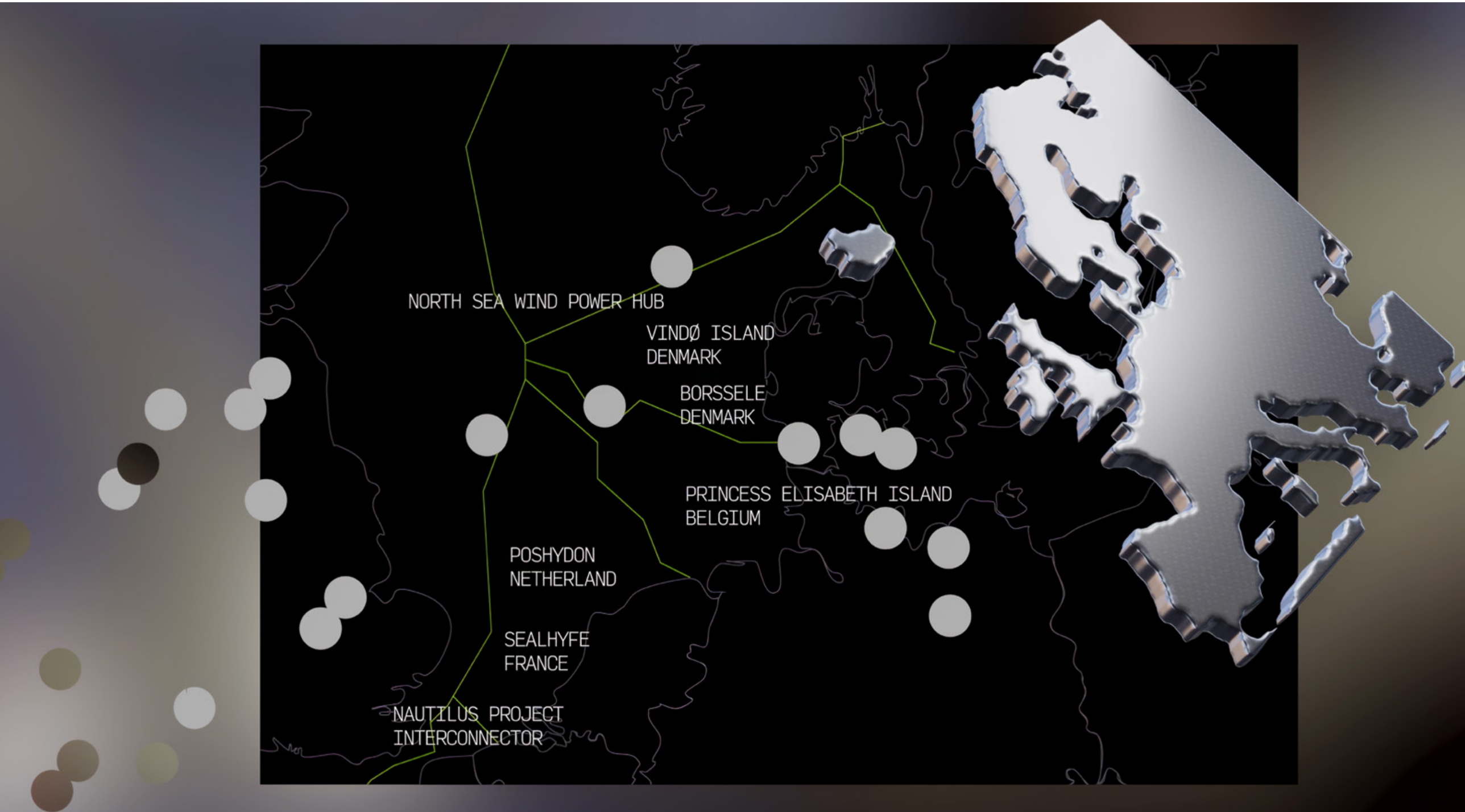
The energy island is intriguing because it offers an all-in-one solution to both the energy crisis and the quest for energy sovereignty. Its spatial configuration is built upon longstanding tropes of the offshore and the island as experimental zones; at the same time, it translates the dispersed and often unruly geographies of offshore renewable energy into a legible territorial form. Proponents of energy islands, such as Copenhagen Infrastructure Partners, which claims to have a series of energy islands in development, extol their cost-effectiveness, their modular design, their efficient use of marine space, and their capacity to integrate emerging technologies as they mature, such as floating solar, wave, and tidal power. As an expandable platform, the energy island promises resilience, flexibility, and future-proof investment.



But this promise relies on a convenient reframing of the ocean as a limitless, uninhabited resource frontier awaiting technological conquest. Marketing materials for energy islands frequently depict the sea as a blank slate, an empty, neutral expanse where sleek wind turbines and hydrogen production facilities rise seamlessly from the water, isolated from all forms of life or human activity. This perspective reduces the ocean to a mere backdrop for industrial development, ignoring its complex ecological systems, its cultural significance, and the human and non-human communities that depend on it.



While large-scale artificial energy islands remain speculative, start-ups and national research initiatives are already testing small-scale pilot projects. In the Baltic Sea and off the coasts of the Netherlands and Belgium, existing islands and decommissioned gas platforms are being repurposed to host experimental facilities. These prototypes, strategically positioned within national offshore zones, aim to demonstrate the feasibility of wind, solar, and hydrogen production systems in marine environments, while aligning with national and corporate energy strategies. Success in these trials might accelerate the energy island's shift from conceptual design to reality.



In the Ostend Declaration of 2023, France, Ireland, Luxembourg, Norway, and the UK joined the Esbjerg consortium, reaffirming a shared mission to turn the North Sea into the Green Power Plant of Europe. While the energy island may or may not ever become a reality, its existence as a media object already has significant effects on national agendas, funding streams, and research programs. By revealing how images produce the offshore as an object of design, *energiø* investigates how the energy island is turned into a politically plausible and governable future.

MICHAELA BÜSSE is an interdisciplinary researcher, filmmaker, and postdoctoral fellow at TU Dresden. Her work examines environmental speculation and emerging material and territorial configurations in the context of planetary urbanization and the climate crisis.

p. 122–139 Stills from *energiø*, Michaela Büsse, 2025.





MUTATIONS AT SEA

Artists imagine the synthetic offshore

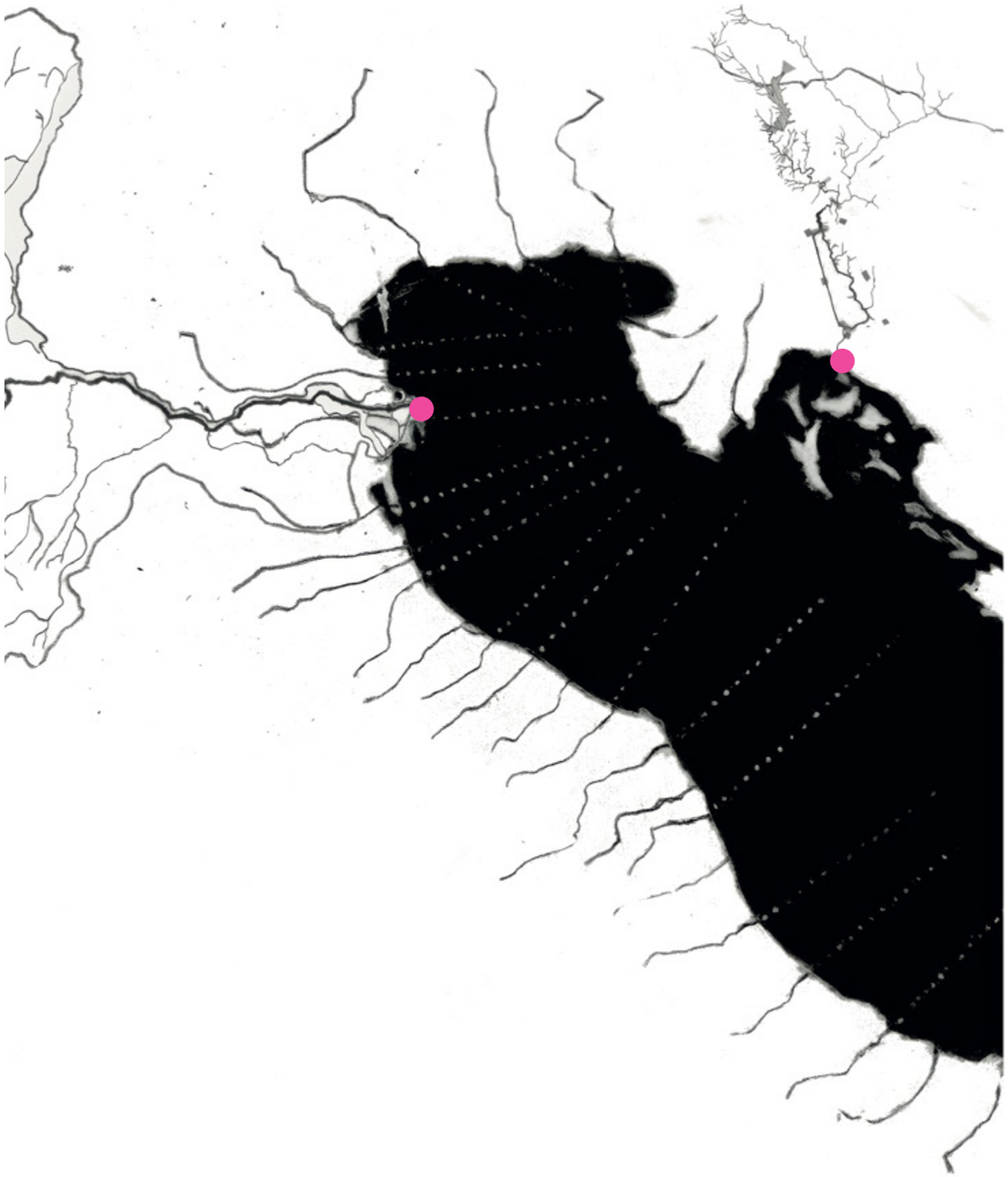
by Nancy Couling

IN 1997, CHARLES J. MOORE discovered the Great Pacific Garbage Patch in the calm waters midway between Hawai'i and California. Here, far from shore, ocean currents bring together waste from countries around the Pacific rim, where, mostly submerged, it forms a vast mass described as a "plastic soup."

Meanwhile, in the Mediterranean and Adriatic Seas, locals have noticed increasingly frequent jellyfish blooms, even during cold winter periods previously considered inhospitable to jellyfish. Indeed, worldwide, scientists have confirmed a 42 percent increase in jellyfish caught in fishing nets since the 1950s.[1]

Both of these phenomena are indicators of a new synthetic offshore: a space that, through unprecedented numbers of both inorganic and organic occupants, is transforming. This mutating seascape that we share with changing ecosystems and emerging life-forms is not yet fully understood, imagined, or critically addressed. New forms of cultural representation and production are required to forge cultural links to this synthetic offshore. The two speculative projects that follow promise to draw us closer to that goal.

1 Lucas Brotz et al., "Increasing Jellyfish Populations: Trends in Large Marine Ecosystems," *Hydrobiologia* 690 (2012), https://doi.org/10.1007/s10750-012-1039-7.



Location of water samples from the Po River & Rječina River deltas in 2024.



Microscopic view of plant tissue intertwined with microplastic found in a water sample from the Po River delta in 2024.



Microscopic view of salt formation with microplastic in a water sample taken from the Rječina River delta in 2024.

Plagptera—A Creature of the Sea

Microplastics penetrate life at the microscopic level and enter the digestive systems of most living creatures along the oceanic food chain, including humans. Ocean water now contains a complex library of suspended "invisibles"—chlorophyll, microplastics, caffeine, acids, and heavy metals, among others. A series of microscopic views of water samples collected at eight locations around the Northern Adriatic, from the Po River delta in Italy to the Rječina River delta in Croatia, revealed microplastics at every site, often interwoven with plant tissue.

How does one make legible the invisibility of microplastics? How does one demonstrate the effects of plastic in the undersea world and link its accumulating shoreline presence to the currents at the larger scale of marine basins?

Plagptera—A Creature of the Sea is a ten-minute video by Judith Krüger that speculates on species mutation in the North Sea.[2] It portrays an undefined moment in the near future when the twelve million tons of plastic that end up in the ocean every year cause the *Trichoptera* caddisfly to mutate into a fictional protagonist—the *Maritimus plagptera*, or plastic water fly.

The adult caddisfly is terrestrial, but its larvae are aquatic, and can be found in streams, rivers, lakes, ponds, spring seeps, and temporary waters. The larvae of many species use silk to make protective cases, which are often reinforced with gravel, sand, twigs, chewed-off plant parts, or other debris.

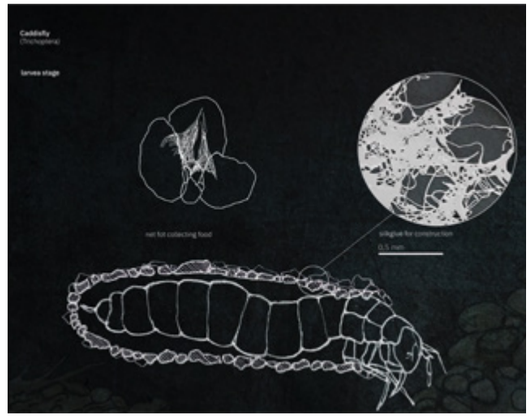
In this project, the caddisfly's mutated cousin, the *Maritimus plagptera*, evolves in inland Norway and then migrates toward the North Sea. It has three pairs of legs for swimming, two sensitive antennae for locating plastic, and two pairs of sticky net wings for collecting floating plastic particles. Plastic water flies incorporate microplastics into their hard shells, continuously absorbing and breaking down plastic molecules as they shed their skins several times during their long lifespans.

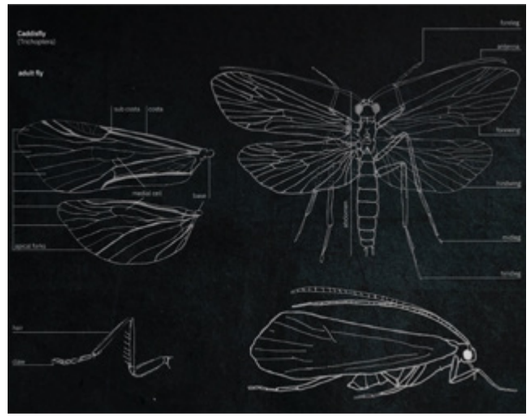
In the style of a David Attenborough nature documentary, the video explains how swarms of plastic flies will operate on a global scale, and it describes in detail the intricate life cycle of the larva, the cocoon, and the adult plastic water fly—illustrated with hand drawings and models made from marine litter. Merging science and narrative, this work shifts away from the meta-narrative of victim and perpetrator, revealing instead the ambiguity of metamorphosis in a fascinating, absorbing, and horrifying way.

How close to reality is the *plagptera*? The new synthetic offshore is full of metamorphosis. A 2016 report by the World Economic Forum claimed that "by 2050, on the current track, oceans are expected to contain more plastics than fish (by weight)." Plastic production is expected to double by then, creating new revenue streams for the fossil fuel industry at a time when oil and gas demand for transportation is declining.[3]







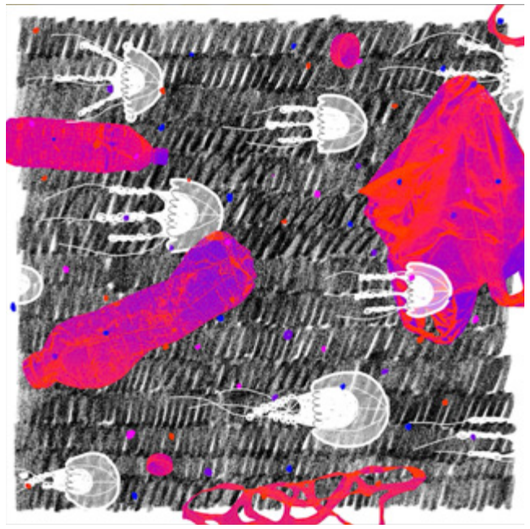


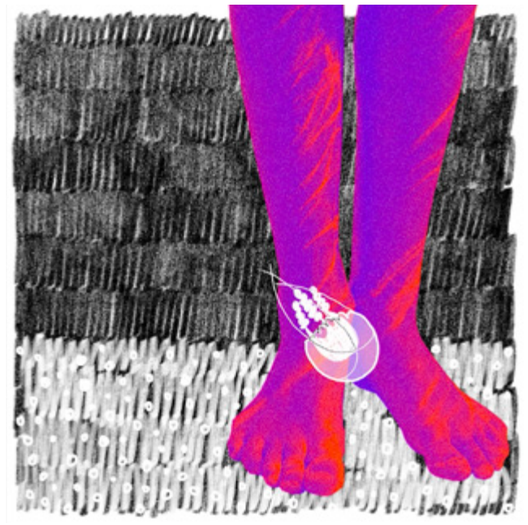


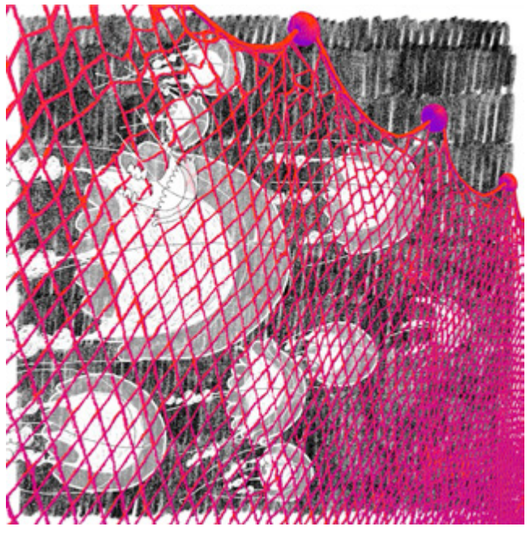
Stills from the video *Plagptera—A Creature of the Sea* which narrates the fictional mutation of the caddisfly into the plastic water fly.

2 Judith Krüger, *Plagptera—A Creature of the Sea*, 2020, https://explorationsinoceanspace.cargo.site/Plagptera-A-Creature-of-the-Sea.

3 World Economic Forum, "The New Plastics Economy: Rethinking the Future of Plastics," 2016, accessed July 20, 2026, https://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf.







Planet of the Jellyfish

The synthetic offshore is close to home. Destined to drift with the currents, large numbers of jellyfish are appearing ever more frequently in our liminal contact zones, transported there by local maritime conditions.

Jellyfish are ancient, omnipresent, resilient, and fascinating creatures. Fossils testify to their existence over 500 million years ago, making them some of the oldest living creatures. In the Northern Adriatic and other seas worldwide, jellyfish populations are increasing and threatening to tip the ecological balance. This is partly due to habitats depleted by overfishing, as well as the increase in hard surfaces available to polyps such as oil rigs, wind parks, and other marine infrastructure. The urbanization of the sea is therefore unwittingly promoting jellyfish reproduction.[4]

Science has been hampered by the difficulty of capturing jellyfish without damaging them, but research is accelerating to address the growing number of blooms. Among the multiple avenues being pursued is the use of jellyfish biomass for fodder, biofuel, biofertilizer, and cement additives, as well as the use of jellyfish mucus to capture marine microplastics.[5]

Planet of the Jellyfish is a thirteen-minute, five-chapter stop-motion video by Vida Boogh, Amalie Knutsvik, Petra Kovačic, and Adam Riaboff.[6] Its hand-drawn images set the stage for reimagining a world where jellyfish are major protagonists. The film traces their existence from 500 million years ago to a speculative future 150 years from now. Due to the introduction of jellyfish through ballast water in the twentieth century, the Northern Adriatic Sea has now become the Jellyatic Sea, with dense jellyfish populations at ports, and hotspots of jellyfish reproduction on oil-rig foundations. Vacation zones have become "stungation" areas, where large-scale jellyfish control is needed to prevent stings. Steered by the currents, jellyfish move along natural highways, ultimately arriving at a seabed graveyard where jellyfish biomass is returned to the Earth.

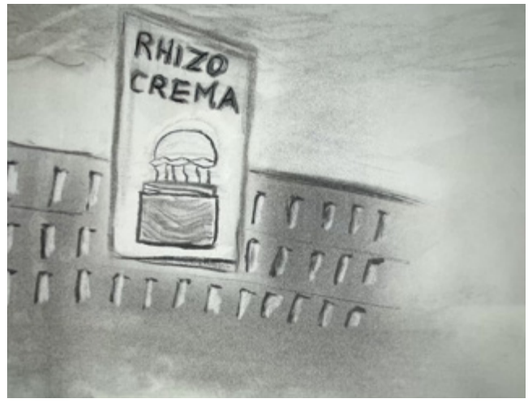
While chapter four depicts a near future when jellyfish are exploited for various scientific and industrial uses such as biotech cosmetics, chapter five describes a world where humans practice a type of animism, living in symbiosis with jellyfish.

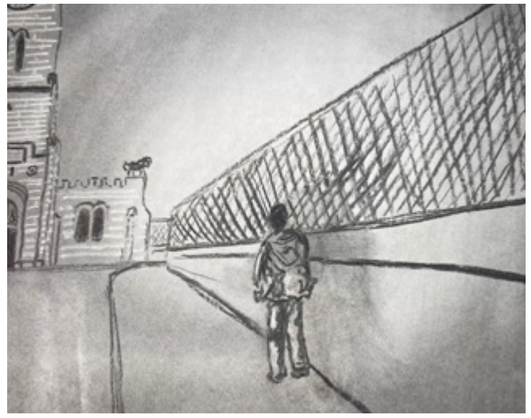
4 Nancy Couling and Carola Hein, eds., *The Urbanisation of the Sea: From Concepts and Analysis to Design* (nai010, 2020).

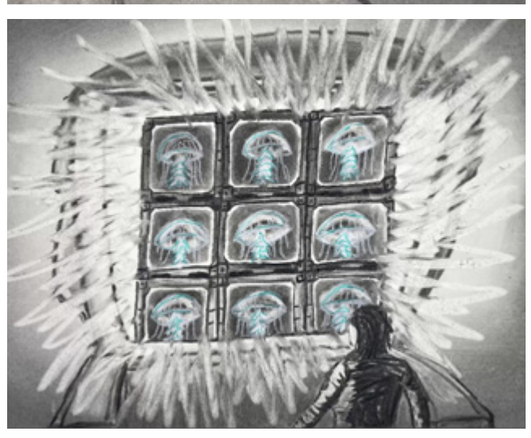
5 Živa Lengar et al., "Sequestration of Polystyrene Microplastics by Jellyfish Mucus," *Frontiers in Marine Science* 8 (2021), https://doi.org/10.3389/fmars.2021.690749.

6 Vida Boogh et al., *Planet of the Jellyfish*, 2024, https://explorationsinoceanspace.cargo.site/Planet-of-the-Jellyfish.

← Stills from the stop-motion film *Planet of the Jellyfish*, beginning 500 million years ago and projecting 150 years into the future.









The film proposes a radical review of the human position in relation to the offshore environment—an environment that has been fundamentally altered. The jellyfish are sensors of this change, visibly shedding light on it. As the filmmakers describe:

> At this pressure point an unexpected species emerged. The one that we all know, but don't know enough. Jellyfish, an ancient creature, older than dinosaurs, with a body so simple that it can perfectly adapt to survive the warmer climate that we are creating.
>
> … Who is invasive? As the blooms of the jellyfish are increasing and expanding in quantity, they are often viewed as invasive. But throughout our exploration it became apparent that our own actions have set this ball in motion. We … ask ourselves if we are in the end the invasive ones?

Synthetic Futures

Over the past century, overfishing, the influx of fertilizers, the expansion of maritime transport, and offshore petroleum extraction have radically transformed the ocean. While the inherent character of this synthetic offshore—merging the natural and the human-induced—is not new, it is now reaching unprecedented thresholds. And although almost every marine species is likely to have encountered plastic pollution, the United Nations resolution to forge an internationally binding agreement on global plastic pollution has not yet been achieved.

Plagptera—A Creature of the Sea and *Planet of the Jellyfish* investigate how the offshore may be inhabited in a more-than-human future when the environment is rendered synthetic by human interventions. Tipping points for the offshore habitat result here in biological mutation on the one hand and forced cohabitation on the other. Both protagonists are simple, yet resurgent species whose survival and resilience may outstrip our own. ◆

← Stills from the video *Planet of the Jellyfish*, which asks "who is invasive?" in the Northern Adriatic Sea.

NANCY COULING is an architect and independent researcher currently collaborating with ETH Zurich. She is the co-editor of *The Urbanisation of the Sea* (nai010, 2020). Between 2019 and 2025, she was Professor at Bergen School of Architecture.

p.140 Photo by Zetong Li on Unsplash.
p.142-143 Map by Edward Janssen, June Kolflaath, Gilbert Larsen, Nora Samset, and Thea Sando at the Bergen School of Architecture.
p.144-145 Judith Krüger, Bergen School of Architecture, 2020.
p.146 Kovačič, Petra 2024. Video stills from Boogh, Vida; Knutsvik, Amalie; Kovačič, Petra and Riaboff, Adam *Planet of the Jellyfish*. Project Bergen School of Architecture. Video 13 min.
p.147 Video stills from Boogh, Vida; Knutsvik, Amalie; Kovačič, Petra and Riaboff, Adam, 2024. Planet of the Jellyfish. Project Bergen School of Architecture. Video 13 min., 49 sec.



RACHEL CARSON'S EEL TANK

A journey from formless desire toward formless space

by Harris Feinsod



Rachel Carson ca. 1932, from student records.

AS A PHD STUDENT in fall of 1932, future conservationist and ocean writer Rachel Carson kept an aquarium at a basement marine biology lab in Johns Hopkins University's Gilman Hall, where she tested the salt tolerance of juvenile eels. These days, my English department occupies the same Gilman Hall basement. Sometimes, as I pass one of the murky portraits of the university founders nestled throughout the building, I replace it with a mental painting of Carson emerging from her own chiaroscuro depths to share the fresh rewards of her elver research. To friends who visited her lab, Carson was known to deliver a long and enthusiastic eel "spiel" describing what little was then known of the eel's life history and mating habits.[1] Even as her family managed Depression-era hardships (in a rural house they rented at Stemmers Run, near Baltimore County's Back River), her work on *Anguilla rosastra* animated her with excitement.

What did she hope to see in the eel's coming and going from sweet water to salt? How did she plot its passage through the estuarine flux between inland and offshore? How did Rachel Carson's eel tank shape her poetic understanding of marine conservation?

The scant personal details of Carson's time at Hopkins derive mostly from her student records and from an unpublished manuscript by her college friend Dorothy Thompson Seif. We can, however, discern her intellectual environment from her 1932 master's thesis on catfish kidney embryology (accompanied by her painstaking daily photomicrographs), and from the writings of her advisor Rheinart Parker Cowles (whose 1930 report *A Biological Study of the Offshore Waters of Chesapeake Bay* discussed the effect of salinity on fish migration and distribution).

Financial pressures forced Carson to cut her PhD research short and to find work, but her eel encounters left an imprint on her early writing for *The Sun* (Baltimore) and *Atlantic Monthly*, on the popular reports and radio scripts she composed for the US Bureau of Fisheries, and, in 1941, on her first major literary achievement, *Under the Sea-Wind*, in which Part III narrates the eel's offshore voyage.

In particular, the eel's spawning migration from fresh water to salt—a discovery known as catadromous migration—intrigued Carson and became a recurring motif in her literary biographies of the ocean. Eel migration was first described as catadromous (pronounced kuh-TAD-ruh-muss) in the 1870s, and distinguished scientists—from George Brown Goode of the US Fish Commission, to the Belgian oceanographer Gustave Gilson, and the Danish biologist Johannes Schmidt—sought to define catadromous dynamics in the half-century before Carson began her research. Only in 1923 did Schmidt's breakthrough paper "The Breeding Places of the Eel " trace the emergence of the smallest larvae to the Sargasso Sea. Carson represented this journey offshore through enigmatic marine habitats as a transgressive drive of sexual maturation, and, as in her article "Chesapeake Eels Seek the Sargasso Sea," she made the sensory images of the "call of seaward hurrying water" and "descent along darkening sea lanes" central to her experiment in ecological form.[2]

1 Dorothy Thompson Seif, "Letters from Rachel Carson: A Young Scientist Sets Her Course," 1987, Linda Lear Collection of Rachel Carson, Box 35, Folder 5, University of Connecticut Special Collections.

2 Rachel L. Carson, "Chesapeake Eels Seek the Sargasso Sea," *Sun*, October 9, 1938, SM1.

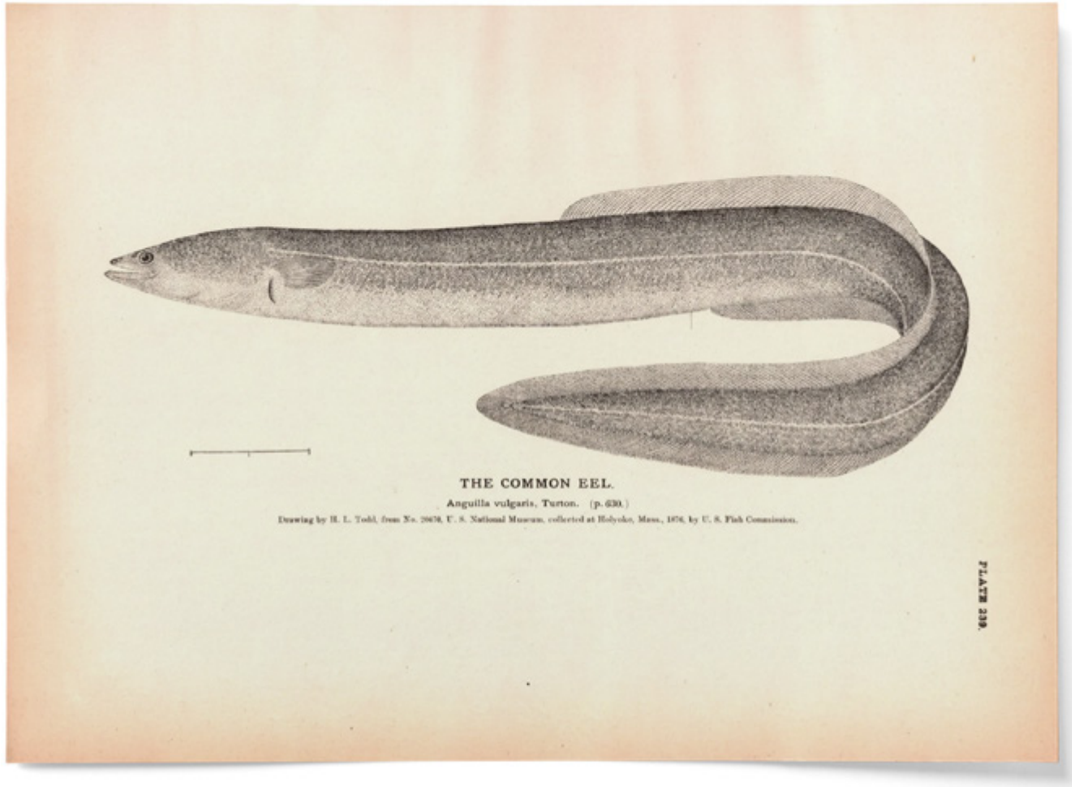
Today, the eel's metamorphic life cycle is better understood than a century ago, even if many details remain blind spots. Both American eels (*Anguilla rosastra*) and European eels (*Anguilla anguilla*) spawn in the deep waters of the Sargasso Sea. American leptocephali (larvae) drift for a year toward the US seaboard, while European larvae take as many as three years to reach their respective shore. Along the continental shelves, both transform into transparent juveniles known as glass eels over a period of weeks. Eventually they pass through bays, estuaries, and rivers as brown-pigmented juvenile elvers. As they then grow into yellow eels, environmental factors shape the eels' sex differentiation. Females, which are larger and live in lower-density populations, travel farther upstream than males, which cluster in brackish coastal waters. At an average age of ten years in warm climates, or as many as twenty-five years in cold climates, yellow eels transform into sexually mature silver eels, and they complete their harrowing catadromous migration back to the Sargasso to spawn and die.

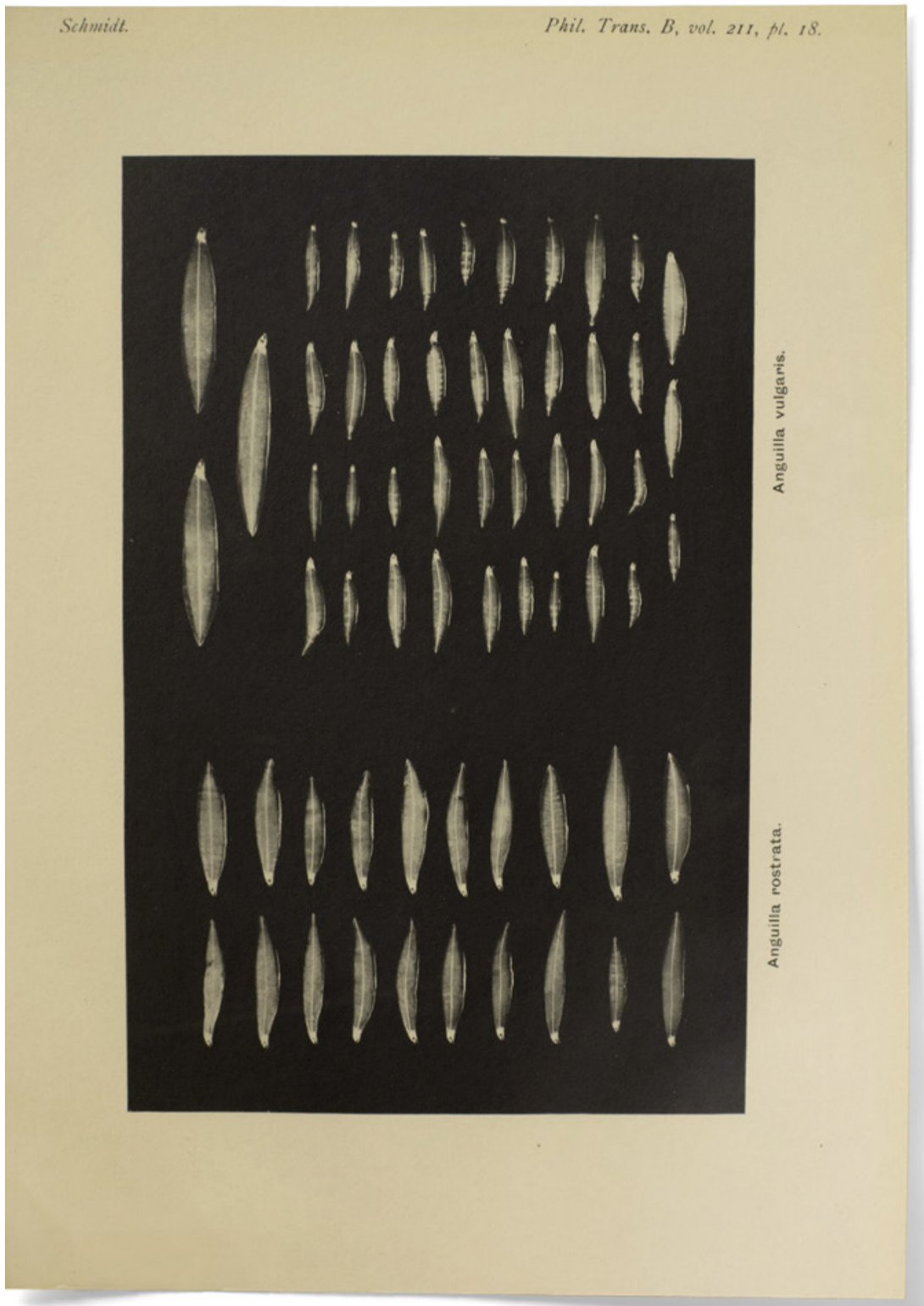
Science must still infer much about this extraordinary plasticity. As the journalist and author Patrik Svensson notes, fish ecologists have never successfully tracked mature eels to their presumptive spawning grounds, never observed them mating in the Atlantic, never found fertilized eggs in the wild before the larvae emerge. They continue to debate the hierarchies of sensory, cosmic, magnetic, and fluid forces that shape the eel larvae's astonishing endurance trials, and they can only speculate on how this larval drift creates imprints that later help to guide the mature eels back to their birthplace, thus giving form to their catadromous journey.

In Carson's day, it was therefore hard to derive narrative forms for marine ecology from the drift of the eel, and Carson's journalism supplemented "observed facts" with her "supply from imagination" as she confronted technical questions of the eel's life history. She queried how salinity gradients impel or guide the eel's journey, a question she had tested in the Hopkins eel tank. She hypothesized a link between the eel's sensation of salt and its sexuality, through which salt's "bitter tang" excited the eel's urge to speed offshore. Perhaps the ecologist's own excitement derived from the eel's disobedience toward the general law of stratified marine habitats. Carson memorably characterized this stratification in "Undersea," her breakthrough article on the ocean: "And indeed it is nothing more or less than sea water, in all its varying conditions of temperature, saltiness, and pressure, that forms the invisible barriers that confine each marine type within a special zone of life."[3]

The eel's migration from fresh water to salt intrigued Rachel Carson and became a recurring motif in her writing about the ocean.

3 Rachel L. Carson, "Undersea," *Atlantic Monthly* 160, no. 3 (1937), 322.





Larvae of the European eel (*Anguilla vulgaris*) and the American eel (*Anguilla rostrata*) from a single 1920 haul in the Sargasso Sea.

... oceanward journeys inevitably call our attention to the geological and infrastructural systems that obstruct them, from tectonics to technics.

Describing the eel's movement across these zones, Carson questioned human-centric assumptions of sensation by naming chemical and liquid motors of memory and desire such as salt and pressure. Against those who read Carson as simply personifying sea creatures, the literary critic Laurie Shannon encourages us to recognize Carson's endeavors to denaturalize and even unseat the structure of human perception.[4] As Carson put it in "Undersea," "to sense this world of waters known to the creatures of the sea we must shed our human perceptions of length and breadth and time and place, and enter vicariously into a universe of all-pervading water."

The eel was an adroit submersible with which to map this all-pervading water, and, as Carson described in her "Chesapeake Eels" article, catadromous migration gave form to its journey, "the river ever widening, the channels deepening, the water bringing unfamiliar tastes to her keen senses." In the final three chapters of *Under the Sea-Wind*, Carson follows a ten-year-old female eel she tautologically names Anguilla from a fictional Bittern Pond somewhere far upstream in the Atlantic Piedmont to her spawning grounds beneath the Atlantic Sargassum. In her upriver habitat of mudbanks, burrows, and spatterdock, Carson portrays Anguilla as uniquely attuned to the genius of the place she calls home, a nearly Edenic pond-bottom pastoral. But sexual maturation presents itself as an urge to spurn this paradise of plenty.

In perhaps the most beautiful passage of her eel writing, Carson begins to describe the metamorphosis that impels the eel's catadromous migration:

> A strange restiveness was growing in Anguilla the eel. For the first time in her adult life, the food hunger was forgotten. In its place was a strange, new hunger, formless and ill-defined. Its dimly perceived object was a place of warmth and darkness—darker than the blackest night over Bittern Pond. She had known such a place once—in the dim beginnings of life, before memory began. She could not know that the way to it lay beyond the pond outlet over which she had clambered ten years before. But many times that night … Anguilla was drawn irresistibly toward the outlet over which the water was spilling on its journey to the sea.[5]

In a journey from formless desire toward formless space, Carson points the eel's metamorphosis toward its endpoint in the open sea. She alludes to its scientific features in this narration when she writes "the food hunger was forgotten," a nod to an astonishing dimension of the eel's sexual maturation and metamorphosis: as it augments its eyesight and fin capacity to facilitate its journey to the site in the Atlantic where it was born, the eel dissolves its stomach and lives its remaining days consuming its own fat stores. Though Carson never shies from categories colloquially called "memory" and "desire" in her

4 Laurie Shannon, "Rachel Carson's Estrangement of Humanity, from 'Undersea' to Hawk Mountain," paper in progress.

5 Rachel L. Carson, *Under the Sea-Wind* (Simon and Schuster, 1941), 215.

narration, she translates them into a language of unfamiliar sensation.

Later fish ecologists regard these sensations as switches, cues, and triggers: lunar and electromagnetic forces imprint the larvae, chemical perception shapes their estuarine habits, and rheotaxis (movement with or against flow) develops.[6] Carson translated these sensory inputs into literary language, proposing to us as readers that we could stand to resensitize and expand our knowledge of the exchange between language and different modes of planetary sensation. For example, could readers habituate themselves to identifying language's rheotaxis (flow) as they do its syntax (order)? In her description of Anguilla's sexual maturation, Carson's language flows with and against the current (just as the eel might hide by day and drift at night). When describing the unknown causes of the eel's migration, the vocabulary of the unknown includes words like *restiveness*, *darkness*, *formless*, and *irresistible* (r-sounds that linguists call "liquid consonants").

6 Alessandro Cresci, "A Comprehensive Hypothesis on the Migration of European Glass Eels (*Anguilla anguilla*)," *Biological Reviews* 95, no. 5 (2020).

A possible route map for Rachel Carson's woodland hike to the Back River in Stemmers Run, Maryland.



Flowing as a countercurrent through Carson's prose, these verbal forms of rheotaxis formalize catadromous movement as a linguistic sound pattern, as if to emphasize the eel's mysterious descent into the spillway.

Yet even as language may contain the obscure eel-like desire to flow, we should be careful not to naturalize fluid forms amid the many obstructions we create. Humans badly fragment eel ecology by damming streams and diverting tributaries. On this point, consider Carson's own propensity for shoreward flow during her marine biology training at Hopkins. From the unnumbered house in Stemmers Run where she lived, she enjoyed a mile-long woodland hike down to the Back River, a tributary of the Chesapeake.[7] A 1927 aerial survey shows the patch in question. Today, the woodland's remnants are streaked and pocked by two highways and an asphalt plant, while the Back River hosts a wastewater treatment facility's perpetual outflow.

Along other branches of the Upper Chesapeake, at sites such as the Patapsco's Daniels Dam or the Susquehanna's massive Conowingo Dam, state-private partnerships manage anguilliform flows by creating clever migratory infrastructures, from primitive PVC eel ladders to expensive fish lifts. At Daniels Dam, an idly drawn anarchy symbol beside the eel ladder cannily critiques the state's capacity to mitigate the pervasiveness of habitat loss (on a recent visit, I imagined James C. Scott himself holding the can of spray paint). Against these obstacles, rheotactic desires falter.

Catadromous migrations demand our alertness to fluid, cosmic, and chemical sensations (we can observe them like wriggling elvers in the eel tanks of our inquiries). At the same time, these oceanward journeys inevitably call our attention to the geological and infrastructural systems that obstruct them, from tectonics to technics. We can see these contradictions clearly through the developing knowledge of the eel's life in environmental history: the emerging forms of catadromous migration shaped Carson's narrative and poetic attention in her calling as the biographer of the sea. An obscure impulsion toward the lightless abyss, transgressing thresholds of salt and pressure, summoned the processes of demystification and enchantment that she brought to her work of translating marine ecology into an enduring cultural form. ◆

7 Linda Lear, *Rachel Carson: Witness for Nature* (Henry Holt, 1997), 71.

A PVC eel ladder at Daniels Dam on the Patapsco River, Ellicott City, Maryland. PVC eel ladder at left.



This essay was first composed at Anne Merrill's invitation for the conference "Touching Earth: Queer Ecologies, Ecosexualities, and the Ethics of Relation." Thanks to Laurie Shannon for permission to cite work in progress, and to archivists Bailey Rodgers of University of Connecticut Libraries and Brooke Schilling and Allison Seylor of the Johns Hopkins University Sheridan Libraries.

p. 148 Photo by Kosyginl on Pexels.
p. 150 Photographer unknown. Courtesy of Special Collections, Sheridan Libraries, Johns Hopkins University.
p. 151 Plate 239 by H.L. Todd for George Brown Goode, *The Fisheries and Fishery Industries of the United States 1* (Washington: GPO, 1884).
p. 152 Plate 18, Johannes Schmidt, "The Breeding Places of the Eel," *Philosophical Transactions of the Royal Society of London* B.211 (1922).
p. 153 Compiled from photos by Chesapeake Aircraft Co. (1927).
p. 154 Photo by Harris Feinsod.

HARRIS FEINSOD is Ralph S. and Becky G. O'Connor Associate Professor of English at Johns Hopkins University, where he directs the Tidewater Initiative, a waterfront research group. He is the author of *The Poetry of the Americas: From Good Neighbors to Countercultures* (Oxford University Press, 2017).



A REEF IN A BOX

Can we sense ocean acidification in a lab?

by Damien Bright

HOW DO YOU RESPOND to a problem you can't see? As a photographer and fieldworker, this question drew me to a lab on Australia's northeast coast where, some years ago, I began investigating onshore ramifications of the foretold decline of the world's coral reefs. I hoped to learn from the researchers, conservationists, activists, residents, creatures, and machines who register this quiet unraveling. You see, the oceans aren't just warming—they are acidifying, which is fraying the web of earthly life that coral reefs maintain and within which we, also, find ourselves.

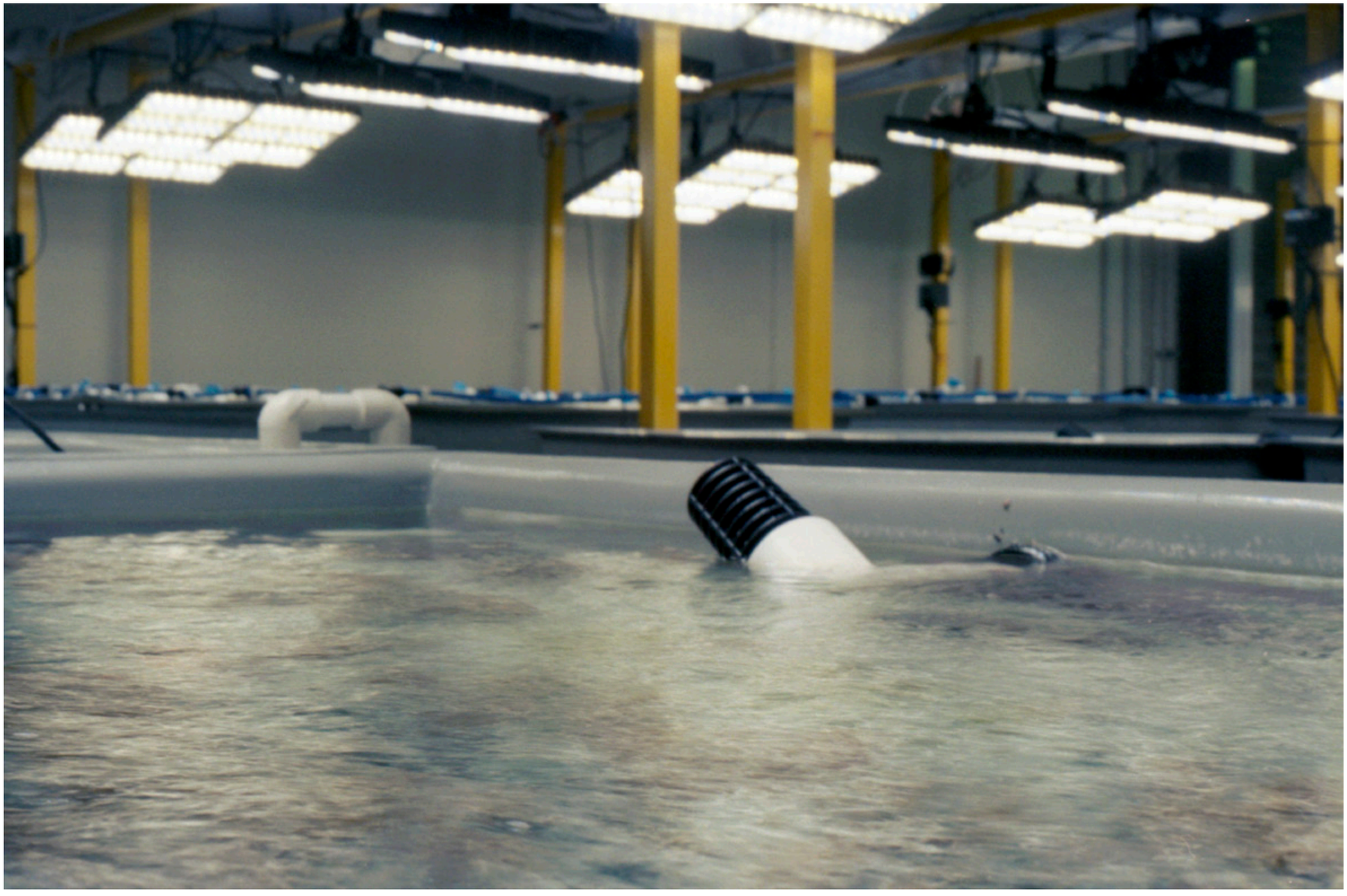
Ocean acidification involves a change in pH that is subtle but has seismic consequences. Like an earthquake or a volcanic eruption, ocean acidification is geologically significant and yet, unlike them, it is more of a structure than an event—a process reverberating almost imperceptibly as hypercomplex ocean biogeochemistry slowly mixes molecules of atmospheric carbon dioxide hovering at the sea surface into 352 quintillion gallons of churning seawater.

You can't photograph ocean acidification the way you might a fault line or an eruption, because it defies direct apperception. That may be one reason it's so daunting once you get a sense for it. It troubles standing assumptions that if only you could see a problem, then you might know what to do about it.

But, like all marine organisms, coral reefs are exquisitely sensitive to their surrounds. And as such, they can show us when the oceans are overheating or overacidifying by getting visibly sick—and, in the long run, by decaying into rubble. We owe a powerful image of the ocean going acid to a noted Australian marine biologist. Imagine, Charlie Veron tells us, that all the world's coral is a great big antacid tablet. Now drop it in water and watch it dissolve. That's ocean acidification.

It turns out that if you use coral reefs like a camera, then you can project your senses beyond their existing perceptual range. What was hidden can be seen, and what was unphotographable becomes, precipitously, something you might just think of capturing on film. But if you push things a bit further, if you squint and try bringing the full scale of seismic disturbance into view, the cascade of problems lurking within the problem that is ocean acidification—the degraded food webs, the eroding coastlines, the supply chain disruptions, the mass extinctions, the tattered cultural prestige, the territorial disputes, the climate denialism, the forced displacement—well, then, the neat contours of Veron's image begin to blur.

Simulated Seas, 2018.





Installation View, 2018.

* * *

It was easy to lose yourself in the aquaria at the lab facility. It wasn't so much the sight of creatures behind a thin pane of glass, once entirely unconcerned with the human gaze but whose lot in life was now a permanent spectacle. No, it was the many forms this scenography could take.

There were isolation tanks for acclimating newly collected organisms or administering veterinary care. Display tanks impressed distinguished visitors and taught school groups about different habitat compositions. Experimental setups came in all shapes and sizes. A predator-prey study was architected with escape routes. A stress test had duplicate tanks all in a line, neighboring one another like the cookie-cutter townhouses in the suburbs an hour away. So many configurations required to maintain the fantasy of a reef-in-a-box. And surrounding all of these different isolated worlds, the same overflow of pipes and nets and bins baking in the sun.

There was often a lot of silence to be had in the lab; not total silence, but the silence that sets in when no one else is about, when there are no voices to be heard, footfalls to catch, doors that clatter, or traffic blaring by. It's the silence that would set in after the researchers and technicians finished setting up experiments, in the daily intervals between the aquatic husbandry team's feeding and cleaning rounds, and in the hours when only the security guard circled the building. Such silence prevailed in the years after the constant din of construction had ceased and a one-of-a-kind marine research instrument stood ready for use.

Here was a machine designed to produce a limited form of time travel through ocean-fed, industrially-inspired, serially-arrayed, computer-monitored aquaria that calibrated light, temperature, and pH conditions to simulate oceans past, present, or future. And, in the wake of silence came a symphony of hums. Surface water gently swirled. Overhead lights buzzed. Aquarium filters kept cycling. The occasional pocket of air gurgled open and shut. Computer monitors crackled away at the lowest range of hearing. Within this sonic embrace, marine organisms collected from offshore reefs adjusted to their new situation as onshore experimental subjects whose altered life cycles might reveal something about cascading ecological changes.

Sentinel devices not only signal specific troubles in our midst but are, in their proliferation, a signature of our troubled condition.

* * *

Over a decade ago in this publication, Frederik Keck and Andrew Lakoff offered a term for the family of entities that help people see phenomena like ocean acidification: sentinel devices. To explain the way that sentinels mediate the unknown, Keck and Lakoff distinguished them from two other figures who lurk at the edge of the familiar. The prophet foretells a future to come, yet cannot defy its fateful arrival. The prognosticator calculates a path ahead from evidence in the present. By contrast, the sentinel invites a watchful vigil before the possibility of disaster. Whether in the form of ice caps, honeybees, coral reefs, farm animals, lichen, ocean plastics, radionuclides, or airborne pathogens, sentinel devices saturate the world around us and materialize dangers in our midst.

As human beings, we rely on the senses of these early responders precisely because our own perceptual limitations make us a danger to ourselves. The practical conditions of modern life may, in fact, entrench such oversight. Coal miners need canaries to stop singing so they do not dig themselves to suffocation unawares. Scuba divers need gauges to monitor water pressure because, unlike breath-hold divers or whales, they might inadvertently wreck their bodies when surfacing. Agroindustrial supply chains need some animals to show symptoms of viral contagion because otherwise pathogenesis will come for us all.

Sentinel devices do not suture representation to intervention any which way. They work within the narrower genre of what might be called invigilating practices: forms of threat detection, disaster preparedness, controversy management, political debate, and scientific experiment that invite us to simultaneously heighten and question our sensitivity toward our surrounding milieu. Little wonder that such practices can take on an anxious life of their own. Sentinel devices not only signal specific troubles in our midst but are, in their proliferation, a signature of our troubled condition.

* * *

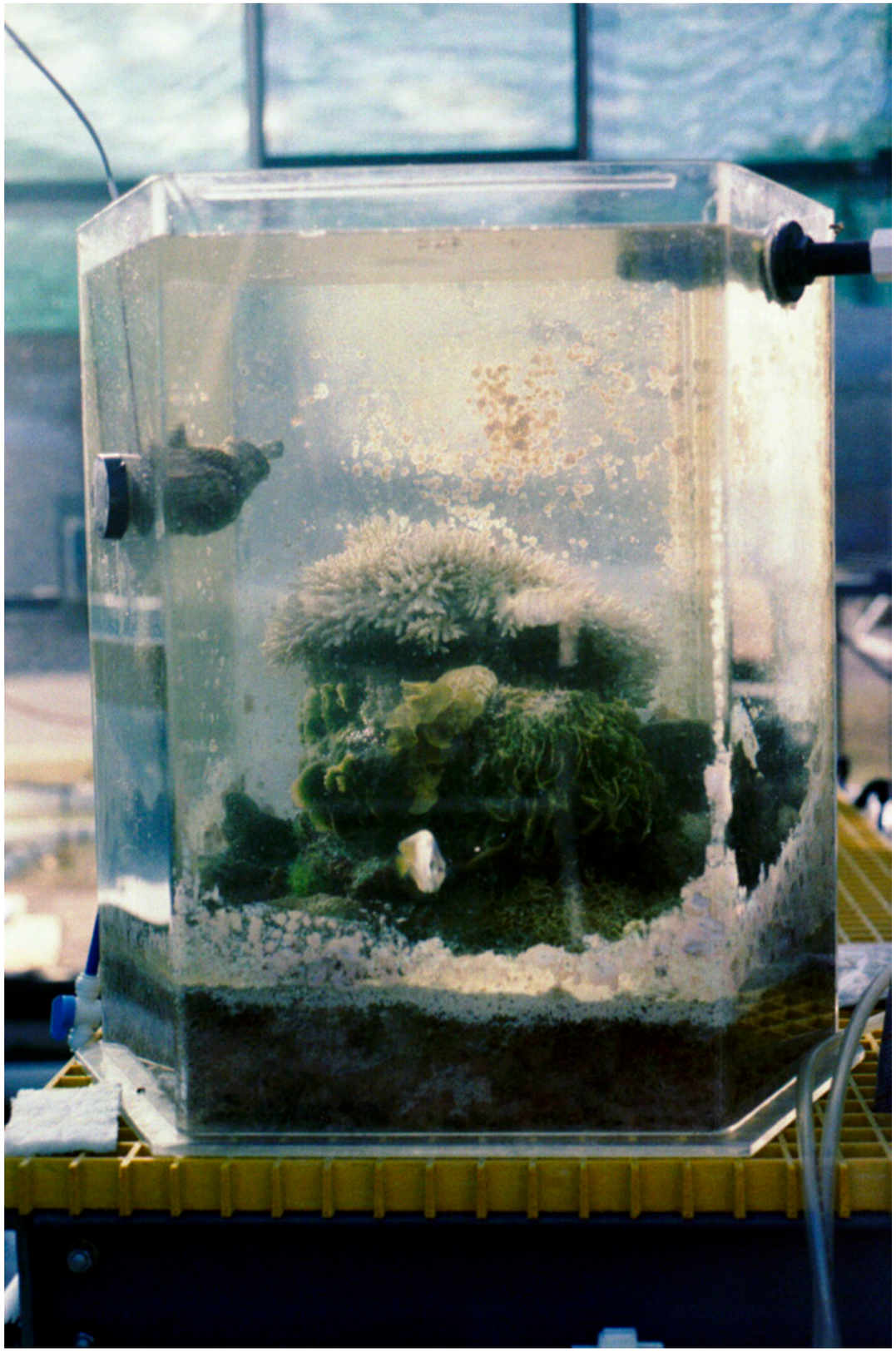
In studying human encounters with the oceans, I have observed how the push to expand the modern condition into the open oceans has gone hand in hand with envisioning and invigilating. A similar tendency might prevail within the offshore more broadly, if we think of it as a domain defined by resistance to permanent human settlement.

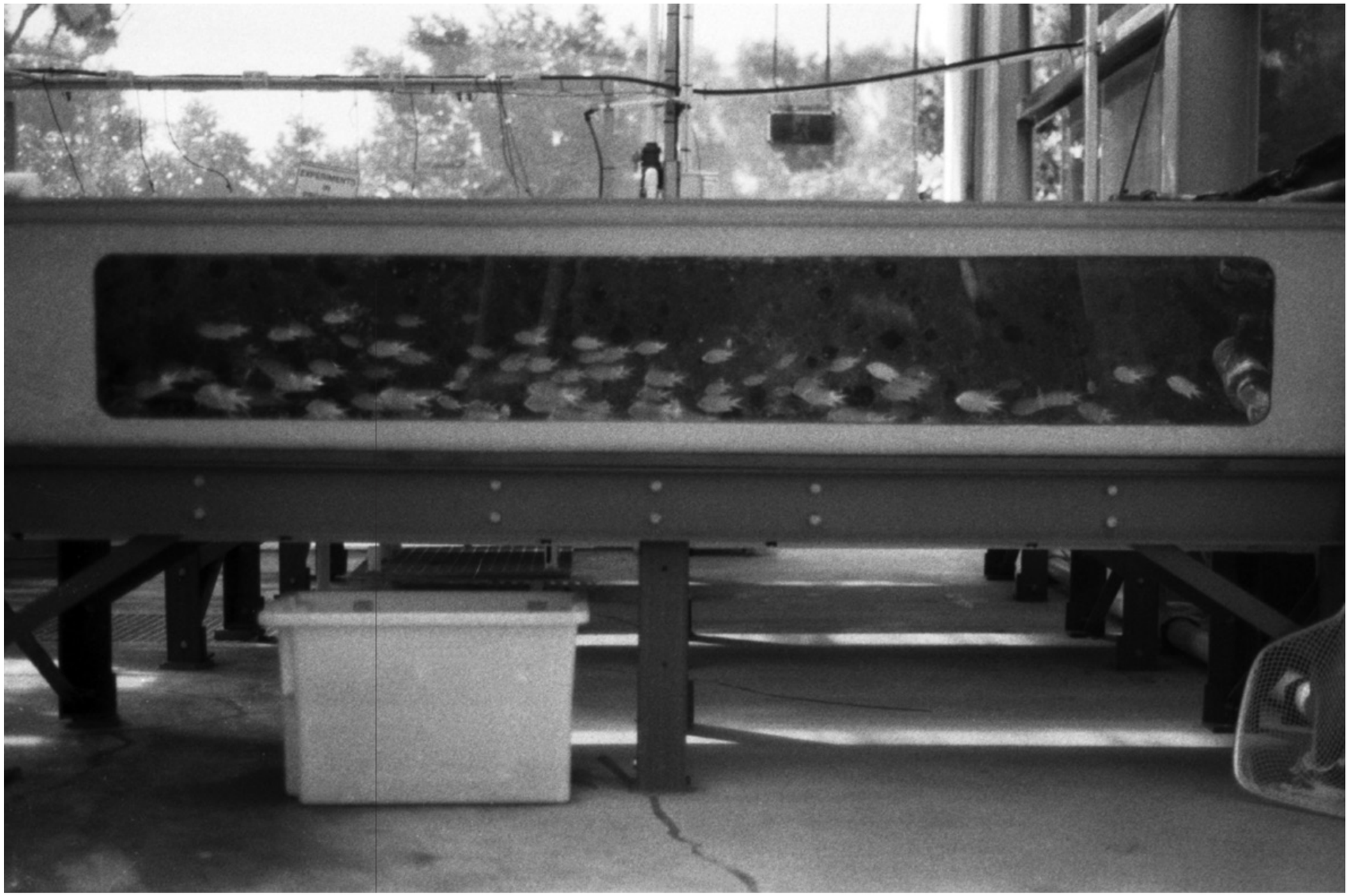
Yet when moving through tropical marine laboratories alongside researchers, technicians, interns, and a regular flow of interested visitors, I often found myself struggling to see signs of overt or imminent catastrophe at the whole-Earth scale, even though this very possibility was so alive to so many of us. It may be that this struggle to see, as a knot of negative affect, echoes the difficult lessons that sentinel devices can teach us. Ethnography and

↓ *Overflow*, 2018.

→ *Pet Project*, 2018.







Holding Pattern, 2018.

photography court danger when they invite us to strike out beyond our limited perspective; they do so by reminding us of the categorical inadequacy of our senses. Even if we leave the fantasy of "being there" behind, the urge to "get somewhere" still confronts us with the awkward inconvenience of our desire to make sense at all.

Rather than catastrophe, what often crossed or clouded my field of vision in the lab were fleeting glimpses onto quieter endings, and an atmosphere of ordinary obsolescence. The montage here offers minor views onto the animals, fixtures, lights, pipes, buckets, nets, ropes, containers, benches, tanks, glass, waste, and residues needed to approximate a reef onshore. The unseen people who moved through these spaces were hard at work observing the distressing decline of tropical marine life and debating what else, however drastic or fantastic, they might do about it.

Yet if these images disclose an ethnographic present, then I imagine it as one that draws out a wider temporal gradient. Using film photography as an enabling constraint, I have rendered the marine laboratory roughly in keeping with the conventions of portraiture. In so doing, I hope to refract, in one direction, the tropical haze that envelopes these spaces and organized their coming into being long before the presentist historicity of today, and, in another direction, the impersonal afterglow and associated expenditure that research brings.

Beyond the image, the water flows. Tanks are cleaned or relocated, experimental animals killed and others collected, pipes removed and others laid, until some or all of these labors come to a rest and the ocean roils on, the algae spreads, and the rust thickens its coat.

* * *

One day a school of parrot fish filled a tank, overfilled by any reasonable standard of care, their numbers swelling against the bare plastic walls. But it was only a temporary measure. Soon enough, after a quick operation, they would be allowed to continue plying their trade offshore—darting in and out of staghorn, plate, and boulder corals, their colors shimmering at daybreak and dulling at dusk. Their beak-like mouths would once again chomp down merrily (you would presume) on a bounty of surface microbiota. Yet they would be changed. Hidden between the folds of their flesh, biometric sensors would ferry messages back onshore, painting a picture of their life's rhythms that they would never see. ◆

DAMIEN BRIGHT is Assistant Instructional Professor of Anthropology at the University of Chicago. He studies why contemporary science and politics depict the Earth as a problem to solve and what happens when they try.

p.156-165 Photos by Damien Bright.





FOR ANDY LAKOFF (1970–2026)

by Stephen J. Collier and Christopher M. Kelty

IN EARLY JULY 2026, Andy Lakoff, a co-founder and longtime editor of *Limn*, died of cancer that had been discovered only a few months earlier. For both of us, Andy's death brought to an end an intense collaboration and a cherished friendship that lasted over thirty years.

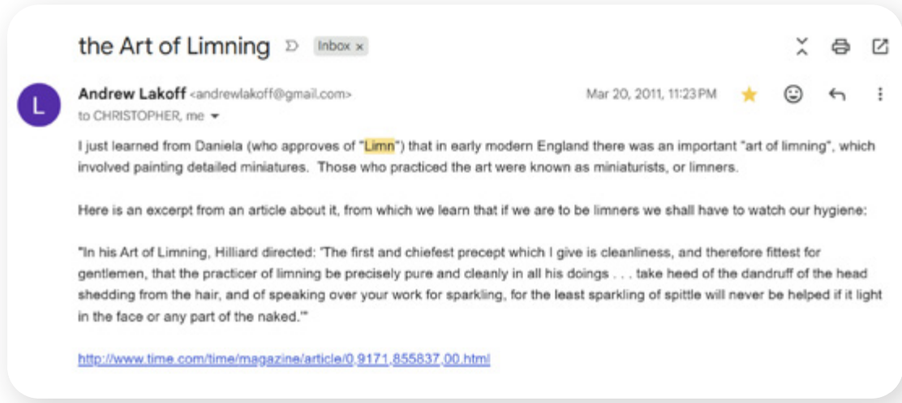
We both met Andy in graduate school. Through different jobs and cities, through the appearance of families and children, through dinners, hikes, and family visits, and, more than anything, through thinking, writing, and talking together, we experienced with Andy the joys, the frustrations, and the sometimes deep rewards of an academic career and life.

The three of us founded *Limn* in 2010 and served as general editors over the next decade. In many ways, Andy's work on *Limn* reflected who he was as a scholar and a person—and *Limn*, at its best, reflected what was so wonderful about Andy. He generously supported the work of others, particularly early-career scholars. At the same time, he possessed a sharp critical edge, a wry sense of humor, and a healthy awareness that, while our work was serious, we should not take ourselves too seriously (see image below). His engagement with theory was deep, but he held theoretical cards close to the vest, preferring to let his choice of topics and his artful portrayal of contemporary situations do the talking. And he worked on a broad range of topics and problems, restlessly searching for new answers to the question: What is important to think about and inquire into today?

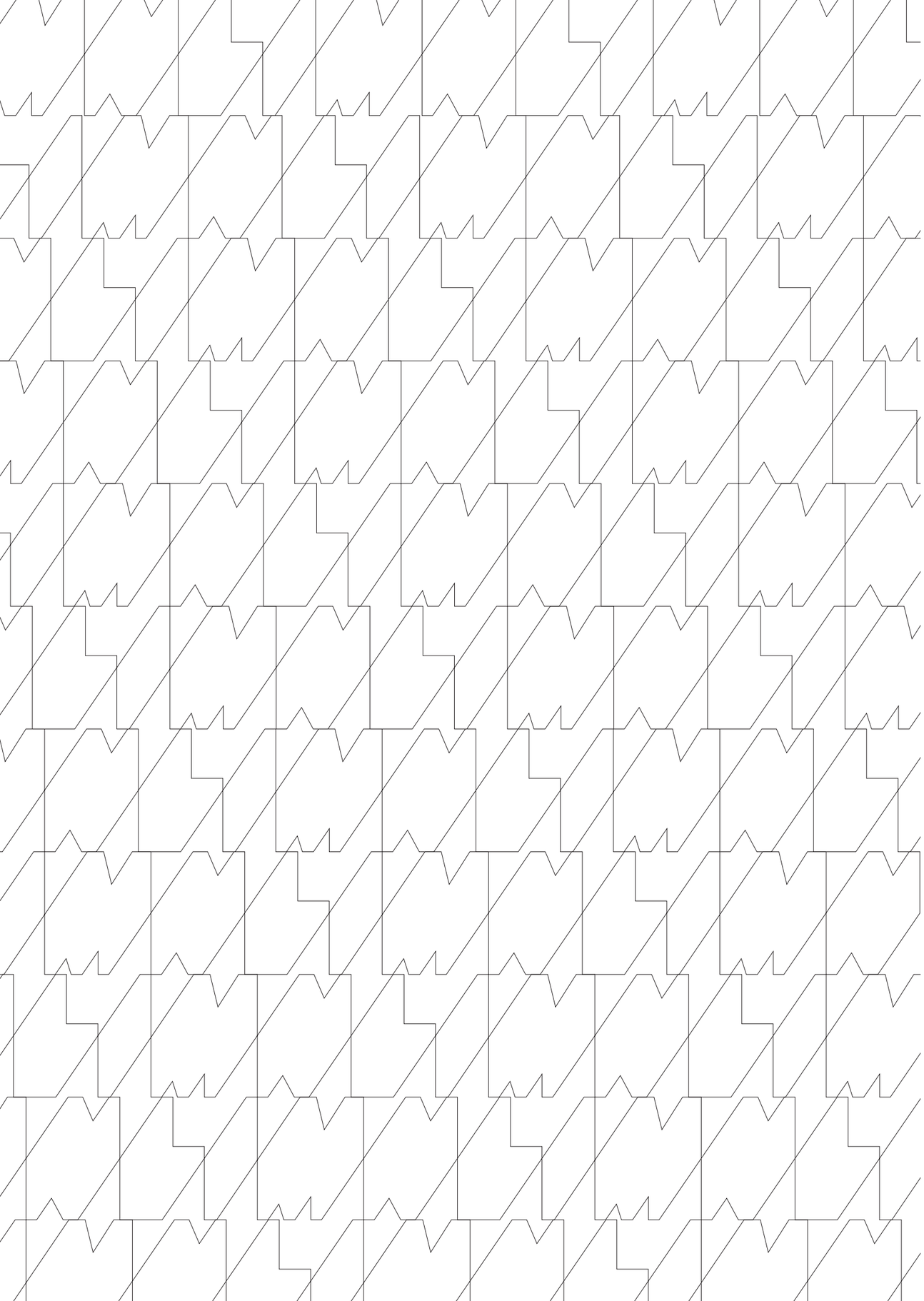
Limn served as a vehicle through which Andy brought his intellectual interests to life, sustained friendships, and formed scholarly communities. Andy edited *Limn 3: Sentinel Devices* with longtime collaborator and friend Frédéric Keck. The issue grew out of an exemplary *Limn* meeting they had assembled in Brittany: organized around a shared concept, but drawing on diverse cases, ranging across health, nuclear risk, and environmental change. Andy's work on *Limn 5: Ebola's Ecologies* realized a collective aspiration that *Limn* might provide a timely response to, and reflection upon, rapidly unfolding issues. And Andy's connection to Ashley Carse led to the development of our final issue as general editors—*Limn 10: Chokepoints*—and to the handover of *Limn* to its new editorial collective. The magazine's continued life in new hands is thanks in no small part to Andy's friendships and collegial networks.

Many aspects of being an academic take a long time to grow into, and there were so many ways that Andy was in his prime when his illness made itself suddenly and shockingly known: in his research and mentorship, in his care for colleagues and students, and in his curiosity and thought. His loss also robs us of a vital inquirer and navigator of a confounding present. Andy was deeply interested in figures of the future (preparedness, sentinels, risk), and the future of the future is today perhaps more interesting and troubling than ever. To lose Andy at this point is thus doubly devastating. There was much more he would have taught us, so much more he would have done, and so many people he would have brought together. But we are also losing urgently needed ideas and approaches to a world that Andy worked hard to understand alongside us. ◆

Andy emails Stephen and Chris about the name for the new scholarly magazine. "Daniela" is Daniela Bleichmar, Professor of Art History and History at the University of Southern California—and Andy's wife.



p.166: Photo by Dominik on Pexels; p.168: Photo by Daniela Bleichmar; p.169: Screenshot by Stephen J. Collier.



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