



Art for the Hydrocommons

Rethinking Human-Water Relations in Latin America

LISA BLACKMORE

University of Essex, UK

Abstract This article elucidates a select corpus of contemporary artworks from Latin America as art for the hydrocommons by showing how they make generative contributions to imagining more just human-water relations and to thinking critically about the impacts of colonialism, urbanization, and extractivism on waterbodies. Offering an interdisciplinary methodology for the hydrohumanities, the article addresses environmental aesthetics by drawing on urban history, environmental justice, political ecology, and anthropology to probe specific landscapes. It approaches the form and context of artworks that mediate complex watery environments through ecocritical analysis. The discussion focuses on buried urban rivers, postdisaster waterscapes, and high Andean water cycles through recent artworks by Tania Candiani (Mexico), Mabe Bethônico (Brazil), and Ana Teresa Barboza and Rafael Freyre (Peru). It analyzes how sound, photography, and weaving serve as aesthetic mediums for critical, imaginative, and embodied engagements with water across expansive temporal and spatial scales. Ultimately the article argues that art for the hydrocommons makes its most compelling contribution to rethinking hydrosocial relations when it emerges as part of broader landscapes of sociolegal and hydropolitical transitions striving for more just water cultures across diverse fronts.

Keywords hydrocommons, art, water, environmental justice, environmental aesthetics

With an astounding diversity of aquatic ecosystems, Latin America and the Caribbean have the largest freshwater resources per capita on the planet. The Amazon, the Paraná-Plata, and the Orinoco watersheds alone contain 30 percent of the world's freshwaters. South America is home to the earth's driest desert and to tropical and subtropical glaciers. However, numerous water stresses pose serious threats to the region's socioenvironmental well-being. Over the past decades, erratic climate patterns and extreme weather events from floods to droughts have claimed lives, damaged agricultural production, and inhibited hydropower generation, which provides 45 percent of Latin America's energy.¹ A third of the region, meanwhile, lacks sustained access to drinking

1. International Energy Agency, *Climate Impacts on Latin American Hydropower*.

water. The United Nations projects that the near future will see increasing localized and transboundary conflicts, amplified by competition for water between urban, energy, and agricultural sectors.² Amid the significant threats posed to Latin America's waterbodies, rapid and profit-hungry urbanization has turned rivers into public sewers and buried them underground to make way for highways and buildings. While major cities like São Paulo and Bogotá have pledged to clean up their rivers, progress is achingly slow. Beyond urban areas, major infrastructure projects from the Peruvian Hidrovía to Brazil's Amazonian dams are transforming waterways into transport routes and human-made reservoirs. Water grabbing for agribusiness and mining is damaging aquifers and wetlands across Latin America, creating sacrifice zones in their wake. Mining companies' use of rivers to extract and process precious metals is polluting watercourses and riparian communities with lethal toxins. This advances despite the rise of rights of nature legislation. The legal personhood awarded to Colombia's Atrato in 2016, for instance, has done little to protect the river from poisoning with mercury, a reality that demonstrates that rights of nature do not deliver immediate environmental justice nor necessarily protect public health.³

This disturbing panorama is a symptom of contemporary ecological crises. But it is also a reflection of the enduring legacy of the colonial-extractive matrix implanted by early modern European colonization. Colonization diminished spiritual connections to and through hydrological cycles by instrumentalizing water as a resource for development and diminishing its ancestral status as sacred life force. This process has continued to this day, making "hydrocultural formations"—the material traces of water cultures and hydropolitics—witnesses to human-water relations and "an integral part of the wider process of rationalization, state formation, and the emergence of technoscience."⁴ Watery environments and infrastructure thus attest to dominant modes of "liquid power" as they index structural inequities and environmental injustices related to the fast and "slow violence" of colonization, urbanization, and extractivism.⁵

Hydrohumanities and Art's Liquid Turn

Thinking human-water relations through the hydrocommons—the complex, multi-scalar interpermeations of human and non-human bodies of water—requires recognizing the networks of affectations that occur in and through water, and considering ethical, political, and epistemological questions around the structures that underpin such interactions.⁶ In this context, a wave of scholarly initiatives in the social sciences and the humanities are probing water management, infrastructure, and water cultures in the

2. UNESCO World Water Assessment Programme, *Water and Climate Change 2020*, 139.

3. Palacios-Torres, Caballero-Gallardo, and Olivero-Verbel, "Mercury Pollution by Gold Mining."

4. On "hydrocultural formations," see Blackmore, "Water"; Gandy, *Fabric of Space*, 3.

5. See Swyngedouw, *Liquid Power*; Nixon, *Slow Violence*.

6. Neimanis, *Bodies of Water*.

awareness that viable environmental futures require reclaiming the deep sociocultural meanings associated with water and confronting contemporary stresses and inequities. Within the environmental humanities, the rise of the blue and hydrohumanities has directed scholarly attention to thinking with water by attending to the poetics and aesthetics of liquid environments, attending both to marine and freshwater contexts but also to the infrastructures and global forces that shape and modify them.⁷ The hydropolitics of colonial, developmentalist, and authoritarian modes of statecraft have been parsed as “hydrocolonialism” and “hubristic hydraulics” where control of water mirrors other forms of social, territorial and economic control.⁸ Against the *longue durée* backdrop of extractive and top-down hydropolitics, emergent artistic, pedagogical, and community practices in the Americas—often working in synergy—are fostering “hydrocommons cultures” oriented to restoring and sustaining vital connections to bodies of water.⁹

This article contributes to these debates by tracing an art for the hydrocommons that emerges as artists confront historical and enduring injustices, respond to water stresses and reimagine hydrosocial relations. In what follows, I offer an interdisciplinary framework for the hydrohumanities by drawing on diverse fields, including urban history, environmental justice, political ecology, and anthropology, to inform a twofold ecocritical approach to environmental aesthetics. This twofold approach entails analysis of physical infrastructures and environments as hydrocultural formations that bespeak broader political, economic, and sociocultural processes of worlding. And it involves analysis that probes how artworks respond to infrastructures and hydrosapes to understand how they create sensorial channels that connect audiences with thinking human-water relations otherwise.

By focusing on contemporary art the article advances scholarship on the “liquid turn” in environmental aesthetics from Latin America and the Caribbean and the conceptual-theoretical framework of “liquid ecologies.” That framework approaches water as a turbulent material substance in constant mixture with human and nonhuman environments and lives and parses liquidity and fluidity as allegories and metaphors for the complex physical, historical, and epistemological forces that shape planetary existence.¹⁰ The conceptual and analytical wager of liquid ecologies is, as we have proposed with Liliana Gómez, that in their “viscous formations the human and nonhuman converge, bringing the sediments of history” into fields of sensory perception and inviting us to account for “climatic, infrastructural, economic, sociopolitical and cultural forces in dynamic processes of becoming.”¹¹ This approach also dialogues with

7. See De Wolff, Faletti, and López-Calvo, *Hydrohumanities*; Mentz, *Ocean*.

8. Blackmore, “Hubristic Hydraulics”; Blackmore, “Colonizing Flow”; Hofmeyr, “Provisional Notes on Hydrocolonialism.”

9. Blackmore, “Imaginando culturas hidrocomunes”; Blackmore and Ponce de León, *Hydrocommons Cultures*.

10. Blackmore and Gómez, *Liquid Ecologies*.

11. Blackmore and Gómez, “Beyond the Blue,” 3.

literature on ecofeminist art that assesses how artists have long contested extractivist approaches to water and proposed alternative modes of relationality.¹²

In what follows, I attend to environmental conflicts around Mexico City's urban rivers, collapsed tailings dams in Brazil, and Lima's Andean water cycle, and consider how artists are contributing to public discussions around them by creating works that address contested water histories, contemporary ecological crises, and Indigenous hydrocosmologies and hydraulic technologies. Specifically, I ask: How do colonialization, urbanization, and extractivism affect Latin American hydrosphere and human-water relations? What contributions do artworks make to critical discussions around these *longue durée* problematics? How do specific aesthetic mediums cultivate public engagement with alternative water cultures rooted in environmental and cognitive justice and more-than-human well-being?

Urban Rivers: Daylighting Buried Waters in Mexico

From pre-Columbian stone channels and aqueducts in the Andes through to modern hydroengineering projects that rectify, channel, and bury rivers, water infrastructure has been a strategic factor in the location and growth of human settlements for millennia. Amid the violence of conquest, European colonization installed hydraulic works that negatively impacted amphibious cultures across Latin America. These included draining the viceregal cities of Mexico City and Bogotá, both lake and wetland ecosystems where Indigenous inhabitants had learned to work with (not against) watery environments by developing settlement patterns and raised bed agricultural systems in harmony with climate and hydrology.¹³ In the postcolonial period and the modernization process that began in the nineteenth century, the combined impacts of rapid urbanization, industrialization, and contamination left many of Latin America's urban rivers biologically dead and abandoned as public spaces. The severing of deep socio-cultural ties to waterbodies means that restoring urban rivers, daylighting (physically uncovering) buried rivers, and reinvigorating public connections to them are pressing challenges. They require concerted efforts in urban policies, governance, landscape design, hydroengineering, and heritage and art practice. Initiatives such as Arroyos Libres (Argentina), Rios Descobertos (Brazil), Mapocho 42K (Chile), RÍO BOGOTÁ (Colombia), and Río Guaire (Venezuela), among others, work to reengage urban populations with contaminated and buried rivers through citizen expeditions, interventions in public space, exhibitions, and publications.¹⁴ The emergent multidisciplinary work being

12. See, for example, Chen, Neimanis, and MacLeod, *Thinking with Water*; DeLoughrey and Flores, "Submerged Bodies." In the Americas, see the chapter "Submerged Perspectives" in Gómez-Barris, *Extractive Zone*; Halart, "Water of a Hundred Eyes"; Moñivas, "Water, Women, and Action Art."

13. On Mexico City, see Candiani, *Dreaming of Dry Land*. On Bogotá, see Rodríguez Gallo, "La construcción del paisaje agrícola prehispánico en los Andes colombianos."

14. See Rios Descobertos, https://estudiolaborg.com.br/lab/rios_descobertos/ (accessed November 8, 2024); Mapocho 42K, <https://www.mapocho42k.cl/> (accessed November 8, 2024); RÍO BOGOTÁ, <http://www.entre-rios.net/rio-bogota> (accessed November 8, 2024); Río Guaire, <https://www.rioguaire.org/> (accessed November 8, 2024).

done in this context offers reason for optimism, but the route to citizens recuperating profound connections to waterbodies is a long one.

Over the past decade, Mexican multidisciplinary artist Tania Candiani has developed numerous research-led projects with rivers in the Americas that explore their links to industrial, commercial, and urban dynamics as well as ancestral water cultures. Her practice establishes critical dialogues with colonial and scientific expeditions through archival research and site-specific performance works in projects such as *La Magdalena y otros estudios de campo* (*La Magdalena, and Other Field Studies*, 2013) and *Pulso* (*Pulse*, 2016). Works like *Los nombres del agua* (*The Names of Water*, 2022) also foster resurgence of diverse water knowledges that have been displaced by coloniality/modernity.¹⁵ The sound installation *Ríos antiguos, ríos entubados, ríos muertos* (*Ancient Rivers, Piped Rivers, Dead Rivers*, 2018; henceforth *Ríos*) specifically addresses problematics faced by bodies of water in Mexico City, giving voice to rivers buried in the megacity by daylighting them via the medium of sound art. The work converses with hydraulic history by tracing the courses of twenty-one rivers that crisscross Mexico City.

In *Ríos* Candiani translates each one of the twenty-one riverbed patterns into a coded sound composition reproduced by a wind-up music box—an antiquated technology where tuning forks create vibrating sounds from bumps on a rotating cylinder (fig. 1). Resting on a black metal base, each music box is enclosed in a cylindrical wooden casing that bears a cutout representation of the river's course that determines its acoustics. Flanking three walls of the exhibition space, the installation is activated as a collective sound performance when visitors turn the handles to play the rivers, creating a sonic confluence. As visitors place an ear to the individual box to listen more closely, the work brings two bodies of water into resonant communion: the sounds emanating from the transcoded riverbed enter the human auditory channels, activating sensory flows that course through the body. The use of Mexican red cedar for the wooden boxes evokes ancestral musical instruments made of the same material. Redolent of nineteenth-century cultural modernity, the antiquated music boxes infuse the work with a whimsical mood. Referencing in its title *Ancient Rivers, Piped Rivers, Dead Rivers*, *Ríos* calls forth a long history of human hydroengineering that traces shifting relations with waterbodies in Mexico City's lacustrine landscape to suggest the negative course from sustainable ancestral technologies, via modern channeling, to contemporary pollution.

The crisis that the megacity's hydrology is facing is well known. The shifting presence and absence of water in the Valley of Mexico tells a material story of colonialism and the impacts of modern urbanization. The Aztec Empire designed its capital Tenochtitlán to coexist with the waters of Lake Texcoco, where populations expanded and prospered through shoreline agriculture that worked with seasonal flooding and dams,

15. For a full portfolio, see Tania Candiani's website, <https://www.taniacandiani.com/> (accessed November 8, 2024).



Figure 1. Tania Candiani, *Ríos antiguos, ríos entubados, ríos muertos* (2018). Installation shot. Photograph: Felix Blume. Courtesy the artist.

irrigation canals and intercommunal raised bed horticulture (*chinampas*). Spanish conquest transformed Tenochtitlán into the capital of New Spain, starting a process of hydrological transformation. In the pre-Hispanic period, water covered 1,500 of the 8,058 square-kilometer lacustrine environment, but this was systematically and progressively drained by the *desagüe* (drainage) system of tunnels and canals initiated by the Spanish in 1607.¹⁶ This process began after the Spanish conquest and continued to the late nineteenth century; the strategy sought to confront persistent flooding but it also catalyzed an ongoing process of subsidence and water scarcity that has made Mexico's capital a sinking city. Today, desiccation has rendered soil vulnerable to liquefaction during recurrent earthquakes. Alongside this instability, the heritage of ancestral water cultures of freshwater canals and the *chinampa* raised bed agricultural systems are equally precarious since they have all but disappeared.

The monumental water infrastructure built after independence embodies the way controlling water became a political cornerstone of national development. Nineteenth-century engineers were touted as “physicians” capable of remedying the insalubrity that was hindering progress in the city; this made water infrastructure “an essential

16. Angostini, *Monuments of Progress*, 117. Artists have evoked ancestral water cultures in their work, such as famed muralist Diego Rivera, who in the 1950s created a huge sculpture of the water god Tlaloc in the Cárcamo de Dolores pump station in Chapultepec Park, alluding to the sacred status of the valley's hydrography.

requirement for its prosperity and modernity, and . . . indicator of progress and civilization.”¹⁷ The process of *entubamiento* (literally, tubing) that enclosed open canals and waterways in human-made tunnels began in the eighteenth century and expanded with speed from the late 1930s as viaducts were built over the rivers buried and turned into sewage canals. These schemes satisfied interconnected demands, hiding unsightly urban waste, and creating new transport routes such as the Viaducto Miguel Alemán, inaugurated in 1952, and the 1970s Circuito Interior. Moreover, burying rivers freed up land and increased its value for speculative ventures in urban development. This process swapped water for cars, as neoliberal approaches to urbanization took hold of a growing city whose rivers were forgotten.¹⁸

To bury a river is to silence its voice, relegating it to a subterranean world imperceptible to the human sensorium. As sound theorist Brandon LaBelle argues, acoustics is a realm of politics where attention to (or silencing of) human and other-than-human voices hierarchizes lives and structures interactions, ethical dispositions and actions.¹⁹ In this context, Candiani’s *Ríos* asks what specters of ancient and buried waterbodies might be conjured back into life through sound and an ethics of listening that attends to silenced urban rivers. By containing individual rivers in a cylindrical box the work plays ironically with the form of *entubamiento*, mimicking the infrastructural process of enclosing rivers while using those same tubes to give them voice. This gesture thus interrupts the broader colonial and modern histories of water management in Mexico City because in *Ríos* the tubes “daylight” buried rivers and invite the public to reconnect to them by lending an ear to their translated sounds. In so doing the work insists that just as hidden rivers can be brought back to the surface, so too can public connections to Mexico City’s hydrology be revived to contest the drive to conquer water and imagine watery relatedness otherwise. Rather than providing an answer to what forms alternative modes of relation might take, what *Ríos* offers is an initial step to excavating silenced waterbodies and sediments of histories that make up the megacity’s unstable terrain.

Toxic Flows: Dam Collapse and Environmental Injustice in Brazil

While water is a chemical compound, fluidity is a dynamic state that materializes in often unpredictable forms in human infrastructural and industrial systems. From hydro-power plants to mining complexes, waters in Latin America’s extractive zones have been dammed, diverted, and turned into flows loaded with heavy metals and toxic mud. Brian Larkin defines infrastructure as a poetic/semiotic system devised to move matter around in legible and predictable patterns.²⁰ However, as I argue elsewhere, when hydraulic

17. Angostini, *Monuments of Progress*, 115–16.

18. Legorreta, *El agua y la Ciudad de México*, 154.

19. LaBelle, “Towards Acoustic Justice.”

20. Larkin, “Politics and Poetics of Infrastructure.”

systems break down, the limits of human control at “colonizing flow” become materially palpable, troubling the infrastructural imaginaries linked to industrialized development and the tempo and experience of daily life.²¹ Dam ruptures lay bare the environmental and social costs of extractivist capitalism and undermine the “aesthetics of hydropower” embedded in the hydraulic infrastructures that developmentalist states and corporations present as monumental embodiments of progress.²² In the wake of infrastructural breakdown and dam disasters, the ways that entanglements of humans, corporations, mines, dams, rivers, and mudflows are narrated and represented have aesthetic, political, and ecoethical implications. They expose structural forces and contentions at play in the violent processes that inhere in Latin America’s historic and enduring organization as an “extractive zone.”²³

The state of Minas Gerais in Brazil is a terrain entrenched in extractivist dynamics since Portuguese colonization and a place where infrastructural imaginaries have ruptured with tragic consequences in the past decade. On November 5, 2015, a huge dam holding a viscous mix of tailings and water left over from iron mining burst open, sending sixty-two million cubic meters of muddy waste through the town of Mariana and down the Doce River. The catastrophe killed nineteen people in floods and sent “toxic brown water flowing toward the Atlantic Ocean, where it arrived two weeks later, contaminating beaches and towns.”²⁴ The breach of the dam, owned by Samarco Mineração S.A.—a Vale and BHP Billiton joint venture—was the worst of its kind on record in Brazil. The wave of mud swept away people and homes, stopped hydroelectric production, and inundated riparian ecosystems with mercury, arsenic, iron, and lead. It caused immense losses to flora and fauna, and human lives and livelihoods, as documented by journalist Cristina Serra’s ethnography *Tragédia em Mariana* (2018) and shown in Tadeu Jungle’s interactive virtual reality documentary *Rio de lama* (River of Mud, 2016).²⁵ The shock and injustice of the tragedy in Mariana and the Doce River is amplified by the fact that just over three years later another dam-related crime occurred just seventy-four miles away, where the transnational mining giant Vale also operates. On January 25, 2019, a tailings dam collapsed near the town of Brumadinho, releasing a deadly mudflow that killed 270 people, engulfing the company cafeteria and releasing toxic matter into the nearby Paraopeba River.²⁶ In both cases the river basins suffered critical pollution that the ecosystems will take an unknown amount of time to metabolize and remediate.

21. Blackmore, “Colonizing Flow.”

22. Blackmore, “Turbulent River Times.”

23. Gómez-Barris, *Extractive Zone*, xviii.

24. Santos Junqueira Creado and Helmrich, “Wave of Mud,” 34.

25. Tadeu Jungle, dir., *Rio de lama*, April 24, 2016, YouTube video, 9:35, <https://www.youtube.com/watch?v=7zQZqqSkJq0>.

26. Vale deployed an ambitious public relations effort on the disaster and the company’s role in it. Using “euphemistic semantics” to address the disaster, it focused defending their activities by signaling affective attachment to Minas Gerais, environmental management strategies, and contributions to socioeconomic development. See Castro de Oliveira and Castro de Oliveira, “A semântica do eufemismo.”

Even now, a decade after the disaster at Mariana, activist groups such as the Aliança Rio Doce (River Doce Alliance) and Movimento dos Atingidos por Barragens (MAB, Movement for People Affected by Dams), continue to call for social and ecological reparations. While the Brazilian state finally agreed to a \$30 billion compensation deal in October 2024, claimants remain unsatisfied and continue their fight in a court case in London.²⁷ In the wake of the disaster, devastated landscapes, lost towns, protests, and displaced communities became important tropes in campaigns for justice and reparations.²⁸ Imaginaries and discourses around the Doce River thus became terrains where contentions play out between victims of the disaster and corporate actors implicated in social responsibility and environmental justice. The wave of mud unleashed at Mariana became a “vehicle for material-symbolic rupture and contamination” disseminated in media coverage, theater and audiovisual productions, local discussions, and legal processes.²⁹ Mud talk reflected fears regarding the immediate toxic impacts as the polluted flow moved downstream, as well as concerns about long-term environmental damage and impacts on communities. The wave of mud was leveraged in imaginative ways in protest actions and in legal debates over criminal responsibility, demonstrating that images of the disaster are strategic imaginaries that shape public imaginaries about victimhood, liability, and justice.

The toxic flows at Mariana and Brumadinho articulated a material agency that exceeds capture by extractivist capitalism. This is reflected in survivor testimonies that allude to telluric sounds and dislocated matter. Romeu Arlindo, a soil and water control technician at Mariana who survived being engulfed in mud, described how he “heard a boom, like a roar from the depths of the earth” (ouvi um estrondo, como se fosse um rugido das profundezas da terra).³⁰ Recalling the scene he witnessed from a rescue helicopter Carlos Eduardo Ferreira, coordinator of the Nucleus of the Resolution of Environmental Conflicts, remembered how “the mud bubbled up, it looked like a living organism” (a lama borbulhava, parecia um organismo vivo).³¹ These lived scenes depict resurgent matter reviving from the enclosures of extractive commodification. The boom of the rupturing earthen dam and its gurgling flow unfolded as a sonic and material event that preceded encoding in language and representation. The sounds and matter articulated the genesis of a “kakosmic” event, to use the term Bruno Latour uses to explain how material agency profoundly de-composes landscape as sociocultural construction.³²

27. Paraguassu, “Brazil seals \$30 billion compensation deal with BHP.”

28. For more on the Aliança Rio Doce, see <http://aliancariodoce.weebly.com/> (accessed November 8, 2024) and Movimento dos Atingidos Por Barragens, <https://mab.org.br/> (accessed November 8, 2024). *Rio de lama* exemplifies this human permanence, as does Carolina Caycedo’s film *A gente rio* (2016), commissioned by the Bienal de São Paulo.

29. Santos Junqueira Creado and Helmreich, “Wave of Mud,” 36.

30. Serra, *Tragédia em Mariana*, 19.

31. Serra, *Tragédia em Mariana*, 71.

32. Latour, “Agency in the Age of the Anthropocene.”

In this vein Colombian artist Clemencia Echeverri engages the roar of rivers and aerial views of mining destruction in multichannel audiovisual installations like *Sin cielo* (No Sky, 2017) and *Río por asalto* (River by Assault, 2018), while Carolina Caycedo montages footage of hydraulic infrastructures, devastated landscapes, and voices of communities who share testimonies of pain and resistance in film works such as *A gente rio* (We River, 2016), which responded directly to the Mariana disaster. These works call into question capitalism's capacity to control and extract what Jason W. Moore calls the "cheap nature" of the Capitalocene, manifesting instead the way nonhuman matter acts in a "flow of flows."³³ They reflect a broader trend in contemporary art from Latin America that contests extractivism's decomposition of landscape through environmental aesthetics that creatively mediate the processes of *depaisamiento*—the un-landscaping that reveals the tears in territorial fabric.³⁴ In the context of the Mariana and Brumadinho, Brazilian artist Mabe Bethônico probes how toxic liquids are voiced and viewed in extractive zones and in the wake of catastrophe.³⁵ *Speaking of Mud* (2019; fig. 2) features two sets of sixteen pages from newspaper reports where all texts have been cut out and only photographs and a map of the ravaged river basins remain. By removing verbal content, the work emphasizes the material entanglements and toxic flows of capitalism, geology, and river ecosystems as de-composed landscapes whose cultural meanings have been violently dislocated.

Bethônico implicates extractive capitalism in this violence by including in the installation two photographs taken at the Vale offices in Lausanne, Switzerland. These show the artist's hands holding a page from the French newspaper *Le monde* with the headline "La peur des brésiliens à l'ombre des barragens" (Brazilians' Fear in the Shadow of Dams). The accompanying photograph (presumably of toxic flows) has been removed so through its vacant space the viewer sees the mining company's modern, black-and-white building. This convergence of Vale's anonymous offices and Brazilians' environmental vulnerability connects these geographically remote but materially entangled places. By emphasizing the entanglements of transnational capital (Switzerland) and local territory (Brazil), *Speaking of Mud* underscores Vale's criminal responsibility and implication in socioenvironmental reparations. More broadly, it nods to the broader systematic and structural violence exerted on the Global South whereby "large-scale extractivism assaults peripheral spaces, inflicting uneven pain upon regions where Indigenous majority communities continue to organize life and proliferate it, even in sites of extreme pressure and violence."³⁶

33. See Moore, "Rise of Cheap Nature"; Moore, *Capitalism in the Web of Life*.

34. Andermann, *Entranced Earth*.

35. The work was acquired in 2019 by the Pinacoteca de São Paulo. For photographs, see "Speaking of Mud," Mabe Bethônico (website), <https://www.mabebethonico.online/speaking-of-mud> (accessed November 8, 2024).

36. Gómez-Barris, *Extractive Zone*, xviii.



Figure 2. Mabe Bethônico, *Speaking of Mud* (2019). Exhibited at the Pinacoteca de São Paulo, Brazil. Photograph: Lisa Blackmore.

The final element in *Speaking of Mud* is a text reflecting on the semantics of three words: *barro* (mud), *lama* (mud), and *vale/Vale* (lowlands, and the mining company).³⁷ Bethônico presents *barro* (mud) as a *palavra-matéria*, a matter-word found in numerous placenames in Minas Gerais and in the word *barragem*—Portuguese for “dam.” Tracing the material consequences of the Brumadinho dam disaster, the text explores *lama* (also mud) as a synonym for liquidity and poverty present in numerous toponyms in Minas Gerais. Finally she connects the multiple meanings of *Vale/vale*, noting its etymological roots in *value* and how it names both the mining company and lowland hills razed for mining. Digging into the semantics of Minas Gerais (literally *General Mines*) Bethônico exposes the state’s roots in the colonial prospecting that enclosed territories as mere resource.³⁸ In this critique of the commodification of territory and its cultural meanings, *Speaking of Mud* resonates with recent critiques by Ailton Krenak (a leading Indigenous thinker and activist from the Doce River basin) who refutes the utility of territory, insisting on the Krenak people’s filiation with the river. It is their grandfather “Watu”—a relative, not a resource.³⁹

37. Bethônico drew directly from Cordeiro, “Litotoponímia Mineira.”

38. Minas’s city, the former Brazilian capital Ouro Preto, is also a case in point. Its name means “black gold,” and it was once named Vila Rica, “rich city.”

39. Krenak, *A vida não é útil*.

As it probes the entanglement of extractivism, matter, and the unmaking of place, *Speaking of Mud* recalls that “it matters what we use to think other matters with.”⁴⁰ In the text the artist presents with the installation, Bethônico describes how “the mud unleashed by the disasters is a dense and sticky material that, as it settles, forms a thick layer creating a new nameless terrain” (a lama que se espalhou nos desastres é material denso e pegajoso que, ao assentar-se, forma uma camada grossa constituindo um novo terreno sem nome). This toxic flow undoes the colonial and extractivist meanings superimposed on Minas Gerais’s mining landscapes. The semantic instability caused by disaster signals that landscapes are not forged by human will alone. They are a dynamic process of material becoming (and terrestrial undoing) where human force and non-human agency shape the planetary contours of the Anthropocene. As *Speaking of Mud* invokes the “geontology” of mud, it serves as a reminder that matter is not just moved around by anthropic forces; it also moves apparently fixed terrains, sturdy systems and cultural landscapes, exposing the inequitable grounds that underpin them.⁴¹ To speak of mud in the context of toxic flows is thus to wade into a liquid ecology of environmental crimes, catastrophic aftermaths, and indeterminate “naturecultures.”⁴² All these expose Mariana and Brumadinho’s postdisaster landscapes as an undoing of language and place that is a systematic impact of large-scale extractivism as it affects earth and water bodies across mineral-rich regions.

Hydrocosmological Cycles: Reweaving Water Cultures in Peru

The discussion so far has shown how hydraulic control of water and land installed by colonization, urbanization, and extractivism have torn through the fabric of space, rupturing deep sociocultural connections to water. It follows that imagining alternative human-water relations requires a reweaving of threads of water management traditions and cultures rooted in practices attuned to a changing climate and to enduring inequities. Peru is an important case in this respect. There, melting glaciers, rapid urbanization, and unequal access to water all pose urgent stresses. Lima, the desert capital, has grown exponentially since the 1940s, yet its annual rainfall still barely reaches ten millimeters in total and its territory holds only 2.2 percent of the country’s water resources.⁴³ The future of the parched city is contingent on a profound reconsideration of its hydraulic infrastructures and water cultures.

The twentieth century vision of Peruvian modernization was rooted in imaginaries that conceived water as a resource for hydroelectric infrastructure and industrial scale crop production. This is reflected in the state’s approval in 1933 of Swiss engineer Pablo Boner’s system of reservoirs, tunnels, and hydroelectric plants. It gave hydropower

40. Haraway, *Staying with the Trouble*.

41. Povinelli, *Geontologies*.

42. Haraway, *Companion Species Manifesto*.

43. Hommes and Boelens, “Urbanizing Rural Waters,” 71–72.

companies significant control of highland water resources, inspiring eulogies for infrastructures that would “impregnate discipline in the flows of the Santa Eulalia and Rímac [Rivers, and] rise like imposing altars that consecrate the progress of the Peruvian nation.”⁴⁴ By the 1950s, engineers proposed water transfer projects to support the growing city and irrigate industrial sugar, avocado, and cotton plantations in Lima’s Rímac River basin. One (unrealized) plan to dam Lake Junín in the Mantaro valley and divert its water from the Amazon basin to the Rímac watershed via a forty-kilometer trans-Andean tunnel was billed as the epitome of hydraulic ingenuity: “The Peruvians of tomorrow . . . will lift up the monument of granite which will eternalize the heroic deed of the epigones who achieve such a gigantic work, to fecundate the desert wasteland . . . , provide light and power and, in general, to increase the richness, comfort and beauty of Greater Lima, the Garden City of the Southern Hemisphere.”⁴⁵ Subsequent policies continued to dream of a verdant desert. Water transfer projects began in 1962, acquiring powerful political capital that endures today in the most recent work, Marca IV, inaugurated in 2012 with great pomp by then president Ollanta Humala.⁴⁶ Reservoirs, tunnels, canals, and hydroelectric plants are not just technical means; such infrastructures make compelling promises of modernity and progress, symbolizing, in Lima how urban systems metabolize natural resources, transforming the Rímac from being the “river that talks” (the translation of the Quechua name *rímac*) to the “river that works.”⁴⁷

A decade ago, the urgency of satisfying Lima’s demand for water led the city’s water utility company, SEDAPAL, to launch a \$2.3 billion master plan designed to gradually increase supply until 2044 through reservoirs, treatment plants, desalination plants, and water transfer tunnels.⁴⁸ But as glaciers recede, rainfall patterns become more erratic, and demand for water continues to rise, there is growing recognition that water transfers are not enough. However, ancestral water technologies offer alternatives forward. Over millennia, Indigenous communities developed sophisticated methods to guarantee water even amid scarcity, as Guamán Poma recorded as early as the sixteenth century (fig. 3). Scientists are now also turning to pre-Hispanic, high Andean hydraulics such as *amunas*, an ancestral water harvesting system comprising artificial channels cut into the ground to divert rainwater during rainy seasons, which are still used to

44. Hommes, “Desarrollo hidroeléctrico y reconfiguraciones territoriales,” 237. The original quote by Gino Bianchini, director of Empresas Eléctricas during the inauguration of the Central Hidroeléctrica de Huinco in 1965, states that the power plant “fecunda disciplina a los caudales de del Santa Eulalia y del Rímac [y] surgen como imponentes altares consagrados al progreso de la nación peruana.”

45. The quote is from Antúnez de Mayolo, *La gran Lima y la desviación del río Mantaro al Rímac* and is also cited in Hommes and Boelens, “Urbanizing Rural Waters,” 75.

46. See Hommes and Boelens, “Urbanizing Rural Waters,” 78.

47. Hommes, “Desarrollo hidroeléctrico y reconfiguraciones territoriales,” 236–37. See also Hommes and Boelens, “From Natural Flow to ‘Working River.’”

48. Groves et al., *Preparing for Future Droughts*, 4.

Figure 3. “Travaxa: Zara carpai, iaco mvcchoy rupay pacha” (November: Time of watering the maize, of scarcity of water, time of heat), Royal Danish Library, GKS 2232 kvart: Felipe Guamán Poma de Ayala, *Nueva corónica y buen gobierno* (ca. 1615), p. 1162 [1172].



recharge aquifers and prevent erosion and landslides, and for water retention and irrigation. A mixture of nature-based solutions and ancestral knowledge is increasingly considered a viable route to climate change adaptation for which NGOs seek funding and international development agencies voice their support.⁴⁹ Lima's water future requires the weaving of modern transfer technology and ancient hydraulics, along with critical revision of the inequities in water consumption among the different types of domestic and industrial users. Such a warp and weft implies a praxis of *artesanía intelectual* (intellectual craftwork), to use Silvia Rivera Cusicanqui's methodology, the weaving of Indigenous and peasant knowledge with modern technologies and Western philosophy.⁵⁰ This combination of artisanal making and knowing with modern technologies eschews nostalgia for bygone worlds by actualizing ancestral knowledge and insisting on its role as Indigenous science that is relevant to contemporary challenges, both by virtue of its technical capacity and its ethics of reciprocity with land and water. Rooted in those challenges, intellectual craftwork provides a critical and creative vocabulary to think with the task of reimagining sociotechnical practices adapted to environmental turmoil.

In Peruvian contemporary art the warp and weft of ancestral knowledges and crafts, ecosystem science, and sustainable technologies are articulated in Ana Teresa

49. See Gies, "Why Peru Is Reviving a Pre-Incan Technology."

50. Rivera Cusicanqui, *Sociología de la imagen*, 23.



Figure 4. Ana Teresa Barboza and Rafael Freyre, *Ecosistema del agua*, 2019. Exhibited at Museo de Arte Contemporáneo, Lima. Photograph: Lisa Blackmore.

Barboza and Rafael Freyre's *Ecosistema del agua* (Water Ecosystem, 2019; fig. 4). First presented at the Museo de Arte Contemporáneo de Lima then recreated at Rívus, the Sydney Biennial in 2022, the installation is a microcosmic version of the hydrological cycles that enabled pre-Hispanic peoples to settle in the arid valley of Lima. The installation recreates the coastal to Andean water cycle that has sustained life for millennia. Referencing the evaporation of seawater from the Pacific Ocean, it uses a modern water tank to pump water to the roof of the museum. It then emulates precipitation from mountains to the valley as the pumped water falls in misty droplets that condense into two hanging objects loosely woven from reed. In them the water irrigates suspended air plants as it trickles further down to collect in large natural stones, filtering through them to finally collect in pools nestled in flatter stones that lay on the floor. These elements are surrounded by a large mat woven from the reed fibers of totora and junco plants and interspersed with vertical stacks of the same materials, which evoke the coastal wetlands where these reeds grow. Flanking these central elements, two tables present a line of large glass bottles containing different stones to filter water, then served from ceramic jugs and cups for visitors to drink. This ritual act completes the cycle as human bodies metabolize moving waters. A ceremonial atmosphere imbues

the work, whose misty milieu visitors move through barefoot, wearing a hooded poncho of natural fibers, their feet crunching on woven reed mats that cover the floor amid sounds of water trickling overhead. The installation thus stages an immersive experience of different states of water, from evaporation, via precipitation, through filtration to ingestion, where sensorial experience is an invitation to embody the water cycle.

In recreating water's cycle from coast to mountain and back, the work generates more than a meteorological phenomenon; it tacitly recreates Andean hydrocosmology. The hydrocosmological cycle balances and sacralizes ancestral relations to and through water by structuring territory in principles of reciprocity (*ayni*) between nature (*sallqa*), humans (*runas*), and deities (*huacas*).⁵¹ As it moves through this cycle, water connects Hanaq Pacha (the world-above), Kay Pacha (this world) and Ukhu Pacha (the world-below), linking all lives to Mamacocha (the Mother Lake [ocean] or "womb of the universe") and to Ticsi Viracocha, the vital force that emerged from Lake Titicaca to create the cosmos and these three interconnected realms. In this cycle water surrounds and penetrates the earth, flowing in underground rivers and pooling in highland lakes and springs, whose mountains are home to the Apus who "control the water cycle by freezing the liquid of life in their ice and snow-caps release it when they decide."⁵² Water descends from the mountains in serpentine forms, flowing through irrigation canals and rivers to nourish life-giving crops or, if any is out of balance, manifesting as *huaycos* (mudslides) or drought. After water has completed this phase of ripening and harvest, it flows toward death, meeting the ocean and descending into the Ukhu Pacha, the netherworld. After flowing through the underground rivers of the earth's veins (Yawar Mayu, River of Blood), water restarts its journey and the cycle begins again.

It is striking to note how *Ecosistema del agua* maps onto these same stages of the water cycle, pumping liquid through states of flow and condensation, before finally channeling it into the human body through the ritual act of drinking. These interpermeations of water pump, plants, and human bodies stage a network of interdependencies that enable terrestrial life in our "more-than-human hydrocommons."⁵³ Barboza and Freyre suggest there is much to learn from ancestral relatedness to the wetland ecosystems of central Peru's arid coast where the reeds they weave grow. There, ancient cultures fished, created irrigation reservoirs from rivers flowing to the coast, and harvested plant fibers to weave them for construction, clothing, fishing, and furniture.⁵⁴ These knowledges enabled settlements to grow and agriculture to expand. It is no coincidence that Barboza and Freyre describe the work as "a ritual space with water" that seeks to reconnect contemporary inhabitants of the Lima Valley to symbiotic relations with wetland ecosystems. Indigenous technologies of collaboration with (rather than control of) the water cycle is the principle they foreground in the place of grandiose

51. Boelens, "Cultural Politics and the Hydrosocial Cycle."

52. Boelens, "Cultural Politics and the Hydrosocial Cycle," 242.

53. See Neimanis, *Bodies of Water*, 2.

54. Maldonado Fonkén and Graus, "Paludiculture in Peru."

infrastructure. This principle is materialized in the way *Ecosistema del agua* places phytodepuration and plant fiber weaving center stage on a monumental scale. The installation underscores reciprocal relations between humans and territory through the elemental materials it deploys (living plants, cut reeds, flowing water, stones, and clay) and through the actualization of traditional crafts (stonework, reed weaving, ceramics, and adobe) produced by the artists' long-standing collaborators for the installation.⁵⁵ Finally the ritual atmosphere of near silence, permeated only by the humming pump, dripping water, and crunching reed floor, creates an introspective atmosphere conducive to remembering that Andean kinship extends to "earth beings" of mountains and bodies of water.⁵⁶

These gestures, however, do not amount to a nostalgic return to a pre-Hispanic past since the context of the work's placement in a contemporary art museum, via its cultures of display (installation) and with the integration of modern technologies of hydroengineering (the mechanized water pump), make this impossible. The constant hum of the water tank pumping water into the installation is a reminder of the city's ineluctably technoscientific present, where glacial retreat, climate instability, and inequitable access to water are ever-present stresses in public conversations and policy making. Even as the installation won the inaugural MAC LIMA National Prize for Art and Innovation (created in 2019 to incentivize interdisciplinary projects that confront social challenges by linking art, science, and technology), Barboza and Freyre insist on an expanded definition of technology in *Ecosistema del agua*. Just as cutting-edge climate science is turning to pre-Hispanic hydraulics, the artists conjugate art/craft and ancestral/modern knowledge as technologies for inhabiting the world by learning from and working with (not against) the water cycle and its ecosystems. In sum, in connecting threads from the ancestral past and the water-stressed present the installation invites awareness that sustainable coexistence requires sympoiesis—a "making-with" based on care and collaboration between human and nonhuman lives as well as interchange between ancestral tradition and contemporary science.⁵⁷

Conclusions: Affordances and Challenges of Art for the Hydrocommons

This article has presented a select corpus of Latin American contemporary art as art for the hydrocommons by arguing that sound and installation works are making valuable contributions to rethinking human-water relations through aesthetic mediations of the negative impacts of colonization, urbanization, and extractivism as they manifest in desiccation, polluted waterways, and amnesia of ancestral hydrocosmologies. The artworks analyzed reveal diverse strategies that stimulate critical reflection on the environmental and cognitive injustices that structure Latin America's hydrosphere as well as invitations to reenchant common waters. By destabilizing colonial, journalistic, and corporate

55. A full list of credits features at RF Studio, "Sustainable Art: Water Ecosystem," <https://raffreyre.com/water-ecosystem-2/> (accessed November 8, 2024).

56. De la Cadena, *Earth Beings*.

57. Haraway, *Staying with the Trouble*.

framings of mud, Bethônico's work advances critical approaches to the ecological degradation caused by extractivism, raising awareness of the environmental injustices caused when toxic flows pollute waterways. By conjuring tinkling resonances of rivers from music boxes, Candiani's work both evokes the problematic enclosures of urban rivers in Mexico City and invites audiences to reconnect to their silenced flows. Finally, by enveloping visitors in the diffusive mist of their microcosmic water cycle, Barboza and Freyre's installation demonstrates contemporary art's capacity to create immersive environments to embody water cycles and perhaps even to reenchant relations to them.

Spanning diverse aesthetic mediums and registers, all these strategies hold potential for imagining human-water relations otherwise. The critical acuity of Bethônico's work is necessary to name the injustices that manifest in the "stained geography" of extractivism and envisage routes toward socioenvironmental justice.⁵⁸ As Eduard Gudynas argues, imagining postextractive futures requires clear-headed reflection and action that effects "changes in public policies, in the functioning of the economy, in the understanding of justice and democracy or in the conception of Nature."⁵⁹ By contrast to the analytical approach taken by Bethônico, the subtle excavations at play in Candiani's evocation of Mexico City's hydraulic histories is a work of cultural memory that is necessary to move beyond the telos of modernity, which seeks only to move forward. Finally the wistful music in Candiani's work and the tranquil vapor of Barboza and Freyre's installation make powerful appeals to intimate, sensory connections with watery environments that might inspire enchantment in those who engage with them. For political philosopher Jane Bennett enchantment is "a mood with ethical potential" that begins with an "embodied sensibility," openness to the world and willingness to be seduced by it.⁶⁰ As these two artworks stimulate embodied sensibility, they invent milieus for modes of reenchantment that move beyond the logics of extractive and urban capitalism and toward an awareness of water as a life-enabling substance. Making this shift is fundamental to the challenge of birthing new water cultures that place collective flourishing and ecosocial justice at their center.

Silvia Rivera Cusicanqui proposes that there is an emergent ecopolitical sensibility wherein bodies of water (along with mountains and forests) are calling on humans to form "communities of affinity" around them and that such coalitions might stimulate concrete forms of ecosystem care and protection based on principles of more-than-human well-being.⁶¹ The analysis above advocates for art's capacity to seed meaningful connections to water as inspiration for such ecoethical dispositions that are taking shape in an emergent "Hydrocommons Map" that, with Alejandro Ponce de León, we

58. Gudynas, "Extractivisms," 67.

59. Gudynas, "Extractivisms," 66.

60. Bennett, *Enchantment of the Modern World*, 131.

61. Bennett, *Enchantment of the Modern World*, 133. On "community of affinity" (*comunidad de afinidad*) see Salazar Lohman, "Entrevista a Silvia Rivera Cusicanqui."

have started to compile to demonstrate the rise in creative water justice work in the Americas.⁶²

It is important not to overstate artworks' capacity to reactivate ancestral water cultures or provide solutions to contemporary challenges and their related socioenvironmental injustices. Nor is the claim that art alone does tangible communal or environmental work. What art for the hydrocommons can do, however, is further and deepen awareness that the health of communities and the victimhood of contaminated and damaged waters are themselves neither exclusively *human* nor exclusively *environmental* but interpermeated hydrosocial phenomena. This principle that health and justice are ecosocial concerns is the basis of the legal reforms that enshrined the Rights of Nature in Ecuador's and Bolivia's constitutions in the first decade of the twenty-first century and applies to a growing list of rivers in Latin America. However, there is a long route to broad-based attitudinal change in human-water relations. Even as governments declare that polluted urban rivers (such as the Pinheiros in São Paulo, Brazil, and the Bogotá in Colombia's capital) will soon be restored to health, deficient urban sanitation and industrial pollution continue to perpetuate critical levels of contamination. Similarly, even as the rivers rights movement grows in momentum in Latin America—with recent legal victories in Peru's Marañón River and Chile's Bío Bío River—neoextractivism and water grabbing continue apace, placing pressure on river basins throughout the region.⁶³ In this setting contemporary art is no panacea. It can, however, channel attention to the enduring structural problems facing the region's hydrosphere and contribute to raising awareness that Latin America's waters could exist, and have existed, in much healthier and more dignified states.

LISA BLACKMORE is senior lecturer in art history and interdisciplinary studies at the University of Essex. Since 2018, she has convened the interdisciplinary research network *entre—ríos* (<https://entre-rios.net>), a confluence of projects exploring continuities between bodies of water, human bodies, and territories. She is coeditor of *Hydrocommons Cultures: Art, Pedagogy, and Practices of Care in the Americas*, LA ESCUELA (2024), *Liquid Ecologies in Latin American and Caribbean Art* (2020), and *Natura: Environmental Aesthetics after Landscape* (2018).

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62. Blackmore and Ponce de León, "Hydrocommons Map."

63. Svampa, *Neo-extractivism in Latin America*, 2019.

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