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BIOCULTURE NOW! THE PARANÁ TALKING WITH THE MISSISSIPPI

By Brian Holmes

From the 1930s onward, the Mississippi has been a globally touted model of industrial river management. On its upper reaches, 27 lock and dam structures maintain a nine-foot channel throughout the year, permitting continuous navigation from Minneapolis to the Gulf of Mexico. On the Lower Mississippi, south of Cairo, Illinois, a vast levee system provides flood protection for the cities and towns along its banks, and for all those who farm its alluvial soils. From north to south, innumerable dikes, chevrons, and weirs serve to channel the surging current, reducing the need for dredging, while reinforced concrete revetments hold the river in its place, arresting

Fisherfolk on the Paraná bluffs near Rosario, Argentina, 2011.
Image courtesy of Claire Pentecost.

its natural tendency to carve meander loops that would ultimately be cut off and cast aside as oxbow lakes. The Mississippi has been extensively tutored by its human masters and overwhelmed by their powerful machines. It has been almost entirely disconnected from the surrounding wetlands to which it was formerly joined by the flood pulse. For these and many other reasons it has rightly been called an "Anthropocene river"—that is, a river dominated and profoundly damaged by human beings.[1] At every hour of the day or night, its forested islands reverberate with the roar of diesel engines pushing barges full of grain, coal, chemicals, and industrial products toward domestic ports and the high seas.

Wandering across the meticulously farmed floodplains or camping on the wild forested islands beneath the searchlights of passing tows, I have often been carried away in reverie to another river: the Paraguay-Paraná in Latin America, which also flows through endless corn and soybean fields and which also serves as an artery of commerce for the nations along its banks. It's the serpentine twin of our great Midwestern stream—the same in so many ways yet so profoundly different. Like the Mississippi from the Bird's Foot delta to Baton Rouge, the Paraná serves ocean-going freighters all the way up to the Argentinean cities of Rosario and Santa Fe. Like the Midwestern waterway, it has been the object of endless engineering schemes aimed both at deepening the main channel and improving barge traffic along the upper reaches. Yet unlike the Mississippi, the Paraguay-Paraná is still entirely free of dams across its entire 2,500-mile length, and equally free of levees and revetments outside the major urban areas. Its immense floodplains

Biocultural Dialogue. Image courtesy of Casa Río.

have remained, if not intact, at least broadly open to the river's seasonal pulse. At its headwaters lies the tropical twin of the Mississippi's graceful Anishinaabe rice lakes: the Pantanal, the largest and most biodiverse wetland on Earth.

The Paraguay-Paraná, with its integrally floodable banks, has rightly been called a "living river." Such intricate lifeforms are deeply intertwined with our own, as Indigenous teachings, Gaia theory, and Earth system science have shown in their own ways. For this reason, friends and defenders of rivers have begun to speak not only of biological diversity but, more importantly, of *biocultural diversity*, recognizing the regionally specific relations between humans and nonhumans that are needed to sustain a river's way of life in the present.[2] Yet human beings, especially those of the "wild capitalist" variety, also represent a tremendous threat to living rivers. How has the Paraguay-Paraná escaped the fate of the Mississippi? And how can both of them survive as rivers, not canals, in the present epoch?

As a member of the eco/art group Casa Río in Argentina, I have had multiple occasions to meet the Paraguay-Paraná and to converse with it through its allies, gathered in the Wetlands Without Borders network. Encounters with activists, scientists, and inhabitants of the La Plata Basin have sparked both my imagination and my scholarly interest. Yet I am primarily an artist and activist moved by the urgency of global ecological change. In this article, I'll try to let the Paraná and the voices of its defenders speak through me to engage a conversation with the Mississippi. Of course, this kind of ventriloquism is against all the academic rules—but how exactly shall we learn what a river can teach?

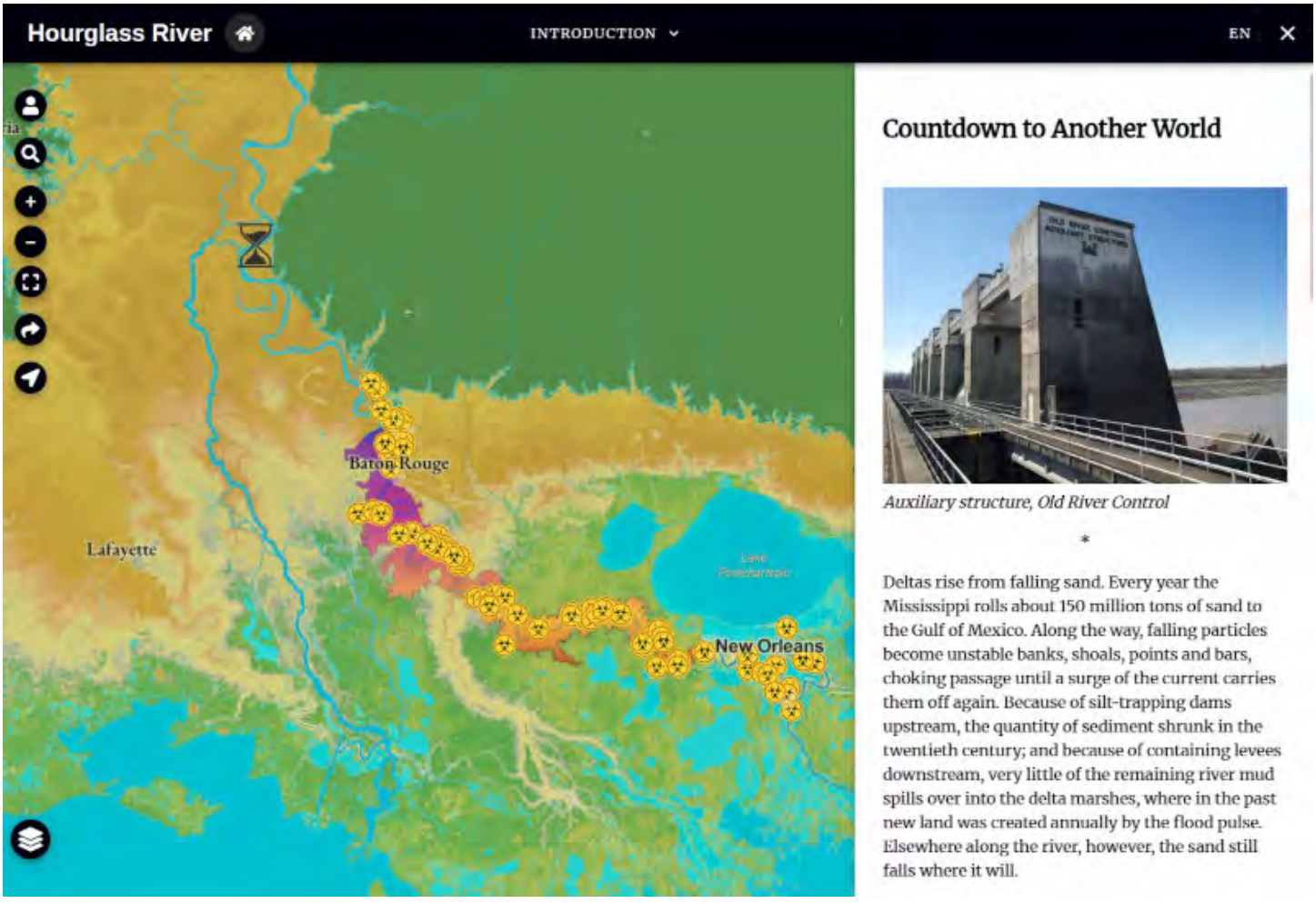
Babbling Basins

On the map, rivers appear to branch as they go up. But that's a backwards human view. In the river's reality, multiple tributaries converge as they flow downstream. The personality of a great river emerges from myriad convergences, tracing a catchment or drainage basin at subcontinental scale. Just as a sturdy tree draws its sustenance from its delicate foliage, so does a great river live from the dendritic tangle of its upper reaches. The deepest current of the mainstem—the invisible thalweg—can be understood as an intricate sensory system registering the day-to-day experience of distant forests and waterfalls. It's wonderful that in human languages, a delta is often called a "mouth." If a river could talk, it would speak of its basin.

The Mississippi and La Plata basins are among the most industrialized in the world. Yet accidents of geography and culture, along with the deeds of certain human beings, have left the Paraná mainstem and its northern tributary, the Paraguay, relatively free to express what they sense from the surrounding territory. The most dramatic of these free expressions is called a flood—much in the news these days since the rains have started radically changing in intensity. For humans, floods are mainly known through the cities and infrastructures they destroy with increasing force. For rivers, seasonally oscillating pulses are a way of communicating distant raindrops and snowmelts to nearby floodplain ecologies. In wide valleys like those of the Mississippi and the Paraná, even relatively small river rises can have extensive effects, turning grasslands or farmers' fields into glittering prairies with incursions of spawning fish, crustaceans, birds, and reptiles. Along the Paraná where there are no levees to hold back the rising water, human populations adopt boats, rafts, and even floating schools in a seasonal round. Scientists now understand that the flood pulse is key to the reproduction of many species—it's the lifeblood of fluvial ecologies.[3] In contemporary times, it's striking to see the machinery of everyday affairs suddenly overtaken by muddy brown swirls and great streamers of

water hyacinth, known in Spanish as *camalote*. Of course, some of the swollen pools never quite dry out; they are always a kind of slow-moving river in the earth, better known as wetlands. It's paradoxical that these drowned environments provide a valuable "sponge effect": wetlands are what slow the deluge through pooling and absorption, unlike levees that channel and accelerate it. These unstable, mutating ecologies, where the land frequently crumbles and fissures before your eyes, deliver what Casa Río calls "the teachings of the flood."[4]

Everything in a spoken language depends on the way the listener interprets it. It's no different with talking rivers. In the Mississippi Valley, the flood pulse was interpreted as an assault on human affairs and the United States went to war. In response to the great flood of 1927, which was already exacerbated by an excess of levees, the U.S. Army Corps of Engineers went on to build a series of gigantic walls around the Lower Mississippi, definitively curtailing its ability to share the accumulated waters of the basin with the surrounding alluvial plains. This decade-long construction program, known as the Mississippi River and Tributaries Project, completed the work of deforesting, ditching, draining, and planting that had already been underway in the floodplains since the late nineteenth century, notably in the Delta and Bootheel regions of the states of Mississippi and Missouri.[5] There, and throughout the Mississippi River valley, an orthogonal grid of functional ditches and canals gradually replaced intricate cypress swamps. Because it was the Great Depression and so many people needed a job, commercial interests along the Upper River engaged the Army Corps in the



Hourglass River. Map courtesy of Brian Holmes. View larger map here.

construction, at government expense, of the lock-and-dam system and the nine-foot channel, permanently inundating huge swathes of territory in the process.[6] After World War II and the development of ever more powerful technology, it was a small matter to devastate the Mississippi's greatest tributary, the Missouri, with a series of largely useless dams that are now aging dangerously and accumulating unsustainable loads of sediment. In this way, the Lakota/Dakota peoples who lived along the Missouri became early members of a growing global population: people displaced by dams.[7]

A similar dam-building frenzy played out on the Upper Paraná in Brazil above its confluence with the Paraguay. In the 1980s, another major enclosure, Yacyretá, was built on the Argentina-Paraguay border. Industrialization also overtook the Uruguay River, the third major artery of the La Plata basin. Only the Paraguay and the Lower Paraná have escaped. This is why Casa Río, like the wider network Wetlands Without Borders, attends primarily to the natural and human expressions of the uninterrupted fluvial corridor running from the Pantanal to the Río de la Plata estuary.

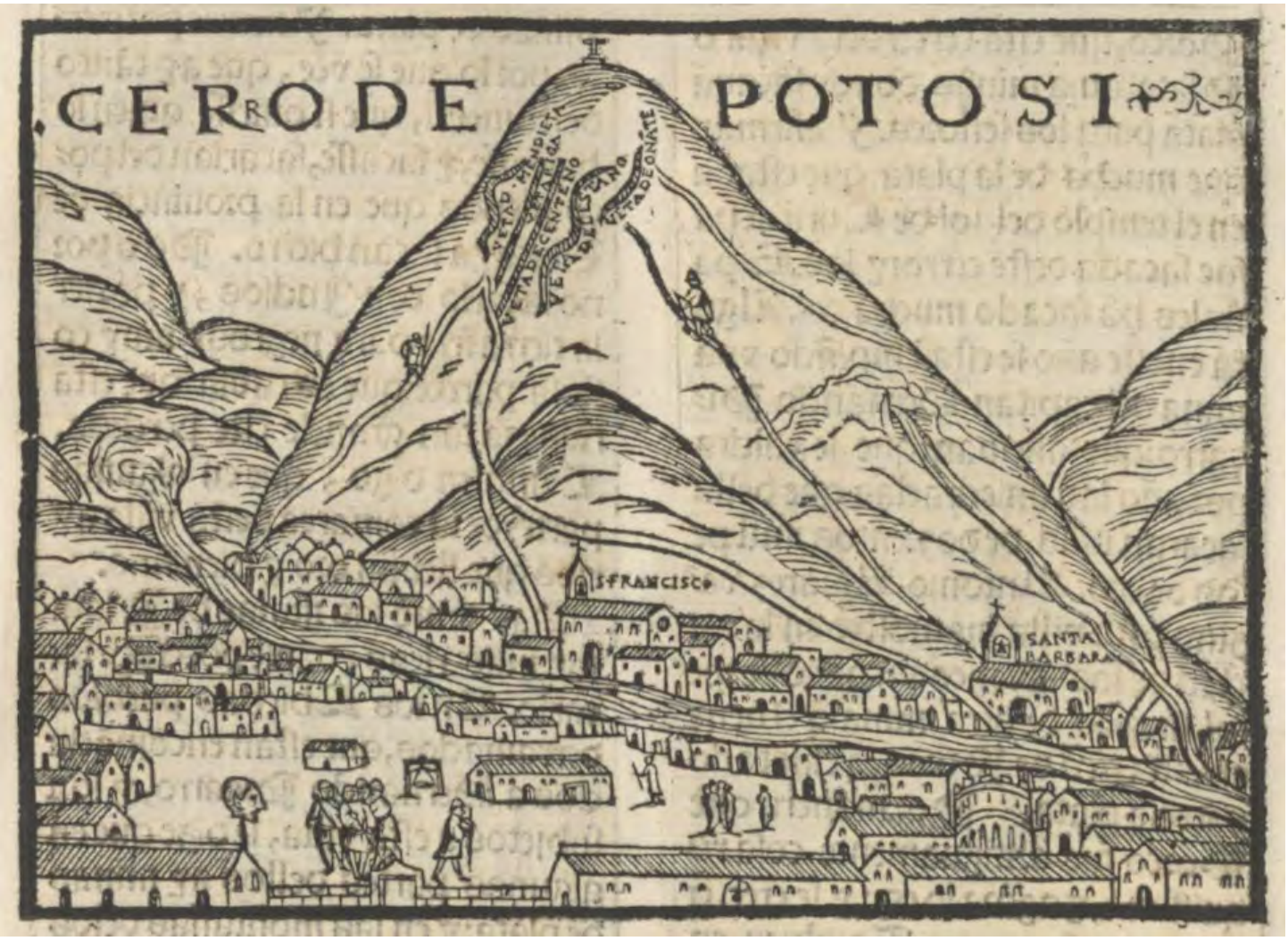
From Casa Río's location on the southern shore of the estuary, just outside the university town of La Plata, it is only a short excursion through the Buenos Aires megalopolis to reach the 200-mile-long, 40-mile-wide Paraná delta with its intricate tapestry of forested islands and grasslands open to the flood pulse. Despite the presence of artificially elevated gated communities near the cities and the encroachment of diked tree plantations and soybean fields everywhere else, the Paraná delta can still give you a sense of what the Mississippi may have been like before the walls arrived. Here, the river is not a calibrated channel but an expansive, mutating world of sinuous veins draped in fractal patterns of vegetation. Sparse but resilient islanders (*isleños*) earn a living by fishing and small-scale forestry, maintaining homes on stilts and transiting by wooden boats to the mainland. Rural towns on bluffs far from the main channel look out over seasonal pastures that regularly disappear beneath vast sheets of water. Closer to Buenos Aires, a riot of cabin dwellers expose themselves both to the floods and the estuary's tides, creating an ebullient reserve of socio-ecological sensitivity right alongside the mechanized press of urban life. This texture of lived experiences and culturally transmitted imaginaries extends throughout the delta and into the Middle Paraná, with its diverging channels and sleeping wetlands. Further north, the Paraguay converges, fed by the flood pulse of the Pantanal.

See video Alejandra, Eva, and Fatima: Poetics of the Delta.

Traditions, inventions, and songs flow downstream, along with plants, seeds, sediments, and giant barge tows. Bioculturalism considers everything together, in both directions. The river's intrinsic connection to its far-flung basin is doubled by the knowledge and desire of its human denizens, gesturing across the gap between the delta and the headwaters. The specific role of biocultural art (Casa Río's vocation) is to transmit and amplify these gestures. As experience shows, the human conversation with and about the river, marginal and intermittent though it may be in contemporary society, proves nonetheless essential to the maintenance of the river's own expressivity, as we shall see.

Ancient Enemy

When the Venetian explorer Sebastian Cabot entered the estuary and traveled up the river in 1527, he gave it a name that perfectly expressed the colonial dream: Río de la Plata, "the River of Silver."[8] This was the dream of a watery highway to the legendary mines of Potosí in the high Andean mountains of what is now Bolivia, where the Spanish later established their mint. However, it turned out that the river did not really lead to Potosí but instead to an impassable swamp, so the colonizers adopted a heavily guarded mule train over the Andes as an escape route for the loot. Still the colonial dream never faded; only the color changed. Across succeeding centuries, the Paraná-Paraguay became a river of golden grain: first wheat and corn, grown in the Pampas for export from river ports such as Rosario and Santa Fe, then genetically modified soybeans and their processed derivatives, grown from the 1990s onward in Argentina, Paraguay, Bolivia, and the Brazilian states of Matto Grosso and Matto Grosso del Sur.[9] The drive to export these profitable commodities has made the great river into an object of sublime desire for the industrial bourgeoisies of South America. Thus, at the close of the twentieth century, the ancient



Excerpt from Pedro de Cieza de León, Parte primera de la Chronica del Peru, 1581, via Library of Congress.

dream of the River of Silver was reborn under the auspices of the Paraguay-Paraná "Hidrovía": an international plan to turn the river into a logistics corridor for the transport of gasoline, agricultural chemicals, corn, and soybeans.

The 1990s were a dangerous decade for Latin American rivers. In 1989, Argentina, Bolivia, Brazil, Paraguay, and Uruguay created the Intergovernmental Committee on the Paraguay-Paraná Waterway. Its aim was to carve out a navigable channel 2,140 miles long, stretching from Cáceres in Brazil to Nueva Palmira on the Uruguayan side of the Río de La Plata estuary.[10] The proposed river corridor, promising a minimum nine-foot channel for barge traffic through the upper reaches, would soon be conceived as the logistics backbone of Mercosur, a transnational economic bloc launched in 1991. As in the case of the Mississippi, the Hidrovía project entailed dredging the Upper Paraguay River, installing dikes to raise water levels, straightening five curves, and dynamiting eight rocky outcrops that constrict the river's flow. These interventions would have led to the shrinking of the Pantanal, gravely damaging its wetland ecology and curtailing its "sponge effect" on downstream flood pulses.[11] Flawed feasibility studies and a nearly complete disregard for the project's consequences led to widespread denunciation by biologists and river defenders, culminating in the formation of the activist coalition Ríos Vivos, or "Living Rivers," in 1994. In that same year, the newly constructed Yacyretá reservoir began to be filled with water, provoking the displacement of some fifteen thousand people in the initial phase alone. Now it became obvious that the drive toward an integrated South American economy would exact a devastating non-monetary cost: the transformation of the Paraguay-Paraná river system along the lines that had already been traced in cement across the Mississippi River basin.[12]

Ríos Vivos marked an extraordinary moment in Latin American social history.[13] The coalition gathered over 300 groups and movements from the five-nation La Plata basin; but it acted nonhierarchically, serving as an information gathering system and open strategy center whose deliberations and conclusions could be drawn upon, or not, by each of the member organizations in their local struggles. The aim was to render regional governments politically accountable for their technocratic planning processes through the power of Indigenous agency, grassroots pressure, scientific expertise, and international law, the latter of which was binding for international financial institutions (IFIs) such as the World Bank and the Inter-American Development Bank. Support was also provided from outside the region by International Rivers, a U.S.-based network that could draw on the hydrological engineering expertise of the environmental consulting firm Philip Williams & Associates, and by the Dutch ecological organization Both Ends, which has continuously assisted with strategy and fundraising while generating critical information on the role of the IFIs and the European Union. Within this open and agile coalition, scientific and environmentalist interventions could coexist with local and Indigenous modes of organizing. Resisting top-down control, the coalition developed the ecological sensitivity of a vast river basin populated by humans since time immemorial and connected atmospherically to the emergent ecology of global river activism. As a Ríos Vivos publication declared some years later:

> The peoples and indigenous communities that have joined the organizations forming the Ríos Vivos Coalition seek to build a society founded on sustainability and equity. These peoples have a long history of struggles for the defense of their territories, for the legitimate right to preserve and enrich their customs, beliefs and cultural traditions. We share a common dream but each Organization, Community and People in the Coalition has its own pathway, traced by its own demands. Ríos Vivos is the mainstem where the actions of over 300 organizations, communities and peoples converge and overflow.[14]

Even as controversy over the Hidrovía plan grew, Argentina's neoliberal president Carlos Menem revived a Soviet-designed hydroelectric plan from the 1970s that had been shelved in the face of Cold War opposition from the United States. [15] The new Paraná Medio Dam involved the construction of a five-mile-wide barrier spanning the river, plus a 145-mile-long levee running along the western bank between the cities of Sante Fe and Goya to create a deep pool for Panamax-class freighters. The plan included a possible extension for a second deep pool to the north, which would have been another major step toward the canalization and industrialization of the entire river. Its designer was a North American consortium called Energy Developers International (EDI), based in Metairie, Louisiana, which proposed to supply a $5 billion capital investment in exchange for 50 years' worth of electricity revenue plus 30 years of tariffs on bridges, locks, and similar structures. The consortium included the engineering mega-firm Brown & Root, but its hydroelectric technology was to be furnished by a smaller military contractor, New Orleans, Louisiana based Avondale Industries, whose blueprint for the giant installation on the Paraná was founded on a transportable steel-encased powerhouse that it had previously supplied for the comparatively tiny Sidney A. Murray Jr. Dam at Old River Control on the Mississippi.[16]

Sidney A. Murray Jr. Dam, Mississippi River, Louisiana. Image courtesy of Brian Holmes.

Menem approved the EDI offer by decree in December 1996, bypassing the democratic process. For Argentines who had only recently emerged from dictatorship, this was yet another abuse of power under Yankee influence. As filmmaker and activist Glenn Switkes of International Rivers noted a year later:

> To secure the Argentine government's support for the project, the consortium has employed high-level officials of the Bush administration, according to Argentine press reports. Among the consortium's lobbyists: former Treasury Secretary Nicholas Brady, now chair of Dillon Read, which would coordinate financing for the project; former Defense Secretary Richard Cheney, chair of the board of Halliburton, Brown and Root's parent company; and the ex-president's son, Texas Governor George Bush, Jr.[17]

Rivers have mortal enemies. But their ability to fight back flows through those who know them most intimately. In early 1996 when the Paraná Medio project was first publicly announced, two fishermen, Luis "Cosita" Romero and Raúl Rocco, began wondering what they could do to save the river and their own way of life from millions of tons of compacted earth and reinforced concrete. Romero was convinced that resistance was an absolute necessity, but Rocco had the audacious idea: they'd put a fishing skiff on the back of a truck, travel upstream to Yacyretá, and row 600 miles downstream to their home port of Paraná where the dam was to be built.[18] At every town along the way they'd stop to rally the river defenders, debate the authorities, and steal the public's hearts with a rendition of Rocco's poem, "The Fisherman's Pride." So, like a pair of Davids in a cockleshell boat, they set off to confront Goliath Incorporated: a recklessly ambitious Argentinean president, a group of immensely powerful Gulf Coast engineering firms, and the whole George H.W. Bush gang in action. Despite all the promises of modernization coming from the incorporated powers, a multiscalar civil society coalition would rather listen to the river.

Some twenty years after the fact, I'll never forget a wild night on a Casa Río trip in a half-ruined house on a bluff in Paraná city overlooking the immense dark river, drinking staunch red wine and listening to Cosita Romero tell his hilarious tale.[19] After writing NEVER AGAIN in chalk letters on the wall of the Yacyretá dam, the two began their journey, meeting allies in one port and adversaries in the next, taking sides with the generous and confronting the indifference of the majority. Every day their oars bit into the powerful brown current. And slowly the balance began to tremble. In the town of La Paz 3,000 people came out to greet them. And in Santa Elena the next day they heard drums over the water. Then a fire engine arrived at the dock to parade them through the city, where municipal authorities were shaking their hands and reporters were lining up for interviews. Back home in Paraná, the port and the streets were theirs, and on September 25, 1997, the province of Entre Ríos asserted its hard-won democratic rights by legislating that the large rivers under its jurisdiction would forever flow free of impoundments.[20]

The First International Meeting of People Affected by Dams was held in Curitiba, Brazil on March 14, 1997.[21] In that same year, the presidential decree authorizing the Paraná Medio dam was declared unconstitutional by the Supreme Court of Argentina. Negotiations over the Hidrovía came to a halt in the year 2000 when Brazil suspended its collaboration over concerns about the environmental integrity of the Pantanal.[22] In 1999, Carlos Menem's presidency ended under clouds of scandal, and two years later his successor, Fernando de la Rua, had to flee the presidential palace in a helicopter. The river had spoken, the Argentine popular uprising of December 2001 had begun, and for a few years no further steps were taken toward the draining of the Paraguay-Paraná wetlands.

"Ríos Vivos" bulletin no. 1 courtesy of Sobrevivencia—Friends of the Earth Paraguay.

Biocultural Vision

After the victories of the century's close, some of the Ríos Vivos organizations took advantage of Latin America's leftward turn (the "Pink Tide") to formulate a socio-environmental strategy that would enable local inhabitants and river activists to work jointly with regional governments. Like the North American bioregionalists of the 1970s, they envisaged their territory not in terms of national boundaries but as a watershed: the La Plata basin, containing parts of Argentina, Bolivia, Brazil, Uruguay, and Paraguay.[23] Here they saw a field of experimentation on the scale of contemporary ecological issues, focusing not only on conservation but also on questions of survival and cultural flourishing for both Indigenous and campesino populations. A series of founding acts led to a new collaborative framework in 2007, the Alliance for the Paraná-Paraguay Wetlands System ("Alianza Sistema"). The alliance aimed to create a feedback loop, using bottom-up practices to generate environmental policies that would simultaneously protect the wetlands corridor and restore popular access to the river-based lifeways sustaining the social movement. Alianza Sistema proposed that it was not the technocratic state but the actions of local inhabitants that maintained the dynamic equilibrium of the La Plata River basin.

From their grassroots positions, alliance members reached into regional governments, creating a transnational "Center for Socio-Environmental Knowledge and Care of the La Plata Basin" which brought river defenders *inside* the gargantuan Itaipú dam on the Upper Paraná beginning in 2006. With the support of Brazilian environmental minister Marina Silva, the Center for Socio-Environmental Knowledge and Care sought to oppose and supplant the Intergovernmental Committee on the Paraguay-Paraná Waterway. Claiming the ecological rights of a bioregion, this watershed-scale institution proposed biocultural restoration in place of accelerated industrial development. Its five principles distill an astounding clarity:

(a) Water as integrative theme.
(b) The basin as operational territory.
(c) Environmental thinking as the conceptual framework for action.
(d) Environmental education as social mobilizer.
(e) The collective construction of knowledge, action and organization.[24]

A period of utopian thinking opened up in Latin America in the mid 2000s. It spread internationally through global-scale projects like the World Social Forum, launched in Brazil in the wake of 1990s antiglobalization activism. Ríos Vivos and its inheritors participated intensively in this utopian upsurge, as did many campesino and Indigenous movements.[25] All of this inspiration has remained alive to the present day. Yet across the years of social and environmental progress, logistical planning continued in the vaults of power.

In 1998, the Andean Development Corporation (one of the major banks behind the Hidrovía) published a collectively authored volume under an enigmatic title: "The Rivers Unite Us: Fluvial Integration in South America."[26] The book, replete with maps, proposed a series of canal infrastructures creating linkages between all the continent's major river systems. The aim was to create an integrated maritime transport corridor on a north-south axis, running all the way from Buenos Aires through the Pantanal and the Amazon basin to the Amacuro delta of the Orinoco River, with additional east-west road and rail connections. Two years later, in August 2000 at a Summit of South American Presidents held in Brasilia, a similar but even more extensive set of plans was adopted as the Initiative for the Integration of Regional Infrastructure in

South America (IIRSA, now COSIPLAN). In this iteration, the Hidrovía concept for the regional integration of the Mercosur economies was extended to the entire continent, with a plethora of east-west multimodal corridors boosting Asian trade.[27]

Meanwhile, the expansion of the "soy frontier" continued, reaching far beyond the La Plata basin into distant Amazonia. It is hard to overstate the sweeping changes that the golden bean, and the worldwide appetite for meat that it feeds, have brought to Latin America since the early 1990s.[28] The "technological package" (genetically modified seeds, no-till farm equipment, and glyphosate pesticide raining down from small planes) has been applied to vast acreages using the financial strategy of "planters' pools" (*pools de siembra*) to put together the mega-farms required for industrial agriculture. In the worst and most profitable cases, notably in Argentina's northwestern Gran Chaco region, local inhabitants are expelled or killed, primary forest is summarily burnt, globally significant quantities of CO2 are released to the atmosphere, the soil food web is seriously degraded, and the hydrological cycle is gravely damaged.[29] In the same process, the new class fraction of the corporatized "countryside" (*el Campo*) emerges as a powerful political actor, pressing for trade liberalization and currency convertibility to fuel yet more frontier expansion.[30]

Centro de Saberes, Itaipú Dam, 2011. Image courtesy of Alejandro Meitin.

Land use change of these proportions has Earth system consequences. It disrupts biogeochemical cycles, effecting "metabolic rifts" at multiple scales.[31] An example of such transformations of terrestrial metabolism is the continental-scale disruption of the hydrological cycle by deforestation. For the last 30 years in Brazil, there have been studies suggesting that the atmospheric rivers arising from evapotranspiration in the Amazonian jungle and transporting water to the Southern Cone of Latin America might substantially dry up as the forest is converted to savanna. In fact, they recently did so during the severe drought that affected the Argentinean Pampa in 2019–20 and then again in 2023–24.[32] This is an apocalyptic prospect for the Paraná-Paraguay fluvial corridor, whose wetlands, forests, and verdant grasslands depend on rain wafting down

Corridors by Casa Río. View larger map here

from the neighboring basin. How do we live with the foreknowledge of disaster? How can grassroots groups respond to the all-pervasive phenomena of global ecological mutations?

In 2017, the organizations of Alianza Sistema again reformulated their endeavors, this time under the name Humedales sin Fronteras (Wetlands Without Borders). A look at the online map Casa Río has created to illustrate the Wetlands Without Borders program reveals a philosophy that has taken form over three decades of experience. Entitled *Corridors*, the map offers a double vision of the La Plata basin. One view depicts it in textured black like a gigantic burnt-out cinder, with a sinuous blue line studded with red dots running north to south. This is the *extractive corridor*, marking the Hidrovía and its industrial ports. Additional layers represent the ecological damage of soybean expansion, deforestation, and ever-worsening fires (often deliberately set to clear away native trees for soybeans or cattle). By contrast, the other view of the basin is composed in tropical tones of brown, green, yellow, and magenta, inspired by the colors of water hyacinth floating on muddy streams. This is an emergent collaborative map of *biocultural corridors*, which are conceived not as the entire sweep of the river valley but as localized patches declared and cared for by specific groups..

Often located near urban areas, these projects emerge from local efforts at consciousness raising, land defense, restoration, and continuing stewardship. In Argentina, member organizations of Humedales sin Fronteras have created biocultural festivals while at the same time attempting to inscribe the corridors into national and provincial law.[33] The aim is "learning from the flood" by multiplying the opportunities for fluvial reconnection to human beings. As one reads in the sidebar text of the map:

> It is vital that biological corridors remain interconnected, to allow the continuity of ecological processes such as genetic exchange, evolution, migration and repopulation. Yet the idea of biocultural corridors also involves human knowledge, beliefs and practices that bring a symbolic-biotic fabric into play, where cosmovision, myth and ritual, history, memory and cultural expression all act as dimensions of the territory. [34]

Bioculturalism emerges from the meeting of Indigenous and traditional lifeways and contemporary ecological science, particularly Gaia theory. One of the latter's crucial insights is this: life creates the conditions of habitability for life. [35] This is explicitly the case when a river floods a wetland, opening it to the flourishing of insects, fish, birds, and mammals. It's also the case when Amazonian trees exhale water vapor that falls as rain on the La Plata basin. And isn't some very similar principle at work when Indigenous social forms act to sustain rather than destroy their surrounding environments?[36] Bioculturalism suggests that a range of actors, both human and nonhuman, can take on such sustaining roles together, exercising a steering function not by means of any centralized plan or design but

instead through generalized sensory feedbacks that allow each part to fit more intricately into the whole.[37] This reciprocal fitness is also relatively easy to recognize and, therefore, to intensify. Bioculturalism is a mode of inhabitation that contributes to the habitability of a territory.

Biocultural relations can be experienced among the Guaraní peoples of Paraguay, with whom the Wetlands Without Borders member organization Sobrevivencia does much of its work. They can be found in the lives of the traditional mestizo communities practicing hunting, fishing, and seasonal cattle grazing in the flooded Pantanal wetlands close to another member organization, Instituto Gaia. But they can also be encountered in the more densely colonized and heavily industrialized regions of the Paraná delta and the Río de La Plata estuary, where member organizations including FARN, CAUCE, and Taller Ecologista are located. In these regions the artisanal agriculture inherited from impoverished Italian immigrants coexists with contemporary agro-ecological farming, land-defender conservationists, organic gardeners, and urban green-space movements.[38] The question asked by Humedales sin Fronteras is how to recover, develop, and share an old/new cosmovision whose sources ultimately lie in the capacity of rivers to sustain the territories through which they flow. The aesthetic that seems to move everyone involved is not any particular image or sacred representation but something more like an overflow of singular gestures through place and time, expressing a trans-regional and trans-species perception.

Fishermen, Paraná River. Image courtesy of Alejandro Meitin.

Future Floods

On the Mississippi south of Carbondale, Illinois, there's a place called Dogtooth Bend that speaks to me more clearly on each visit. In 2019, the overtopping river ripped out a lengthy section of farmer-built levee, depositing many tons of sand on the fields along with a number of hulking barges that eventually had to be cut up with welding torches and hauled away. Here the deep current wants to fulfill a fundamental river desire, to cut off a constrictive bend and rediscover its own uninhibited flow on the other side. Amazingly, the Army Corps did not choose to build a higher levee at the breach, but instead chose to follow the emergent doctrine of "room for the river," a flood-control technique that operates by simply restoring the water's access to the territory. To help out the stranded landowners, The Nature Conservancy has partnered with the federal government to provide conservation payments for the land, which has become increasingly risky to farm since the 2019 breach.[39] What one can witness, year by year, is the growth of an old/new wetland, with a riotous influx of riverine species during the annual floods as well as a gradual reforestation of adjacent ground. Yet what's still missing on this stretch of the Mississippi is a biocultural transformation of human life: a new/old way of re-inhabiting the water and the land.

See video Dogtooth Bend. Video courtesy of Brian Holmes, 2023.

How fragile is the rebirth of an ecosystem? It's the question that people involved with restoration are beginning to dread. Like the 1990s, this is the decade of every danger, including a relaunch of the Hidrovía project in Latin America.[40] Yet at the same time, patches of biocultural desire keep re-emerging across the earth, even as the climate crisis deepens. As this article is being finalized, social movements in the La Plata basin are organizing a floating protest down the Paraguay-Paraná from Asunción to Rosario to celebrate the living memory of Cosita Romero and renew the demand for regional autonomy and sustainable development. Meanwhile, in the Mississippi basin, just think about the Anishinaabe on their rice lakes in the headwaters, the anti-pipeline activists attending trainings, the prairie restorationists scattered across the Midwest, those who still travel the great river in canoes, and everyone in Louisiana who struggles to save their land from simply collapsing into the sea under the onslaught of an obsolete petroleum economy that destroys inhabitable territory. As climate change doubles down, it's time to reach out with empathy and start talking to each other across species, languages, continents, and other great divides. We can do it just as rivers do: through an overflow of liquid expression and an undertow of geographical sensitivity.

Bioculture now!

Footnotes

[1] The concept was developed in the transdisciplinary research project "Mississippi: An Anthropocene River," organized by the Haus der Kulturen der Welt and the Max Planck Institute for the History of Science in 2019. See https://www.anthropocene-curriculum.org/project/mississippi.

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[33] The groups Casa Río, CAUCE, FARN and Taller Ecologista define a biocultural corridor as "a clearly defined geographic space, located in urban, suburban or rural areas, that safeguards the natural and cultural heritage it hosts, whether material or immaterial, maintaining healthy interconnected ecosystems, favoring the connection of existing and future protected areas, fostering restoration processes, and promoting socially and ecologically responsible economic and residential uses of the territory." See "Corredores Bioculturales en la Estrategia Nacional de Biodiversidad," https://farn.org.ar/wp-content/uploads/2024/05/Corredores-Bioculturales-en-la-Estrategia-Nacional-de-Biodiversidad-HSF-Argentina.pdf.

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[38] For the most developed example of a biocultural corridor, see the map of the Greater La Plata Ring organized by Casa Río in collaboration with a large number of local inhabitants.

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