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« JULY/AUG 2023 Issue



Doñate

Art and Technology

Art and the State of Water

JULY/AUG 2023

By Charlotte Kent



Arianna Contino & Alex Hernández Dueñas, *Reverse*, 2023. Salt water, reverse osmosis mechanism, handmade activated carbon and resin filters, and ice maker, dimensions variable. Photo: Martin Seck.

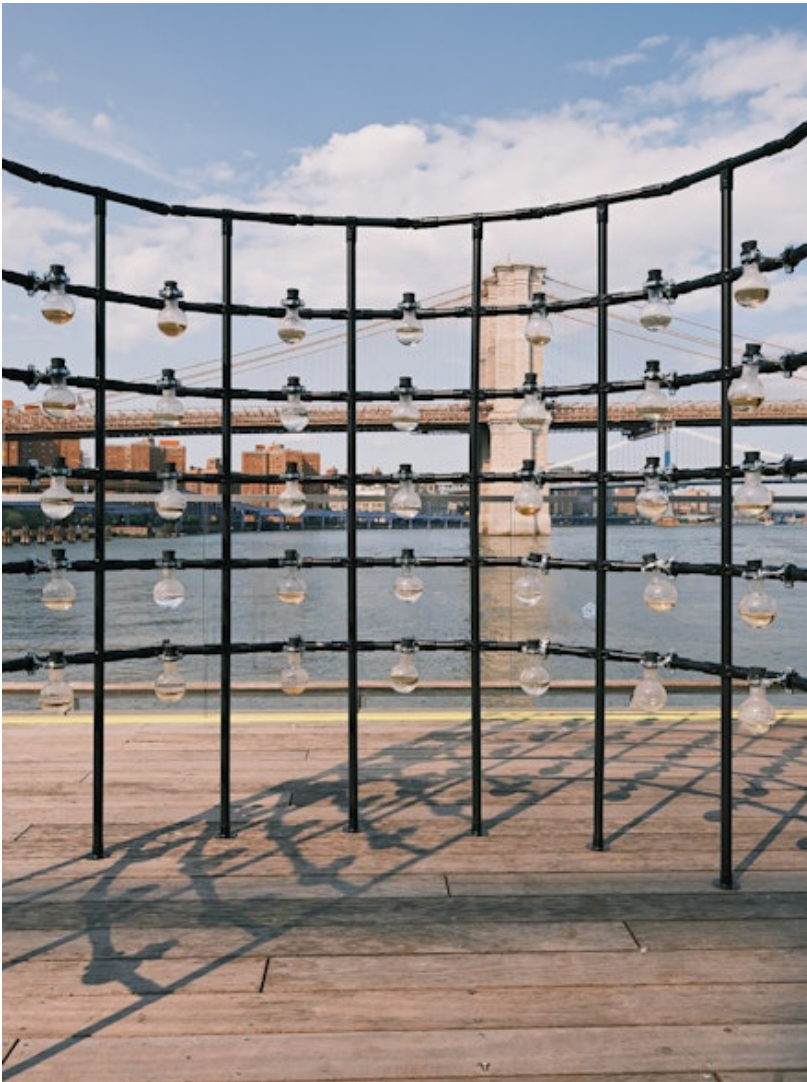
At the end of April, the gallery Nunu Fine Art opened in New York City with works by the Cuban multi-media artist duo Ariamna Contino & Alex Hernández Dueñas about glacier retreat and sea level rise, the collection of climate data by researchers and its marginalization by political forces, and therefore the necessity for an environmental ethics driven by cultural effort. The centerpiece, uniting the themes in the delicate works framed along the walls, was the installation *Reverse*, a machine that desalinated sea water, filtered it to become potable and then turned it into ice cubes, thereby inverting the process of climate change, albeit on an ironically small scale that unironically matches current geo-political efforts.

Barely a month later, the United States Supreme Court limited the government's jurisdiction over wetlands and tributaries in *Sackett v. Environmental Protection Agency* (2023) with significant consequences for anti-pollution legislation and attempts to mitigate climate change, radically limiting the scope of the Clean Water Act of 1972. This judgment is widely considered to have ignored court precedent and judicial restraint by shifting the requirement terminology from "adjacent" to "adjoining," which means the wetlands need a continuous surface connection to ponds and lakes—this means a loss of nearly 51 percent of the nation's currently protected wetlands. It also ignores advice from scientists, reiterated by President Biden about how the ruling "defies the science that confirms the critical role of wetlands in safeguarding our nation's streams, rivers, and lakes from chemicals and pollutants that harm the health and wellbeing of children, families, and communities."

The chair of Biological and Ecological Engineering at Oregon State University explains in detail the impact of the Supreme Court decision in *Scientific American*, summarizing that "Americans should expect more floods and droughts, worse drinking-water quality and degraded ecosystems." The decision limits the EPA's ability to uphold water quality standards, to manage oil spill programs, to regulate pollutants or industrial discharge so that states adjudicate what can be built or dumped, even as a local stream flows into a larger river that crosses state lines.

Land management and development impacts water systems, but as water creeps so does the landscape shift. Ariamna Contino and Alex Hernández Dueñas use extensive data and diagrams on glacier decline and topographical changes from researchers for their layered paper and glass compositions. Fractured glass in different colors present changing temperatures atop an image of a glacial "terrain" for the "Specter" series; white paper cut with lace-like delicacy in the "Transition" series materializes the climate data about the oscillating sea levels of the Havana coastline, with radiant gold-leaf squares that represent the hours of sunlight documented in the data, the sunshine associated with Cuba, while linking a recognizable cultural value for a natural world currently disregarded, a value that inflects the colonial history of the Americas. These works entwine our histories and geographies, while repositioning water as central to the narrative. Cuba's eroding coastline and the glaciers melting are 7,000 nautical miles apart but part of the same story of human-impact climate change.

Water doesn't stay in one place, one state, or even one form: "Aquatic systems are dependent on each other and interconnected, even when we can't see water flowing," explained Dave Arscott, PhD, Executive Director of the Stroud Water Research Center in the aftermath of the *Sackett* case. The interrelations and morphing forms of H₂O are imaginatively expanded upon by the bio artist and environmental designer Aroussiak Gabrielian for *Communal Exhale* at Pier 17 through July 2nd, a (quite literally) inspired installation of our interconnectedness. A scaffolding holds flasks of water collected from sixty days of breathing. It's an exquisite presentation of a messy scientific process—in fact, so beautiful that attendees were walking off with vessels, so a fence had to be put around it.



Aroussiak Gabrielian, *Communal Exhale*. 72 x 72 inch cylindrical steel structure holding 60 days worth of liquid breath co-produced by humans and fungi.

The process for *Communal Exhale* started with breathing into containers with fungi that use the vapor to grow while filtering the impurities in that breath, which then excrete their own water; all that liquid was collected in a central but communal cistern to be shared across the individual vessels. Gabrielian problematizes human exceptionalism by producing works that showcase the complex relationships among “living organisms, network systems and atmospheric phenomena to explore multi species entanglements across scale” as she explained to a NEW INC audience on June 22. Her purpose? To invite audiences to imagine other, more ethical, possibilities than the exploitative approach currently manifested.

Communal Exhale arose with guidance from mycologist and microbiologist Dr. Han Wösten at the University of Utrecht. It works. This functional anchoring adds a level of humor as a speculative design project that is excessive as a reasonable proposal for ensuring safe water, revealing an edge that we might not wish to reach, and so makes space for our own inspirations towards a more sustainable future. Our breath circulates, an obvious sharing of ourselves with others, especially in plague contexts, but also with all the rest that is: flora, fauna, funga as well as water, wind, and rock. Can we take our human self-centeredness seriously enough to recognize our impact and mutual environment?

As we evolved, so are we involved.

Making complex ecosystems conceivable also influences the work of photographer and installation artist Mary Mattingly, whose *Water Clock* is on view at Socrates Sculpture Park through this summer. The monumental 65-foot sculpture moves water from the East River through tubes, supporting edible and medicinal salt-tolerant plants, accumulating the brackish brine in tanks until it spills over, indicating the tidal flow, the rise and fall of the estuary, the alterations caused by the lunar cycle, and possibilities for interspecies thriving as salt water intrusion impacts more and more lands. It is an enormous feat. Made of IBC bins, 55 gallon drums, and stock tanks, the work resituates current industrial materials for a more sustainable infrastructure.



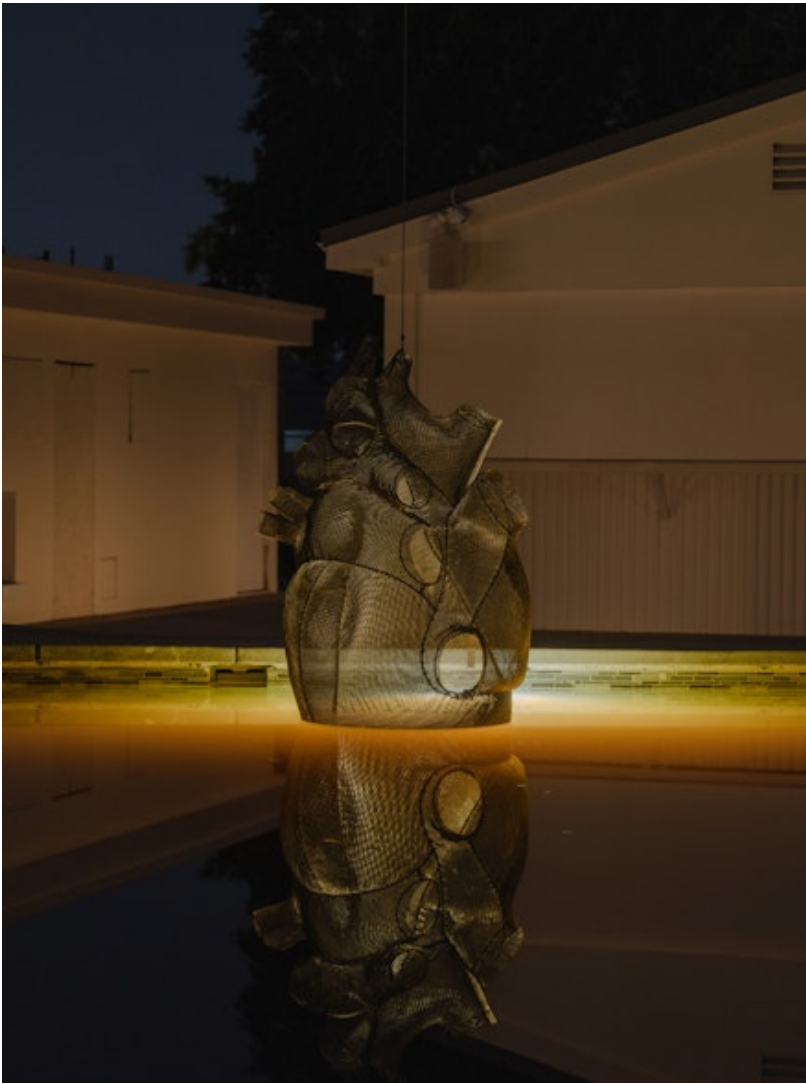
Mary Mattingly, *Water Clock*, Ebb of a Spring Tide at Socrates Sculpture Park, Queens, NY, 2023. Reused steel, bins, doors, ladders, a bed frame, and East River water, 16 x 65 x 26 feet. The water clock tells time by responding to the East River's tides and grows salt-tolerant halophyte plants. Photo: Scott Lynch.

The idea unfurled from realizing that she lived in a building old enough to ignore rising water levels and shifting flood lines in a city where real estate reimagines land and water all the time; her basement apartment flooded during storms at high tide, but once moved to the top floor, she encountered roof leaks, revealing the false sense of enclosure that allows humans to imagine ourselves as distinct and removed from the world of which we are a part. *Water Clock* shifts us out of the persistence of digital time that so forcefully positions us within a seemingly mutual and objective order and yet also distances us from the effects apparent in other temporal orders. It suggests that our lives are impacted by ecological temporalities that can also sustain us if we turn our phenomenal gaze upon them.

The salt future of the planet also appears in Mattingly's accompanying salt prints (the dominant photographic process in the mid-nineteenth century) that are then encased in salt collected from the East River and sealed for the series "Ebb of a Spring Tide." Salt has been crucial to the history of humanity, as described in Mark Kurlansky's clever *Salt: A World History*, where he tells of its relevance to engineering, government, religion, and food, but those tales should also make us thirsty for more palatable global conditions.

"Contrary to the archetype, a desert is not defined by the absence of water. The desert landscape is formed by the memory of water." This was the guiding message of Desert X this year at the Salton Sea Visitor Center, in California, where Lauren Bon showcased *The Smallest Sea with the Largest Heart*. This poetic work of speculative ecology connects the intricate linkages among systems, mammoth and microscopic, ecological and economic, urban and desert, past and present through an installation inspired by its locale. The Salton Sea has filled and dried over thousands of years—a whale skeleton found near the Salton Sea now resides at UC Riverside. One of the templates of climate change is rising seas, so the work also plays with a deep time ecological representation, pairing the largest heart and this terminal water basin.

Recognizing what humans have taken from the land and what they have left, Bon created a cyclical economy with *The Smallest Sea with the Largest Heart*. The Salton Sea is mineral rich and charging the saltwater creates a chemical reaction, forming accretions around the delicate metal filaments that outline the whale heart. As Bon explained about this metabolism: "[it is] a patented biological construction process that uses any metal object in salt water to grow a bone like structure that is insoluble in salt water using nothing but sunlight."



Lauren Bon and Metabolic Studio, *The Smallest Sea With the Largest Heart*, 2023. Courtesy the artist and Desert X.

The Smallest Sea with the Largest Heart was placed in a “pool” of the Salton Sea during Desert X and charged through the use of solar panels across the day. The exhibition was only visible at night to audiences in twenty-minute segments to heighten the aesthetic, sensible experience. A pulley would pull the five by five foot heart out of the water; as it rose, spotlit, people could see the accretions on the lattice work and hear the water dripping into the pool, while as it dropped, they heard the accretions fizzing, and observe the bubbling water as the heart disappeared back under the murky water. ~~Salt water sequesters carbon~~, but the charge speeds up that process; hydrogen and oxygen are by-products of the accretion method, oxygenating and clearing the water, supporting sea life and plants. By the time Desert X was over, the pool was clear.

The whale heart acts as a metaphor linked to that ancient fossil to hearten us around the network of Intermountain West cities that get water and power from the beating pulse of the Colorado River. The heart of Bon’s work helped remove the toxins from industrial agriculture in this small sea. Now, the work has been reinstalled in the middle of the Salton Sea on an abandoned military platform shared with a jet propulsion lab where it continues to do its true work, and scientists are considering some of the actual renewal implications of this creative project. Metabolic systems self-complicate and the artwork, modeled on that systems design, has likewise found a new life for itself and possibly many others, extending the circuit of care.

When the Colorado River broke through dikes in 1905, the fullness of the Salton Sea enabled an agricultural settlement to thrive in this area, even supporting a popular fishing and recreation

basin by the mid-twentieth century. Now, its evaporation produces dust and particulate matter linked to pulmonary issues for occupants and the worst air quality in the region. Higher temperatures means a drier atmosphere that then sucks more moisture from the soil, increasing rapid evaporation. Drought plaguing the Colorado River for the last twenty years (articulately presented by *Al Jazeera*) led to a federal deal in April of this year paying water districts, tribes and farmers across California, Arizona and Nevada to reduce their water usage by 13 percent, the strictest reduction to date (though the deal only lasts through 2026). The river and its tributaries provide water for forty million people across seven states and thirty tribal nations, and irrigate about 4.5 million acres of land, generating about 1.4 trillion dollars a year in agricultural and economic benefits.

But this water issue extends across the nation because California alone provides a third of the country's agricultural foodstuffs, so it isn't a distant problem but one as near as the hungry heart that has you pad over to your fridge. Since last year, Lakes Mead and Powell, which are the largest reservoirs of the river, have water levels precariously close to dropping below the pipelines, which would produce a "dead pool" of inaccessible water, making everything dry downstream, worsened by a very real socio-economic anxiety if the hydroelectric turbines propelled by those lakes could not operate and no longer power the region.

Waterways have long been sites for commerce. Canals, constructed by Rome and China earlier, became crucial to the increasingly global ventures of the European Early Modern period, connecting towns and countries, enabling international trade and cultural feats; the Naviglio Grande Canal was constructed between 1179–1209 to facilitate transport of marble from the quarries for the building of Milan's cathedral. The rise of global trade over the last two centuries with ever more powerful container ships has contributed to a 30 percent increase in ocean acidification, levels not seen in the previous fifty million years. Though climate concerns often center on air, land, or species, "oceans have borne the weight of advanced globalization in the form of the logistics revolution" as Megan Hayes and Jeff Diamanti explain. It's perhaps become so normal that we don't think about those waterways as having a more immediate and personal connection. But, ecological concerns need not be in conflict with economics if willing to shift out of an extractive gaze. And we've had fifty years of such proposals from the 1972 report *The Limits to Growth* led by environmental scientist Donella H. Meadows, a major figure in systems thinking, to the more recent *Doughnut Economics* (2017) by Dutch economist Kate Raworth.



Installation view: *Sarah Rosalena: For Submersion*, 2023. Architectural foam and plaster, 120 x 61 1/8 inches. Image courtesy Clockshop. Photo by the artist.

These fluid social relations are particularly apparent in the thriving art scene of Los Angeles, a city with a history of engineering past ecological dilemmas to enable economic growth, a political attitude with a social cost constantly being kicked down the increasingly dry, dusty road. Colombian artist, now based in LA, Carolina Caycedo carefully draws out the politics in water systems across South America, while the Diné artist Emma Robbins only recently stepped down in her role as Director of the Navajo Water Project. This winter, Sarah Rosalena placed *For Submersion*, a public sculpture for Los Angeles State Historic Park, once a part of the floodplain of Paayme Paxaayt (now known as the LA River), an important waterway for the indigenous Tongva people. A stone from the river was imprinted with Wixárika yarn painting, a practice involving beeswax, pine sap, and handspun yarn, that she learned from her matrilineal family. She then 3D scanned the rock and digitally fabricated it so that it could collect and interact with the water of the river, bringing audiences to remember the river as a source of gathering and communal living, not just some concrete vein somewhere over there.

The convenience of our home faucets makes it easy to disconnect from the means to that water, as Anayra Santory Jorge beautifully describes after her own experience subsequent to Hurricane Maria in the recently released *River.Rail: Puerto Rico*, which speaks ardently across several articles to the importance of access to clean water amidst ecological crises. (Many artists in New Orleans, like Ana Hernandez, express similar concerns in their work.) Agroceramicist Amara Abdal Figueroa recounts how material like clay can produce a natural filtration system: "I see the water filtration project as one that can have a ripple effect in off-grid communities, incorporated into

educational ecological projects, as well as art practices by fomenting a technical discourse near natural clay deposits and soon-to-be-built kilns. It is a reclaiming of territory, a response to the land grab: a way of taking back our land.” It also takes back the water when powerful forces don’t care to ensure it.

...

I was in the midst of writing this when the Supreme Court ruled that an 1868 treaty between the US government and the Navajo Nation did not express a requirement that the government ensure their access to water, determining therefore that the federal government is not required to sustain that access—making me question the substance of that April deal this Spring. This horror despite the Supreme Court ruling in *Winters v. United States* (1908) that sufficient water from the Milk River in Montana support the Gros Ventre and Assiniboine people residing along it. Now, I realize that the Navajo Nation is an independent body, but if this most recent decision doesn’t make you think twice about whether anyone in this country will have access to potable water when it serves more powerful interests to access it instead...

When New York passed the Green Amendment in 2021 to ensure “a right to clean air and water, and a healthful environment.” (NY Const., Art. 1, Sec. 19), it only enabled private citizens to sue the state if a business violated those conditions—not that businesses couldn’t pursue such projects to start. It all brings home the point made by the cultural theorist Malcolm Miles: “consumerism turns nature into commodity, subject only to exchange value, in a pollution of consciousness echoing the material pollution of the environment.”



Alexis Rockman, *Chattermarks*, 2023. Oil and cold wax on wood, 48 x 60 inches. Courtesy Sperone Westwater, New York.

Returning to the glaciers with which I began, via *Melancolia*, Alexis Rockman's latest show at Sperone Westwater, I am startled at the poignancy of paint to materialize the power of these oceanic forces whose majesty awed Western explorers and cultivated craven desires to conquer. Through an intensely physical process that moves the canvas on and off the wall—tilting, applying, scraping many materials, Rockman layers a complex history that somehow resonates with the deep time of these ice formations. They draw on his extensive research into the Arctic and Antarctic, but these paintings are not mimetic of distinct or distant objects to be observed. They are not idealizations of glaciers, either. They ask us to think about glaciers, certainly, but more importantly they go beyond research because they build off of that intellectualizing to invite the imagination, where one cares enough to stop analyzing, and chooses instead to connect and co-create. That is perhaps one potential for aesthetics and the imagination: to overcome the pollution of consciousness.

The works of these artists materialize another imaginary. They present care-full objects to vitalize our relations with water. The slogan "Water is life" united protesters along the Dakota Access Pipeline at Standing Rock Indian Reservation to mitigate water insecurity, especially for those experiencing it in no small part because of forced relocation. Reducing access to water alongside efforts to privatize it exacerbates the impact of income disparity and socio-political marginalization in treacherous ways. When the Clean Water Act passed in 1972, Congress overcame bi-partisan differences to ensure national health. It seemed so obvious, so basic.

I'll near close with an excerpt from Tyhe Cooper's recent poem, as-yet-untitled, perhaps in progress, but certainly progressive:

The birds are everywhere and the wind is on the water, in the trees, and I am here, nowhere else.

The day is water

I am water

The tree is water

The frog is hiding

The frog is water

Somewhere, 5th Avenue is water

We drink water, from a plastic jug

We shower

We are clean and smell like eggs

and shea butter

We sleep

We fuck

Fucking is water
and

Water is hard and cold and slick

hot

So, as we step into another summer of uncertain climes, that is perhaps what I most wanted to invoke across the variety of works by these artists: an awareness of something so obvious that it pools in my mind with potential.

Water changes states. How personal. How political.

Contributor

~~Charlotte Kent~~

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