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The cover image is courtesy of Michelle Garvey from her article in this issue.

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INTRODUCTION

INTRODUCTION TO ISSUE 28 | MISSISSIPPI RIVER OPEN SCHOOL

By Laurie Moberg, Editor

In the current moment, I find myself struggling with seemingly endless uncertainties. Environmental, political, social, and personal conditions create a charged sense of precarity and anxiety, like sharp rocks poking through smooth water of a river, scratching at my foot as I cross or catching my paddle as I try to stay afloat. And I suspect I'm not alone.

Amid this turbulence, I'm looking for "glimmers"—the small moments that give me hope, joy, calmness, and connection.[1] From laughing with a friend to seeing sprouts grow from seeds, from reading with my child to observing the seasonal changes of the local landscape, glimmers keep me grounded so that I can face each tumult.

This issue of *Open Rivers* offers glimmers in abundance. The articles in this, our first-ever double issue, focus on the *Mississippi River Open School for Kinship and Social Exchange*, a project that engaged participants along

A view across the Mississippi at Wyalusing, Wisconsin. Image by Dave Hoefler, via Unsplash.

the Mississippi River's entire length around place-based practices and the challenges of the Anthropocene. The projects shared here demonstrate not only a commitment to enduring social and ecological relationships but also give strategies we, as readers, can apply to foster our own well-being and connections to people and place.

The provocations and practices within this issue I carry with me as glimmers, like sunshine sparkling off the burbling waters of a stream as it runs its course over rocks and shifting riverbeds. As you explore the content of this issue, I invite you, too, to find your own practices of connection and your own glimmers of joy, hope, and courage.

Footnote

[1] Deb Dana coined the term "glimmers" to describe a set of positive reactions that counterbalance triggers, our reactions to negative stimuli that inspire our fight-or-flight responses. Deb Dana, P*olyvagal Theory in Therapy: Engaging the Rhythm of Regulation* (W. W. Norton & Company, 2018).

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About the Author

Laurie Moberg is the editor for *Open Rivers: Rethinking Water, Place & Community*, a digital journal of public scholarship published at the University of Minnesota (UMN) by the Institute for Advanced Study and UMN Libraries Publishing. She earned her PhD in anthropology from UMN in 2018. Her doctoral research investigates recurrent episodes of flooding on rivers in Thailand and queries how the ecological, social, and cosmological entanglements between people and the material world are reimagined and reconfigured in the aftermath of disasters. In her current work, she approaches public scholarship as a critical strategy for expanding whose stories are heard, for shaping our public conversations, and for forming solutions for our shared ecological challenges.

INTRODUCTION

ACTION CAMPS EVERYWHERE: SOLIDARITY PROGRAMS IN THE ANTHROPOCENE

By John Kim

Introduction to the Mississippi River Open School

The *Mississippi River Open School for Kinship and Social Exchange* (*Open School*) (2022–2025) has engaged pressing issues at the intersections of race, environment, and extraction through education, cultural exchange, and action. A core aspect of this work has been partnerships with communities, many on the front line of struggles against resource extraction and climate-change-related natural disasters. A concept that has situated much of our work has been the Anthropocene, the proposal that human activities have caused widespread changes to Earth systems to such an extent that we have entered a new geological epoch. As articles in this collection suggest, the Anthropocene allows us to connect disparate polycrises experienced along the Mississippi River, including biodiversity loss, racial health disparities, destruction of wetland habitats, and flooding, as part of these interrelated global changes to Earth systems.

Mississippi River Open School
for Kinship and Social Exchange

Mississippi River in autumn. Image by Christopher Osten, via Unsplash.

The *Open School* consists of six regional locations, which we refer to as river hubs, spanning the entirety of the Mississippi from its headwaters to the Gulf of Mexico. The northernmost river hub is coordinated by water protectors, land stewards, and artist-activists as a space for land-based education and action against impending threats to the environment. The Upper Mississippi hub foregrounds Indigenous and Black perspectives and histories around southeast Minnesota and southwest Wisconsin. Along the vast midsection of the Mississippi's meander, a constellation of people are working on issues of race, ecology, and place at three additional hubs, located in St. Louis, Missouri, southern Illinois, and Memphis, Tennessee. The southernmost river hub is in and around New Orleans, Louisiana and comprises a group of cultural organizers, activists, and educators.

This edition of *Open Rivers* consists of feature articles and columns we refer to as toolkits that illustrate our work on the project. As organizers and activists, we seek to engage various publics in order to make meaningful interventions into the problems facing the Mississippi watershed and share our activities widely both inside and outside educational institutions.[1] To this end, we have employed creative practices designed to respond to these issues. These toolkit columns are a sampling of them. With contributions from diverse partners up and down the river, the types of columns are wide-ranging; they include drawing exercises, recipes, emergency communication devices, best practices for showing up, and more.

The essays found in this collection, by contrast, are longer form research articles either about the *Open School* or directly inspired by it. The topic of flooding appears in a number of the articles as both a sign of the current climate chaos and a reminder of nature's unmanageability. This is appropriate for a collection about the Mississippi, which has been prone to deadly flooding along its entire span, from its headwaters region to the gulf. Quoting lyrics by India.

Figure 1. Map of Open School river hubs along the Mississippi River. Image courtesy of John Kim.

Arie, Ebony Aya references flooding in her essay, "Spirituality and Ecology: (Re)Membering Black Women's Legacies":

> River rise, carry me back home.
> I cannot (re)member the way
> River rise, carry me back home
> I surrender today.

I puzzled over these lines, for they speak to finding solace in death caused by flooding. The lines reflect Aya's ambivalent relationship with nature, which she traces to the generational trauma of slavery: "we as Black people have been forced to produce from it (slavery, sharecropping) and have subsequently been punished by it in ways that it did not seem other communities were (Hurricane Katrina and the earthquake in Haiti in 2009 to name just a few examples)." She calls for a reclamation of Black ecological consciousness as a way to repair this historical trauma.

With the rising frequency and severity of floods, how might we read India.Arie's lines in light of the concept of the Anthropocene? Does it speak to an acceptance of the Anthropocene as a radical form of ecological understanding? A way to respond to these questions comes out in pairing Ebony Aya's essay with oft-quoted lines by Toni Morrison:

> You know, they straightened out the Mississippi River in places, to make room for houses and livable acreage. Occasionally the river floods these places. "Floods" is the word they use, but in fact it is not flooding; it is remembering. Remembering where it used to be. All water has a perfect memory and is forever trying to get back to where it was. Writers are like that: remembering where we were, what valley we ran through, what the banks were like, the light that was there and the route back to our original place. It is emotional memory—what the nerves and the skin remember as well as how it appeared. And a rush of imagination is our "flooding." (Morrison 2008, 77)

The Mississippi River is heavily engineered with dams and levees that discipline its length in order to make the river pliant to the movement of capital. When the river floods, it overtops these human-made structures and "remembers" its unbounded course. Flooding is a reminder of nature's indifference to human ambition and an affront to our need for control.

Though often a disaster for the human inhabitants who strive to make a living along the Mississippi's dried-out banks, flooding is a deferred miracle for the exuberant other-than-human life that needs this water to thrive. In her essay, "Imagining Life-as-Place: Harm Reduction for the Soft Anthropocene," Sarah Lewison diagnoses the need to exercise control and mastery over other-than-human worlds as a historic trauma in our relationship with nature. Lewison defends the concept of the "bioregional" as key to unlocking a therapeutic process of healing this social and ecological disconnection through the application of creativity, compassion, and direct action.

Groups that resist the damming of a river offer inspiration for coinhabiting the world with the other-than-human in ways that reduce harm. Brian Holmes's essay about the Paraguay-Paraná River, a system that spans the south-central part of South America, celebrates the efforts of the Casa Río eco/art group which has successfully resisted efforts to control the river and its seasonal flooding. To live with floods suggests a modality of life in which we do not subject nature to human domination, instead practicing what Holmes calls a "biocultural" relation with the river. In his essay "Fluvial Networks of Creative Resistance," Joseph Underhill argues that the River Semester experiential education program also prefigures such a life for students who live and learn while immersed in the Mississippi River's arterial braids and flows for over one hundred days.

For Toni Morrison, a flood is also a metaphor for a remembering of the repressed, the time before the traumatic rupture in our relation with the

other-than-human. We must overcome the deeply inscribed need for control over nature in order to release the possibility of reciprocal pleasures with it. In "Moving through Water Together," Stephanie Lindquist describes alternative artistic and cultural practices, including hosting group saunas and sweating, that release pleasures in our relations with and experience of water. Ecological practices that promote kinship and delight are also explored in Lynn Peemoeller's essay "Pokelore: How a Common Weed Leads Us to Kinship with Our Mid-River Landscape" accompanied by Jennifer Colten's photographs. In looking at the history of pokeweed recipes, we see how cuisine and food cultures respond to anthropogenic changes in the regional composition of our other-than-human kin.

As floods rise around us, we are swept headlong into an unsettled future. In alignment with India. Arie's lyrics, these essays advise us to "surrender" to the waters in at least two reparative senses: they call for a transformation of modes of knowledge production that have led us deep into the Anthropocene, and they also prescribe ways of living in good relation with the other-than-human that prepare us together for what lies in wait downriver.

Finally, not all the toolkit contributions and essays made it into this issue of *Open Rivers*. You can visit our website to read more about the Mississippi River Open School for Kinship and Social Exchange.

Action Camps Everywhere

The remainder of this article is adapted from a talk for the 2024 International Roundtable at Macalester College. The theme of the year's roundtable was *"Slowing Down, Seeking Roots, Making Sanctuary": Belonging Beyond the Anthropocene*. I was invited to give a keynote address that reflected on the *Open School* because it resonated with the roundtable's theme in a number of ways that I discuss below. Given the context, this essay is not intended as a post-project reflection on the *Open School* in its entirety, though it offers a few summative ideas that I discovered through my participation in the project. The *Open School* has been collaborative from its inception, involving dozens of collaborators along the length of the river, and this is reflected in the diversity of articles that appear in this edition of *Open* Rivers.[2] These remarks, however, were written by me and reflect my partial perspective on these activities, as is evidenced in the fact that I draw primarily on examples from the region I call home, the Upper Midwest.

Since its inception in 2022, the *Open School* has explored diverse activities and approaches. The ones I selectively focus on in this introduction I characterize as solidarity programs in the Anthropocene: programs that resist conditions that contribute to the Anthropocene and can prefigure life after it. I describe how these programs are variously educational, community-centered, research-based, activist, or some combination of these. An emphasis on solidarity suggests that such programs flourish with the formation of extraordinary communities that model collective action by drawing direct learning or inspiration from alternative educational practices, such as forest schools, Indigenous and traditional forms of ecological knowledge, cultural organizing, and diverse histories of mutual aid. The first part of this article reviews examples of this work; the second section steps back to discuss conceptual themes and frameworks that eddy around and through these activities. Together, these sections generate specific recommendations for educational reforms that are responsive to looming social and environmental crises associated with the Anthropocene.

The example I would like to discuss first is the *Open School's* work with the Welcome Water Protector Center located on the Great River Road

in Palisade, Minnesota, a rural location about two and a half hours north of the Twin Cities. The space stopped officially being called the Welcome Center in about 2022, but the name persists in certain circles because of strong associations with the place and its history. For the sake of clarity, I will continue to refer to this space as the Welcome Center, but the efforts and relationships are more dynamic than that. A diverse group of people were involved in organizing the space, and in order to protect their privacy, I do not name them here, but I also spent a significant amount of time there contributing to activities, so it is close to my interests and makes it easier for me to speak in an informed manner. The Welcome Center's physical space on the Great River Road closed in early 2024, but activities continue at alternate locations throughout the region.

From 2022–2024 the *Open School* worked with the Welcome Center to co-create cultural and educational programming in collaboration with Native and non-native elders, artists, organizers, activists, and educators who moved through the space. Because it was a bustling nexus for frontline community organizing, the activities

Photograph of the front of the main house at the Welcome Water Protector Center. The banners were lent to the Stop Line 3 movement by Dylan Miner (Métis Nation of Ontario). Image courtesy of John Kim.

Invitation to the fall 2024 Community Harvest Camp. Poster by Shanai Matteson.

that were convened there were often open to the public and not exclusively for college and university students, but students' needs were considered throughout. We learned about diverse traditional, Native, and non-native cultural and ecological approaches to the teaching of practices of care and living.

As an example, teachers led seasonal camps for visitors to celebrate and learn about nature's seasonal gifts. This involved experiential learning activities about spring sugar bushing, summer foraging, fall harvesting, winter storytelling and art sharing, among others. For those of us who were not raised with these traditions, we were incredibly fortunate to learn from teachers who shared with us elements of this knowledge in ways that were appropriate for their communities.

The Welcome Center's recent history provides backstory for the generosity many showed for that space. The Center was located on the banks of the Mississippi River where the Enbridge Line 3 oil pipeline crosses its span. Because of this location, the forest around the Welcome Center itself became an action camp for the Stop Line 3 movement (2020–2021).[3] Given the

Paul Chiyokten Wagner (Wsaanich / Saanich) teaches people at the Welcome Water Protector Center how to build tarpees, an emergency shelter that Paul developed. Image courtesy of John Kim.

significance of the Mississippi River for the region and the entire country, this pipeline crossing was the site of some of the nation's fiercest resistance to pipeline construction.

After the completion of the pipeline, another environmental threat loomed on the horizon: Tamarack Mine, a proposed copper and nickel sulfide mine just 30 minutes from the Enbridge oil pipeline crossing in Palisade (Mogul 2025). Northern Minnesota's economic history has been tied to resource extraction for centuries, and the proposed mine is representative of an explosive growth in mining activity around the world in the global hunt for minerals to power the green energy gold rush (Mogul 2025). The Welcome Center shifted to raising awareness of the threats the mine posed to the region's wetland ecosystems and co-creating learning activities about it, focusing on the differential impacts of so-called "green mining" on rural and Native communities on the mine's front line.

This article focuses on a particular aspect of these learning activities: namely, the *form* of the camp at the Welcome Center. By form, I refer to the camp's social organization and its daily routines, which are powerfully emergent educational experiences. The layered social richness and camaraderie of living and learning as part of this community is difficult to convey, but it gets to the heart of what I want to communicate here.

The Anthropocene is a Geosocial Disaster

I compare action camps to what Rebecca Solnit (2010) has called extraordinary communities—the self-organized groups that can form in the aftermath of natural disasters. In the days and weeks following a disaster, and in the wreckage left in its wake, it is possible to witness the formation of communities of care that provide essential services to support life, including food, shelter, healthcare, community, and security. Dormant forms of sociality and solidarity emerge as widespread volunteerism and mutual aid. This has been powerfully observed in the aftermath of many disasters, including Hurricane Katrina, the 1985 Mexico City earthquake, and the COVID-19 pandemic (Solnit 2010; Spade 2020).

Kathleen Tierney (2014) argues that all disasters are social in origin. Obviously, one cannot stop a hurricane or a massive flood, so what Tierny means is that a disaster's human toll is a consequence of the social infrastructure in affected communities. Communities on the frontline of disasters may not have access to sufficient material and financial resources, the expertise, or preparedness to mount an effective emergency response. The ongoing neoliberal rollback of social services, including the underfunding of federal emergency response programs, has direct consequences for the survivability of crises.

Another way in which the survivability of disasters can be understood as social in origin is through a recognition of ongoing social engineering that has been leading to growing isolation, separation, and disconnection from others which can constrain a community's emergency response. Inspired by this work with the *Open School*, in Spring 2024 I taught a class entitled, "Alone Together: The Contradictions of Social Media." The class's premise was that, notwithstanding the "social" in social media, the media's historical role has often been the distinct opposite. With the endless expansion of commodification into everyday social relations, the media has led to a separation of people into individualized consumers. (We considered the widespread introduction of television into living rooms as an illustration of the media as a technology of mass social isolation.) This digital isolation and separation have had the effect of

fomenting perceived political helplessness and real political powerlessness. As Dean Spade (2020, 13) argues, "Today, many of us live in the most atomized societies in human history, which makes our lives less secure and undermines our ability to organize together to change unjust conditions on a large scale." It is important to add that this atomization is not only produced by the media but enforced by corporate and capital interests in the form of state-sanctioned police and military violence, governmental neglect, and white supremacy.

The Anthropocene is a geosocial disaster. It is a crisis on a geologic scale, and there's fundamentally this social one as well.

As many critical commentators noted during the COVID-19 pandemic, crises are a portal through which it is possible to discover cracks in the edifice of the neoliberal state (Roy 2020). The extraordinary communities that form in action camps are a portal for the reconstruction of sociality as a necessary alternative to atomization. Extraordinary communities exhibit what Victor Turner (1969) termed *communitas*, the social connectedness that binds people in solidarity during particular times of cultural change or transition. Within the field of anthropology, *communitas* has been applied to the study of rituals, specifically the powerful collective feeling and utopian desires that emerge among participants. Rituals loosen the prevailing norms that govern inflexible social hierarchies, allowing people to connect across lines of difference. *Communitas* can be dangerous for a society that is invested in the rigid maintenance of the status quo, as *communitas* can disrupt, invert, or otherwise upset dominant hierarchies and formations of power.

Communitas can also exist in the liminal time around a disaster, as is evidenced in the extraordinary communities that come together in the wake of catastrophes (Matthewman and Uekusa 2021). When faced with the consequences of our social separation and atomization, the forces that govern and regulate everyday behaviors, out of necessity, fall away. We require moments of effervescent *communitas* to disrupt unequal social structures (Badiou and Elliot 2012).

Action Camps as Extraordinary Learning Communities

We live in a time of action camps as extraordinary communities that challenge the unfolding geosocial disaster. In camps, we relearn forms of collective action and solidarity that have nurtured human togetherness for millennia prior to the isolation and separation that characterize our current moment. Action camps are a portal to an emergent space for the repair of damaged sociality. We might know little about how to collectively prepare, cook, and distribute meals for a group of one hundred, but we will quickly learn on the job. A design for an emergency winter shelter might not exist, but with others we will brainstorm, design, and build it.

In "falling together" (Solnit 2010) to create social systems to provide basic services, experiential teaching and learning happens. A decolonized education exists in the creation of learning spaces in which people come to recognize the knowledge and skills they already possess and are moved to share with others. This is how the emergent educational space of action camps differs from traditional schooling. While traditional schools can reinforce obedience from an early age through subjection into hierarchical roles, in camps, everyone has skills and knowledge to contribute and, as such, everyone can teach and learn from each other.

As spaces of learning, action camps did not arise spontaneously but draw from multiple traditions. I want to acknowledge a few sources of influence.

Indigenous-Led Resistance Movements

Isabel Huot-Link (2023) shares how her understanding of decolonization and social justice were shaped through a relational education at Line 3 pipeline resistance camps: "Residents built relationships with and around particular places through art-making, cultivating gardens, skill-sharing, sharing stories, educating youth, and organizing resistance strategy in response to the geographies of treaty territories, reservations, and pipeline corridors." A long history of Indigenous-led resistance movements has shaped the social organization of action camps. Writing about the Oceti Sakowin camp during protests against the Dakota Access pipeline (DAPL) at Standing Rock, Nick Estes (2019) connects the DAPL protests to a history of struggles against settler colonization and the environmental consequences of its logic of extraction. He characterizes the social organization of the Standing Rock camps as an "abolition geography." Put in terms we have been considering in this article, his description of abolition geography resonates with our framework for an extraordinary community where economic equity and social equality can be realized:

> Free food, free education, free health care, free legal aid, a strong sense of community, safety, and security were guaranteed to all. . . . In the absence of empire, people came together to help each other, to care for one another. The #NoDAPL camps were designed according to need, not profit. (There were no prisons or armed bodies of the state.) That's what separated them from the world of cops, settlers, and oil companies that surrounded them. Capitalism is not merely an economic system, but also a social system. And it was here abundantly evident that Indigenous social systems offered a radically different way of relating to other people and the world. (Estes 2019, 252)

Community Survival Programs

Estes's vision of camps as "a radically different way of relating to other people and the world" is inspired by Black-led abolitionist movements and mutual aid societies. In referring to action camps as solidarity programs I am connecting with analyses of the Black Panthers and their community survival programs in particular. As described by David Hilliard: "We call the program a 'survival' program—survival pending revolution—not something to replace the revolution . . . but an activity that strengthens us for the coming fight, a lifeboat or raft leading us safely to shore" (Hilliard and Cole 1993, 211–12).

The name—solidarity programs—is intended as an acknowledgement of the significant differences between Panther community survival programs and what I am referring to as solidarity programs. The Panthers' efforts were rooted in a long tradition of Black mutual aid that organized the social services needed to support the basic conditions for life (Gordon Nembhard 2014). Because of the legacies of slavery and white supremacy, Black communities in the U.S. have often been unable to access equitable social services. Out of necessity, the Panthers created autonomous social systems for security, health care, food distribution, and education. Many of these systems were subject to repression that was notoriously violent, but remarkably, some of them were adopted by the federal government, such as a free lunch program in schools (Heynen 2009).

Multiple throughlines connect survival programs and contemporary efforts to cultivate extraordinary communities. One of our project partners along the Gulf South, Monique Verdin (Houma Nation), for example, references this history in her project, "Marooned: Between Water and Land" (2024). Having lived through multiple flooding events and facing conditions that grow more precarious with climate change, Monique and her collaborators are developing a camp to "support the co-creation and stewardship of safe refuge for people, plants and other living beings to foster biodiversity, food, medicine, and a sense of autonomy" (Verdin 2024).

Earth Schools

I have referred to camps in various ways so far, including action, resistance, and seasonal camps. As I have highlighted throughout this article, they provide an educational setting in which learning is experiential and based in nature. An apt comparison here is the Forest School, an educational setting in which outdoor spaces become the classroom for experiential learning. Recent trends in Forest Schools have moved away from a romantic celebration of nature and toward the design of land-based education in the Anthropocene (Mycock 2019). In living and learning on an extensively controlled and engineered river like the Mississippi for one hundred days, the River Semester is a model for this type of education.

In order to distinguish these types of programs from Forest Schools, I prefer to refer to them as Earth Schools, programs which prioritize a reckoning with the challenges of the Anthropocene. Earth Schools ask: how do we live and learn experientially in disturbed Anthropocenic landscapes? They go beyond instruction about ecological relations between humans, plants, and animals, and extend learning to coinhabitation with other-than-human worlds (Haraway 2016). Earth Schools incubate forms of action for the care of the planet and its inhabitants against further despoiling by capitalist extraction. Earth Schools are settings in which to repair and relearn social capacities that have been degraded, by design, by pervasive digital isolation and alienation.

Action Camps Everywhere

Indigenous-led resistance movements, community survival programs, and Earth Schools all contribute knowledge and practical wisdom that inspire the organization of action camps as I've experienced them. The phrase "Action camps everywhere" is a recognition of the opportunities for education modeled on the unique experiential settings found in camps. "Action camps everywhere" opens this education to students, activists, scientists, artists, the public––anyone who needs this knowledge to be prepared for, and even thrive, in the midst of the crises that surround us. "Action camps everywhere" is a call to establish action camps in forests, on riverbanks, in deserts, on college campuses, on oceans, everywhere, because the front line *is* everywhere. We need action camps everywhere as they are emergent spaces for the solidarity programs sharing the knowledge and practices that can get us out of the Anthropocene.

Solidarity Programs in the Anthropocene

"Action camps everywhere" may be a provocative slogan, but how might we apply it to reimagining education, namely college and university education in the Anthropocene? Can we draw inspiration from action camps as extraordinary communities in this reimagining? What should higher education look like if it were mobilized to get us out of the Anthropocene? In contrast to the previous section of this article, the content below is more theoretical. I reflect on themes in the programmatic approaches that we have tried to implement in our work with the *Open School*. I also frame this discussion through reflection on the Anthropocene, which puts these ideas into conversation with others who have advocated for educational changes to better respond to contemporary urgencies.

Transformation of Modes of Knowledge Production

Paul Crutzen, a climatologist who has advocated for the adoption of a new geological epoch characterized by widespread human transformations of Earth systems, said, "What I hope is that the term 'Anthropocene' will be a warning to the world" (quoted in Kolbert 2024). Crutzen's proposal is motivated by a sense of extreme urgency for research and education to attend to the world's thorny problems. The popularization of the concept of the Anthropocene speaks to how academic research can be made more accessible and productive for debates inside and outside the academy.

Our current planetary emergency and the threats of the inhabitability of the Earth for all living species speak to the stakes of transforming knowledge. The forms of knowledge production that have led us to the Anthropocene are ill-equipped to lead us out of it (Stengers 2018). Higher education in particular has had a central role in reproducing dominant knowledge practices that contribute to the Anthropocene (Liboiron 2021). A changing planet requires a transformation in the knowledge practices that characterize, understand, mitigate, and educate about these changes (Latour 2018; Krenak 2023).

Problem-Focused Research and Teaching

With the intensity and frequency of polycrises that surround us, communities on the front line of these struggles have responded with reparative, creative, visionary, and emergent strategies. (One tactic has been the formation of extraordinary communities discussed earlier in this article.) Frontline communities have developed sophisticated analyses of their condition and imagined wide-ranging responses. As crises continue to spread to communities and places unaccustomed to them, frontline communities have much knowledge to impart.

Colleges and universities can do more to work in solidarity with frontline communities. Community engagement centers are invaluable for mediating these relationships because of ethical concerns in partnering with groups that may have experienced generations of extractive social relations. Different ways to structure these relationships can be defined depending on needs; a frontline community can provide guidance on the identification of problems, with faculty and students developing projects in consultation with that community. More transformatively, we can also imagine more reciprocal, bidirectional

relationships, where students learn directly from frontline communities that are in a better position to understand many of the problems society faces.

We sought to build a reciprocal relationship in our work with the Welcome Water Protector Center. This has taken multiple forms, including supporting the Center's efforts to offer cultural programming and public education about environmental threats facing the region. This relationship, in turn, enabled the Welcome Center to provide additional opportunities for public learning. For campus constituencies, this partnership has opened up possible pathways for research and teaching across divisions and departments, including Environmental Studies (alternatives to extraction through mineral recycling), International Studies (critical digital infrastructure), geography (remote sensing and GIS study of new mines), physics (the electrochemistry of batteries), geology (the geology of fracking and its threats to water aquifers), among others.

The reciprocal relationship between the Welcome Center and college and university faculty highlights how a problem-focused curriculum can reorient teaching and research priorities on campuses. In consultation with frontline communities, faculty can identify problems that contribute to defining campus research and educational initiatives and committing resources to promote collaborative work. This should be done in a reciprocal way in which colleges and universities support communities' needs.

Transdisciplinarity as "Metadisciplinary Spaces of Teaching and Dialogue"

The title of this section is a mouthful, but it means that when dealing with an urgent issue, you make use of all the tools you have at your disposal. I understand interdisciplinarity as a transfer of methods and approaches from one discipline to another. In this sense interdisciplinarity can preserve existing frameworks of disciplinary research and constrain the capacity for interdisciplines to develop distinctive, innovative, or novel methods and approaches to the study of problems. When considering the Anthropocene and its intertwined polycrises that cut across classical divisions of knowledge, a reproduction of disciplinarity can be a hindrance to a critical engagement with problem-focused research and teaching goals.

Transdisciplinarity recognizes methods and approaches that go beyond interdisciplinarity. In accepting the inaugural Professorship of Earth Politics at the University of Cape Town, Professor Lesley Green (2023) argued that "transdisciplinarity needs to graduate to a metadisciplinary framework." This is to say that metadisciplinarity unlocks common approaches and processes to mobilize new modes of research, teaching, and action. One way to understand the debate surrounding the definition of the Anthropocene is as a site of tension concerning its status as a metadisciplinary concept. On the one hand, the International Union of Geological Sciences' evaluation of the evidentiary basis for the periodization has sought to apply a disciplinary framework (geology) to the Anthropocene. As a counter-formulation to a narrowly defined geological conceptualization of the Anthropocene, the "colonial Anthropocene" has drawn on ideas of coloniality and resource extraction from humanistic and social scientific fields in examining forces that have contributed to the Anthropocene (Brown and Kanouse 2021). As an example of how a metadisciplinary concept can inspire new modes of knowledge production at the intersection of transdisciplinary collaboration, the colonial Anthropocene has been incredibly productive for opening up varying ways to understand Earth systems changes as part of human history.

Conclusion

The second part of this article applied the idea of solidarity programs to the reimagining of educational practices that respond to crises in the Anthropocene. Some deconstructive critics would argue that this does not go far enough, and they would call for an abolition of the university in its current form by inverting it so as to offer educational resources to the many on its outside that are excluded from its benefits.[5] Though I am sympathetic to the critique, this sees the problem in only two dimensions: inside or outside, refuge or frontline, public or private, professional or unprofessional, university or what Stefano Harney and Fred Moten (2013) call undercommons.

Short of abolition, can we think of ways to transform the university into a pedagogical environment that is open to the camps and communities from which it is imperative to learn? How can universities support communities so they can continue their necessary work? How might we create opportunities for students to responsibly learn from and with communities without overburdening them?

Our use of the term "open" in the *Open School* offers an alternative spatial model for reorienting the way in which we think about the relationship between universities and communities.[6] If we *evert* the university, that is, turn it inside out, it can become a home for public pedagogy. What was exclusive to the inside can be offered to the outside. Resources that are accessible to students on campuses (including funding, meeting spaces, expertise, training, libraries, etc.) can be made available to communities as well. This suggests novel ways to respond with varied strategies for engagement.

The university can become a welcoming center for social, material, and intellectual reciprocity and exchange. This learning can happen on university campuses, the front porches of communities, and around a campfire. This is one way in which we mean "open" here: an *Open School* is a reimagining of the location of education. Rather than cloistered in closed universities, an *Open School* consists of globally distributed hubs as sites of eversion and experimentation for crossing the formal organization of the university (Kim 2021). With kinship and social reciprocity, an *Open School* is an extraordinary community for collective learning and action that resists the geosocial disaster that unfolds around us.

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Footnotes

[1] This is a theme I take up at length later in this essay.

[2] I wish to extend a heartfelt thanks to the many, many people who have contributed to the activities and the ideas discussed in this essay. In the interest of protecting people's privacy, I try to avoid naming specific people throughout this essay. Instead, I will acknowledge the partnering and collaborating institutions, organizations, and programs here. (However, I recognize that unaffiliated individuals are left off this list.) These include my Spring 2024 Media and Cultural Studies class "Alone Together: The Contradictions of Social Media,"A Studio in the Woods; André Cailloux Center for Performing Arts and Cultural Justice; Antenna; Anthropocene Curriculum; Anthropocene Commons; Antioch University Graduate School of Leadership and Change; Art of the Rural; Black Voters Matter; Bvlbancha Liberation Radio; Center for the Gulf South at Tulane University; Civic Studio, Water Leaders Institute; Community Members for Environmental Justice; Contemporary Arts Center; Dillard University Minority Health & Health Equity Research Center; EASEL; Fire in the Village; FKA Welcome Water Protector Center; Grand Marais at Frank Holten State Park; Guns Down in Orange Mound; Historical Society of Brooklyn, Illinois; Honor the Earth; House of World Cultures; Hyde Park Matters; Juice Orange Mound; Land Memory Bank & Seed Exchange; Landmark Farmer's Market; LEEP, LLC; Macalester College; Max Planck Institute for the History of Science; Max Planck Institute of Geoanthropology; Nanih Bvlbancha; Native Women's Care Circle; Neighborhood Story Project, New Orleans Mosquito, Rodent & Termite Control Board; Orange Mound Arts Council; Paper Machine; PUNCTUATE; Rebecca Snedeker; Rhodes College; Rise & Repair; River Semester; Seeing Black; Sewerage & Water Board of New Orleans; Southern Illinois University Carbondale; Spillway; Stand for Children TN; Teaching Social Action Institute; The Water Collaborative; Thompson's Event Center; Wakemup Productions; Washington University; Whole Child Strategies; and others. This project evolved from earlier collaborations that were supported by the House of World Cultures (Berlin) and the Max Planck Institute for the History of Science. The current iteration is funded by a grant from the Andrew W. Mellon Foundation Humanities for All Times initiative.

[3] Thank you to Dr. Malte Vogl for suggesting the term "action" as a broader way to refer to camps.

[4] The governing body's rejection of the epoch in March 2024 (Barknosky and Hannibal 2024) is an indication of the limits of disciplinarity in providing intellectual tools needed to address today's problems.

[5] See Eli Meyerhoff's (2019) study of alternative education movements and their critiques of mainstream education in the U.S., which include calls for the abolition of its current form.

[6] See our website (www.mississippiriver.school) for more information on the *Open School* as method in addition to examples of this work.

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FEATURE (PEER REVIEW)

SPIRITUALITY AND ECOLOGY: (RE)MEMBERING BLACK WOMEN'S LEGACIES

By Ebony Aya

Editor's note: This feature article has been peer reviewed.

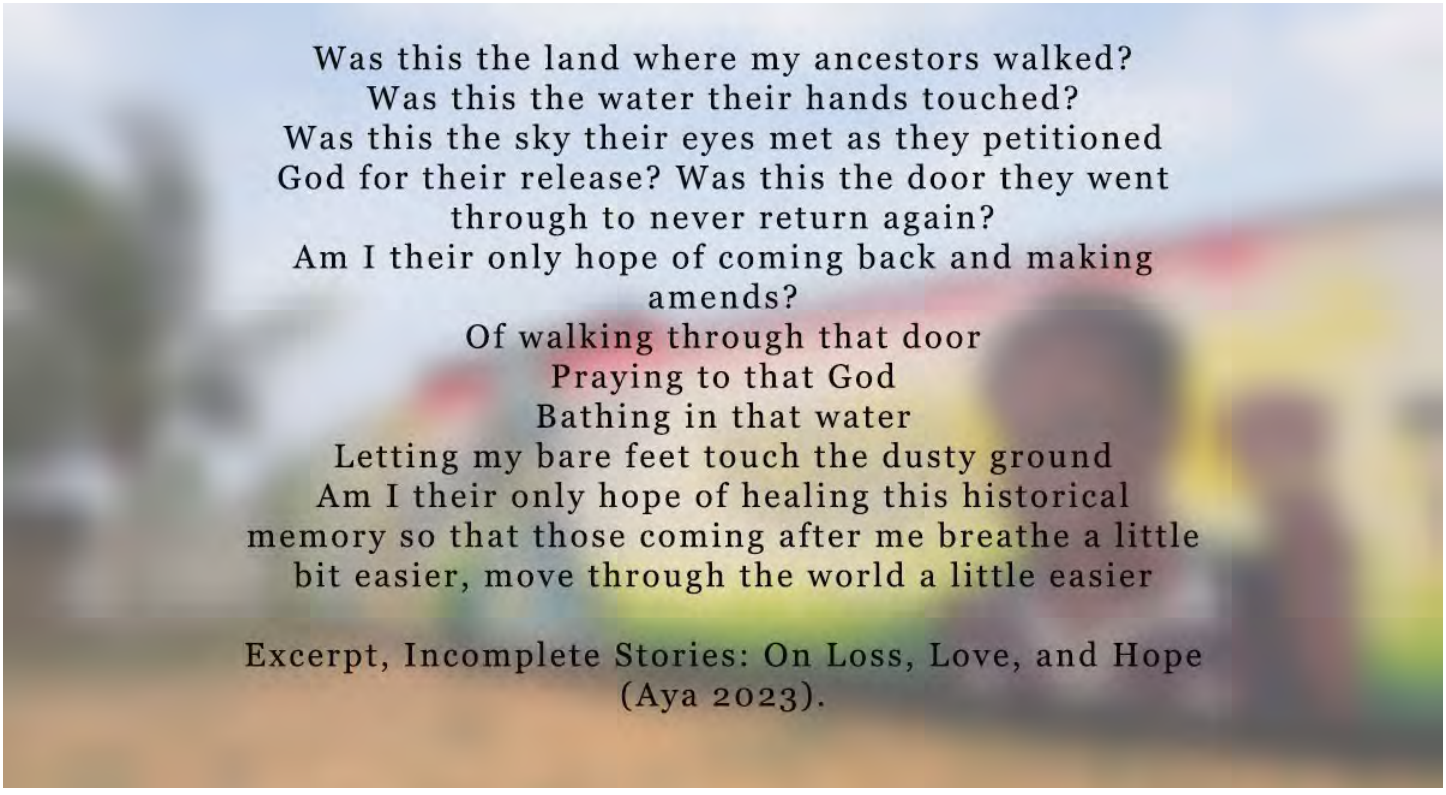
I feel the need to start this article by being clear that I have often struggled to relate to its subject. I don't have a green thumb, or at least one I have discovered yet. Keeping my indoor plants alive has been an ongoing struggle! And the outside plants? On the off chance that I do decide to plant, which I did try to do for several years, my yields are few and far between. I sometimes forget to water. Rather than doing the necessary research to understand what things can actually

Ancestral Wall in Prampram, Ghana, July 7, 2019. Image courtesy of Ebony Aya.

grow in my environment, I have often just dived right in to see what works. I do recycle (hey, at least there's that), I don't litter, and I try to be mindful about my carbon footprint. But I have otherwise felt disconnected from the environment and land surrounding me.

I say all of this to explain why, when I was initially asked to give a talk for EnviroThursday,[1] I hesitated. I wondered what I could share from a place of authenticity and honesty given that my relationship with the environment, in my opinion, was less than perfect. I accepted because, even though I struggled with my own relationship with the environment, I come from a long line of people of African ascent[2] whose relationship with the environment was totally different than mine. I knew that if I looked hard enough, I could emerge through their stories. I wanted to (re)member their legacies, specifically those of Black women, from a place of spirituality and African ways of knowing—things that are not often associated with the environment in the United States.

As a person committed to the scholarship of Dr. Cynthia Dillard and her framework of Endarkened Feminist Epistemology (EFE), which articulates "how reality is known when based in the historical roots of Black feminist thought," (2006, 3) (re)membering has been so critical to me because it has given me the ability to (re)claim the pieces of myself that had been trained away from knowledge of the natural world as a result of institutionalization within academia and the Church.[3] (Re)membering consists of a process—no, a praxis—of literally putting myself back together: re + member. In embracing the act of (re)membering, I turned to a practice routinely taken up by Black women of marshaling "the legacy of Black people in relation to our spirits, and those (re)memberings have required us to lean on the 'substance of things unseen'—on our spirituality" (Dillard 2022, 2). Spiritual life, which includes our spiritual consciousness, sacred practice, and creativity, is what bolsters "culturally relevant sustaining practices in educational spaces with Black students" (Dillard 2022, 3) and others from marginalized backgrounds.



Excerpt, Incomplete Stories: On Loss, Love, and Hope (Aya 2023).

With an understanding of the legacy I was building on with my utilization of EFE and (re) membering, I approached my process in three ways: (1) I started off with an initial inquiry in which I explored my own relationship to the environment through reflection and self-study; (2) I reflected on my travels to Ghana in 2019 and what people there taught me about (re) membering our connection to the environment as African ascendant peoples; and (3) I re-read texts by womanist[4] and Black feminist scholars that aided in the (re)membering process.

My Own Inquiry

As a result of EnviroThursdays, I started my own inquiry process, asking myself how I related to the environment. I did this through journaling over a period of months, realizing that in some ways I felt betrayed by the environment as a Black woman because of the ways that we as Black people have been forced to produce from it (slavery, sharecropping) and have subsequently been punished by it in ways that it did not seem other communities were (Hurricane Katrina in 2005 and the earthquake in Haiti in 2009, to name just a few examples). My journal entry on January 19, 2023, went like this:

> How has the earth betrayed me as a Black woman? Or, how have the tools of white supremacy been used against both me and the earth to further the disconnection between the divine feminine and creation? First, I am thinking about the biblical story of Adam and Eve. The tree of the knowledge of good and evil was placed in the middle of the garden of Eden, and, as the story goes, Eve allegedly ate from it because she was deceived by the serpent before she gave the fruit to her husband Adam. For that "sin," curses abound: she is ever at war with her husband, she is at war with the serpent as a representative of creation, and she is at war with her own seed because she will have labor pains as a result of the sin. This mother of all living, this mother of the earth, is immediately disconnected from the earth and herself. The story forces me to betray myself and makes it permissible when the earth is used as a weapon against me because in the betrayal I got what I deserved.
>
> *If you keep your legs closed and submit, so the line of thinking goes, you won't be betrayed as much. The trees won't lynch your children, the water won't swallow your husband, the hurricanes won't sweep away your whole family. Work the land for those who own you, but don't you dare work it for yourself and to feed those within the borders of your home, those within your communities.*
>
> But it's not for our perceived sin that we are betrayed. It is because of our essence that excuses have been invented, in order to control not only our bodies (the forced reproduction of our bodies and our labor), but to also control the earth. And perhaps this is the greatest tragedy: the separation of Black women from the earth. Because maybe if we could come back to the earth and find ourselves, we could find ourselves in each other once again. Maybe the healing lies in facing the first disruption in the story, the division between female and creation; everything else flows from this point.

Naming this specific journaling experience is critical because it reflects the larger self-study that I have been engaging in over a period of years focused on the ancient narrative of Eve.[5] Looking at Eve, I have tried to make sense of the ways Black women's bodies have been so

disregarded and abused in the American context. For me, Eve is a representation of that fragmentation that we as Black women experience because of the ways that we, like Eve, have been blamed for the oppression that we have endured. In this narrative, I see fragmentation take place not only within Eve herself but between Eve and the environment, as the disconnection she experiences in herself ultimately represents her disconnection with the environment. They are inseparable. On so many levels, I realized that I had internalized that same fragmentation.

Using Eve as a proxy of myself in studying the environment, I realized the root of my disconnection was that I was struggling to connect with my own self, which kept me from connecting to the environment and from engaging in other somatic practices that would help me connect with and stay within my body. I had to come back to a place where I could love and accept myself in the ways that Toni Morrison (1987, 88) spoke about in *Beloved:* "in this here place, we flesh; flesh that weeps, laughs; flesh that dances on bare feet in grass. Love it. Love it hard." I had to love myself and believe my truth, as well as the truth of other Black women like me who had lived with a sense of fragmentation and betrayal.

This led to a dialogue with my mother, who is now living with dementia, on February 7, 2023. I realized that her connection to the environment was one of the ways that she addressed the fragmentation in her own life. She stated,

> I started gardening in little pots when I was a teenager. Wherever I saw flowers, I would pick them out, put them in water, and then pots. Around my home, if I saw any type of flower, I would dig it out of the ground and put it in a bottle.
>
> That's when I started having interest in it. When I had my own home, I would always have a pot of flowers in my home during the winter months. When I started having homes, I would beautify them. I would buy magazines about how to start a garden and would do it. I used to love to do my gardening. I would sit out with the dog. I would enjoy myself, listen to music. It was a comfort for me. And it helped me relax. Sometimes I had really bad days and felt I had to struggle. When I got home, I wanted to completely relax. Growing flowers and everything like that [helped me to do so]. (Personal communication with Jacqueline Hatch)

As I look back over the life that I have had with my mother, I believe that it is gardening, and thus the environment, that allowed her to heal the brokenness within herself. It is only within the last 10 years, as her access to land decreased when she sold the home that my sister and I spent our teenage years in and moved into an apartment, that I have seen her mental and physical health deteriorate. Through the reflection, which inevitably prompted me to interview her, I am beginning to (re)member. I am beginning to (re) member her experience, yes, but mine as well. "You used to garden, too," my mom told me. As sharp as my memory is, this is a memory that isn't there. It was my mother, with her declining memory, who helped me (re)member parts of myself that I had long forgotten.

Ghana 2019: Year of Return

The more I engaged in my inquiry about my connection to the environment, the more I (re) membered the ways that I have been connected to it. One of those ways for me was going to Ghana in 2019 for the Year of Return[6] with a group of about 10 people. I am forever appreciative of the experience because it gave me the opportunity to (re)claim a piece of myself that enslavement, Jim Crow, and ongoing racial subjugation seduced me to forget (Dillard 2012).

Thinking about Ghana, I (re)membered the text that I produced as a result of my travel and experiences. *Incomplete Stories: On Loss, Love, and Hope* (2023) details my experience in this country known for the slave trade. Visiting the slave dungeons as well as the Assin River, where our ancestors took their last baths prior to being sold, was of particular importance. In addition to these sites, however, reconnecting with the land that my people had been ripped away from was a critical healing moment for me. I (re)member standing on the edge of the Atlantic Ocean, marveling at its sheer beauty while at the same time praying to our ancestors who had come from this place. These ancestors not only felt a connection to the land and the water but in many ways were inseparable from it. In the text I reflected,

> It is not only the water and the land that remember; our bodies remember too. Our bodies remember our beginnings, our history, our culture. Though we are disconnected from these beginnings and history because of our separation from the land and the language, we still carry the semblance of them in our bones. People such as the Gullah Geechee along the coasts of North Carolina, South Carolina, Georgia, and Florida are one visible example of this, as their practice of cultivating rice, and even some of their songs, can be directly traced to Sierra Leone and Senegal. It has taken researchers committed to articulating what we have retained from our ancient past, (re) membering, to make these connections and bring it into our consciousness (2023, 75).

In going to Ghana, I began to crave the unity and oneness that Ghanaians enjoyed with the environment, qualities we lost through the brutality of slavery, where our knowledge, resourcefulness, and ability to work the earth was used against us. We were forced to use the environment to work and produce at the ultimate level but no longer were able to access it from a space of spirituality and knowing. From the time that we were enslaved and forced to work stolen land across the Americas, we were seduced to forget our own creation narratives, which are grounded in our ancestral cultures, under the penalty of violence, and instead were forced to adopt Christian beliefs and practices. At the center of these beliefs is the creation story, which paints Eve as culpable for the multiple, intersecting oppressions that women experience. In centering her story, we were thus taught over the span of generations why we could no longer trust the environment as a source of renewal and spiritual practice.

In order to heal, I understood, we needed to connect back to this land from which our ancestors were taken: if not physically, then in our hearts and minds through ritual and ceremony. Standing on the shores of the Atlantic as the waves washed over my feet, singing songs to ancestors who may have stood in that very same space centuries before, I began to understand. Being in that space in 2019, during the Year of Return, was not only an act of (re)claiming[7] my humanity, my existence, and the existence of my people, it was an act of (re)membering that long before the intrusion of the slave trade, we were. We lived, we thrived, we existed on land where we were free to practice our spirituality and sacred rituals.

Coming home from that experience, I entered the church I was attending at the time. Called on to lead the congregation in worship, I (re)member going to a song by India.Aire (2009) that has since held so much meaning. I led the congregation in the following refrain:

> River rise, carry me back home.
> I cannot *(re)member* the way
> River rise, carry me back home
> I surrender today.[8]

The song that morning wasn't for the congregation; it was for me. I could not forget what I experienced during those brief days in Ghana. I made a commitment to forever (re)member the meaning of the moments on that land that held me and allowed me to bring myself back together. And in (re)membering, I felt displaced, uncomfortable. I could no longer be in environments where the sacredness of our history was not honored or places where, in order to exist, I had to take up narratives that did not belong to me. On coming back home, I began the excruciating process of sitting these down. Again, I was (re)membering. And it was all because I went back to the land from which my ancestors were ripped and walked back through the door of no return. In doing so, I let my people know I survived. And made it back home.

Sacred Texts

In the conservative Pentecostal Christian tradition that I practiced for nearly 30 years,[9] I learned to believe that the Bible was paramount. It was considered the word of God, incapable of error or wrongdoing, incapable of any fault. However, over the years, I began the process of backing away from that line of thinking and instead revering the Bible as one of many sacred texts useful for reflection. I did this because the more I studied biblical texts, the less I saw myself. I began the practice of writing stories into the text where I could correct this. This is what led to "Forgetting Sodom," the short story at the end of my book, *The Gospel According to a Black Woman* (2020), in which I rewrote the wretched story of Sodom and Gomorrah. This is also what has undergirded my self-study on Eve over the years, going back and through her narrative and the narratives of other women like her in the Bible to better understand who they were. Wrestling with Eve like this also led me to revise and renarrate her text, a process that I took up in *Reconsidering Eve: Towards a Deepened Consciousness* (2024).

As I did this, I also religiously took up the work of Black feminist and womanist scholars, thinkers, lyricists, and theologians whom I felt were passing on divine knowledge that I, as a Black woman, could see myself in. I was naturally drawn to folks like Alice Walker, Toni Morrison, and bell hooks, Black women whom many people know and love.[10] But I was also greatly inspired by Renita Weems, a womanist theologian who in many ways helped me begin to see the patterns of abuse and misogyny that are so present in the biblical text. It was her work in *Battered Love: Marriage, Sex, and Violence in the Hebrew Prophets* (1995) and *I Asked for Intimacy: Stories of Blessings, Betrayals, and Birthings* (1993) which has helped me to contextualize Eve in a different light. Because of her work, I saw that these metaphors of violence and ostracization were actually representative of the cultures doing the writing and had nothing to do with the way that the divine creator thought about us as people in general and Black women in particular. So, when I took up the task of turning to sacred texts for understanding my relationship to the environment, I naturally went to the Black women whom I already knew were writing about these things.

One of those women was Melanie Harris. I specifically engaged with her work on Ecowomanism, which highlights the "necessity for race-class-gender intersectional analysis when examining the logic of domination, and unjust public policies that result in environmental health disparities that historically disadvantage communities of color" (Harris 2016, 5). This piece was important for me because, in speaking about the environment, Harris not only centers the ways that Black women know but also suggests that earth justice has always been a part of who we are. Based on the knowledge that we have long embodied a commitment to the earth, Harris argues that Ecowomanism helps us to resituate that commitment, interrogating the "structural evils that African American women have historically faced," evils that have arguably separated us from the environment (Harris 2016, 6). She likewise grounds our commitment to the earth and environment in a deep-seated spiritual consciousness, stating that among Black women, there is a "deep value of the earth as sacred," and that our bodies are connected to the earth and thus to that sacredness (Harris 2016, 6).

I appreciate Harris' work because she helps us as Black women to (re)member that connection to the environment is part and parcel of who we are. It is not out of reach but, rather, deep within us. Fleda Mask Jackson's (2001, 48) essay "In the Morning, When I Rise: My Hands in Spiritual Soil" in many ways builds on Harris' work, helping us to collectively (re)member how our ancestors engaged with the environment:

> I come from generations of gardeners, spanning over a millennium. My foremothers and forefathers tilled and planted freely in Africa for sustenance of the body and soul. In ancient Egypt, my ancestors developed the first formal gardens, organizing plants and flowers along the Nile as they worshipped the sun. Even in the misery and pain of bondage, I'm certain that, for some, a glimpse of blooming trees and shrubs provided a brief moment of hope for the future. For those fortunate slaves who were permitted a patch of earth where they grew vegetables to supplement a meager diet, the harvest of their own bounty must have provided some sense of autonomy. And for all who attempted and succeeded in escaping, they recognized the plants, flowers, and trees as beacons lighting their paths to freedom.

Jackson (re)minds us of the ways that our African ancestors, who founded civilizations and created temples of thought, knew not only how to exist within the natural environment but how to be in harmony with it. Lakeesha Harris (2017), in her essay "Healing through (Re)membering and (Re) claiming Ancestral Knowledge about Black Witch Magic," goes one step further and shows us that not only did our ancestors know how to live in harmony with the environment, they also drew their sense of spirituality and ways of navigating the world from it. Harris reflects on the experience of her mother, who concocted potions consisting of herbs, berries, and rum to heal a variety of sicknesses based on what she saw her own mother do. Harris also details the experience of her Aunt Joyce, someone she regarded as a root worker and agriculturalist who through the use of Black witch magic was able to keep her sanity intact in the midst of an abusive situation. These examples highlight how our ancestors hid spiritual practices that may have been forbidden and integrated them within dominant frameworks, including Christianity. This enabled them to hold onto a degree of this ancestral wisdom and practice even as they professed a non-threatening faith practice in the eyes of dominant culture.

Reflecting on these texts brought me back to my own mother and how she instinctively knew how to heal herself through gardening. It is only now that I can understand that what she did was a healing practice that allowed her to stay sane for so long. It is only now that I understand that her ability to be present was so deeply tied to being able to be in the soil in the warmth of the

sun. And it is only now that I understand that, in order for me to be well, I must do the same. In doing the same, I (re)claim my own magic and (re)member myself in the space of internalizing texts that assisted in fragmenting my being. I no longer have to be cut off from my being, and I no longer have to be cut off from the earth; I, like other Black women, can begin the process of (re) membering myself whole, and no longer defining myself through the misappropriation of Eve's personhood (Dillard 2022).

Concluding Thoughts

It was by engaging these three components—my self-study, my travel to Ghana, and my reading of key texts—that I realized that my disconnection with the environment was also a reflection of how much I had been fragmented from my own self. When this dawned on me in my course of study, I almost felt like weeping. I understood in greater measure the totality of what happened to me and my people, but I also felt like a great weight had been lifted. It was only in the process of (re)membering that this could have happened. I thank my mother. I thank my ancestors. I thank the land for helping me to get there by participating with me in the journey back to myself, back to (re)membering that my people have always had this connection to the earth. I will hold on to this and use this knowledge of self to continue to strengthen my own relationship to the earth going forward.

I am forever and eternally grateful.

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Footnotes

[1] EnviroThursdays is an initiative at Macalester College sponsored by the Environmental Studies department. It provides an opportunity for the campus community, particularly students, to hear from an array of speakers—including community members outside of Macalester—and learn from their individual approaches to understanding the environment. This article is an adaptation of that talk.

[2] Ascent is used here intentionally as opposed to descent, as in ascending from our ancestors (rising up), instead of descending. I have been inspired by the work of Cynthia Dillard (2006, 2016) and Derise Tolliver Atta (2018) who both use this term when speaking of people of African heritage.

[3] I am naming the Church here as an institution comprised of different denominations and locales.

[4] Womanism is a term coined by Alice Walker in her 1983 text*, In Search of Our Mothers' Gardens: Womanist Prose*. For Walker, womanism was a more accurate, expansive term to explain the experiences and perspectives of Black women and other women of color than feminism. "Womanism is to feminist, as purple is to lavender" (xii).

[5] The concept of Eve stems from the Judeo-Christian narrative found in the book of Genesis. What I didn't realize until the last few years is that I have spent the greater part of the last fifteen years reflecting on Eve and the ways that the narrative blamed her for the wrongdoing in the world. In 2022, I started to compile all of the writing that I had done about Eve and turned it into a text called *Reconsidering Eve: Towards a Deepened Consciousness,* which was released in 2024.

[6] The 2019 Year of Return marked the 400th anniversary of the enslavement of people of African heritage in the United States by the British. Although Europe had been disinvesting from the continent before 1619, with the first slaves coming to parts of the Caribbean in the early 16th century to work on Spanish plantations, 1619 is a date that tracks Britain's involvement in the slave trade. In 2019, there was a great effort from people like Ghana's president Nana Akufo-Addo for people of African heritage in the United States to return home.

[7] The act of (re)claiming is lifted up in Dillard's text *The Spirit of Our Work*, which is focused on (re)claiming our own spirits and (re)membering the humanity and cultural traditions of Black women and people as a precursor to carrying out the deeper cultural and spiritual work of teaching that these frameworks require," (2022, p. 140).

[8] India.Arie. "River Rise" Recorded 2009. Track 8 on *Testimony: Vol 2, Love and Politics*, Soulbird, album. Parentheses added for emphasis.

[9] I attended an Assembly of God church from the ages of 9 to 30 and was a licensed minister within the denomination from the ages of 28 to 38, though in my thirties I ardently rejected a lot of what I found to be racist and sexist propaganda in the denomination.

[10] Walker, Morrison, hooks, and so many other Black feminist and womanist writers were instrumental in helping me see myself accurately, in helping me to (re)member my spiritual and sacred self. The texts that have been the most meaningful for my development include and are not limited to: Walker's *In Search of My Mothers' Gardens* (1983) and *Temple of My Familiar* (1989); Morrison's *Beloved* (1987) and *The Bluest Eye* (1970); hooks' *Sisters of the Yam: Black Women and Self Recovery* (1994), *Teaching to Transgress* (1994), and *Salvation: Black People and Love* (2001).

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FEATURE

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?

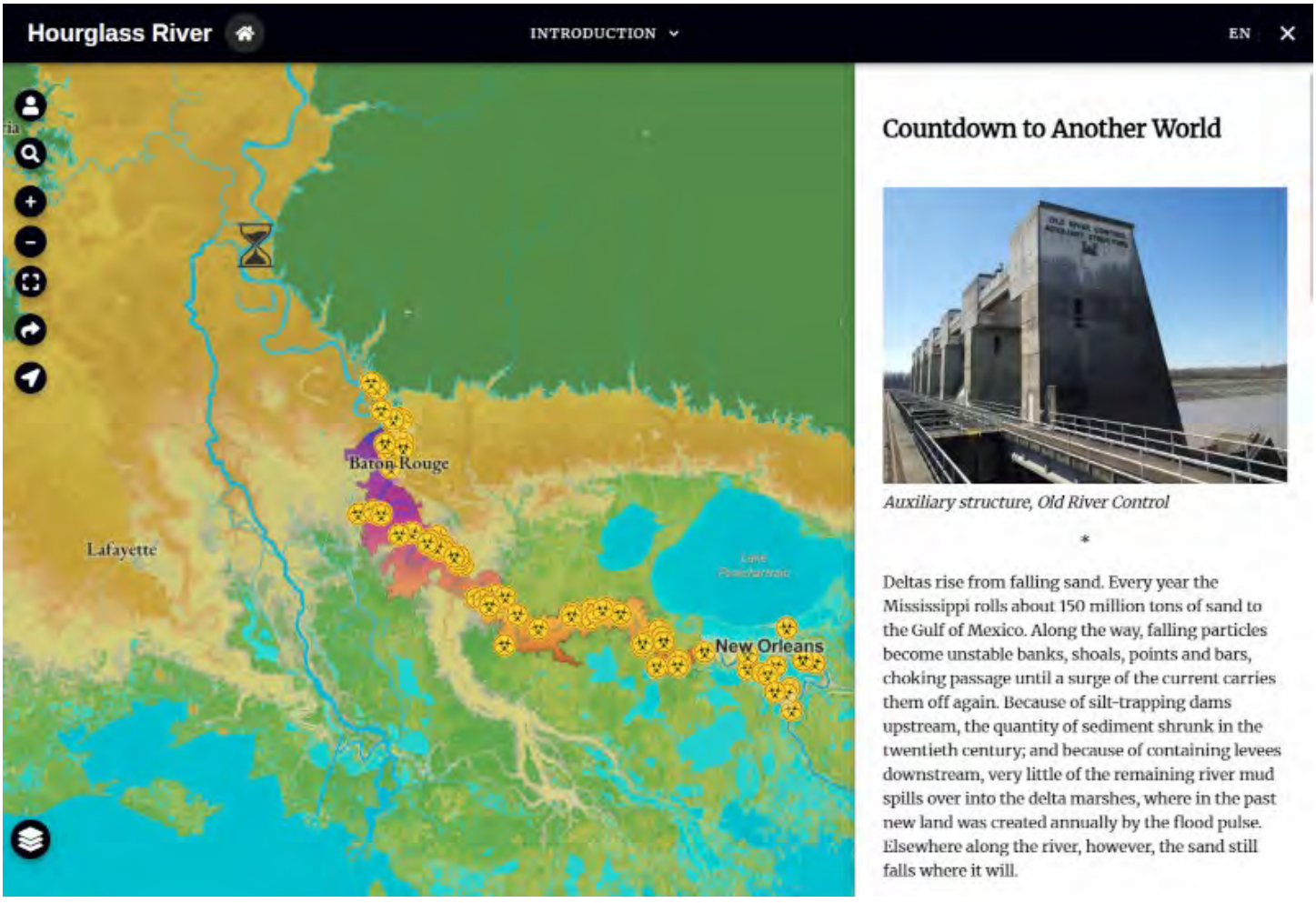
Babbling Basins

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.

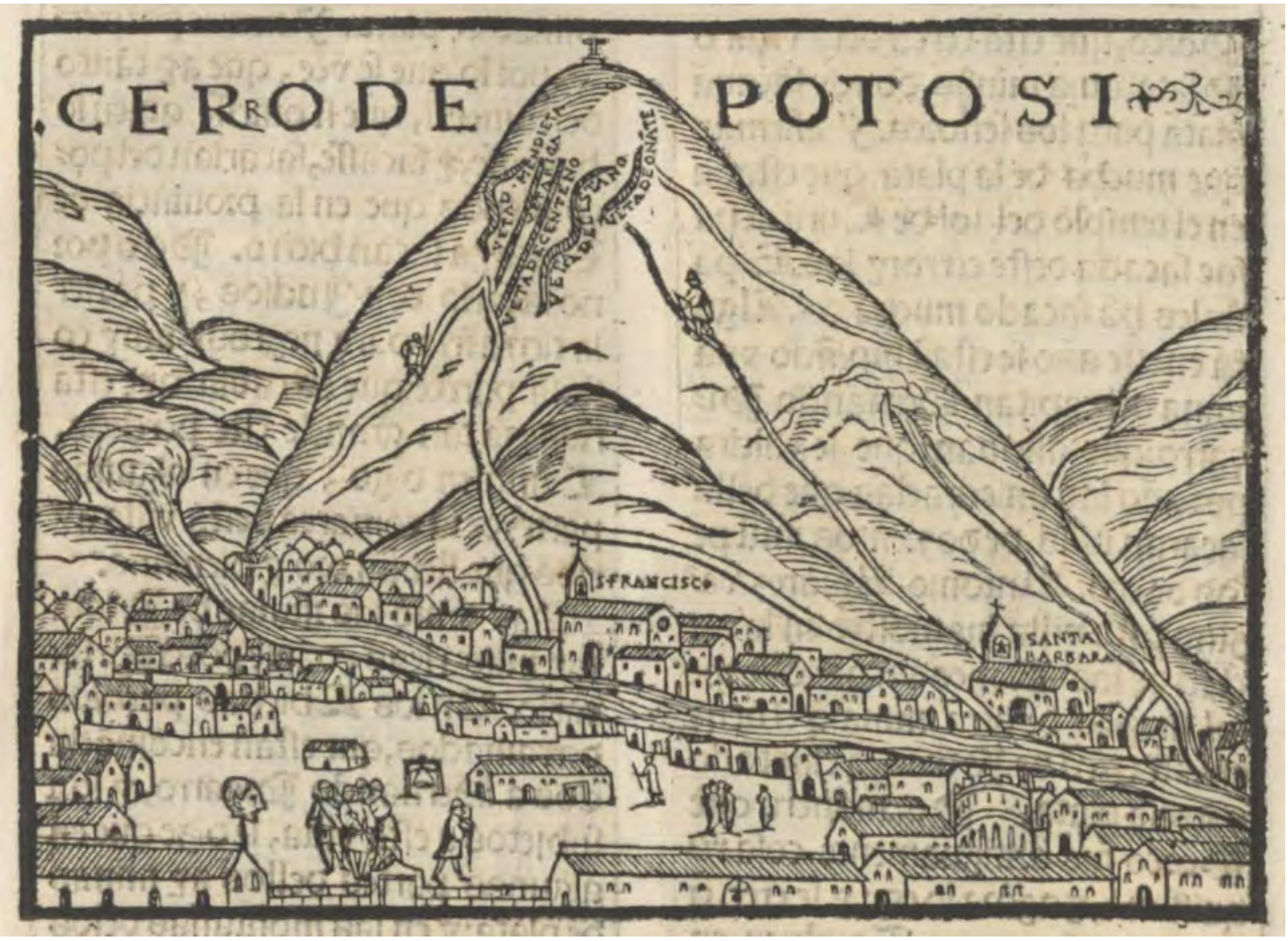
From Casa Río's location on the southern shore of the estuary, just outside the university town of La Plata, it is only a short excursion through the Buenos Aires megalopolis to reach the 200-mile-long, 40-mile-wide Paraná delta with its intricate tapestry of forested islands and grasslands open to the 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 CO_2 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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[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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FEATURE

IMAGINING LIFE-AS-PLACE: HARM REDUCTION FOR THE SOFT ANTHROPOCENE

By Sarah Lewison

During the summer of 2023, at a conference of the Mississippi River Open School, an experimental learning group I belong to, the brilliant Dakota astronomer Jim Rock invited us to enact a performance of reinhabitation. We met near the site of Wakan Tipi Cave in St. Paul, Minnesota, a place sacred to the Dakota people. Upon gathering, each participant in our group was asked to name and express gratitude toward a river or body of water that connected to their lives in a meaningful way. Rock then invited us to join him in honoring the bison people, Tatanka Oyate, from whom he is descended. To do so, he guided us in a somatic understanding of the Dakota Sky-Earth mirror symbol through a ceremonial personification of a bison.[1] Under

Bison and Stars reinhabitation ceremony with Jim Rock at the Wakan Tipi site in St. Paul, Minnesota, 2023. Image courtesy of Sarah Lewison.

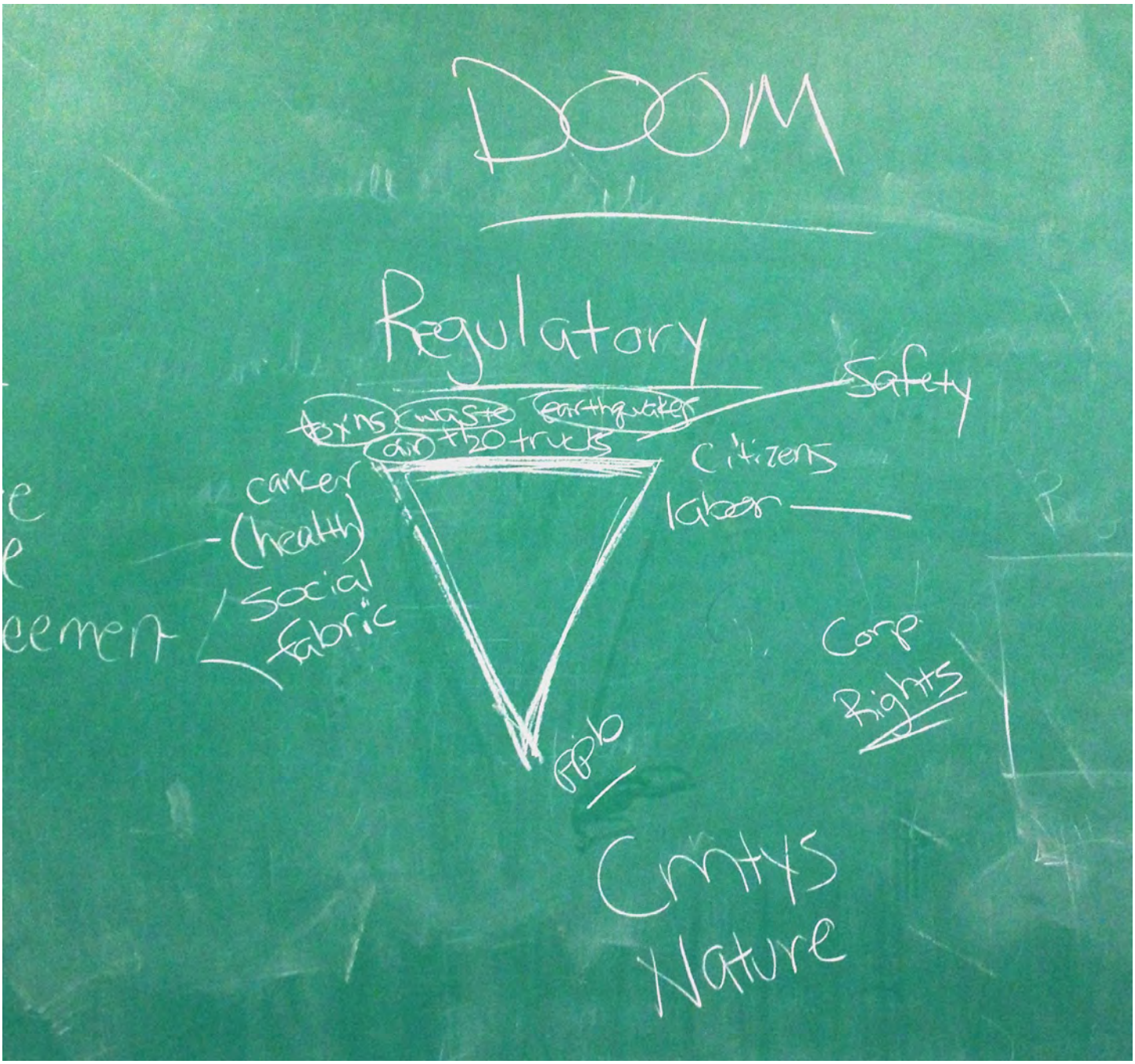
his instruction, we become bearers of stars and bison, connecting land and sky through embodied actions that made our connections and responsibilities to each other and the lands and waters we live with apparent. Through his story-telling, Rock drew us into an awareness of being part of something bigger than our individual selves, melting away our modern alienation. He effectively showed us how we twenty-first-century technological humans might reinhabit the earth-bound place where we live with a sense of care, attention, and belonging. Rock transported us by bringing together our individual histories and our bodies in movement with ancient stories from the Dakoka people. Although many of us were not part of the rich Indigenous cosmologies that Rock exposed us to, he briefly composed a connection for us. This transporting experience has led me to think about the incremental nature of healing and to wonder about pathways for addressing our anthropocenic human loss of place.

In this essay I meditate on society's separation from nature as a key underlying characteristic of the Anthropocene. I suggest here that alongside a physical, or "hard" Anthropocene of human-made infrastructures, objects, and practices, is a "soft" Anthropocene of the consciousness which normalizes human overreach of the planet's capacity and its subsequent impact. In this thought experiment, I pursue the perspectives of two distinct modalities for fostering the trans-formation of human consciousness in relation to the environment. I compare some principles from harm reduction, which aspires to balance the psychosocial ecosystem of an individual, to the affective language of bioregionalism, an eco-cultural movement intended to reintegrate humans within a territorial ecosystem.[2] I begin by defining both harm reduction and bioregion-alism, before introducing the latter's creative and interventionist approach toward opening new pathways of imagination regarding placemaking.

Still captured from "Naxilandia," a feature documentary about rural development in Yunnan, China. Image courtesy of Sarah Lewison.

I compare the analytical practices of harm reduction with those of a bioregionalist understanding of place to frame ways of helping humans cope and heal from trauma and to highlight the role of creativity, compassion, and direct action in addressing social and ecological disconnection.

Finally, I'll share some of my own interpretations of bioregional pedagogies that align with harm reduction's analytical frameworks. In so doing, I conjure harm reduction as a provocation for conducting ecological healing in the human social terrain of the Anthropocene.



Doom Diagram: diagramming corporate capture on the chalkboard. From the 2017 Media and the Environment class, "Storytelling in the Anthropocene" at Southern Illinois University, Carbondale. Image courtesy of Sarah Lewison.

The Material Anthropocene and the Anthropocene of the Mind

The Anthropocene is so called to mark the pervasive material ways humans have altered our planet. As a complex of cascading impacts by human technologies upon Earth and its atmosphere, the Anthropocene works through layered violences of colonization and systematic subjugation, a globalized and totalizing agent of trauma and addiction. The Anthropocene operates on embodied agents, human and beyond-human, changing consistencies and possibilities, not unlike substance addiction and unwanted pregnancies. Anchored in the principle of turning life into property, and then producing profit off this property, anthropocenic techne also harms human people by alienating them from the planet as the place which sustains their lives. This happens without our awareness. It could be considered that our everyday fossil-fueled human existence in the developed world both speeds up experience and changes our sense of time to an extent that it becomes hard to find out how we feel and where we are. As Jim Rock reminded us at the Wakan Tipi site, our connections to place, environment, and to our own social histories need to be actively recalled. It could be said that we become addicted to the accelerations that capitalism and fossil-fueled markets expose us to; witness the difficulty people have in turning away from their screens and devices. I propose that this addictive behavior alienates us from connecting to an environment, and all the more so, from the capacity to even imagine alternative futures for ourselves within an environment.

Undoing Harm Through the Devolution of Power

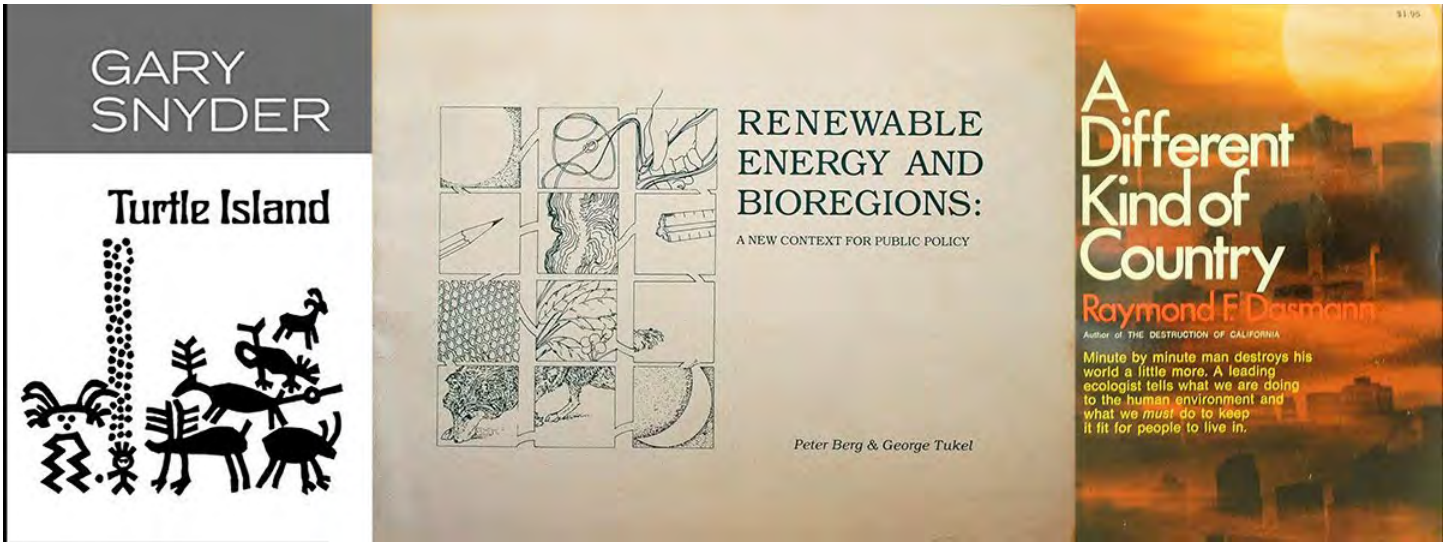
Harm reduction is an activist approach to public health that mitigates the negative consequences of substance addiction and disease transmission by giving people the material and psychological assistance they need without judgement.[3] Harm reduction can also be seen as an interpretive device which enlists attention, acceptance, and dialogue to clear pathways for change in complex circumstances. Harm reduction takes different forms. It is tailored to local human-social ecologies to effect a drawing down of trauma-coping behaviors that have destructive or negative outcomes. It may mean providing condoms to high school students or clean syringes to substance-addicted people. According to the National Harm Reduction Coalition, the approach offers dignity for vulnerable people coping with extremes of injustice, deprivation, and grief, allowing time for healing without stigma. Harm reduction in the United States draws its transformative inspiration from earlier models of public health activism, such as the Young Lords' provision of acupuncture to treat addiction in New York City in the 1970s.[4]

I am most interested in how harm reduction strategies respond to the human-centered ecological specificities of a place. As an example, clean needles for substance-dependent people are distributed in the neighborhoods where people buy and use. Although such actions might be imitated as models elsewhere, they are devised and conducted on a local level by community volunteers with insight into that location. It is an activist approach that devolves power wherein amateur practitioners step in with safety measures not otherwise available. Sometimes harm reduction activists operate outside of the law (as with needle provision), autonomously addressing a lack of policy. Thus, harm reduction becomes an interpretive and analytical tool for understanding healing and struggle in an ecosocial context.

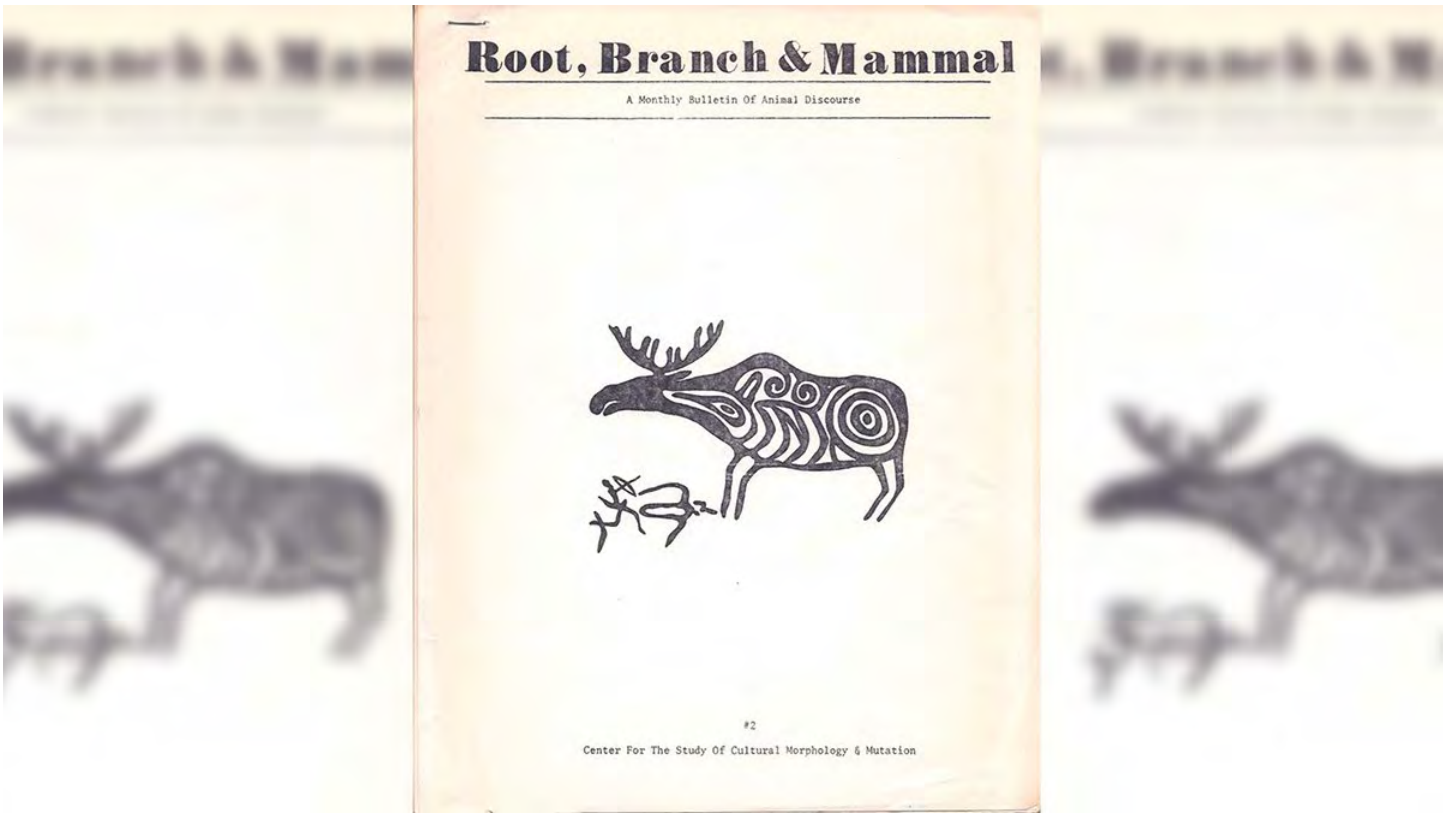
A new global map of terrestrial ecoregions provides an innovative tool for conserving biodiversity. This map recognizes 867 distinct units of terrestrial ecoregions, over four times that of the 193 units of the previous standards. This map of terrestrial ecosystems is by Emma C. Underwood and Jennifer A. D'amico included in 'Terrestrial Ecoregions of the World: A New Map of Life on Earth' by David M. Olson et al., in "BioScience" 51, no. 1 (2001), and used with the permission of Oxford University Press.

Bioregions as a Basis of Community

Bioregionalism may be familiar to some as an eco-cultural movement that arose in the 1970s to address the ecological and psychological damage of human disconnection from ecological place. [5] The 1970s artists, writers, ecologists, activists, and poets who conceptualized bioregionalism were already addressing capitalism, violence, and commodification in the urban sphere, concerns which were incorporated into their environmental turn. A bioregion was defined as "a distinct area with coherent and interconnected plant and animal communities, and natural systems, often defined by a watershed, a whole 'life-place' with unique requirements for human inhabitation so that it will not be disrupted and injured."[6] In contrast to mainstream environmental approaches that are premised upon a nature outside of humans to be identified, repaired, replenished, or conserved, bioregionalism sees humans as integral to an ecobiotic mesh. Bioregional writers used concepts and metaphors promoting the idea of humans as a species among other species within specific places, offering practical, affective,



Three significant texts include "Turtle Island" by Gary Snyder; "Renewable Energy and Bioregions: A New Context For Public Policy" by Peter Berg and George Tukel; "A Different Kind of Country" by Raymond F. Dasmann.



"Root, Branch & Mammal" by the Center For The Study Of Cultural Morphology and Mutation.

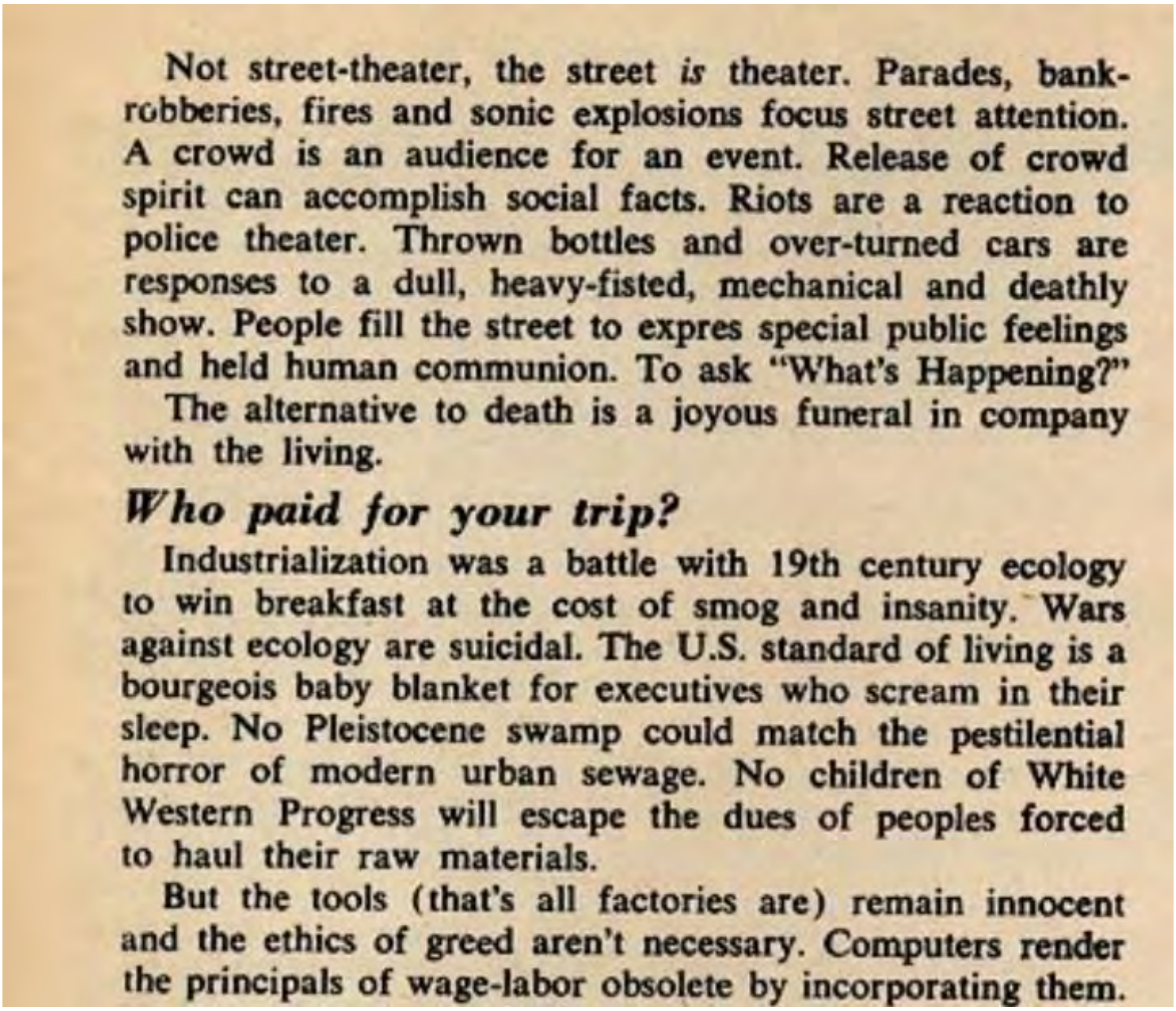
and somatic experiments in repairing the rift between humans and beyond-human ecosystems.

This essay mostly highlights concepts developed by California-based writer and environmental activist Peter Berg. His ideas, however, were forged in dialogue with many other writers, activists, scientists, and artists, including well-known ecological poet Gary Snyder, conservation biologist Raymond Dassmann, and writers Stephanie Mills and Kirkpatrick Sale. The use of the word *bioregion* to define a territory by qualities *other than human distinctions* was coined by surrealist poet and publisher Allen Van Newkirk in his independent journal Root, Branch and Mammal.[7] Newkirk sought "models guided by less arbitrary scales of human activity—in relation to the biological realities of the natural landscape."[8] Adopting Newkirk's term, Snyder, Dasmann, and Berg added humans back into the conception of a bioregion, investing them with a responsibility "both to geographical terrain and a terrain of consciousness—to a place and ideas that have developed about how to live in that place."[9] In a 1976 talk given at the University of California, Berkeley, Raymond Dassman described peoples who "lived in communities that were dependent upon and in harmony with their local ecosystems as 'ecosystems people,' who 'did not consider themselves apart from nature.'"[10] Stressing the concomitant destruction of Indigenous people and their cultures with the

Diggers distributing free food. The Digger Archives (www.diggers.org) (CC BY-NC-SA 4.0).

destruction of the natural world, he called for an end to "dependence on the exploitation of other people, places, and living communities."[11]

Peter Berg's environmental insights evolved in the rich matrix of creativity, resistance, and activism of 1960s-era San Francisco where he was a performer and writer with The San Francisco Mime Troup, an alternative theater project which held performances in the city parks. San Francisco in the 1960s swelled with youth seeking alternatives to mainstream U.S. culture, and Berg and a small crew of artists started to use everyday spaces of the city for provocations that reframed social relations outside of the commodity. Calling themselves Diggers after the seventeenth-century radical protestants who planted on the enclosed land of wealthy estates to meet their subsistence needs, the San Francisco activists took the practice of liberating property into a



Not street-theater, the street *is* theater. Parades, bank-robberies, fires and sonic explosions focus street attention. A crowd is an audience for an event. Release of crowd spirit can accomplish social facts. Riots are a reaction to police theater. Thrown bottles and over-turned cars are responses to a dull, heavy-fisted, mechanical and deathly show. People fill the street to expres special public feelings and held human communion. To ask "What's Happening?"

The alternative to death is a joyous funeral in company with the living.

Who paid for your trip?

Industrialization was a battle with 19th century ecology to win breakfast at the cost of smog and insanity. Wars against ecology are suicidal. The U.S. standard of living is a bourgeois baby blanket for executives who scream in their sleep. No Pleistocene swamp could match the pestilential horror of modern urban sewage. No children of White Western Progress will escape the dues of peoples forced to haul their raw materials.

But the tools (that's all factories are) remain innocent and the ethics of greed aren't necessary. Computers render the principals of wage-labor obsolete by incorporating them.

"Trip Without a Ticket" by Peter Berg.
The Digger Archives (www.diggers.org) (CC BY-NC-SA 4.0).

twentieth-century context with free concerts, festivals, housing, and food.[12] They distributed pamphlets extolling a philosophy of abundance, and used guerrilla theater to interrupt traffic and business-as-usual on San Francisco's Haight Street.[13] Berg wrote prolifically about the consequences of converting life into property, elevating the liberatory, communitarian, and libidinal potential of human relationship and existence once freed from service to the abstraction of an economy:

> First free the space, goods and services. Let theories of economics follow social facts. Once a free store is assumed, human wanting and giving, needing and taking, become wide open to improvisation.
>
> A sign: *If Someone Asks to See the Manager Tell Him He's the Manager*.
>
> Someone asked how much a book cost. How much did he think it was worth? 75 cents. The money was taken and held out for anyone. "Who wants 75 cents?" A girl who had just walked in came over and took it. [14]

Berg's broadsides and essays were poetic provocations to resist the commodification of consciousness, or what I am calling a Soft Anthropocene that works upon people's desires,

Death of a Hippie Procession. The Digger Archives (www.diggers.org) (CC BY-NC-SA 4.0).

perceptions, and expectations. His polemics called out the alienating effects of putting a price on everything and offered propositions for positively transforming relations between people and environment.

In 1973, Berg and his partner, dancer Judy Goldhaft, founded the Planet Drum Foundation as a forum for imagining codependence between people and the biosphere through the bioregion concept. Publishing was, and continues to be, central to this project, beginning with a series of letterpress broadsides focused on and authored by people in specific bioregions, with titles such as "The Pacific Rim Alive." These were distributed as bundles by mail to subscribers.[15] The basis of a bioregion was not proscriptive. It was, on the contrary, up for participatory debate based on group studies of geographical features, cultural motifs, historic dwelling patterns, economies, and practices. Eschewing colonizing and extractive patterns such as homesteading, where people bring foreign cultures and building styles to reproduce an image of a former homeland, the goal of bioregionalism was to consider how to contribute to the biodiversity of place. Bioregionalism wrapped together environmental philosophy, social critique, and evolving practice. The core idea of "living-in-place," would thus always look different, a coevolution of biodiverse habitation. The introduction from Planet Drum Foundation's collection of essays, art, research, and maps titled *Reinhabiting a Separate Country* set out

Images from "Reinhabiting a Separate Country" (1978) taken by Judi Quick. Image courtesy of Planet Drum Foundation.

the motifs for what Berg called living-in-place, or *reinhabitation*:

> Reinhabitation means developing bioregional identity. It means learning to live-in-place in an area that has been disrupted and injured through past exploitation. It involves becoming native to a place through becoming aware of the particular ecological relationships that operate within it. Simply stated, it involves becoming fully alive in and with such a place. It involves applying for membership of a biotic community and ceasing to be its exploiter.[16]

Reinhabiting a Separate Country featured regional authors from scientists, poets, naturalists, and storytellers reflecting on a "natural country" formed by the geographic boundaries and ecological uniquenesses of Northern California. These specificities extend beyond physical features to encompass social and economic customs, including those of the Indigenous humans and beyond-human denizens.

Image from "Reinhabiting a Separate Country" (1978) taken by Eric Weber. Image courtesy of Planet Drum Foundation.

Reinhabitory Theater

To reinhabit is to begin with the premise that you, a human, are a species among many other species. Reinhabitation is an incitement to cultivate sensitivity, creativity, dialogue, observation, and study as a way to care for an inclusive community. Community membership is defined by the inhabitants in the region; reinhabitation asks, "how will all members live better in this place?" Reinhabitation counters the force of the Soft Anthropocene we carry within, that lets us hallucinate a separation between humans and nature or territory. Demolishing dams, for example, is a practical act that reclaims the river for the good of the salmon. The destruction of dams, however, must be preceded by the potential of humans to imagine the needs of salmon. Reinhabitation can include more conventional practices of conservation or restoration but also exceeds these approaches by queering relationships to place and the other inhabitants. The human is encouraged to imagine themselves within an ecological matrix, to learn who else lives there, and to ask questions about how to share the abundance of that place with all species within a territory. What is the spirit that drives people to make paintings in caves? What would that look like today? What are appropriate technologies? What do the animals want? Questions like these gave rise to research on animal behavior and ecosystems. Sparked by her dance background, Judy Goldhaft studied ways of miming animals to create an emergent kind of ecological theater. Working alongside Berg, they incorporated ideas from Indigenous stories to illustrate reinhabitation as dialogue and physical play. Joined by other actors to form the Reinhabitory Theater as a performing troupe, players imagined and invoked the territories and behaviors of beyond-human dwellers while also modeling ways for humans to share space with beyond-humans within a territorial boundary. [17]

Figures of Regulation

Coexistence is not an easy proposition in our society! How can humans develop self-regulation through nonauthoritarian and non-proscriptive constraints? In his essay "Figures of Regulation: Guides for Rebalancing Society with the Biosphere," Berg enlists the dialogic imagination to concoct what he alludes to as a dance with place.[18] He hypothesizes what he called "the new equivalents to customs that we need to learn."[19] Regulation, he explains, can be understood biologically in terms of resource distribution, while the *figure* is a tentative iconic or symbolic move rather than a hardline rule—something to be tested incrementally as if it was a game. In proposing a *figure* as a unit of action to be executed in a serial, dialectic and experimental fashion, he breaks systems-within-place into fragments to be articulated and tested variously as a kind of analog cybernetic system. His examples include the drawing and redrawing of lines, dance steps, and other series of movements that respond to force, friction, or wobble, the physical means by which one organism performs a regulatory effect upon another by the impact of its actions.

As an example, a flowing river repeats itself in patterns and variations, producing figures in the sense of dance steps coming one after another, extending or opposing the last one. A figure, like a seasonal flood, is only partial—partially decided or described—and there are other parts still undetermined and changing. Think about how undulating tango dancers share the weight of each other, reacting and compensating. Alternatively, consider the attitude of reciprocity toward gifts of strawberries from the land, described by Robin Wall Kimmerer in *Braiding Sweetgrass*.

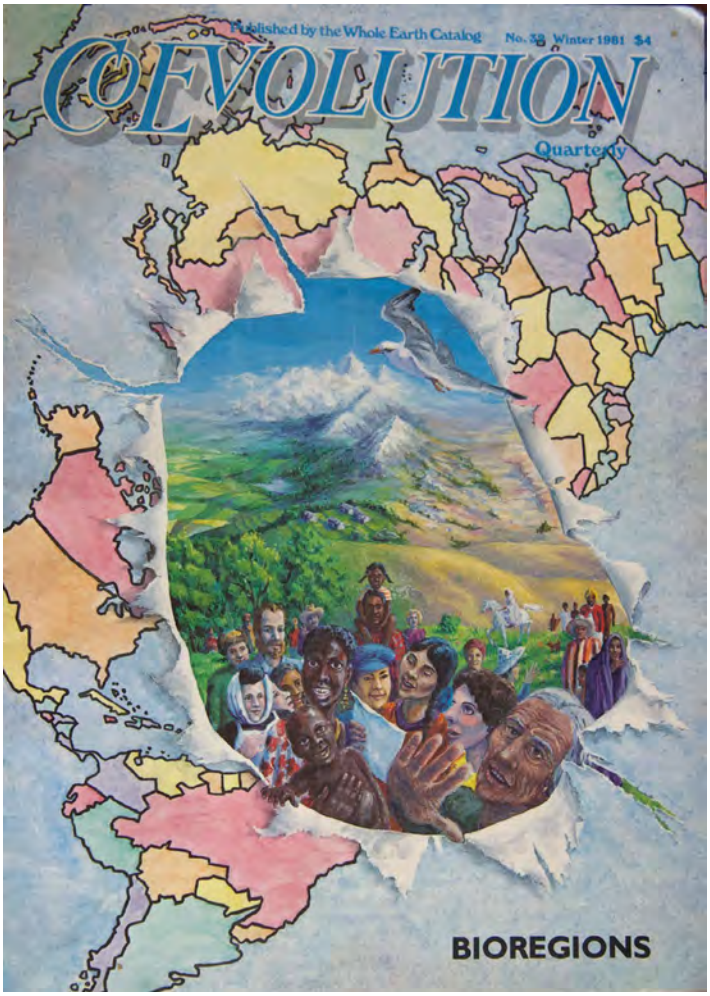
[20] Strawberries grow, and humans and animals eat them. In this way, we humans interact with nonhuman others. How shall we acknowledge these interactions? This exchange between human desires and the capacity of the land to give can be seen as a dialogic flow of human action and ecosystemic response. For Berg, the weight of impacts between humans and beyond-human entities can be observed in incremental steps that cultivate sensitivity to the patterns and scales of human action, seasonal changes, the movement of animals, soundscapes of hurricanes, glaciers, rising waters, and other substantial processes of nonhuman assemblages, past and present, in relation to human activity. This incrementalism can be seen as a kind of harm reduction for both earth and humans.

The *figure of regulation* preemptively critiques how environmental regulations are often not enacted until after ecological harm occurs in the United States. Berg experiments with an unfolding precautionary principle as practice, as opposed to the use of mitigating regulations enacted after environmental damage has occurred. Figures break down regulation as rules by patterning changes into increments that can be taught, observed, and listened to, a call and response. For Berg, figuring becomes a process of evolving new social customs by incrementally incorporating complexity.[21] If practices of figuring within a community are dedicated to imagining a built environment that harmonizes and rescales human lives, habits, and infrastructures, they could present new challenges to the

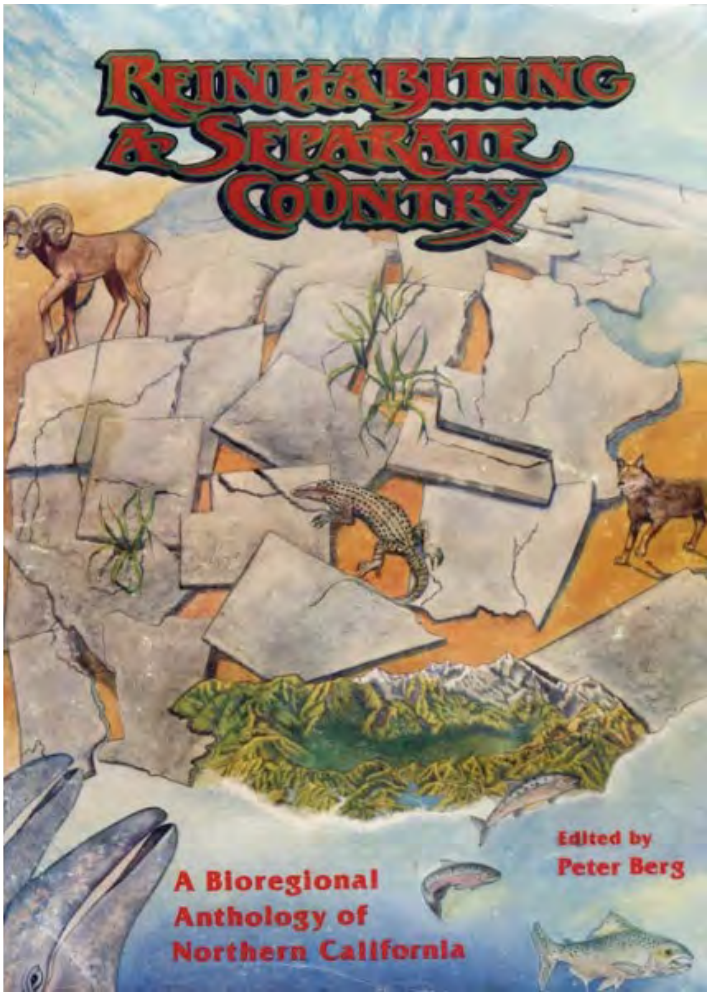
Fluvial geomorphologist Steve Gough demonstrates figures of regulation pertaining to river flows by moving around plastic embankments and dams with the EmRiver River Model. Image courtesy of Sarah Lewison.

anthropocenic discourses of individual rights that hold legislated regulations such as the Clean Water Act hostage.

One of the ways that humans learn is by observing difference and change. The figure of regulation, based in the observation of change, charts a path for creating customs as pedagogical practice. It also bears a resemblance to the healing processes conducted through harm reduction, as a prefigurative and diagnostic process of exploring the potential for human dignity and transformative healing through association to place. In the Argentinian La Plata watershed, Brian Holmes and Alejandro Meitin use the term "bioculturalism" with the same intention as a figure of regulation, "as both something autonomously real, and as idealizations or imaginaries that can guide collective behavior and action."[22] Much like Berg and Dasmann's framing of bioregionalism as both geographical terrain and a terrain of consciousness, bioculturalism expresses the consciousness of a terrain's people as much as its biological character.



"CoEvolution Quarterly." Issue 32. Winter 1981.

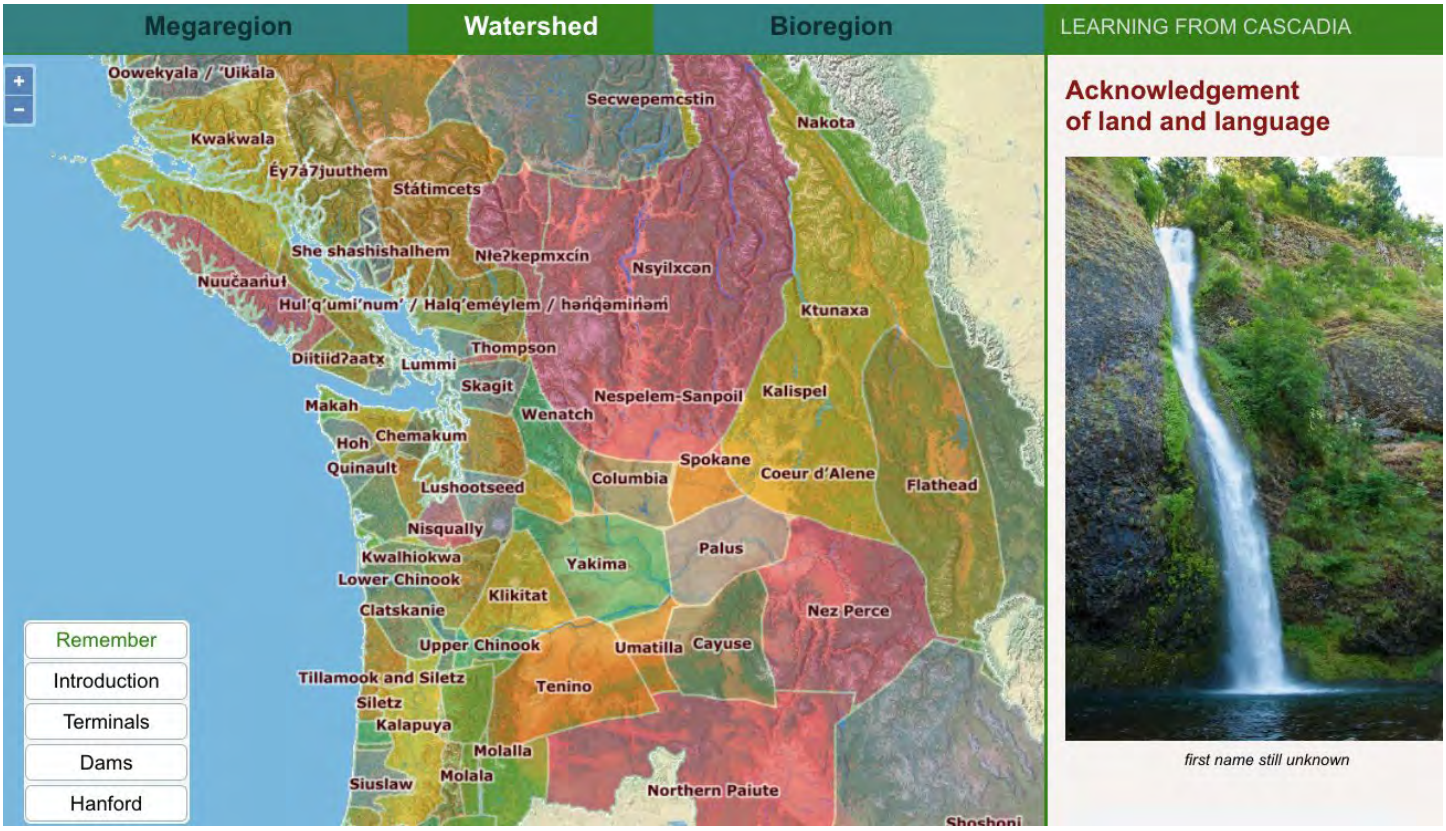


"Reinhabiting a Separate Country: A Bioregional Anthology of Northern California." United States: Planet Drum Foundation, 1978.

Devolution

In 1981, Anishinaabe organizer and economist Winona LaDuke spent her summer studying European secessionist movements where distinct regional language and culture groups were resisting state policy and control as a form of internal occupation. Tracing between these movements and the jurisdictional status of Indigenous lands in the United States, her article for *CoEvolution Quarterly*'s Bioregional issue, "Indian Land Claims and Treaty Areas of North America: Succeeding into Native North America," made a case for Indigenous treaty rights—the right of Indian governments to hold regulatory and enforcement power over traditional lands. She wrote, "It means the land which is currently taxed, regulated, strip mined, militarized, drowned by overirrigation and nuked by and or with the blessing of the US and Canadian governments would not be under their jurisdiction anymore."[23]

Landback movements and purchases for the reclamation of ancestral lands for Indigenous people in the U.S. are slowly, albeit unevenly, facilitating a reversal, or *devolution* of power from the state back to what Raymond Dasmann, in 1976 called "ecosystems people" who wish to manage the land ethically. For LaDuke, to "relocalize economies" is to harmonize human economic and social systems with a region's capacity for sustenance for all who live there through the elevation of traditional cultural practices. [24] Devolution is a form of resistance to colonialization and economic occupation by monocultures of all kinds. In the United States, devolution might correlate to an expansive municipalism in which state decision-making power over the living and



Learning from Cascadia. Screenshot from Brian Holmes' interactive map of the Cascadia watershed. Image courtesy of Brian Holmes.

geological entities called natural resources in a management context are handed to bioregional governance systems. Devolution entails imagining a future for a place that is not reinvented with every new political wind. LaDuke uses the Ojibwe phrase ji-misawaanvaming to describe "something like positive window shopping for your future," adding that "we need to ask what our community is going to look like 50 or 100 years from now."[25] Such future thinking would entail individual and social transformations that seem impossible given the present level of alienation and polarization in our current society; transformation can only happen through a series of adjustments that will predispose people to change. What might those adjustments look like? How could they be achieved?

Counter-Cartographies

Collective mapping plays a key role in creating a bioregional consciousness; such counter-cartographic exercises bring together the experience and knowledge of those who live in a region. These perspectives are rarely represented in maps developed for navigation or for extraction of materials such as coal, oil, or wood. Resource maps reduce regional and ecological uniquenesses to

Washington Street Garden, Carbondale, Illinois. Image courtesy of Sarah Lewison.

what can be grown, manufactured, or mined. Imagine instead a group of people of different ages around a table with pens and paper, old maps, hand-drawn directions, ecological studies, and naturalist observations. Meeting monthly over the period of a year, they draw and discuss, slowly determining the boundaries of their bioregion by defining its unique characteristics.[26] Such a map is a powerful visual counter to the flattening gaze of state and industrial maps. Mapmaking workshops bring people together to share their knowledge of home, including its human and beyond-human inhabitants, its histories, needs and cultures, and its anthropocenic spoilage. Bioregional mapping also affects urban policies and development by addressing social inequities around urban and exurban sustainability as well as access to natural surroundings.

My own work as an artist, teacher, and proponent of the "river as an open school" began with mapping exercises like those described above. These were first done with a group of people in my university's library. Together, we identified trees, creeks, beaver dams, and early sightings of northward migrating armadillos. We also mapped spaces where people felt safe or unsafe or more likely to be stopped by police. Through this sharing of perspectives, we blended our attention to local ecosystems together with the unique experiences of humans in our mapping group.

Bioregion as a Site for Subsistence

Tamil eco-literary critic Nirmal Selvamony stresses that bioregional praxis "cannot be anything other than communitarian," writing that

> Living-in-place is possible only in a land area in which the agent (the one who practices it) can have face-to-face contact with all of the members of the community of the agent, not in an Andersonian imagined community where such contact is not possible.[27]

In 2015, I got to use an old restaurant as a space for collective community research into subsistence, a practice often stigmatized as a marginal form of food provision. In their 1999 book *The Subsistence Perspective*, sociologists Maria Mies and Veronika Bennholdt-Thomsen tackle this stigma, recharacterizing subsistence as labor that directly satisfies human life and reproductive needs within the limits of place.[28] *The Subsistence Perspective* brings feminist theories of labor to bioregionalism by recognizing the labor of social reproduction, from childbearing to growing a garden. For Mies and Bennholdt-Thomsen, a subsistence perspective entails the withdrawal of one's energies from commodity production in order to compose a post-commodity culture that restores what Mies describes as the "diversity, or symbiosis between various forms of life—animals, plants, and people—all living together in a certain area, all with their livelihood and good life."[29]

The Understory Center Kitchen for Subsistence Research (also known as the Subsistence Kitchen), was named for the layer of trees and foliage waiting in the shadow of taller branches until a clearing is made for them to shoot up. The project was framed by the question of what subsistence might look like in our current technological era and our specific place. How could we take better care of each other through attention to our regional specificities? This question was asked again and again across different activities, including a weekly meal that was open to all. Each Saturday, people came to pick vegetables, herbs, and flowers from the urban garden across the street to be used to plan and prepare a free public lunch. During and after lunch we held cultural, practical, and theoretical workshops, teach-ins, and meetings. Some days we cooked

or preserved food together or tried to reverse engineer branded prepared foods, such as salad dressings and cookies, that people's families favored.

Other weeks, local and visiting activists, organizers, and artists gave presentations that were followed by discussion or group action, such as letter writing campaigns. Materials were gathered for Standing Rock, where thousands were camping to demonstrate opposition to the Dakota Access pipeline.[30] There were also closer pipelines to learn about and oppose, and questions about the management of the Shawnee National Forest, one of the largest forested areas remaining in Illinois. Someone painted an iceberg model on the wall to illustrate how 90 percent of the factors controlling a situation are concealed beneath the surface. We used this model in discussions to get a better understanding of how underlying factors determined how people thought they should live. Using the kitchen as a common learning space was empowering, and it was a joy to engage with our small mission of gathering food to feed as many as possible. Each week, new people joined an already diverse group of townies and students willing to spend time reflecting about how we live.

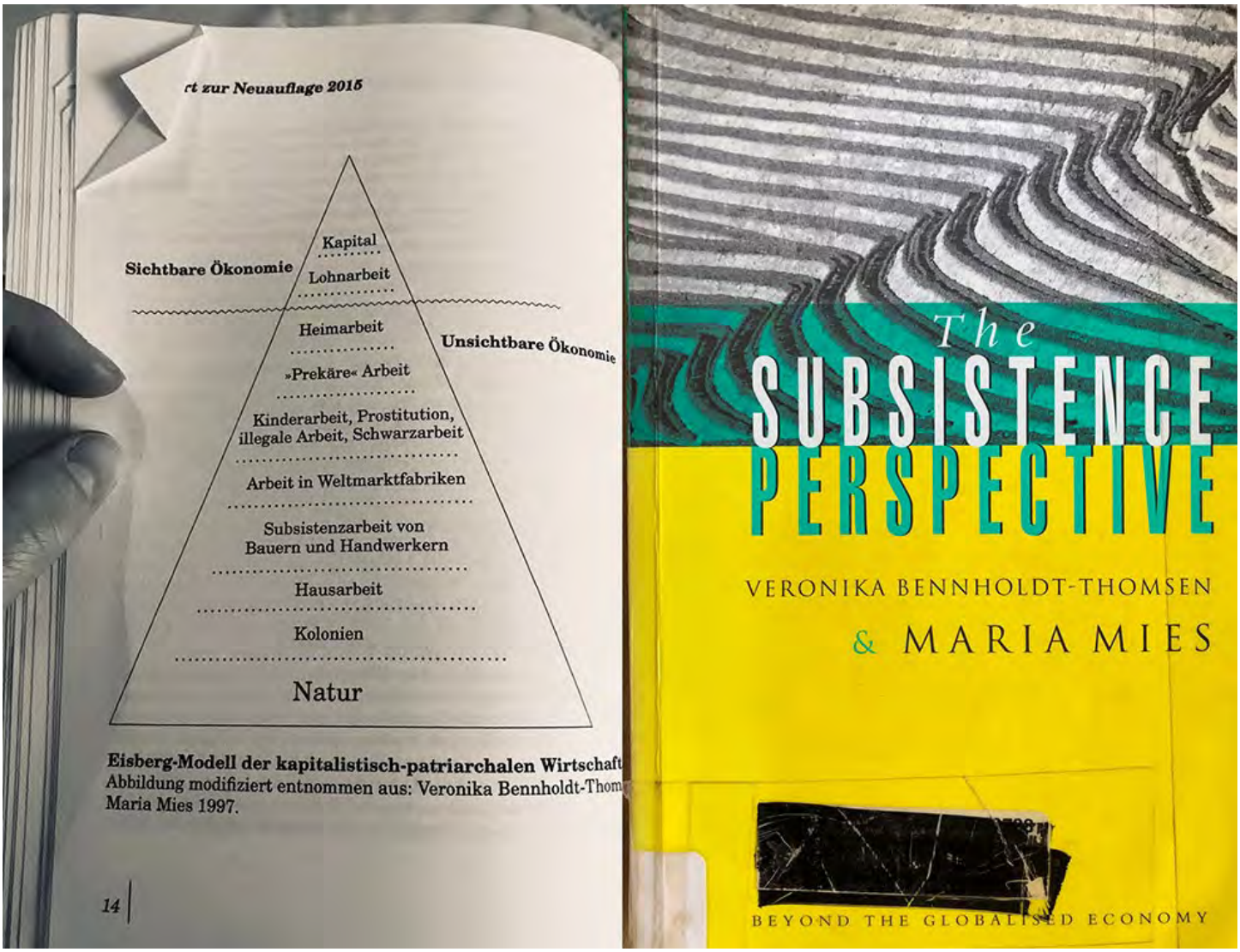
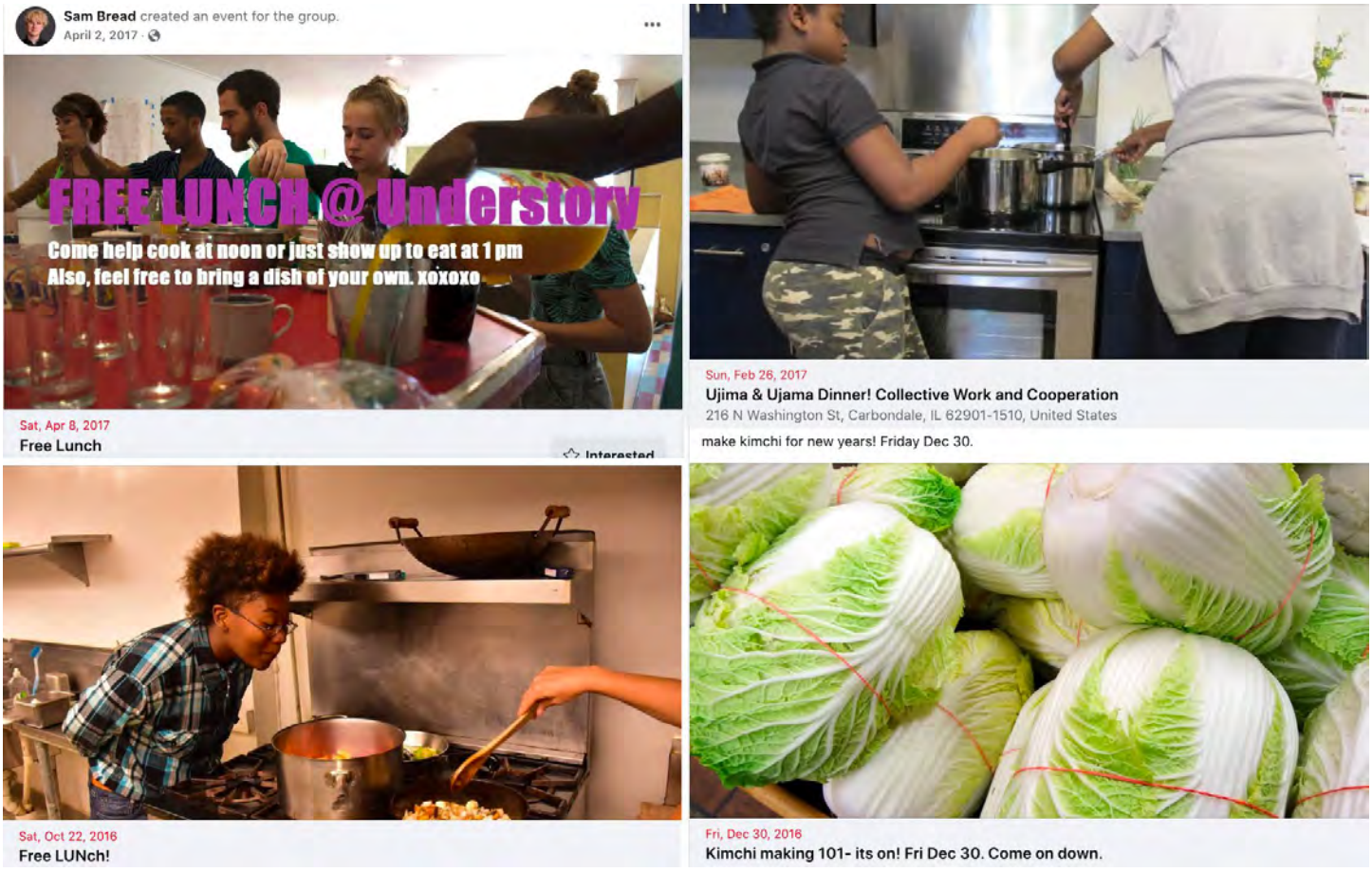


Image from "Patriarchat und Kapital" by Maria Mies, VGE Verlag, 2015 (left); image courtesy of Anna Saave. Cover of "The Subsistence Perspective" by Veronika Bennholdt-Thomsen and Maria Mies (right).

Understory Center Kitchen for Subsistence Research exterior in Carbondale, Illinois with student interns Sam Beard and Candance Brogdon, circa 2017. Images courtesy of Sarah Lewison.



Selection of Facebook event postings for Understory Center for Subsistence Research. Image courtesy of Sarah Lewison.

Finding a Way Through Play

In *The Dawn of Everything*, David Graeber and David Wengrow's reframing of early human social organization, the authors problematize a long-accepted hypothesis about the role of agriculture in the formation of civilizations. Citing Plato's Gardens of Adonis, which they call "a sort of festive speed farming which produced no food," they point out that serious concerns and skills evolve from play and social experiment. [31] The Subsistence Kitchen was such a space of material and imaginative play, a place to plant seeds for the future.

Imagining bioregional autonomy is audacious. Kirkpatrick Sale writes that

> bioregional diversity…does not mean that every region of the Northeast or of North America or of the globe will build upon the values of democracy, equality, liberty, freedom, justice or other suchlike "desiderata." There's a risk that truly autonomous bioregions will go "their own way."[32]

Sankofa Series director Sharifa Stewart. Understory Center Kitchen for Subsistence Research, Carbondale, Illinois, circa 2017. Image courtesy of Sarah Lewison.

Brian Holmes, writing about bioregionalist governance in the Pacific Northwest clarifies which entities should lead: "A bioregional state is emergent whenever the survival and flourishing of non-human actors becomes an issue in formal political negotiations over land-use within a given territory."[33]

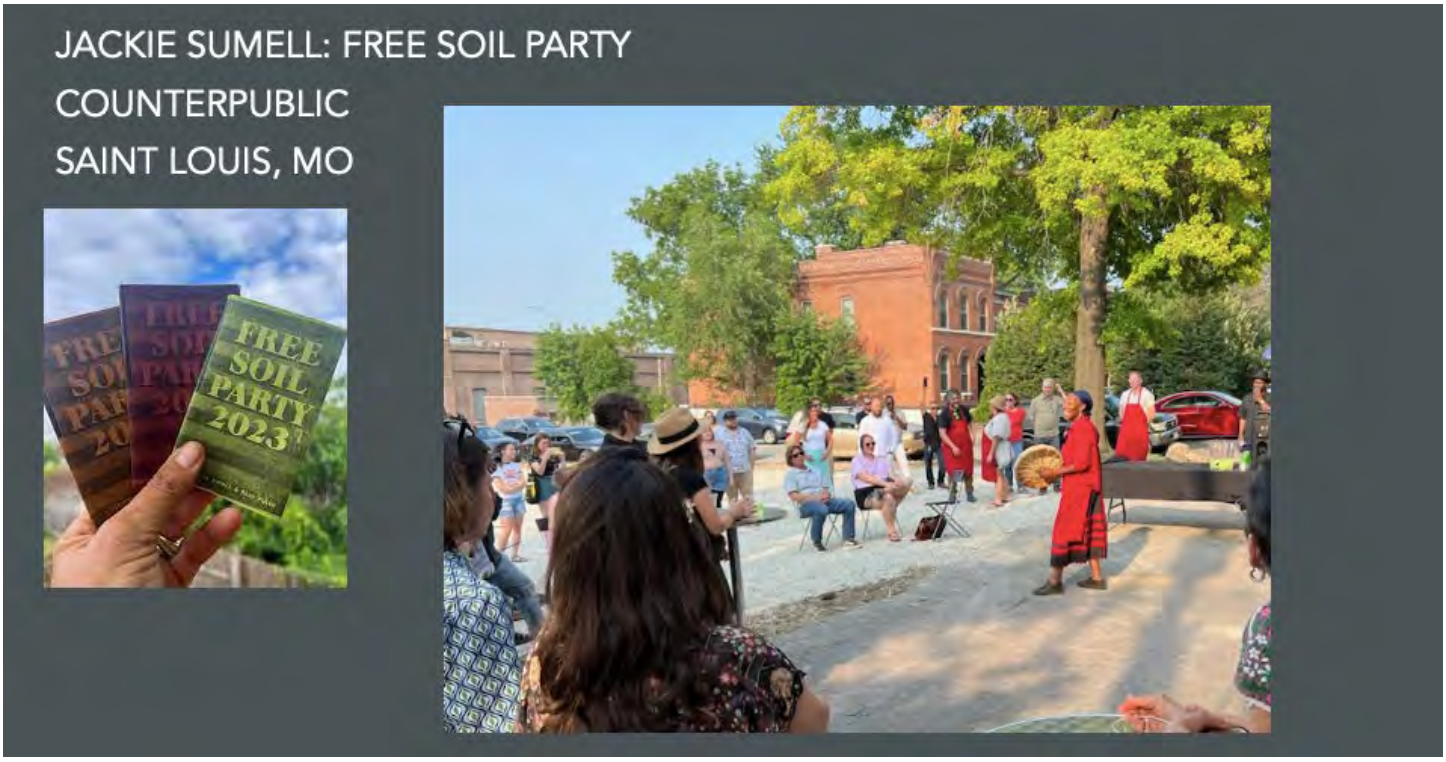
In places that have gathered enough political or social momentum, bioregionalism is expressed in fragments through, for example, local foodsheds, species protection, transition initiatives and the elimination of dams. There are places where inhabitants have become frustrated enough with extractivism by outside interests that they have thrown out external governance and created new governments guided by principles of mutual respect between humans and the natural environment. In the Michoacan, Mexico village of Cheran, the Indigenous Purepecha people drove out loggers, politicians, and outsiders profiting from and destroying their lands and water sources. Returning to traditional forms of self-governance, they banned the unsustainable cultivation of avocados and are developing an economy that protects regional biodiversity.[34] In Southern Illinois, it seems ridiculous to dream about regional autonomy as long as coal companies own much of the land, or while the US Forest Service serves lumber industries instead of protecting our woody carbon sinks.[35] We don't know yet how to transform the consciousness of our region on the scale necessary to stop the hungry ghosts of capitalism, but we can practice, or *play farm*, around the edges. We can develop sensitivity toward each other, toward one another as a collectivity, and toward place as region and territory for the plenitude of diverse beings. We can explore ways of making these practices contagious.

"Stop the Pipeline" letter-writing campaign. Understory Center Kitchen for Subsistence Research, Carbondale, Illinois, circa 2017. Image courtesy of Sarah Lewison.

The Subsistence Kitchen eased lives in small ways, producing new relationships for people between humans and the beyond-human, and offered a dance step—a glimpse of place as life. We exchanged experiences across differences and learned each other's concerns in a time when the resources that sustain are being withdrawn faster than ever. We reactivated customs of sharing resources, food, and time, which, for some people, had been suppressed or never experienced. Here, we could acknowledge and understand specific ways that oppression is locked into the built environment, and how the energies of the human *within* environment can be released. It is in this sense that I began to imagine the Soft Anthropocene as a way to characterize the psychic and emotional injuries to humans and other life forms that occur as a result of Anthropocene techne and the disconnection of humans from the natural world. This is the unseen bottom of the iceberg.

The Subsistence Kitchen hosted conversations about things like isolation, childcare needs, neighborhood solar and internet networks, and the lack of essential skills among people, such as cooking. The socially isolated experiences of so many begin, under the lens of harm reduction, to look like a public health issue even before the pandemic. Enlisting harm reduction principles might entail first acknowledging the isolation people experience and then finding ways to fill gaps in social services that address psychological dissociation. As a beginning, the Understory Center Kitchen for Subsistence Research opened a portal for acknowledgement, cooperation, and reconnection.

What other figures or tools might reduce the malaise of these disassociations and disconnects? Although restoring the integrity of an ecosystem and devising ways for humans to contribute to that is foundational, there are many layers of human activity that divorce humans from place that might be investigated and reconnected. We live in places that are so fragmented that perhaps forging new connections between life and place can start by following the threads of



Saundi McCain-Kloeckener leads the ceremony for the Free Soil Party. Image courtesy of Wago Kreider.

the anthropocenic practices that first interrupted life-place connections.

Whilst pondering the multidimensional scales of these complexities, I encountered *Free Soil*, a project presented in St Louis by artist jackie sumell and curator Risa Puleo.[36] A pamphlet describes it as a "three-part material intervention in conversation with three moments in the city's history."[37] The project asks us to imagine the city's initial construction, from clay taken from the ground to forming and firing the clay to make bricks for houses. A map marks the quarries where clay was removed and acknowledges the low-paid or enslaved quarry and kiln workers. By the 1970s, legions of buildings made with these bricks sat dilapidated owing to redlining policies that denied their black inhabitants sufficient money for rehabilitation. As the houses fell apart, the bricks were purloined and sold downriver for neo-plantation-style new construction in Louisiana. For *Free Soil*, sumell, who dedicates her practice to the abolition of prison, retrieves bricks from New Orleans, Louisiana, returning them to St. Louis, Missouri. She invites people to smash them back into dust so they may be "rematriated into the soil" from where they first came.[38] A planting mix was made with the brick dust, sand, soil, and wildflower seeds gathered from the ancient mounds of the early Mississippian people. The seeds will grow out into flowers favored by wild bees for pollination.

Jessica Allee is breaking bricks to rematriate the soil at the Free Soil Party hosted by Counterpublic in St. Louis, Missouri, 2023. Image courtesy of Sarah Lewison.

sumell's reinhabitory project relates to harm reduction principles through the acknowledgement of harm and the initiation of a reconciliation or reparative process. It begins with recognizing and linking the destructive acts toward environment and people over time that includes the extraction of clay, the peonage of workers, and the destruction of housing. sumell and Puleo trace this damage for others to see and participate in acts of repair and connective restoration, both physical and symbolic, by returning the bricks to a soil medium for new life. Mapping out complexities of damage makes openings for incremental steps and encounters, much as Berg describes in *Figures of Regulation*. Bioregional indicators are always present in our research about place in the Mississippi River Open School; they share a forensic impulse to track human interventions in the land, carrying the question of what can come next. Bioregional principles can serve as a guide both to inoculate against technologies that sever us even further from natural systems and to move us from economics to "ecologics."

Even though we find our contemporary selves mired in the time of the Anthropocene, there have always been pathways toward reconnection with the natural world. As I reach an end, I feel moved to note the resonances between bioregionalist concepts such as Figures of Regulation, and even Berg's early writing about the commodification of life, that are present in sources I've just mentioned in passing. Toward the end of her essay called "The Gift of Strawberries," Robin Wall Kimmerer acknowledges the challenge of acquiring the self-restraint to wait for berries to ripen to sweetness rather than rushing to eat unripe white ones. It occurs to me that our haste to eat the sour berries is the Soft Anthropocene at work in our consciousness. Kimmerer writes, "Now I am old, and I know that transformation is slow. The commodity economy has been here on Turtle Island for four hundred years, eating up the white strawberries and everything else. But people have grown weary of the sour taste in their mouths."[39] We can hope that Kimmerer is right, but in these passages, she also summarizes our ambivalences and the difficulty of changing. Humans are not simple and addictions are, by their very nature, intractable. Treating addiction requires incremental steps, repetition, and a great deal of forgiveness.

In this essay addressing the Anthropocene through harm reduction practices and a set of poetic and symbolic concepts drawn from bioregionalism, I've drawn together fields and concepts that might seem to jump between subjects or to lean on suppositions about the human consciousness. It is my sense that it is necessary to include poetry, contradiction, and leaps of understanding in order to discover the forms of imagination that make it possible to set such a difficult task as transformation in motion. This is a trying time, one when our capacities to care for our human selves and our beyond-human kin within the context of place are terribly stretched. This makes it even more important that we do not disconnect from the matrix of the earth and of human fellowship. Bioregionalist philosophies opened paths of imagination through social critique and creative practices that addressed this kind of alienation, and it is our turn to carry them forward. As we learned from Jim Rock's ceremony of reinhabitation at the start of this essay, we must declare our affinities out loud and bring them into a shared space with other humans. We must seek community with those who are not human and who have occupied spaces upon the earth for much longer than we humans have. To conjure harm reduction as a path for ecological healing in the human social terrain of the Anthropocene is to acknowledge there is no easy route for finding coexistence within the planetary biosphere. It is also to acknowledge there is no other option than to step, swim, and crawl, humans and beyond-humans alike, into an unpredictable journey toward bioregional belonging.

Footnotes

[1] Jim Rock, "Sky Watchers, Earth Watchers, and Guardians of the Former and Future Garden," *Open Rivers: Rethinking Water, Place & Community,* no. 17 (2020), https://openrivers.lib.umn.edu/article/sky-watchers-earth-watchers-guardians/.

[2] For introductions to bioregionalism, see Phil Lane, Jr.'s recent blog posting, "The Emergence of the Bioregional Movement: Remapping Mother Earth as Bioregions," Bioregional Earth, January 13, 2025, https://www.bioregionalearth.org/blog/bioregional-movement; or, Kirkpatrick Sale, *Dwellers in the Earth: The Bioregional Vision* (Random House, 1985); or Peter Berg and Raymond Dasmann, "Reinhabiting California," in *The Biosphere and the Bioregion*, ed. Cheryll Glotfelty and Eve Quesnel (Routledge, 2014).

[3] G. Alan Marlatt, "Harm Reduction: Come as You Are," *Addictive Behaviors* 21, no. 6, (1996): 779–788, https://openlab.citytech.cuny.edu/nehhealth2013/files/2013/11/G-Alan-Marlatt-Harm-Reduction-Come-As-You-Are.pdf.

[4] "Harm Reduction Movement," National Harm Reduction Coalition, accessed December 1, 2024, https://harmreduction.org/movement/evolution/.

[5] Discussion of bioregionalism and spirituality in Bron Taylor, *Encyclopedia of Religion and Nature* (Continuum, 2005), http://religionandnature.com/ern/sample/Taylor%2CBron–Snyder.pdf.

[6] Peter Berg, "Bioregionalism: An Introduction (2002)," Planet Drum Foundation, 2002, https://planetdrum.org/bioregionalism-an-introduction/.

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About the Author

Sarah Lewison is an artist and writer who looks for transversal perspectives of ecological relation and social kinship. Her participatory and installation works on land use, extraction, care, and commoning include public readings, installations, tours, films, and hearings that invite participants to imagine other ways of organizing society. Through durational projects like the Center for Subsistence Research, a platform for quotidian practices of care and repair, her work joins play, labor, living forms, and community formation to attend to materialities of place, justice, and processes of relationship.

FEATURE

MOVING SPIRITS THROUGH WATER TOGETHER

By Stephanie Lindquist

frozen

On mornings when it is 17 degrees below zero Fahrenheit, it is hard to crawl out from my warm sheets. I see the frost on the window panes, and I feel the cold draft radiate from my home's walls. The water in my backyard chicken coop is undoubtedly freezing. If the water is not frozen solid yet and the chickens are desperate, they will peck through the slushy top layer for a few precious sips before it hardens entirely. If I don't tend to them soon, I will hear them clucking. Or worse, I risk their health and production of fresh eggs. If I don't bundle up before going out, my body will freeze and lose sensation. If I don't weatherproof the chicken coop, they will suffer. Numbness to the elements may be a protective mechanism in the short run, but in the long run it leads to death.

The Mississippi River at night near Sunshine, Louisiana, with a faint glow from distant industrial lights reflecting on the water. Image courtesy of Stephanie Lindquist.

And so I get up, get dressed, and start moving to take care of them and me. My chickens keep me grounded in a daily rhythm of feeding them treats of mealworms, kitchen scraps, and their own egg shells, and, most importantly, changing their water.

It is even more painful to tune in to what is going on around us when the news is hard to weather and we lack any protective gear. We are sensitive creatures after all. I wonder how to confront these daily traumas. Listening to current news of the U.S. executive branch's relentless dismantling of our society's broad social supports for the enrichment of a few, I often feel incapacitated and numb with depression, frozen by the feeling that I can't change anything around me, and sometimes even reluctant to feel my own sorrow. While freezing, like running or fighting, may be an instinctive response, if endured for too long it removes my agency.

I fear that my numbness may be a dissociation not only with current events, but with the natural world, the universe to which I belong and am a small part. So how do I keep feeling and moving while confronting my own and others' grief in hard times? How might I ground myself in something unchanging or at least seasonal? I'm not seeking a quick high, fix, or distraction, but something that satiates my deep desire for connection, beauty, and meaning while also acknowledging the world's pain.

When I first moved to Minnesota, the frozen lakes in the winter looked impenetrable and dead to me. But deep below, the water is still moving with life. The first time I walked onto a frozen lake with my nephew, we were scared of the sound that ice makes when it is being made. We dropped and rolled off the ice as quickly as possible. Now, dressed in layers on warmer winter days after a hard freeze, I have learned to trust the lake to be my ground. This, only after manually drilling 2 feet deep holes through the ice to catch black crappies lurking 30 feet below. Even the frozen lakes support and connect me to the world.

Thousands of miles southwest of this water that reflects the clouds (Mni Sota Makoce) is a sea believed to be dead by some, cut off from restorative sources with nowhere to flow. And while many are incapacitated by the toxic sediments discharged there and widely dispersed in the air, others continue to flock to its shores made of bird and fish bones.

flowing

Three years ago, I visited the Salton Sea in Southern California. While driving around the sea I was struck by dystopian scenes of spray-painted furniture amongst collapsed structures being reclaimed by the desert sand. Over hundreds of thousands of years this body of water has intermittently been filled by the Colorado River, remained for many years, then evaporated into the desert. Before this place was settled by Europeans, the much larger, biologically vibrant Ancient Lake Cahuilla and its lava domes thrived; last filled around 1400 and drying in the late 1500s, the lake held and still holds great significance to the Cahuilla people.[1] In less than two centuries, the river was dammed and canalled, cutting off the sea's replenishing flow. In the 1950s and 1960s, the remaining Salton Sea briefly became a tourist destination for Hollywood celebrities. The rich soil to the south in the Salton Trough was inundated with massive farms sending their salty discharge to the sea. Despite this causing massive die-offs of birds, whose finely ground bones you walk upon along the southern beach, the Salton Sea remains a critical stop in bird migration. And with little water to replenish this place, the dusty dry seabed

is picked up by wind storms, becoming a far reaching asthma attack.[2]

In the face of windstorms that spread dangerous pollutants for miles, I was surprised to watch people visit, camp, and walk along the Salton Sea's shores, a place where some scientists recommend wearing an N95 mask. I was perplexed and impressed. I had never seen anything like this. Whether they were tourists from far away or local Cahuilla people celebrating this sacred site, to my eyes, they confronted this sacrificial zone with love.

The people there reminded me of Anishinaabe nibi (water) walkers closer to my present home in the Midwest, people like Nokomis Josephine Mandamin or Sharon Day who physically confront man-made trauma on the land and water by walking immense distances around the Great Lakes and along the full length of the Mississippi River. Over a Zoom call, Day told me that while they walk with prayer and ceremony in each footstep to heal the water, they are in turn being healed by the water.

Two years ago in the fall, I had the opportunity to sail down the Mississippi River with a group of college students, professors, activists, and artists on Augsburg's River Semester organized by Joe Underhill. I was excited and also full of

Abandoned buildings covered in graffiti at Bombay Beach near the Salton Sea. Image courtesy of Stephanie Lindquist.

trepidation to face this riverscape and travel to the south for the first time as a person of color. There would be no reasonable way for me to hide or close my eyes from the pain humans have carved along the river's banks, or dumped and trafficked up and down its currents. I joined the crew in Greenville, Mississippi for the last 8 weeks of their journey. I quickly integrated into their daily rhythms of early rising, group discussion, watching the wind in our sails while singing shanties, carrying supplies off the boats for the evening, setting up tents, collecting firewood, rinsing our dishes with the river water and sand, and generally checking in with one another. On sunny layovers I would watch the students swim in the river. The further south we meandered, the more overwhelmed I felt. The entirety of the river was surrounded by old plantations now converted to industry, prisons, or wedding rentals except for the Whitney Plantation, the only site dedicated to retelling its history. One afternoon we happened to camp across from the Louisiana State Penitentiary known for holding three wrongfully accused Black Panther Party members—Robert King, Albert Woodfox, and Herman Wallace, known as the Angola 3—in solitary confinement for 29 to 44 years each. [3] The next day, some of us visited the prison's museum, which had no mention of these three men who organized prisoners across racial lines

A desolate landscape near the Salton Sea, with scattered vehicles and sparse vegetation under a cloudy sky. Image courtesy of Stephanie Lindquist.

to advocate for prison reform to improve the abysmal conditions in what was known as "The Last Slave Plantation."[4] Instead we looked upon displays of famous escapes, prisoners' tradition of handmade coffins for those on death row, photographs from the longest running prison rodeo to entertain locals, and merchandise including reused license plates and hot sauce for sale made by prisoners. Nearing Baton Rouge, the start of Louisiana's chemical corridor that extends south to New Orleans and is also known as cancer alley to some, we were told to no longer swim in the water.[5] We even stopped using the river water to wash our dishes. Confronted by this tragic landscape of refineries, smokestacks, discharge sites, old plantations, and prisons, I lost all feeling.

Not knowing any rituals to ground me, I found solace in coming together as a group in ceremony through weekly water blessings, a format we adopted from Day. When alone, I meandered the batture—this land of seasonal flux between the river and the levee, where the water beats the land (stemming from the French word battre). There I greeted the plants—invasive, native, and naturalized alike. There was still unexpected beauty to be cherished as we drifted and sailed in two homemade catamarans between informal campsites. Thankfully, the river carefully carried

Tents set up under an abandoned structure at Lincoln Beach, Louisiana, during a rainy day. Image courtesy of Stephanie Lindquist.

our bodies safely to the Gulf. And the river connected us with a wide swath of people—activists, gardeners, educators, naturalists, residents, fishermen, partygoers, even the prisoners laboring on tugs who were looking to trade white bread for oreos. Despite all of the wounds settlers have inflicted upon this place in recent history, water continues to nurture us spiritually and physically.

Sometimes these lessons of facing pain with love are years and months in the making from California to Louisiana, and sometimes they are sitting right in front of you in your backyard and experienced in the intimacy of an epsom salt bath. I nearly panicked one evening this winter when I came home to find one of my chickens was egg-bound. Who knows how long poor Chanteclair was standing on the roost with an egg stuck halfway out of her. Watching the other chickens begin to peck at her, I became terribly worried that the egg might break in her and possibly cause an infection. Unsure what to do, I called my partner, then some local vets, and eventually consulted Google. That night, we prepared two warm, 30-minute epsom salt baths to put Chanteclair in. As we held her bottom calmly in the water, we massaged her belly downwards, and I sang to her while her muscles began to relax. After about 3 hours, she finally released the egg. It was soft, a mark of calcium deficiency. The next night we performed the same warm water treatment to help her pass another soft egg. For the next few days we continued to bathe her bottom with a little soap to keep her clean. After acknowledging her pain and the healing power of water, I am glad to report she has safely rejoined the flock and is healthy and laying hard eggs again.

All thanks to water, the great connector, cleaning and caressing our bodies and souls—the chicken's, mine, and everyone on that river, sea, and lake.

steamy

I'll never forget listening to Nick Tilsen, founder of the NDN Collective speak at the 2022 National Tribal and Indigenous Climate Conference.[6] He spoke about the importance of ritual, and not just that of his ancestors. He reflected that while his ancestors could predict future events, they never knew what it was like to actually live today like us. Because of that truth, it is imperative for all people today to not only continue their traditions, but also invent new rituals born from the present reality to create the future they want. I can't say that I have ever been taught any rituals to manifest a joyful collective future, but I felt inspired by this invitation to create new rituals for myself that might nourish my joyful future with others. At the time I didn't know what they might be.

Late that summer, I gained an appreciation for how warriors recoup their strength between fights, individually and together, at the former Welcome Water Protector Center (WWPC) in Palisade, Minnesota. Upon meeting this group of activists and water protectors for the first time, I could feel, see, and hear their exhaustion even months after their battle against Enbridge ended in the rerouting of the Line 3 oil pipeline from Alberta, Canada to Wisconsin, passing under rivers like the Mississippi. Given Enbridge's culpability for the largest inland oil spill in U.S. history in 1991, which was along Line 3, this group of water protectors, along with hundreds of other people, had organized to try to prevent this from happening again.[7] The weekend I visited, WWPC was hosting a cultural camp led by Anishinaabe cultural specialist Jim Northrup and his brother, Jeff. The two of them instructed 22 of us in building and participating in a sweat lodge. For a few hours after sunset, we sat in a dark, canvas-covered lodge supported by Ironwood saplings, sweating and singing together. Our firekeeper carefully brought in red-hot stones that Jeff then sprinkled with a special decoction

he prepared. When we finally reemerged into the light of the night, it felt like a rebirth into the world! This was a beautiful experience that promoted the spiritual, mental, emotional, and physical health of all of its participants, and it used a minimal amount of water.

As I later learned from Mikkel Aaland's book *Sweat*, sweating together is an ancient activity from all over the world that maintains public health.[8] This ritual has taken on different meanings for different people and cultures. For some, it may simply be a water efficient bath; for others, it may have social, spiritual, and medicinal significance. On a biological level, when we sweat our bodies remove toxins through our sweat glands that we have collected in our trashed environments.[9]

Deeply inspired by my first sweat at WWPC, I, too, wanted to practice both pleasurable and sustainable ways of interacting with water. After this experience, and still inspired by Tilsen's call to ritual, I decided to host an experimental herbal sauna series that honored water and considered how participants might take their health into their own hands. I had started studying herbalism under Erica Fargione at Minneapolis Community and Technical College, so I was very intentional about the infusions, decoctions, lotions, and scrubs I prepared for these gatherings. My partner learned where to find clay from her ceramics professor and brought me to the banks of the Mississippi River to gather some. Under the white sand, she touched a vein of clay. We each gave thanks for the clay which would become a small soap dish shaped like the river's current

Ingredients and tools for the first herbal sauna, including sage, apples, and cedar tips, arranged for a community workshop in St. Paul, Minnesota. Image courtesy of Stephanie Lindquist.

and a scrub for our bodies in the sauna. We each then filled a small container with the clay. The first sauna I hosted was behind an auto shop in St. Paul, Minnesota and involved mostly artists. Later I hosted students, teachers, nonprofit workers, activists, community members on the northside of Minneapolis, and even environmental studies classes with their instructors, all in mobile, wood-burning saunas that I rented with the support of Second Shift Studio Space and Macalester College.

Collective rituals like this, ones that promote profound feeling and mindfulness, are powerful tools. I would argue that they not only benefit our health as a society, but also slow us down and tune our spirits to the world around us—cooling our ravenous urges to selfishly extract, hoard, or steal without considering our environment and other living beings. These rituals are diverse, as are people. They may be as personal as a prayer or poem, as sensual as a sweat or sauna, as expansive as traditional plant knowledge diligently passed through the generations, or as simple as intentional breathing, body movements, and drinking tea (an act of inviting plants to heal different parts of our body and spirit). For me, these rituals may be playing cards and listening to jazz with my partner while sitting on a frozen lake waiting for the crappies to bite 30 feet below the ice, changing the chicken's water, or collecting their eggs to boil for sandwiches. What each of these practices has in common is a deepening of our internal feelings and our external awareness. This tunes us to the world, empowers us to act with mutual respect, and fosters balance around us. In her essay *Uses of the Erotic: The Erotic as Power*, Audre Lorde says that "once we begin to feel deeply all of the aspects of our lives, we begin to demand from ourselves and from all our life's pursuits that they feel in accordance with the joy we know ourselves to be capable of."[10] When we share these experiences and feelings together, Lorde tells us that these activities may lead us to genuine change.

Discovering our collective fulfillment—what genuinely satisfies the needs of you, me, the water, the land, and everyone that lives there—will lead us to our strongest political solutions. Imagine how regularly slowing down together with others, sharing fresh eggs, a sauna, tea, a swim, walk, or paddle along the river may begin to shift and align our values together. Imagine how collective rituals can then attune and inspire us to move together toward a common goal. Discovering our collective fulfillment takes time together and respect for each other's limits. Overharvesting or extracting each others' gifts without permission or thanks isn't mutually pleasurable. There is beauty in recognizing the natural limits of what each of us can offer. There is honor in recognizing the natural laws of interdependence and our delicate position within the world.[11] Whether or not our institutions can successfully move towards recognizing these laws, I believe that individually and collectively we can shift our own cultures. We can be in the flow. Authentic collective practices of care, inherently beautiful and pleasurable, can slowly build a passionate consensus. Our shared values will support our ability to commit over the long term to sustainable solutions. Our collective depth of feeling is reparative for us and all those around us.

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Stephanie Lindquist is an artist and educator, who is originally from Los Angeles and transplanted to Minnesota by way of New York City. Her work is inspired by our relationships to the natural world and often uses materials like soil, Cottonwood seeds, and medicinal herbs.

FEATURE

POKELORE: HOW A COMMON WEED LEADS US TO KINSHIP WITH OUR MID-RIVER LANDSCAPE

By Lynn Peemoeller

"A weed is a plant growing in a place where we don't want it, and I have seldom seen a poke plant that I wanted removed." Euell Gibbons, Stalking the Wild Asparagus[1]

It's certainly not the primary defining characteristic of St. Louis, Missouri, nor is it the secondary, but if you are looking, it's hard to miss. Phytolaccaceae, otherwise known as the pokeweed family of plants, runs wild in this part of the middle waters just south of the confluence of the Missouri and Mississippi Rivers. To some who look through empty spaces, these weeds are just the backdrop to a prosaic landscape here in the river city. But for others, who are drawn to the botanical lives that share our ruderal spaces, poke is a beacon of kinship.[2]

Detail image of poke in the space between the levee and the river. Image courtesy of Jennifer Colten.

Poke in the space between the levee and the river. Image courtesy of Jennifer Colten.

Weeds, often considered the outlaws of the plant family, are widely maligned today; the deep-rooted desire to conquer and eradicate is culturally pervasive. The idea of a weed is a human construct; there is no biological equivalent. Ralph Waldo Emerson formulated the famous adage "What is a weed? A plant whose virtues have not yet been discovered"—an optimistic view that reflects how humans have been assigning a hierarchy of value to plants for thousands of years and coaxing them into productive relationships with humans by selective breeding.[3] Yet the cultural emphasis on weeds as "a plant in the wrong place," eliminates the ecological attributes of plants and is rife with human bias on what qualities are wanted and unwanted.

What we pay attention to grows, and ironically, so does the idea of a weed. We can't get rid of weeds. They follow us everywhere in response to human footprints, they compete for ecological resources with crops, and they thrive in disturbed areas. *Plantago major*, known as broadleaf plantain, was named "white man's footsteps" because it grew widely around European settlements in North America. Today it is commonly seen in cracks of sidewalks. Weeds—aggressive, invasive, toxic, ugly, useless, unloved saboteurs—are the plants that haven't quite made it as chosen human companions, and yet, we're stuck with them. The kindest thing we might be able to say is that weeds are simply plants in the wrong place. But what is the right place for a weed? Is there such a thing?

One could say that poke is a paradox. On the one hand it embodies the spontaneous vegetative ethos of a weed, and on the other hand, unlike Emerson's limited view, we have proof that it is a plant whose virtues *have* historically been explored. According to Jonathan Sauer, botanist and plant geographer who extensively researched *Phytolacca americana* (the scientific name for poke also known as pokeweed), the plant's native area includes North America, specifically southeastern Canada and the entire eastern half of the United States, and a small area in the northeast of Mexico.[4] Poke acts in ways that are often characterized as weed-like, even though it is a native plant. Prehuman evidence shows that poke aggressively colonized streambanks and disturbed ground and then gave way to plant (or rather, ecological) succession in due course. Human activity in the landscape creates disturbances in the ground that lead to increased poke colonization. Grazing animals left it alone and so its spread was vigorous. Today, it seems to occupy a niche, much more comfortable inhabiting disturbed areas and thriving in ditches, railroad embankments, floodplains, roadsides, fence rows, hedges, old fields, old orchards, gardens, pastures, dumps, clearings, and spaces of general human habitation. "Poke's success as a weed of the cultural landscape appears to be based, not on selective modification during human times, but on previous adaptation to disturbed habitats."[5] Although poke has coexisted with humans in North America and has spread to other continents, it has only had moderate success as a cultivated plant and has never quite reached full integration into agricultural practice.

Botanist and agronomist Jack R. Harlan explains, "one man's weed is another man's crop and vice versa. . . . Plants drift in and out of cultivation, are domesticated, abandoned, enobled, and may degenerate again: they escape, become naturalized, migrate, retreat, build hybrid swarms, and evolve new races."[6] Weeds can tell us a lot about ourselves and our relationship with the land—what we see and don't see, what we value and what we don't—and how we currently completely outsource our food procurement to a select few farmers and increasingly industrialized food systems. Is it any wonder that the term plant blindness—the ability of humans to ignore the plants around us—has become a common and widespread condition?

Yet, there are people who maintain botanical knowledge and relations with the land. Today, poke maintains a robust vernacular identity in the United States. The name itself, poke, is derived from the Virginia Indian or Algonquin

Phytolacca decandra (American Pokeweed) (1806). Image via "The Botanical Magazine or Flower Garden Displayed." by Francis Sansom. Original from The Cleveland Museum of Art.

word *pokan*, referring to plants used for red or yellow dye. Other names of Indigenous origin include scoke, cunicum, coakum, and cokan. More common names referring to the red stem and berries include redweed, redberry, inkberry, pigeonberry, crow berry, shoe button plant, bear's grape, red nightshade, and American nightshade.[7] But the most common name throughout the United States vernacular is poke sallet also spelled sallit, salat, and salad, and it is colloquially known as "poor man's greens." Poke leaves and stems are never eaten raw and are cooked as a potherb. The leaves and stems need to be carefully prepared through multiple rounds of boiling and rinsing to remove toxins. This knowledge has been carefully passed down through countless generations of people who depended on the land for survival. Jack Harlan, in his influential work *Crops and Man*, examines the deep connection between crops and human civilization, highlighting the botanical expertise of hunter-gatherer societies.[8] He addresses their remarkable understanding of how to use plants that are otherwise poisonous, stating, "detoxification is required for a considerable number of plants used by the North American Indians. . . . Gatherers knew how to make plants safe."[9]

Only in the last 10,000 years have humans begun to domesticate plants and animals. All human life before that, in a period known as the Golden Age, subsisted using hunter-gatherer strategies. At the time of European contact in the Americas, while many Indigenous societies were hunter-gatherers, there were others that were agriculturally based.[10] Since then, the practice has been declining in relation to the development and dominance of selectively breeding plants and animals for food. It was only after agricultural systems had been adopted that weeds became more conspicuous. Agrarian adopters bore prejudice against hunter-gatherers and their practices. The stereotype of hunter-gatherers was that they were lazy people always on the verge of starvation and did not apply their time and energy to the pursuit of cultivation.[11] The 1966 symposium *Man the Hunter,* held at the University of Chicago was a groundbreaking exploration of ethnographic research on hunter-gatherers, which has led to hundreds of subsequent research papers and critiques that have expanded the understanding of the so called Golden Age. Yet the question remains: why do people who have access to agricultural knowledge systems still continue to forage?

In recent times, poke has largely been associated with hardscrabble survival in the American South, and it has a strong connection to Indigenous American and African American foodways that were also adopted by white settlers. Folk stories of poke parallel those of human subsistence, land dispossession, and migration in North America. As one of the first spring greens, it served to provide relief from a poor winter diet. Those who knew the landscape and followed the rivers found what they could use to survive. It wasn't the first choice for eating, but if it was the only plant available, it was supper.[12]

The legendary forager Euell Gibbons grew up in the Dust Bowl era and once subsisted exclusively on wild foods for five consecutive years. In *Stalking the Wild Asparagus,* which Gibbons wrote in 1962, he calls poke "a wild potherb par excellence."[13] He writes that poke (at that time)

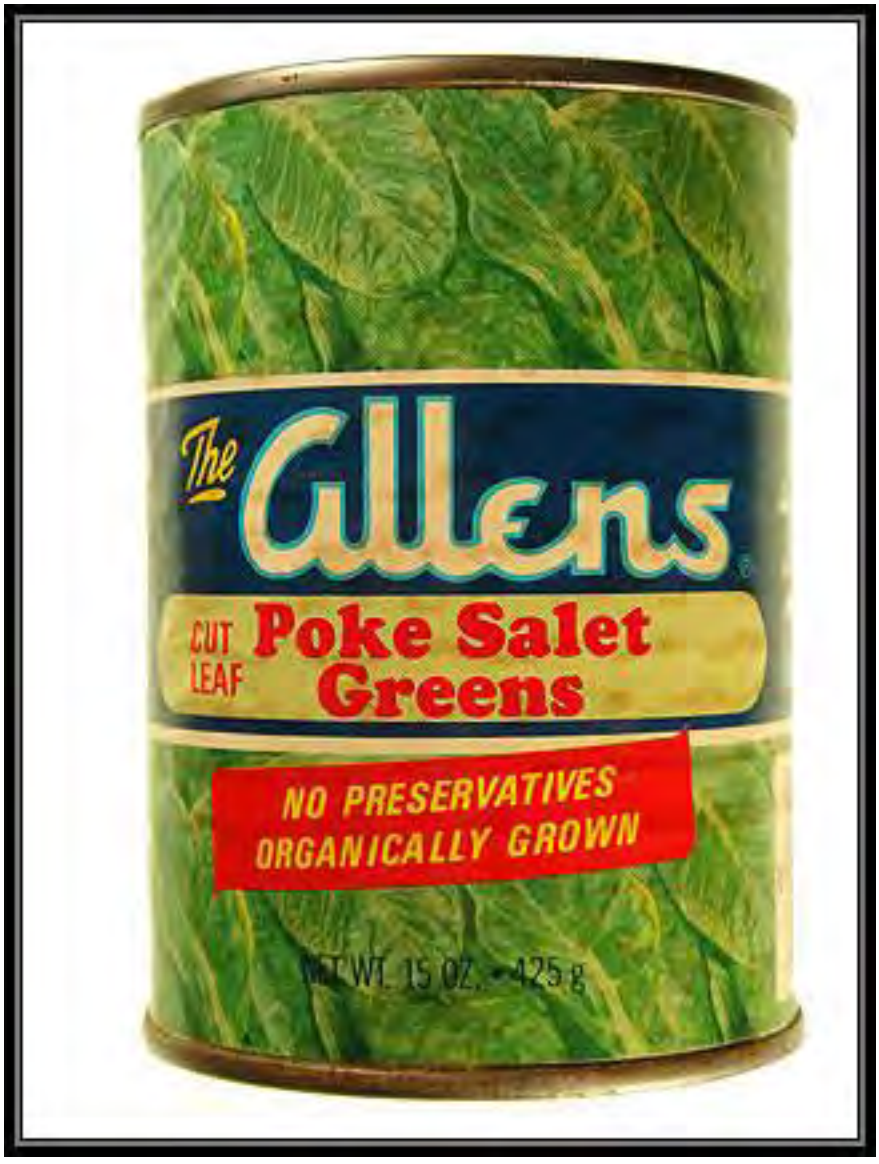
> is probably the best known and most widely used wild vegetable in America. . . it is a favorite green vegetable with many country people and the tender young sprouts, gathered from wild plant often appear in vegetable markets especially in the South. . . . Settlers carried seeds back to Europe and the plant spread as a cultivated plant throughout the southern Europe and North Africa.[14]

It's hard believe that not so long ago poke occupied a quasi-cultivated status as a market vegetable not so different from wild gathered

watercress, lamb's quarters, or purslane that are sometimes seen at farmers markets today.

In fact, poke almost reached the mainstream in the mid-twentieth century. According to the University of Arkansas Division of Agriculture, Research and Extension, in the 1950s "Dr. John Bowers, a former colleague in the horticulture department, made efforts to turn pokeweed into a legitimate 'vegetable' presumably through breeding efforts that never quite took off."[15] However, two vegetable processing plants—Bush Brothers of Tennessee and Allen of Siloam Springs, Arkansas—produced canned poke salat that were distributed in supermarkets widely throughout the South. Allen's was also famous for the iconic Popeye (canned) spinach. Unlike spinach, which was cultivated by farmers and sold to the cannery, the poke was wild harvested and sold to the cannery. According to John Williams, the canning supervisor at Allen Canning,

> as the generation of people who grew knowing poke sallet began to pass, the demand for the item dried up. Allen Canning packed its last batch of poke sallet greens in the spring of 2000. . . . The decision to stop



Allens canned poke.

> processing poke was primarily because of the difficulty of finding people interested in picking poke and bringing it to our buying locations. Also, poke processing was never a significant item in the multimillion-dollar enterprise, so it just became more bother than it was worth.[16]

The loss of canned poke is felt in the twenty-first century as botanical and culinary knowledge slip away through generations. Canned poke represented a cultural bridge between generations who carried relationships with the landscape and the shift to upwardly mobile mid-century lifestyles which traded plant relations for the convenience of a safely prepared, shelf-stabilized foodstuff.

The fact that it had nutritional value and regional cultural identity to boot was a bonus. With a canned product, you could have your poke in minutes without all the effort to identify, harvest, and prepare it. You didn't even have to call mama or grandma to get the recipe. Yet unlike other modern food conveniences of the twentieth century, like Spam, the demand for canned poke faded. It could never surpass the stigma of being attached to a poor Southern identity.

Today, the suggestion of eating poke strikes a chord of fear among those who have not learned from tradition and are not confident about identifying or preparing it. Some simply see it as too much trouble. Many wild plant guides cite a

Harvesting poke. Image courtesy of Jennifer Colten.

responsible warning with poke that root, seeds, and mature stems and leaves are dangerous: "Be very careful not to include part of the root when collecting the shoots, and peel or discard any shoots tinged with red."[17] Its edibility can be confusing territory to navigate for the uninitiated. A wild foods blog, *Eat the Weeds*, explains how to approach the harvest:

> When I go collecting poke weed, I take a ruler with me. It's called my hand. From the tip of my middle finger to my wrist is about six inches. If the shoot is six inches or under, into the pot it will go, taller I leave it be. The second rule is, pick nothing with red stems, but that's not so hard and fast because even two-inch shoots can sometimes be pink to red. And when I gather it, I don't pull it up, I cut it to avoid the possibility of getting any root. And do not handle raw poke weed if you have any cuts or abrasion on your hands.[18]

In Michelle Lee's comprehensive collection of traditional African American folk healing practices, *Working the Roots*, she calls poke

> the Jedi of the plant world. Why? Because it has a wide range of beneficial applications from use as food, medicine, ink, dye, paint and as a solar absorbent (to generate solar power). And like the Jedi, poke has both a light side and a dark side. As a medicine, it is a potent and concentrated substance that, like the light side of "the Force", can effect a powerful healing. However, like the dark side of "the Force," if used incorrectly, it can harm, even kill.[19]

The toxins in pokeweed range from deadly to mild. They are usually concentrated in the roots, berries, and seeds and include an alkaloid (phytolaccine), a resin (phytolaccatoxin), and a saponin (phytolaccigenin).[20] Medicinally and culturally, the roots and berries of the plant have several applications. It's emetic, which means that its toxic qualities can cause vomiting if ingested. Many applications are topical in the form of tincture or salve. The berries contain abundant red pigment (anthocyanin) which has been used as dye on fabric, on paper, and in foods. Some recipes use poke berries to make wine or color foods. The seeds are completely toxic and should be avoided. Traditional healers like Lee who worked with poke knew that using any part of the poke plant for medicine should be done with caution.

Alexis Nikole Nelson, known as the Black Forager, has posted about poke on TikTok several times. "Poison or soul food?" she asks, "This plant is both!"[21] What a good reminder that we should hold nonbinary thinking as a possibility. Yes, two things can be true. We don't have to live in worlds of absolutes. She encourages people to learn the history of eating poke because the knowledge and tradition of how to prepare it correctly is passed down through generations. "If people don't know how to do it, that knowledge will be lost," she cautions.[22] Once the old ways are forgotten, how quickly a culture can dissolve if we don't practice it into being.

A post on Facebook in the spring of 2021 shared a photo from the Library of Congress of an African American woman preparing poke in 1939.[23] There were over 7,000 likes and more than 1,200 comments such as: "It is a very Southern thing. I have aunts and great aunts that share stories about how to eat it;" and "I still eat it if I can find it. It's not hard to fix. You need to drain the water from it at least 3 times." "I'm 63 and learned from my Grandmother. We ate it every Spring." "My parents ate it a lot in the depression. It was an equal opportunity food." "Love poke and can spot it anywhere!! Boil three times changing the water, add fat back green onions, with a bowl of pintos and cornbread. . . . Man, I miss my Mom and Gma!! Good eatn'." These comments not only reflect nostalgia but also the value of intergenerational knowledge and some hope that points toward a desire to reclaim these traditions.

Woman preparing "poke-salad" near Marshall, Texas in March 1939 by Russell Lee, 1903-1986.

To this day, there are several parts of the regional south that hold poke festivals: Arab, Alabama; Blanchard, Louisiana; Gainesboro, Tennessee; Harlan, Kentucky celebrating its seventieth anniversary in 2025; and Toccoa, Georgia. The Poke Sallit festival in Toccoa has been led by community historian Larry Gholston for over 30 years, emphasizing black self-reliance. He is quoted in the New York Times saying, "The festival is meant to maintain our heritage. A lot of Black folk will tell you, 'I don't eat that mess, man. It has connotations of poorness and rural.'"[24]

Take for example, the 1968 song "Polk Salad Annie," a slice of Americana written and performed by Tony Joe White (and later Elvis.) It's a swampy rock country ode to the poor Southern lifestyle of presumably white folks in Louisiana: "My folks raised cotton and corn. There were lotsa times when there weren't too much to eat, and I ain't ashamed to admit that we've often whipped up a mess of poke sallet. Tastes alright too—a bit like spinach. . . Poke salad Annie. . . the gators got your Granny."[25] That may have been half a century ago, but the idea of resilience is in high circulation these days.

Upriver from Louisiana, resilience is a subject of study in St. Louis, a city that is no stranger to hardship. A small but dynamic group of mostly female artists, healers, historians, and plant people have been meeting regularly since 2021 as part of the Mid-River Field School. The field school explores synergies of our contemporary landscape on both sides of the river, emphasizing kinship with the nonhuman world and collective deinstitutionalized knowledge building.

Summer poke. Image courtesy of Jennifer Colten.

Thematically, the idea of crossings guides project-based work that is anchored in the practice of how to be in relation with a place that is at odds with itself. Both valued and abandoned, vibrant and suffering, St. Louis is not unlike many other American cities. Yet it straddles American history in particular ways. It has been described as the northernmost southern city and the westernmost eastern city and "the right place for all the wrong reasons" according to George Lipsitz, a Black scholar at the University of California Santa Barbara.[26] It is primarily a river city, and we use that as our guide. The water connects us to relatives both upriver and downriver. We are the middle waters.

It is along the banks of the Mississippi River, the muddy gap of rushing water that divides St. Louis city and its eastern counterpart, East St. Louis, in an area that artist Jennifer Colten calls "the space between the levee and the river" otherwise known as the batture, that the pokeweed grows most majestically.[27] Poke is a subject of field study for our group. Physically, the plant is hard to ignore. Its stature is large, growing 6 to 10 feet tall and like something out of a Dr. Seuss book, the white summer blossoms give way to a dense peduncle or stalk holding a cluster of shiny dark purple berries that are very attractive to birds and irresistible to children's play. Historically, it was noted that "leaves of pokeberry were worn on the lapels of supporters of the first dark-horse candidate for president, James Polk who served from 1845 to 1849 and for whom Polk County is named."[28] Today it is not uncommon for flowers and berries to make their way into wildcrafted bouquets. We can't seem to get this second-rate, toxic plant out of our minds or our landscapes.

Compared with aggressors like kudzu or Japanese knotweed, poke is not an aggressive invasive species. It is more of an opportunist with a perambulatory relationship with the landscape. It moves slowly to stake its claim by power of root and seed. Poke roots are thick, yellow gnarls resembling a giant mandrake. They are deep and strong, keeping the plants rooted in place year after year. It is the berries that are the travelers, attracting birds who eat them untouched by the toxins. If there is a poke plant, it is sure to be there year after year unless it is forcefully removed. All bits of the root need to be carefully combed from the soil. Like a worm, if there are any pieces left, they can easily regenerate. This strong hold in the ground demands high labor relations with humans. Poke is not easily removed once it has become established. Perhaps this is why it has become so unloved. In most highly controlled areas, poke, like other weeds, is eradicated by all means necessary. But St. Louis is just wild enough that poke finds its way to root in place, living side by side with human relations.

As a weed, poke is very successful. Its functionality is based on adaptation. Unlike cultivated plants, weeds thrive in the company of humans in ruderal ways by following our footsteps in the upheaval of the stirred-up human landscape. Plants and people share similar stories. Whether we choose to engage with it or not, it is a human companion plant. Could it live without us? Probably. Would it thrive? It's hard to know. Many hopeful signs of resilience can be found in attention to relational multispecies behaviors. Indigenous knowledge recognizes "a genealogic ancestry that binds humans and non-humans including plants in a web of intertwining kinship connections."[29] Environmental philosopher Matt Hall writes about kinship with plants as a kind of mutuality of being, a reciprocity of being in relation.[30] Perhaps it is because the mature poke meets us at eye level that it draws our attention. On a winter's walk, the dry skeletons of poke stand rigid in the landscape as an inescapable brush-force encounter for those who stray off the pavement. Along river walks, through abandoned lots, or in cobbled alleyways, poke can be seen as markers for wayfinding, as architecture of the cultural landscape. Notice: how does it steer us? Does it bend, point toward, or seed our relationship with the place? More often than not, it points back to us. St. Louis, like many river cities, offers liminal spaces that have stories buried in the

rubble. We are so tied to our humanity that we often forget the significance of our relationship with the nonhuman world, especially those living creatures that are unfortunate enough to dwell in ecosystems that are literally out of our sight. Out of sight, out of mind. But poke has the advantage of being very present in the landscape. In sight, in mind, and in body, it holds memory for us.

Plants can hold memory in the landscape in different ways than people. Another reason for poke's success is its relationship with time. A 1946 study showed that poke seeds buried in 1902 at depths too great for germination gave 80 to 90 percent germination after being unearthed in 1941.[31] The soil holds innumerable seeds underground in seedbanks. Generationally speaking, these seeds have patience built into them, waiting for the serendipity of conditions to activate them—the claw of an excavator, the channel of a flooding river, the slow steady erosion of time. Much of this activation is in relation to human activity. If we continue to look at the world through settler colonial logic, we consume landscapes as a tabula rasa with no historical or ecological underpinnings. How can we escape these cycles?

Perhaps if we view weeds as partners in place more than invaders in space, we can move closer to kinship with our landscape. When we engage in field observations our attention expands to see interspecies worlds that are bigger than us. We can see weeds not necessarily as invaders, but rather the evidence of our legacy on the landscape. They reflect a deep ancestral presence of the lineage of time connected to places. Plants help us locate ourselves, they are rooted to the ground and cannot float so easily off in the river. Yet, when we move, the weeds move with us.

Winter poke. Image courtesy of Jennifer Colten.

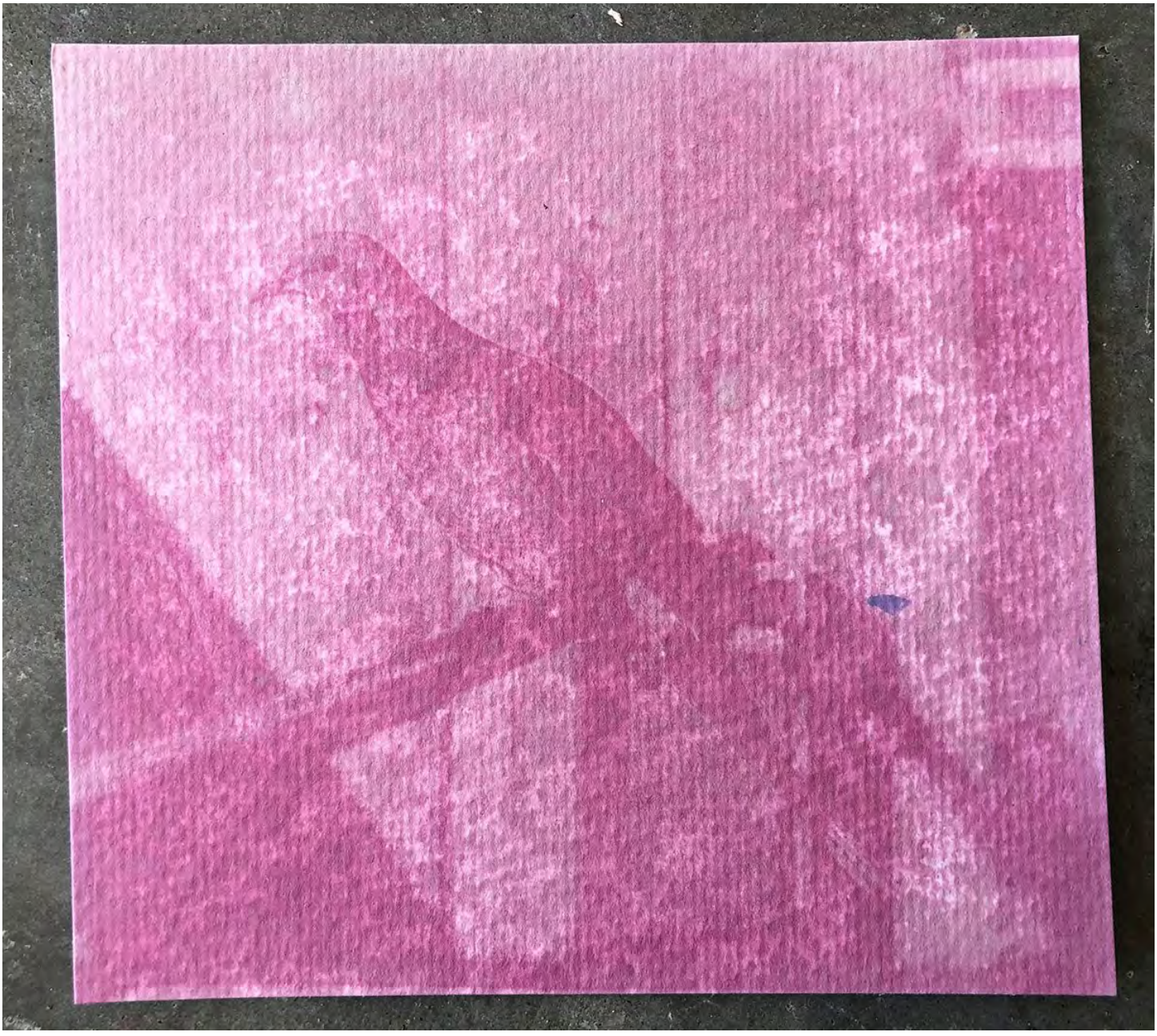
When we control, the weeds are suppressed. When we crumble, the weeds reemerge. We are in relation with them. That is kinship. They respond to our present with ancestral knowledge of resilience and survival. Weeds are artifacts of plant intelligence and embedded memory. If we are able to accept weeds as our plantcestors, they can offer us a way of partnering in place beyond the normative platform of exploitation through which many of us view the land and its resources. Writer and cultural geographer Lucy Lippard seeks historical narratives as they are written in the landscape at the intersection of nature, culture, history, and ideology.[32] From the ground on which we stand comes our place: the local. We share the ground upon which we stand with poke.

The warm weather wakes up new shoots of poke from perennial taproots. This is the best time to collect the tender young greens for eating. Spring activates the life around us. All seasons are charged with memory and emotion for those who carry legacy. In tune with the clockwork of the phenological calendar, we come to expect the cycles by how we see poke. Poke offers itself to these relations in all seasons. The Mid-River Field School asks us to notice how the outer landscape mirrors the inner landscape. How can we see our place for what it is and not what we want it to be? Lippard says that "artists can make the connections visible. They can guide us through the sensuous kinesthetic response to topography. . . . They can expose social agendas that have formed on the land, [and] bring out multiple readings of places."[33] By providing space for encounter, observation, and community, the study of poke becomes a practice of resilience in how we view and represent our relations with the landscape. It gives us a material agent to practice collective learning and unlearning about our place. It offers

Poke-stained hands. Image courtesy of Lynn Peemoeller.

us a lens to look into the past and toward futures. We take these parts to weave narratives of our truths which we present to the world as heterogeneous collective memories.[34] These are the offerings of the Mid-River Field School.

Nimble weeds are most likely to survive the upheaval of time. Nature writer Richard Maeby calls weeds, "a time-biding genetic bank over which our buildings and tinkerings are just an ephemeral carapace."[35] Weeds remind us that the built environment is merely a temporary event. It seems they are saying, "we were here before you and we will be here when you are gone." In our effort to control life, wildness is a quality we have lost touch with. Weeds are embedded with a wild spirit and a reassurance that life goes on. Poke helps us appreciate how we can partner with the wild, how we can see beauty in the greening over of the dereliction of human activity. Poke has always been here. It has so much to teach us. The weeds belong; we are the outlaws.



Anthotype of passenger pigeon using poke ink. Image courtesy of Sarah Lewison.

Footnotes

[1] Euell Gibbons, *Stalking the Wild Asparagus*, (D. McKay Co., 1962), 174.

[2] Ruderal refers to a plant that grows in waste places or requires soil disturbance to become established. From Latin *rudera*, "ruins" or "rubbish," plural of *rudus*, "broken stone." In botanical parlance, a disturbance-adapted species. See Peter Del Tredici, *Wild Urban Plants of the Northeast: A Field Guide* (Cornell University Press, 2020).

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[4] Jonathan D. Sauer, "A Geography of Pokeweed." *Annals of the Missouri Botanical Garden* 39, no. 2 (1952): 113–25, https://doi.org/10.2307/2394507; Jonathan Deininger Sauer, "Poke (Phytolacca americana L.): Biology and Geography of a Weed," (master's thesis, Washington University, 1948).

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[8] Harlan, *Crops & Man*.

[9] Harlan, *Crops & Man*, 20.

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[11] Harlan, *Crops & Man*, 4.

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[13] Gibbons, "Stalking the Wild Asparagus," 174.

[14] Gibbons, "Stalking the Wild Asparagus," 174.

[15] Klingman, "Plant of the Week: Pokeweed (Pokeberry)."

[16] Klingman, "Plant of the Week: Pokeweed (Pokeberry)."

[17] Lee Peterson, *A Field Guide to Edible Wild Plants of Eastern and Central North America* (Houghton Mifflin Harcourt, 1978), 46; Allison O. Adams, "A Mess of Poke," Southern Spaces, October 11, 2011, https://southernspaces.org/2011/mess-poke/.

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[29] Matt Hall, "Kinship with Plants," in *Kinship: Belonging in a World of Relations*, eds. Gavin Van Horn, Robin Wall-Kimmerer, and John Hausdorffer, vol. 5, *Practice* (Center for Humans and Nature, 2021), 39.

[30] Hall, "Kinship with Plants."

[31] Sauer, "Poke (Phytolacca americana L.): Biology and Geography of a Weed."

[32] Lucy R. Lippard, *The Lure of the Local: Senses of Place in a Multicentered Society* (New Press, 1997).

[33] Lippard, *The Lure of the Local*, 19.

[34] This framework is generally attributed to Donna Haraway; see Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no. 3 (Autumn, 1998): 575–599.

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About the Author

Lynn engages communities and individuals in project design drawing from the depth of relational possibilities embedded in food systems, botanical histories, and interspecies landscape ecology. With this in mind, her role creates situations for embodied encounter and experience so that we may build and craft affinity narratives about who we are and where we come from. Through these practices, her wish is to cultivate a sense of belonging in this world for herself and others.

FEATURE

FLUVIAL NETWORKS OF CREATIVE RESISTANCE

By Joseph Underhill

The ship is the heterotopia par excellence. In civilizations without boats, dreams dry up, espionage takes the place of adventure, and the police take the place of pirates.
—Michel Foucault, "Of Other Spaces"

This article explores the use of rivers as educational spaces within which to imagine and experiment with alternative ways of living. It draws primarily from the author's experience over the past twenty years of bringing students out onto the Mississippi River as part of a program that is now called the River Semester offered through Augsburg University's Center for Global Education and Experience. That program is one of a growing number of experimental outdoor and/or experiential education programs that form the basis of an emergent global network—one that I believe should be expanded and strengthened. In the face of multiple and overlapping planetary crises, rivers and watersheds

Buildings on the distant shore of the Mississippi River are barely visible behind the sailboat. Image courtesy of Thomas Turnbull.

around the world can provide productive alternatives to the range of current social injustices, environmental problems, political dysfunction, and social anomie. Through these alternatives, we can begin to build alternative social forms—what Foucault describes as "heterotopias"—that hold some promise for living well.

What does it mean to live "otherwise" at this moment in time (Haraway 2016; Muñoz 2009; Tsing 2017; Wölfle Hazard 2022)? What lifeways are suggested by a lengthy trip by canoe or sailboat down the Mississippi River? In some ways, one answer is a lived version of "going down to the river to pray." Akin to Michael Pollan's (2009) food rules—eat food, mostly plants, not too much—the rules we live by on these river trips amount to little more than consuming less, connecting with the world and with each other, and getting off our digital devices and screens. On these trips we spend almost all our time outside (with the attendant joys and discomforts), cook good food, sing and dance, make campfires virtually every night, swim in the river's muddy waters, learn about its pulse and flow, get plenty of physical exercise, and do what we can to work toward social and environmental justice. We attend to the mental and physical well-being of the group, using simple medicines, open communication, and honesty about who we are and what we need. These activities and ways of being are a source of joy in the Anthropocene, the contested term for a new geological era in which human activity has become the most significant force shaping the earth (Crutzen and Stoermer 2000). It is around a set of activities which decrease the amount of harm being done both to ourselves and to the environment that fluvial networks of creative resistance can and should be formed. This article gives examples of what these forms of living otherwise have been like for us on some of the trips we have taken down the river, and suggests that these activities form the basis, the methodology for building broader networks as part of the work we need to do to imagine a way home in the Anthropocene (Underhill 2020).

In the United States today, we face a range of fairly significant social, political, and environmental challenges. In many areas, such as child mortality, education levels, and average lifespan, we have seen substantial improvements over time, but in many areas of our lives there are troubling trends. Wildfires are springing up with increasing frequency and intensity; the political system is characterized by a high level of polarization and animosity, reflected in events such as the January 6, 2021, riots at the U.S. Capitol; the earth's temperature is steadily rising, with 2024 the warmest year in recorded history; the United States has the highest prison population rate in the world, with a disproportionately high number of those prisoners being people of color; there is a growing wealth gap, and rising rates of mental illness and deaths from drug overdose.[1]

Part of finding ways to thrive and live fully in the midst of these trends is to be true to who we are, to bring our whole selves into our work and to create spaces where our students can do that as well (hooks 1994; Lourde 1984; Palmer 2017). A pedagogy aspiring to authenticity requires that the programs we create reflect who we are as individuals. The practice of outdoor education, and the fairly radical departures from mainstream educational practices described here, are not for everyone. There will need to be all sorts of different ways to navigate our way through the climate crisis, the ongoing effects of racism and settler colonialism, the wars, the gun violence, the carceral state, the various forms of neo-authoritarianism popping up around the globe. The River Semester is itself a reflection of my own predilection for a particular response to the polycrises, which for me has involved exploration, wandering, swimming, sailing, and trying to live close to the land and connected to place. This is my own way of dealing with the various adverse trends listed above, one that amounts to both a diving in and an escape from many of the realities of the contemporary world.

As a teenager growing up in the shadow of Vietnam and in the thick of the nuclear arms race, I attended an outdoor survival school and volunteered on the Hudson River Sloop *Clearwater*. My first year in college, disenchanted with the scene on campus, I moved out of the dorm and slept in a tent in the pine barrens behind the campus. After a semester of courses taken on board a schooner sailing down the East Coast, I decided to switch schools and move to the West Coast. Rather than driving, a friend and I embarked on a four-month, 7,000-mile bike trip across the country. It was a pilgrimage in search of some alternatives to the polluted, violent, automobile-based, fossil-fueled system we found ourselves in.

Years later, when I began work at Augsburg University in Minneapolis, I began thinking about ways to get students down to the Mississippi, which flowed by just a few blocks from the campus. This exploration of rivers as spaces for educational experimentation began in 2001, with the creation of a course called Environmental and River Politics. The first trip on the river, from St. Cloud to Minneapolis, was part of an expedition organized by Dan McGuinness of the Audubon Society. For that five-day trip we used two wooden dories, or "pulling boats," with oars and sails built by Urban Boatbuilders. Subsequently I began working with the outfitter Wilderness Inquiry, taking progressively longer trips on the river. Other study away trips to New Zealand, Costa Rica, Nicaragua, Tanzania, and Egypt provided additional experience and lessons on the educational value of studying *in situ*. By the time we had completed a 10-day river trip in August 2014, it seemed feasible to expand to a semester-long expedition, and in 2015 the River Semester program traveled the length of the Mississippi. This was repeated in 2018, and then again in 2019 as part of an international network of scholars, artists, and community practitioners organized by the Berlin-based *Haus der Kulturen der Welt* (HKW)and the Max Planck Institute for the History of Science, under the title of Mississippi: An Anthropocene River. Based on that experience, the River Semester then designed and built two river catamarans—dubbed Water Striders—and took them on their maiden voyage during the Covid-19 pandemic in 2021. These new craft worked well and, with some modifications, were used again for the fifth river trip in 2023, as part of the Mississippi River Open School for Kinship and Social Exchange, funded by a grant from the Mellon Foundation. The next trip is planned for 2025, with the hope that this expedition can be a key element of a larger global network of alternative, outdoor educational programming.

This is not what university coursework has traditionally looked like. Higher education has evolved over the centuries, with shifting epistemological paradigms, the rise of new disciplines, adaptation of new technologies, and an increasingly diverse student body (Bastedo, Altbach, and Gumport 2016; Perkin 2007; Thelin 2019). But the basic pedagogical form has remained relatively constant. Students sit in classrooms taking notes, study for exams, and write papers. Today the academy must think through how to educate students to live in a world in which human activity has become the dominant force shaping the planet. This growing set of planetary responsibilities comes at a time of increasing strains in higher education and a widespread sense of embattlement and retrenchment on many college campuses. But even in the face of these political and economic challenges (and in part because of them), there is a need to help students imagine, and live out, alternatives to the contemporary social, economic, and political systems. We need our students to be able to imagine something beyond the current realities and, based on that vision, find ways to take meaningful and productive action. Although utopian imaginaries of authors such as Octavia Butler (2019) and Jose Estaban Muñoz (2009) play a role in suggesting alternatives to current realities, it is crucially important to create something here and now that reflects these values and visions (brown 2017).

We need programs that invite students, teachers, and community members in to the process of building alternatives and enacting new forms of living and education within the context of the problematic present. On our trips down the Mississippi, we have come to think of this as a form of pirate pedagogy.

See video: Jolly Roger on dredge spoil island.

On our trips traveling in small boats down the Mississippi, we developed the habit of flying the pirate's skull and crossbones flag, or Jolly Roger—a countercultural emblem that reflects aspects of the ethos of the program itself. Though we by no means embraced all aspects of what the flag symbolized, as a radical experiment in university curriculum, these trips do amount to something akin to piracy (Graeber 2023; Rediker 2015). Piracy sprung in part from the abuses of power on board sailing vessels in the seventeenth century and sought to redistribute wealth outside the bounds of the existing system of extractive capitalism and colonialism. We take some inspiration from the move toward setting up alternative ways of living, the joyous and mischievous rebelliousness embodied in the figure of the pirate, and the sense of expansive freedom referenced in Foucault's "other spaces." Although not quite the high seas, rivers, particularly ones as large as the Mississippi, provide fertile ground for this kind of educational experimentation *qua* mutiny.

Education on the Margins: Rivers as Creative and Liberating Spaces

The changes in the nature of our educational system called for by the current ecological crises encourage us to pay attention to the physical setting for that education. Despite laudable efforts at campus greening, college grounds, buildings, and classrooms still largely reflect the energy-intensive, high-tech, and car-centric culture of contemporary America. For instance, where I teach at Augsburg University, despite decades of working to reduce car commuting, the parking lots, which occupy a significant portion of campus, are overflowing. The newest building, although it achieved a high ranking with the U. S. Green Building Council, consumes more energy than any other building on campus. The life of the mind is premised on the ability to outsource almost all physical labor and avoid most discomfort or inconvenience (Illich [1974] 2009). The standards for college housing have risen to the point that many on-campus residences resemble luxury condos. These modern conveniences, amenities, and comforts attract students and can increase capacity in many ways, but they come at a cost and are part of the modern, consumerist, energy-intensive train on which we are riding. And all the energy consumption and resource extraction have an impact. College campuses are thoroughly enmeshed in these extractive practices, including their foundation as part of settler colonial and extractivist practices (paperson 2017). The cost of higher education is increasing much faster than inflation, while students are reporting higher and higher levels of stress, anxiety, and depression. Campuses are working on responding to this panoply of challenges by offering more mental health counseling, reducing their carbon footprint, and developing some new programs in response to the environmental and social justice challenges of the day. But progress is slow, and—despite serious campus greening efforts—even the switch from fossil fuels to solar energy and electric vehicles still requires a huge amount of mining and raw materials. Think, for example, of the rush to mine the copper, nickel, lithium, and rare earth metals needed to produce the batteries, solar cells, and electrical grid required in turn for the transition to an all-electric renewable energy economy. The extraction of

these minerals often comes at the expense of the marginalized communities living in the vicinity of those mining operations.

This is to say that the context and setting for teaching and learning matter. The mindset and physical surroundings—set and setting—are crucially important in the educational experience. Students are learning how to live their lives through the kinds of norms and structures they encounter as they leave home and begin their lives as semiautonomous adults. On campuses, they do so within standard climate-controlled, carpeted rooms, sitting in rows of seats, more often than not facing a screen while a professor gives a lecture with accompanying slide deck, largely isolated from the world around them. Faculty teach their particular specialized disciplines in which they have the required credentials, but the physical structures and daily routines of the college campus are, for the most part, taken for granted. This is not to say that we should stop teaching in classrooms. They are in many ways excellent places to learn. But I would argue that, even while teaching in those spaces, it is worth thinking about the ways in which these settings reinforce the idea that this is the way the world should be, even as, in the world outside, we are experiencing a dramatic increase in the rate of extinctions, and wildfires and violent storms are destroying landscapes and homes (Kolbert 2014, Wallace-Wells 2019).

If the system is so problematic, and existing campus practices are part of that system, it follows that there is great pedagogical benefit to being outside, questioning and critiquing the form and context of education in radical ways. Universities need students to know that there are other ways to live that offer healthier, more joyous, and less destructive ways of living (Gruenewald 2003; hooks 1994). This means trading the splendid isolation of the air-conditioned ivory tower for muddy, messy, beautifully anarchic spaces, where the pursuit of the liberal arts can be carried out in the thick of the Anthropocene. What are those spaces? There are already many ways in which education takes place off campus. There is a long (though often problematic) history of academic field research, from biological field study to archeological excavations and sociological community-engaged research. Study abroad has become increasingly common at both the undergraduate and graduate level. However, those programs typically use traditional pedagogies and research agendas, even if they take place off campus. Wilderness education, such as the National Outdoor Leadership School (NOLS) and Outward Bound, and ocean-based programs like those run by the Sea Education Association (SEA) constitute alternatives to traditional curricula but have the drawback of being largely disconnected from "normal life" and human communities. They take place in remote wilderness or the open ocean, far from so many of the dynamics that are driving the Anthropocene. As we step outside the confines of modern cities and campuses with their glistening buildings, there is great educational value in what Donna Haraway (2016) refers to as "staying with the trouble" and resisting the urge to completely escape into the wild. The challenge remains of how we can live *in* the Anthropocene, not separate ourselves from it so thoroughly that we are just running away from the problem. There are many possibilities for how to live differently within the realities of contemporary society, but I think some of the most promising can be found where the normal rules don't necessarily apply—on the margins and in the liminal spaces. Akin to the fecund ecological spaces constituted by ecotones (regions of transition between ecological communities), it is in vacant lots or graffiti-covered abandoned buildings, on the fringes of urban areas, or on small farms where nature and culture become thoroughly intertwined that we find some of the most creative forms of social experimentation and alterity. We need to work with people and our plant and animal kin in spaces where experimentation is possible, in what are called edgelands, transition zones that are particularly rich sites for dreaming up new ways of living (Tsing 2017). If home and work are "first" and "second" spaces, and bars,

churches, and bowling alleys are "third spaces," these marginal and semianarchic riparian spaces constitute "fourth spaces" or what Evans and Boyte ([1986] 1997) describe as "free spaces" within which social experimentation is possible (Wölfle Hazard 2022).

I have come to see rivers and riparian spaces as spaces for alternative ways of learning for a number of reasons. Rivers, generally speaking, have been the sites of some of the most intensive and extensive human activities—the creation of most early civilizations, the building of tens of thousands of large dams, industry, waste disposal, and massive engineering and flood-control projects (Smith 2020). At the same time, these spaces are often muddy, overgrown, challenging to navigate, and difficult to access by automobile. On the lower Mississippi River (and other large rivers), the batture—the land between the river's edge and the levee—is especially wild, and long stretches of the lower Mississippi are referred to as "Wild Miles" due to the lack of development along the river. Since the battureland regularly floods, it is not amenable to human control. Overgrown urban riparian spaces, with abandoned postindustrial buildings, provide refuge from the oversight and norms of mainstream society. These are sites of various informal shelters, campfires, encampments for the unhoused, and guerilla art such as graffiti and primitive sculptures. Outside the gaze of the authorities and mainstream social norms, rebels and outcasts—those who take issue with mainstream culture—find space at the margins to live otherwise and resist the oppressive workings of the surveillance state (Scott 1998).

On our trips on the Mississippi, we found that river islands are particularly unregulated spaces. Islands (and, even more so, boats, which are in a sense moveable islands) often come to be places for alterity, outlawry, or experimentation (Foucault 1967). Though technically owned by the U.S. Army Corps of Engineers, channel islands on most of the Mississippi River are generally understood to be public domain within certain broad limits. People can spend some time on the islands, as long as no permanent structures are erected, and there is little to no official oversight on the river. The islands in the Upper Mississippi Fish and Wildlife Preserve have posted signs, but the regulations are almost comically permissive. For instance, they limit campers to no more than 14 days per month in any given spot, meaning that you could theoretically camp on islands indefinitely as long as you moved every two weeks. The U.S. Army Corps is focused almost exclusively on keeping the navigational channel open for the large barges, and they pay little attention to who has pitched tents on the islands as long as the tents do not interfere with their dredge operations. Some privately owned islands on the Lower River (mostly used for hunting) are monitored a bit more closely, mainly to make sure other hunters are not poaching game, but on the whole the river islands are relatively free of social controls. They have been used historically as bases for river pirates and wanderers of various sorts and remain spaces largely free from the norms of mainstream culture and economics (Sandlin 2011). For instance, in fall 2023 we camped on Stack Island (between Greenville and Vicksburg, Mississippi). The island itself is now privately owned, but due to the river's meandering course it has over the years been part of both Mississippi and Louisiana, and there has been a long-standing dispute over jurisdiction. It was virtually wiped out by the flooding that occurred in 1811 when a major earthquake, centered in New Madrid, Missouri, caused a kind of "river tsunami" (Freedman 2012). It was a base for river pirates in the eighteenth century, and as recently as the 1970s, it has been used as a hideaway for fugitive criminals. In this constantly shifting space, where legal jurisdiction is fuzzy at best, our group foraged for oyster mushrooms, discussed the war in Palestine, and held a ceremonial water blessing. The space fostered this kind of learning.

Rivers are productive spaces for education in the Anthropocene for a few other reasons. For one,

they are particularly well-suited for travel by boat, this being one of the main reasons human civilizations have developed on their banks in the first place. Beyond facilitating meeting people and seeing new places, this slow-paced and energy-efficient form of mobility can be seen as a response to the multifaceted planetary crises we face. As climate and ecosystems shift, coasts and riverbanks flood, and arid regions dry out, mobility is a form of resilience that allows us to respond to these changes, while at the same time requiring us to simplify, pare down, and travel light. Rivers are also emotionally and spiritually evocative spaces—sites of ritual, baptism, contemplation, sorrow, and loss. Over the course of our journeys down the river, the water blessing ceremony mentioned above became part of a weekly practice on the river's edge. The river was the site of frequent secular "baptisms" and ritual cleansings experienced when we swam or bathed in its waters.

We had many moments of experiencing community and alterity in these spaces. In what follows, I share a few of the experiences of freedom we had along the river. At their hearts, these experiences amount to a return to a simple, basic, communal form of living that is itself a fairly radical

The interior of Tom Holman's Bombfire Pizza during our visit there in October 2015. This place is a bacchanalia and fever dream in the only city located on an island in the Mississippi. Image courtesy of Joseph Underhill.

departure from what life is like when we are on campus. These long trips down the river are intense and physically demanding, entail various discomforts, and involve living in close quarters with a group for months on end, but there is nothing particularly profound or intellectually complicated about these experiences. Their core elements involve simply people getting together, usually outside or in some odd or unusual space, with food and drink, music and dance. They offer glimpses of or suggestions for how to keep forging ahead and building a healthy, joyous, resilient, and sustainable future.

The first example comes from eastern Iowa, a part of the country where I did not expect to find one of the wildest dining establishments I have ever visited. Bombfire Pizza, located in Sabula, Iowa, was the creation of Tom Holman, a retired military veteran and Dionysian muse for the pursuit of living otherwise, who had a habit of uttering a loud pirate's "Aarrggh!" whenever he entered the establishment. In October 2015, we visited the establishment, and our group of students and staff from Augsburg University and Augustana College joined local residents and an inebriated staff in an evening of joyous abandon. The space

Camped out under a picnic shelter during one of the many downpours experienced on the 2018 River Semester. Image courtesy of Joseph Underhill.

overflowed with the oddest assortment of found items (pictured above), musical instruments, and other flotsam and jetsam gathered from the river. A local musician (with more enthusiasm than talent) banged away at the piano, joined by some of the students. There was a palpable sense of revelry and a degree of abandon about the place that reflected something of the spirit of these liminal spaces along the river. Created by someone on the margins of society, this space was located on the edge of Iowa (in a city actually on the river), with the aim of building community, welcoming everybody, and celebrating life in the ruins of what had once been a thriving river city. That evening, the elements spontaneously came together for a thoroughly memorable experience, a time of feeling alive, and of asserting joy and humanity in the face of all the troubles and crises swirling around us.

Another example of the varied and idiosyncratic aspects of this way of learning occurred during the 2018 River Semester, in the midst of the wettest 12-month period in U.S. history. On the fifth day of the trip, high straight-line winds and the blaring of tornado sirens forced the group into a nearby storm shelter. Six of our eight tents, pitched in a field near some ancient burial mounds on Prairie Island Indian Community, were blown away. Two of the tents (with all their gear inside) ended up in the river. We spent that night in the dystopian environs of the local casino hotel, and the next day salvaged our gear, replaced the damaged tents, and continued downstream. Two weeks later the group was joined by a group of international scholars and environmental advocates for the paddle from Winona, Minnesota, down to La Crosse, Wisconsin. This stretch of river is in the beautiful Driftless (unglaciated) Region of the Upper Mississippi, marked by high bluffs and complex braided channels. Their first day on the river was hot and humid, and the group paddled along with the students broadcasting Bob Dylan's "The Times They are A-Changin'" for the amusement of our Norwegian visitors, who were keen to get an authentically American experience. As is typical of people who are new to the river, our guests had arrived with some apprehension about water quality in the Mississippi. Thanks to thousands of pollution control projects prompted by the Clean Water Act, though, the river in many places is now clean enough to swim in safely; during our lunch stop, it didn't take the sweaty group long to happily jump in and float along in the refreshingly cool water. That afternoon's paddle got the group as far as the village of Trempealeau, Wisconsin. When the weather radar showed the approach of yet another set of intense thunderstorms, the group was forced ashore and took shelter in the local "yacht club" (in this case a very modest boat house and restaurant). As the rain poured down outside, two of the Norwegian professors shared insights from their work related to the water culture and politics of the Nile and Ganges Rivers. With severe weather forecast for the next several days the group then had to seek some place to stay. We were directed to contact a local pastor and ended up being hosted by the Mount Calvary Lutheran Church. Over the course of three days, the church parishioners and good people of Trempealeau showed the group amazing hospitality, brought food, offered showers and rides, and invited the students to meet with the Bible study group. It so happened that we were also there for Yom Kippur, and there was a lay rabbi in the group, (along with Palestinian and Jordanian water rights advocates). The rabbi led us in an observance of the Day of Atonement in the sanctuary of the Lutheran church. In the quiet of the unlit space, seated in a circle on the floor in front of the altar, the group reflected on their regrets from the year before, on family, loss, missteps, and on hopes for the year to come. By the end of our time of sharing, many of the group were in tears. That evening the international group prepared a meal of Palestinian and Israeli dishes, along with some hotdish and other local fare, and shared the meal with our church hosts. Coming together across lines of difference (global, ideological, age, gender), we sat together as human beings in a town where Donald Trump

had received two-thirds of the vote in 2016. To say the least, these moments are hard to replicate within a standard classroom setting. They pointed, in multiple ways, toward strengthening community across lines of difference and recognizing the many forms of knowledge and ways of being found along the river, and around the world.

In March 2019, during a gathering organized as part of the Anthropocene River program, a group of academics, artists, and community members met at the Kanu Haus, a ramshackle abode located in a rough neighborhood in North St. Louis. The group was hosted by "Big Muddy" Mike Clark, a retired elementary school teacher, local river rat, and guide with deep connections to the Mississippi. Before dinner, the group wandered around Cementland, the abandoned ruins of what was to be a fantastical outdoor amusement park. The half-finished project, built in the wreck of an old cement plant, had the air of a postapocalyptic dreamscape, full of wild ambition, decay, and a resurgent urban ecosystem. Later, Mike cooked pork tenderloin over a fire as we discussed our surreal visit to Cementland, planned events for the coming fall, and shared ideas about education in the Anthropocene. There was joy, revelry, companionship, and a sense that other futures were

Discussion of the Anthropocene River at Kanu Haus after a walk around the ruins of Cementland in the Riverview neighborhood of St. Louis, Missouri. Image courtesy of Joseph Underhill.

Sorting and cleaning freshly harvested manoomin at a ricing camp in northern Minnesota with Betsy, an Ojibwe elder, and Giiwedin, an Ojibwe artist and social media influencer. Image courtesy of Noa Shapiro-Tamir.

possible. We experienced many such gatherings later that year as part of the 2019 River Semester and the "Mississippi. An Anthropocene River" project, a watershed moment in the creation of the fluvial networks imagined here.

The forms of alternative pedagogy proposed here, and reflected in the work of the Mississippi River Open School for Kinship and Social Exchange, manifested in powerful ways during our participation in a wild rice harvest at the Mississippi House (formerly known as the Welcome Water Protectors Center) in Palisade, Minnesota, in September 2023. The event grew out of a long-standing collaboration with front-line communities resisting the oil pipelines and new mining projects in northern Minnesota, and was organized by John Kim in partnership with Shanai Matteson, Ojibwe artist Rory Wakemup, Rory's aunt Betsy, and his brother Justin. Our group assisted in setting up the camp, which would be used to educate people about the importance of wild rice to the life and well-being of the Anishinaabeg. We made cedar knockers used to harvest the rice, scoped out ricing locations, and learned how to push canoes through the thick fields of emergent aquatic vegetation. Back at camp we helped with roasting, threshing, and winnowing the rice, and ended up with a full bag of finished rice for our efforts. Bushels of rice were harvested while we were there, and the ricing workshop, which took place the week after we left, was a success. It was a profoundly satisfying and authentically reciprocal experience, grounded in local knowledge and connecting to a vital form of praxis for the Anishinaabeg. Students left with a deep understanding of the importance of menoomin and the importance of preserving those ricing lakes. We carried the rice with us and made soup with it for several meals in the following month. We also made balls of rice seed and mud—dubbed "rice bombs"—which we later hurled into the river as we traveled south.

During our stay in New Orleans in November 2023, we had the good fortune of connecting with Ray "Moose" Jackson (2022), a local poet, artist, and educator. A fellow traveler in the creation of fluvial networks of creative resistance, he is launching a new boat-based coastal restoration enterprise on the Gulf Coast. As we departed New Orleans, the wind dictated that we head toward the Gulf of Mexico through Lake Pontchartrain, and we were looking for spots to camp. Moose suggested that we stop at Lincoln Beach in New Orleans East. Lincoln Beach was an African American space, an amusement park that saw its heyday in the 1940s and '50s. It was shut down after legal (if not de facto) desegregation in the 1960s but is now being revived and stewarded by a local coalition of advocates. Lincoln Beach is another thoroughly liminal space, located on the other side of the tracks and other side of the levee, where itinerants and local BIPOC community gather, celebrate, and relax (despite the occasional alligator sighting). Like many of the islands we stayed on, it is a space where local residents have been able to take some refuge, at least partially insulated from the ongoing racist dynamics in their community.

We arrived at the beach after dark, finding it strewn with evidence of active use by local residents. We did some cleanup, had the place to ourselves, and pitched our tents. Some of us slept on the beach, while others slept under a large concrete structure that had once been a music hall in the amusement park. The next day, one of the local caretakers, Sage Michael, came down to check on the new arrivals and gave his blessing to our temporary stay there. The following day, after yet another night of heavy thunderstorms and tornado warnings, Moose rejoined us with a gift of two bushel bags of oysters, which we proceeded to shuck, roast, and consume under the canopy of the abandoned amusement park structure. After our feast, Moose shared from his epic poem, *The Loup Garou* (2010) (the werewolf), before we crawled into our tents to sleep outside for the one hundredth night of our journey. On our departure the following day, Sage Michael came down to see us off, excited

Camped under the roof of one of the abandoned structures at Lincoln Beach. A site for musical performances in the 1950s and '60s, this was where we feasted on oysters brought to us by Moose Jackson. Image courtesy of Joseph Underhill.

about our adventure and talking about his plans for getting more boats for people to use down at the park.

These experiences, and others like them, provide some glimpses into what we might call simple acts of refusal, rebellion, celebration, rejuvenation, and empowerment. In these spaces, we turned away from the normal practices of the classroom to find different ways of learning and of living. From these experiences, students and fellow travelers gained an appreciation for slowing down. We found it a great relief to stop consuming, stop rushing around, stop staring at screens—and return to some of the basic elements of life in community on this planet. This does not require elaborate theorization, or expensive new gadgets, or much of anything beside the desire to do it and an openness to spending time outside under the wide expanse of the stars, in the company of people, using our bodies to move, cook, build, and dance. We need to build up a network of these kinds of programs, spaces, and experiences.

Building Fluvial Networks

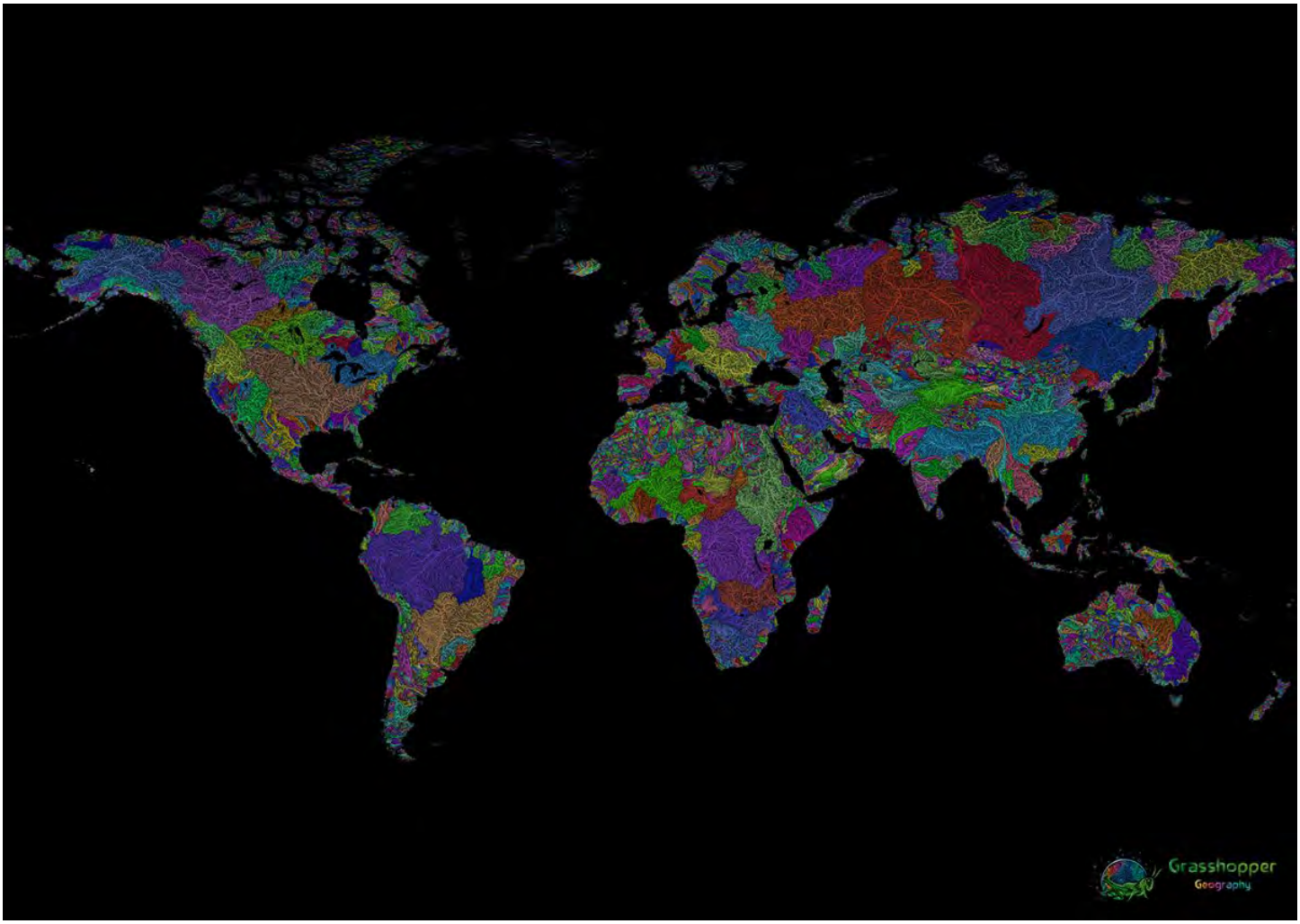
The experiences and networks described above are part of the process necessary for building and maintaining a movement for thriving in the Anthropocene. The emergent fluvial network imagined here draws on the work of a number of pioneering enterprises in higher education. These include programs like the Higher Education Consortium for Urban Affairs (HECUA), which used urban field-based research with a focus on economic and social justice and close partnership with local activists and artists. HECUA, which grew out of the unrest and civil rights movements of the late 1960s, offered numerous semester-long programs in Minnesota, Italy, Ecuador, Northern Ireland, and New Zealand, all with a focus on social justice. The organization ended in 2022, although efforts to revive portions of it continue. Similarly the network formed through Imagining America brings together academics, organizers, and artists for community-based, experiential education in the humanities. Its annual conferences offer opportunities for community engagement, often in marginal spaces, and provide inspiration for the kinds of networks imagined here. Other projects that inspire us include the Fourth Coast expedition down the Mississippi organized by Brown and Morrish (1990), Wes Modes' (2023) Shantyboat project and his Secret History of American River People, and Monique Verdin's many projects, including the Float Lab and Prairie des Femmes.

As mentioned earlier, the network imagined here grows directly out of the convenings organized by the Anthropocene project of HKW and the Max Planck Institute for the History of Science in 2018–2022. That work now continues in the Anthropocene Commons, which organizes gatherings that take seriously the need to radically rethink pedagogies, curricula, and epistemologies, and that embody this joyful expression of alterity. The newly formed Max Planck Institute of Geoanthropology is further pushing the boundaries between the natural and social sciences, the humanities, and the arts as we live into the complex entanglements of the Anthropocene. The Floating ~~University~~ in Berlin provides another inspiring example of an experimental school, this one based at an old wastewater treatment plant site. As the name implies, it sees itself as not a university, but instead as a place for exploring radical alternatives to the status quo. Numerous artists and community activities and organizations are engaging these spaces in wonderfully creative and inspiring ways.

A range of kindred field-based programs constitute potential elements of this nascent community of river-based or alternative educational

programs. The Grand Canyon Semester, offered at times by Prescott College and Northern Arizona University, uses the Grand Canyon as the setting for a multidisciplinary exploration of environmental and social justice issues. Brevard College's Voice of the River, started in 1997, has organized a range of river trips around the U.S. and overseas; it currently takes students on a regional 18-day river trip. The Rio Tinto Field School was a weeklong field seminar in fall 2022 that hiked along Spain's Rio Tinto, one of the most heavily polluted watersheds in the world, birthplace of the Rio Tinto mining company, and site of Columbus' departure from Spain on his first voyage west. Semester in the West looks at environmental politics and climate change as students travel by bus around the western United States. The Adirondacks Semester is a nature-based program at Hamilton College, and Semester-A-Trail allows students to create their own curriculum while hiking the Appalachian Trail. The Oregon Extension, started in 1975, creates an intentional community in the Cascades. In various ways, each of these programs, offered in a range of marginal and riparian contexts, provides inspiration for new ways of learning and living in the twenty-first century. They can function as part of this emerging network of educational programs providing students with alternatives to simply being trained to be part of the modernist enterprise.

In addition, a number of academic institutes or networks focused on rivers constitute



A world of watersheds. Could these form the basis for a network of river-based educational programs? Artist/credit: Robert Szucs, source: www.grasshoppergeography.com.

contributing streams in this dendritic structure. These include the River Field Studies Network, an extensive and growing network of practitioners in river studies funded by the National Science Foundation and led by a team of stream ecologists and freshwater biologists. The National Great Rivers Research and Education Center (NGRREC) in Alton, Illinois, carries out a range of research, education, and outreach programs on the Middle Mississippi. Nongovernmental river-advocacy groups such as American Rivers, International Rivers, Riverkeepers, and Friends of the Mississippi River constitute another set of partners and collaborators in this work. There are likewise various river outfitters, such as Wilderness Inquiry in Minnesota; Quapaw Canoe Company in Clarksdale, Mississippi; Big Muddy Outfitters in St. Louis; and Urban Boatbuilders, which teaches boatbuilding and other woodworking skills to urban youth in the Twin Cities.

We can overlay this rich tapestry of organizations with a fluvial network of creative resistance. What might such a network look like? The global connections facilitated by the various forms of digital networks—email chains, shared Google docs, Discord servers, grant-funded meetings, and conferences—are all important in this work. In addition to these kinds of formal or digital networks, I would argue that what we need most are the kinds of river gatherings we have experienced in the course of our trips down the Mississippi. They will need to be multimodal, flexible, and reflective of whatever local realities, needs, and resources are available to make them happen. A pedagogy that responds to the Anthropocene has to sit with the tension between our inherent global interconnections and the need to stay grounded in the local. It must also be able to partake in the duality of groundedness and the virtual and disembodied interconnectedness of the internet. My particular work is on the Mississippi, and others are doing work on their own rivers.

Facilitating these changes on a larger scale will require connecting with kindred programs, and some of that work has already begun. What are the common elements or shared values? They consist of folks drawn together by the sense that things really need to change, by the pull of the rivers themselves, by the joys of community, food, and music, and by a passion for social justice. They are not wilderness retreats, taking place in distant or secluded locales, but they do draw on elements of those wilderness experiences. As in the stories of "pirate pedagogy" discussed above, this fluvial network needs to be based on meetings that are in person, involving a diverse set of participants: academic and nonacademic folks, artists, researchers, practitioners, activists, and nonhuman kin. This is the approach of the Mississippi River Open School for Kinship and Social Exchange, a wonderful regional example of the kind of network and activities proposed here. This network helps students become integrated into a larger community of river stewards, creators, and change agents that can support them and foster shared learning across watersheds. The gatherings work best when they can be outdoors and in marginal, liminal spaces (like Kanu Haus or Lincoln Beach). Other key ingredients for these gatherings include the primal elements of human communal activity: fire, music, dance, ceremony and ritual, and food and drink prepared and consumed together. To the extent that the world has become too complicated, these conditions call for simplifying, going back to our roots, and resisting the pull of modernity. For those so disposed, these practices constitute one important alternative to the curricular status quo. Already we have seen participants in these events and river trips going out into the world to organize, advocate, and create similar kinds of alternative curricula. Alumni are, among other things, advocating for women's rights and environmental protection in Columbia, leading outdoor education programs, participating in movements to protect Indigenous land, and working on organic farms. Through

these experiences we are learning how to live otherwise—in ways that reduce our environmental impact, improve our mental health, create strong communities, and connect us to the world. By increasing the interconnections between these efforts across watersheds, we can strengthen and facilitate efforts toward social change.

With a strengthened network of researchers, teachers, artists, and activists engaging in various forms of immersive and extended investigations on rivers such as the Nile, Amazon, Danube, Ganga, Mekong, and Yangtze, among others, what can we create in the riparian ruins and what signs of hope do we see in these muddied waters? Can we imagine fleets of river boats, vessels trading in alternative realities up and down the rivers of the world (Whyte 2019)? As with any countercultural practice, the alternative will not be an easy sell. It will require work, discomfort, and actively disentangling ourselves from the normal consumerist and extractivist ways of life that constitute much of the world of higher education. It does, however, come with the potential for the real joy that emerges from the full experience of the world, of good company, and of the satisfaction of going to bed at night exhausted, but knowing that there are indeed other possibilities besides those currently leading us toward an unnecessarily bleak future.

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Footnotes

[1] For data on these and a range of other current issues, see Our World in Data.

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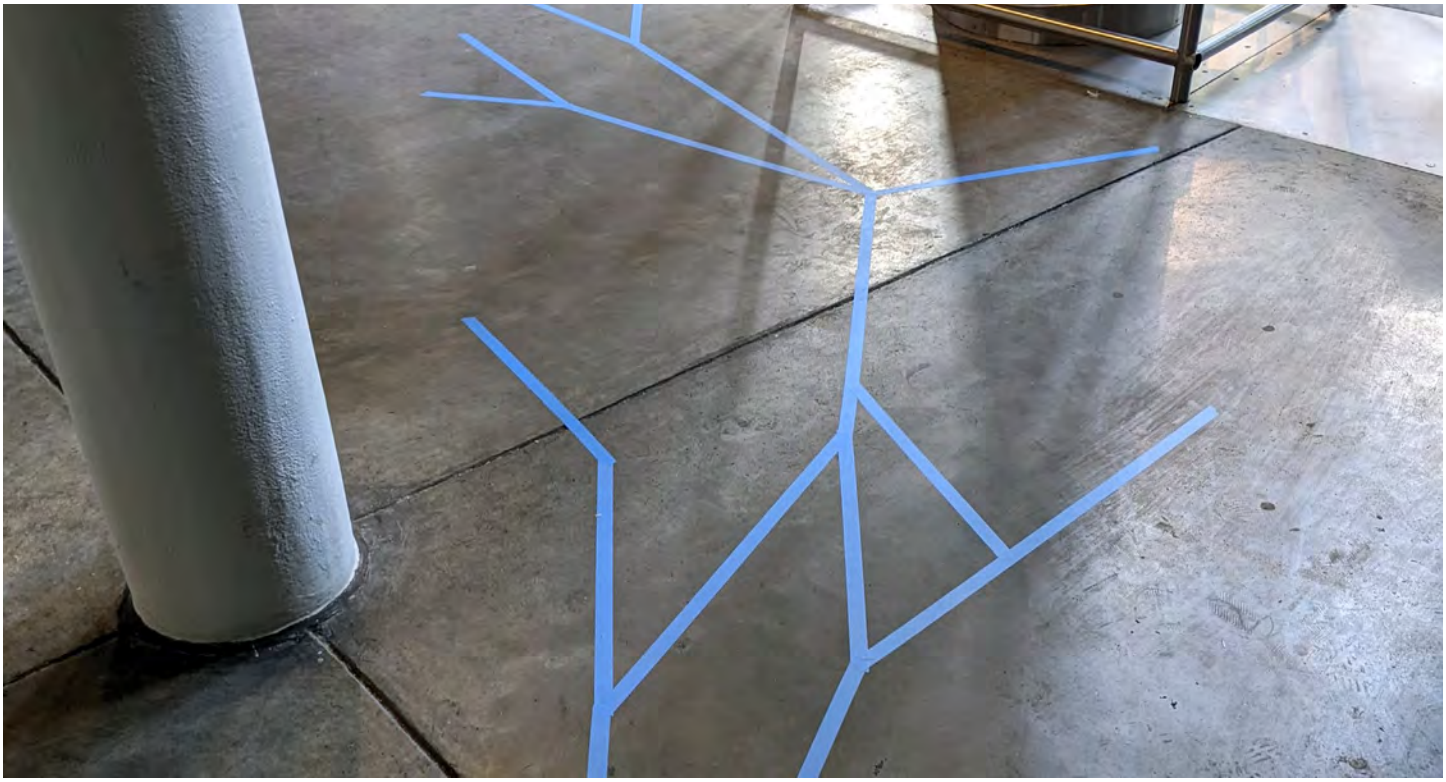
Joseph Underhill received degrees in Interdisciplinary Studies from UC Berkeley and San Francisco State University and a doctorate in Political Science from the University of Michigan. He has been working at Augsburg University in Minneapolis, MN since 1998 and from 2010–12 served as Batalden Faculty Scholar in Applied Ethics. In 2016–18 he was Program Director of the Nobel Peace Prize Forum. He is a founding member of Augsburg's Environmental Stewardship Committee and helped create and currently directs the Environmental Studies Program. Prof. Underhill also created and now directs the River Semester program, the nation's only full semester program offered on the Mississippi River. He has been teaching and researching the political, cultural, and psychological dimensions of environmental and security issues for the last twenty years and has written and presented on the intersection of political psychology, security, and the environment, and is the author of *Death and the Statesman* (Palgrave, 2001). Dr. Underhill teaches courses in environmental and river politics, research methodology, political movements, and a range of topics in environmental politics. In his courses, he emphasizes experiential, critical, democratic, place-based pedagogy, regularly engaging students in fieldwork and service projects, including courses in New Zealand, Costa Rica, Nicaragua, Egypt (2012), Tanzania (2013), and now regularly on the Mississippi River.

GEOGRAPHIES

BIG RIVER DRAWINGS: IN SUPPORT OF LEARNING, WELCOMING, AND COMMUNITY ENGAGEMENT

By Aron Chang

A common directive in community engagement is to "meet people where they are." One way to do that is to locate activities where the community already gathers. This might mean organizing a workshop inside a church or hosting a planning meeting in a school gym. Such spaces may be large, available, and conveniently located, but they may not be ideal environments for learning about the flow of the Mississippi River or imagining the future of drinking water systems. The challenge that arises, then, is: how might we create welcoming environments for diverse communities that support learning, dialogue, and creative activity? How might we change the scale and feel of a school gym?



Painters tape river drawing at the Contemporary Arts Center in New Orleans. Over the course of two days, participants added to the delta using painters tape as they learned about crevasses, distributaries, and avulsions. Image courtesy of Jo Farley and Water Map New Orleans / Bulbancha.

Since early 2023, Civic Studio and the Water Leaders Institute have been creating large, temporary drawings of the Mississippi River in different public spaces using painter's tape. A team of two or three people can create such a drawing in as little as two hours with materials costing less than $20. These drawings function in a few different ways.

- **Learning through drawing**: The process of creating the river drawing is an opportunity to learn about and represent the flow of the Mississippi and to apply that knowledge to describe key features such as tributaries, distributaries, meanders, cutoffs, oxbows, and deltas.
- **A welcoming supergraphic:** The river drawing becomes a supergraphic—sometimes hundreds of feet long—that transforms the space and invites people in. We use the river drawing to spark curiosity as participants follow the pathway of the river and try to make sense of what they are seeing. We use the scale of the drawing to ask participants to embrace the entirety of a space and to move and think expansively rather than asking people to engage at the scale of the eight-foot folding tables that we typically see at community events.
- **An armature for engagement:** The river drawing also serves as an armature for community engagement by helping to organize the flow of people and activities in relation to the flow of water represented by the drawing. The drawing, like line markings on a sports field, suggests possibilities for direction and flow, and defines both a sequence of activities for participants to follow and the areas where participants will engage in those activities.

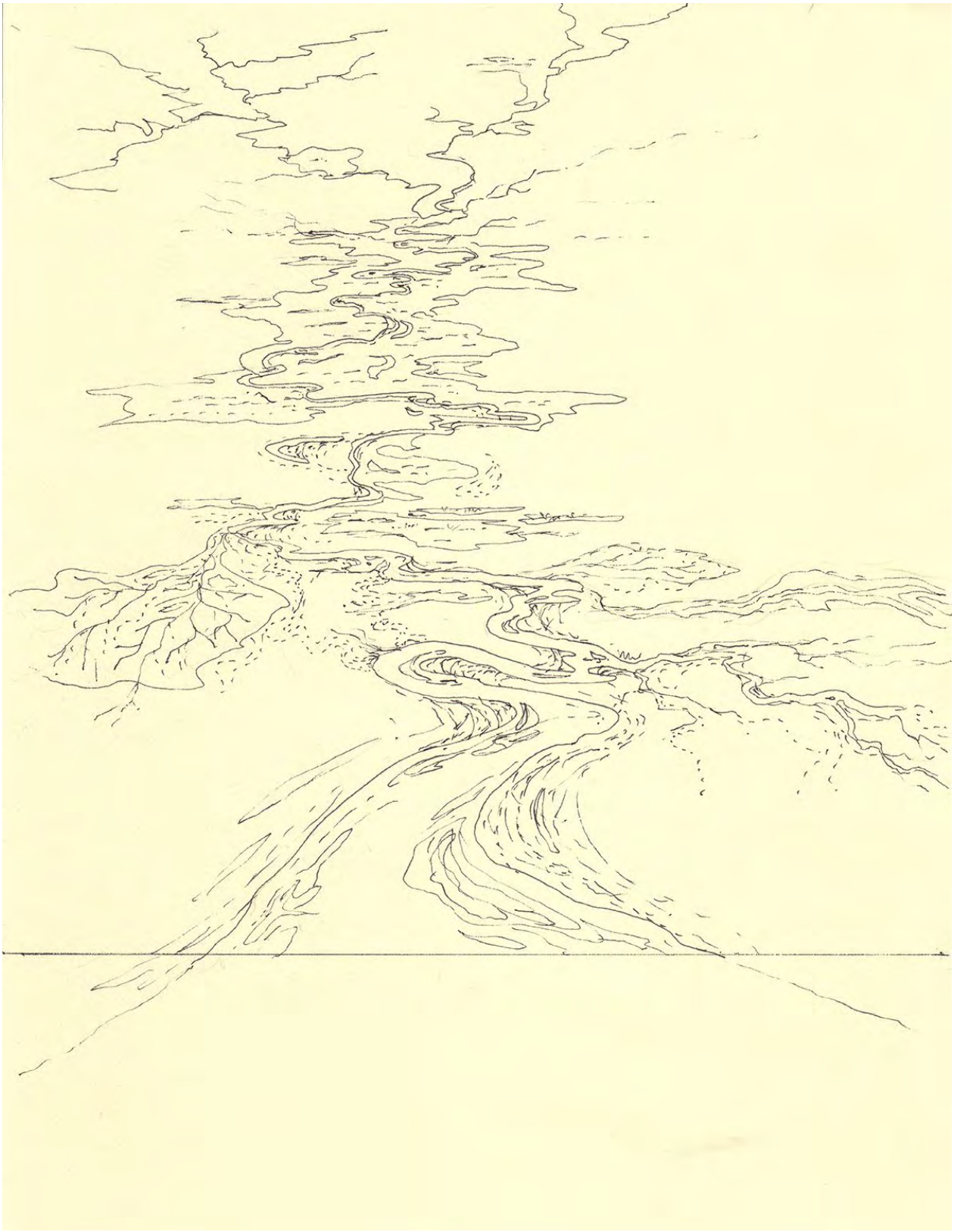
We will explain each of the above points in more detail, using images from events organized by Civic Studio and the Water Leaders Institute in 2023, to help illustrate techniques, impacts, and possible variations of big river drawings. We also hope to show how easily these drawings can be adapted to different spaces.

Learning Through Drawing

The first step for creating a big river drawing is determining the land across which the water will *flow,* as well as the aspects of the river that we hope to capture. We seek to incorporate visible topographical changes in the landscape into the drawing. That is, we try to draw the flow of water in relation to the slope of the ground upon which the tape is affixed.

Whether inspired by USGS maps, Fisk maps, satellite imagery, lived experience, or other representations and ways of knowing the river, the task of drawing it requires identifying which aspects and qualities of the river to try to represent. What aspects of the channel and floodplain and major features like the Mississippi River delta might be shown? What proportions and spatial relationships are important to maintain, and where might distortions in scale and proportion be used to communicate something essential about the river? We are not simply attempting to represent the river as one might see it on a map—the relationship of the drawing to the space it exists in and the community it is engaging is more important. In this way, each river drawing is a completely different representation of the river, reflecting how the creators know the river and want to talk about it.

Bottom/delta end of a large river drawing at the Contemporary Arts Center in New Orleans. Over the course of two days, participants added to the delta using painter's tape as they learned about crevasses, distributaries, and avulsions. Image courtesy of Jo Farley and Water Map New Orleans / Bulbancha.



A large river drawing attempts to scale up key aspects of other representations of the river, such as this drawing which seeks to show the dynamic nature of a river course unbounded by artificial levees and flood control structures. Image courtesy of Aron Chang and Water Map New Orleans / Bulbancha.

A Welcoming Supergraphic

One of our goals in creating a large drawing that spans a few hundred feet is to reshape the look and feel of the space we are gathering in. We want to momentarily shift attention from the gym-ness of the school gym in order to provide a more exciting context for the activities at hand.

We seek to create a lively composition. By rendering how tributaries come together, how a river meanders, or how a river spreads out to form a delta, we end up creating engaging forms and patterns.

The river drawing sprawls out and invites the viewer to follow along, eyes on the ground, to see where the tape leads. There are opportunities to take different paths, to jump across lines, and to move upstream or downstream. The river drawing enlivens the space and helps to span across different surfaces and scales. It holds participants' interest both as a large drawing and concept and in the specificity of how individual elements are rendered.

While the tape installations are meant to be temporary, returning the school gym to its everyday uses without leaving a trace, these big river drawings can also remain as evidence of the work and connections they inspire. At one of our events, the hosts were so pleased with the drawing that they asked us to leave the tape in place for people to continue viewing the drawing as a work of art.

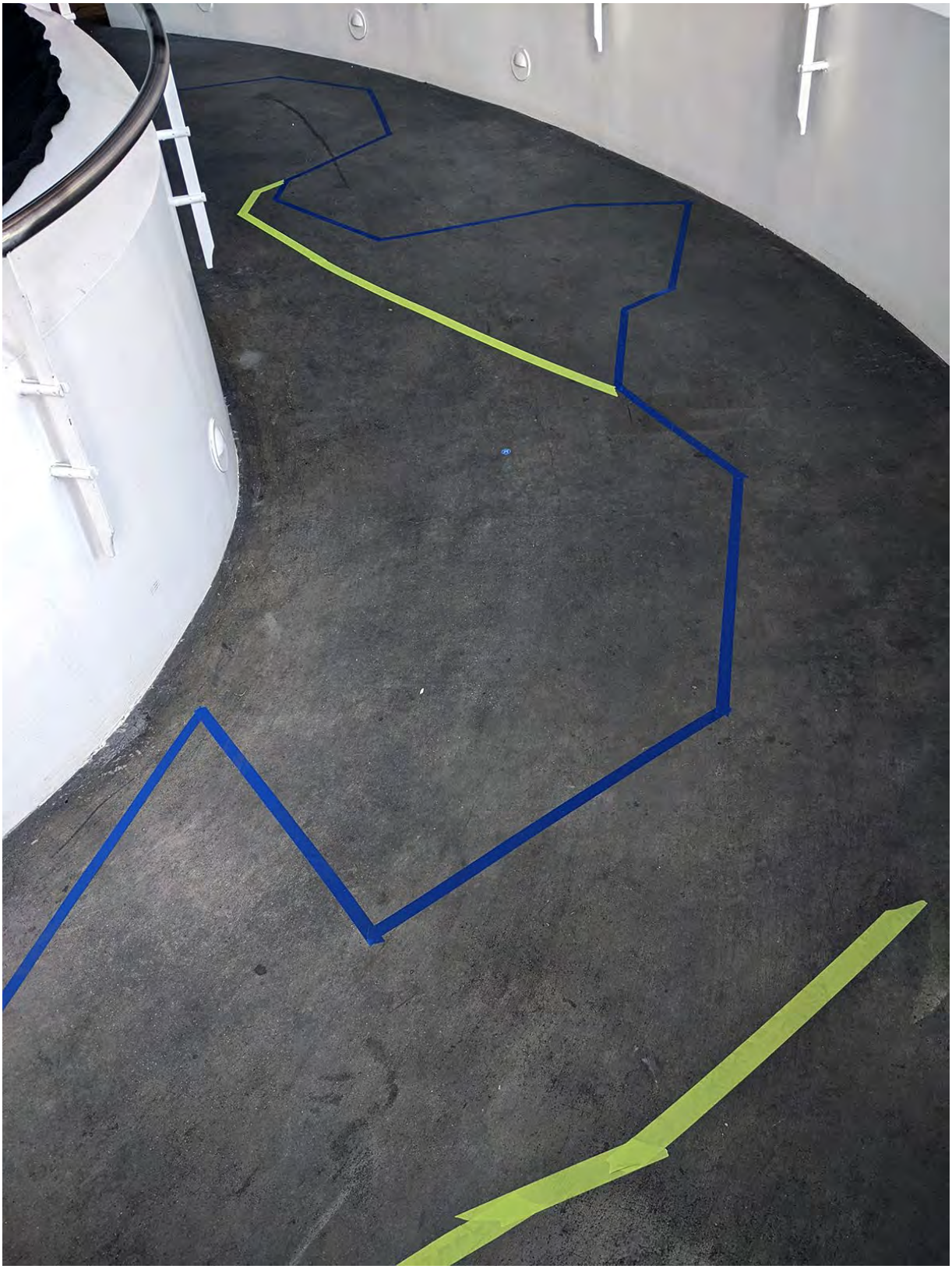


Image of river drawing descending a ramp with green painters tape added by a participant who applied what they learned upriver about meanders and cutoffs to show how the course of the river might change in the future. Image courtesy of Jo Farley and Water Map New Orleans / Bulbancha.

River drawing starting to spread out onto flat ground as a river delta. Image courtesy of Jo Farley and Water Map New Orleans / Bulbancha.

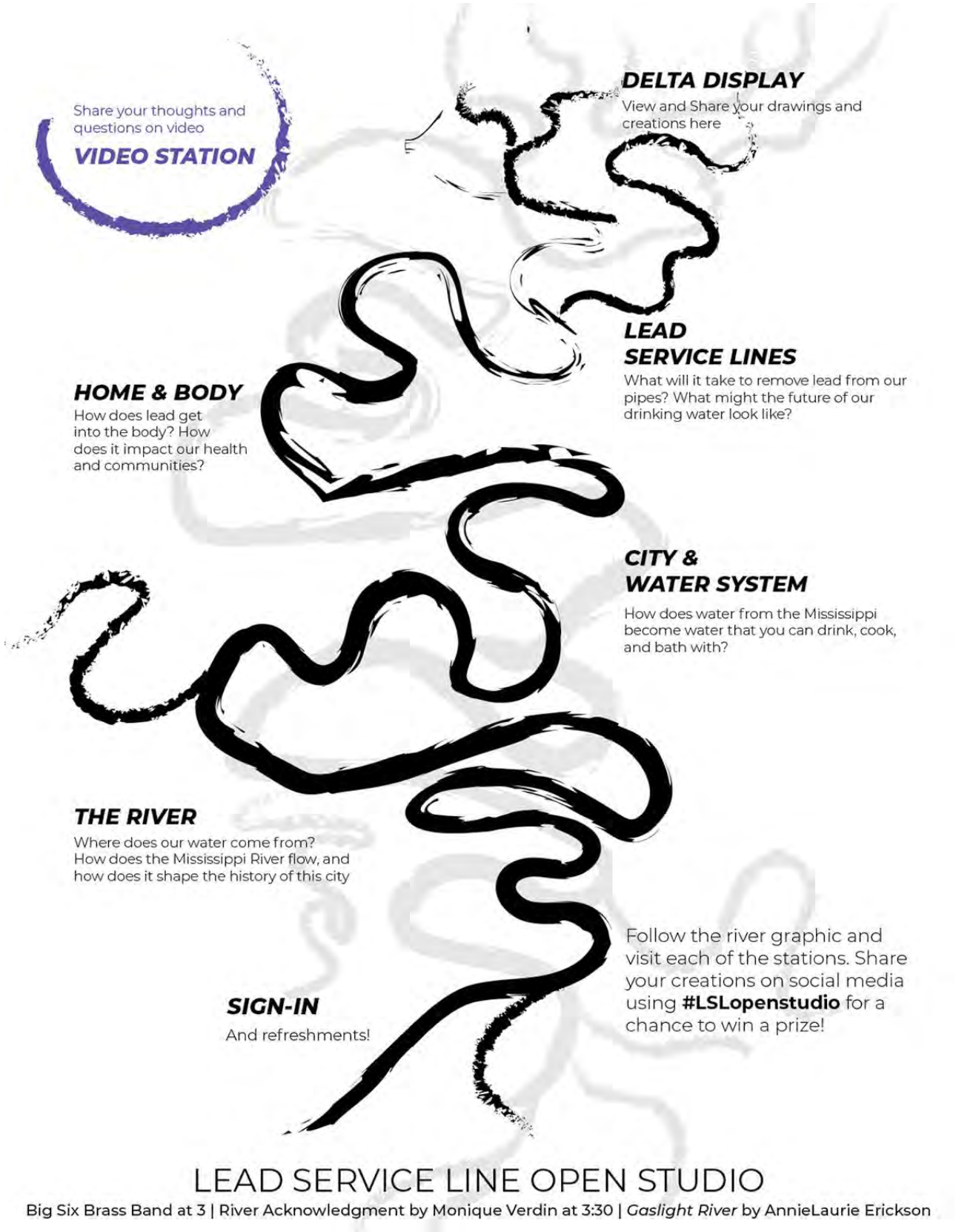
An Armature for Engagement

We use large river drawings to support different forms of learning, dialogue, and creative activities. By organizing individual stations along the river drawing, for example, we can encourage participants to follow a sequence as part of a larger narrative.

In one instance, we organized a series of Open Studios with the Water Collaborative and Total Community Action at three different locations (two gyms and a library). The series focused on the topic of lead service lines in New Orleans's drinking water system. In this context, the river drawing represented the Mississippi River, which is the source of drinking water for the city. On the upstream end, a station invited participants to learn about the water cycle and the Mississippi. As participants moved downstream, they engaged with stations exploring drinking water infrastructure and what happens when human bodies ingest lead. The participants followed the journey of water from the river to the point of ingestion, engaging with a wide range of key interrelated concepts and terms along the way. Once the participant had made their way to the delta, they were invited to respond to a series of creative prompts.

In another Open Studio, we created a large river drawing across two stories at the Contemporary Arts Center in New Orleans. This event was part of the Water Map New Orleans / Water Map Bulbancha initiative, which seeks to build public knowledge of water and infrastructure and to support our delta city's residents in building a collective vision for what "living with water" will look like in the years ahead. Participants started at a station on the second-floor landing and followed the river around an oval ramp down to the first floor where the river spilled out into the lobby area as a widening delta. At the top, participants learned about how rivers change course. As participants made their way down the river, they were given painter's tape with which to apply what they had learned about meanders, erosion, oxbows, cutoffs, avulsions, and distributaries by making changes to the drawing and adding to the delta.

In another event, focused on building understanding of the water cycle, we invited participants to use the movement of their bodies as they followed the path of water to understand and embody the water's flow in terms of energy, velocity, or sediment carried. Using painter's tape and a variety of graphic notations, we expanded upon the river drawing to represent the full water cycle, from precipitation to river flow to evapotranspiration. Along the path followed by participants, we brought additional senses into the experience by playing music created by Sly Watts to represent each part of the water cycle.



Wayfinding handout at a Lead Service Lines Open Studio where a river drawing brings participants to different stations to learn about drinking water infrastructure and public health. Image courtesy of Civic Studio.

An image of youth participants engaging at one of the stops along the river at a Lead Service Lines Open Studio. Image courtesy of Sabine Greeson and Civic Studio.

Thoughts on Adaptations and Further Exploration

We are using this approach to address other topics where describing flow is of pedagogical value. For instance, in another collaboration with Total Community Action, we are organizing Open Studios on the topic of incarceration, in which we ask participants to follow the path of someone moving through the criminal legal system (e.g., from apprehension to trial to prison to reentry) by following along a pathway rendered using painter's tape and stations arrayed along the drawing. We believe that by mapping out the system in physical space and having participants navigate one or more pathways through the criminal legal system, we can make it easier to comprehend the shape of the system and its impact on someone who is being incarcerated, and to make sense of terms and metaphors such as "pipeline," "double jeopardy," "reentry," and "recidivism." Furthermore, building broader understanding of the criminal legal system

Abstract markings made with painter's tape indicate the gathering flow of raindrops in a watershed as part of an interactive installation focusing on the water cycle. Image courtesy of Katie Fronek and Water Leaders Institute.

supports a holistic approach to reforming it, even as we seek to combat the most glaring injustices associated with specific parts of the system.

We will continue to explore the use of these large drawings as tools for learning and engagement. We are interested in testing different techniques and materials that are as easy to use as our current ones but result in no waste (the painter's tape becomes a bundle of trash at the end of each event, unfortunately). We have successfully used these techniques with youth, in family settings, and in other environments, and we believe that they can easily be adapted for use in classrooms, outdoor settings, and other places of learning and engagement.

We welcome collaboration and other experimentation with these techniques, and we are happy to share more details with anyone interested. You can learn more about our work and contact us via our websites: civicstudio.coop and waterleadersinstitute.com.

Music and movement guides bring participants along the entire water cycle, from the falling of rain to the flow of the river and the delta to evapotranspiration and condensation. Image courtesy of Katie Fronek and Water Leaders Institute.

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Aron Chang is an urban designer and educator based in Santa Cruz, California, and New Orleans, Louisiana, who focuses on community-based planning and design practices. Aron is a member of the Civic Studio cooperative, co-leads the Water Leaders Institute, and coordinates the Water Map New Orleans / Bulbancha initiative. He is co-founder of Ripple Effect and a founding member of the Water Collaborative of Greater New Orleans. From 2011 to 2017, Aron worked as an urban designer at Waggonner & Ball, where he was a design team lead for the Greater New Orleans Urban Water Plan. From 2017 to 2018, he served on the New Orleans Environmental Advisory Committee and on Mayor Elect LaToya Cantrell’s Transition Team.

IN REVIEW

SHOWING UP (FOR EACH OTHER)

By Lynn Peemoeller

Editor's note: This article was written in January 2024.

Here in the Middle Mississippi River region, one thing we've managed to do well is to show up for each other. It didn't necessarily start out that way. Our process has been what adrienne maree brown identifies as nonlinear and iterative. [1] Fractal, even. The Mid-River Field School, one part of the larger Mississippi River Open School for Kinship project that includes hubs along the length of the river, came together as a multigenerational group of artists, community leaders, and botanical thinkers during 2022, just as we began to see COVID-19 in the rearview mirror. Since then, it has become a shapeshifting project, moving like water in between the cracks

Sharing a simple outdoor meal. Image courtesy of Lynn Peemoeller.

of our broken city to foster creative connectivity and make meaning out of the river landscape for ourselves and others. Finding ways to come together, build shared values, and self-determine outcomes for our work has been an ongoing challenge to, and a strength of, our project. Here are some reflections on our best practices for showing up and building community with each other.

Starting Out

Sometimes one of the hardest (and easiest) things you'll ever do is to just show up. This is especially true when you've been invited to participate in some kind of field school group activity that is loosely defined as creative, emergent, and self-determinate. *What is this? Where do I fit in? What do I have to offer? Is this a good use of my time?* These are all relevant questions and reasons to have doubts. And yet, suspending that doubt and putting forth the simple intention and act of showing up begins to weave a future of possibilities built at the speed of trust.

There is a lot of invisible work going on in building the scaffolding that holds together the precious first meetings upon which project work is built. As an organizer, one key goal I had for the initial gathering was to provide as much of a vision as possible without predetermining outcomes. We relied on an ally—a trained facilitator—to help guide us through the first group meeting. We wanted people to feel engaged, seen, and rewarded for showing up. The results were successful. From those first few meetings, we generated a list of group values. We are deeply grateful to all the people who showed up and put forth good faith efforts to build a collective vision.

We envisioned the Mid-River Field School as an empowering hub for creative individuals and cultural institutions, one where culture bearers from the region could unite, collaborate, and thrive within a supportive community. In other words, unlike what you would see with a predetermined curriculum, this "education" was centered around relationship building. Much of the Field School content examines the confluence of race, extraction, and environment in alignment with the goals of the larger Mississippi River Open School for Kinship and Social Exchange. Through a process of social engagement, the Field School has supported collective narratives and gatherings that challenge previous histories and examine our present moment.

Project-based examples of this work include a freedom village gathering on Black placemaking in the historic Black town of Brooklyn, Illinois; a wild food foraging series and weekly river blessings with the Native Women's Care Circle; shared garden site solidarity work and seed and plant swaps; a printing of the American Bottom Gazette; and an artistic look at East St. Louis through land and language.

Making Time

Meeting in person has great strength, and we have come to protect and use this in-person time wisely for special occasions. Let's face it: to meet in person frequently is unrealistic for work that does not fully fund and organize our daily lives. Shout out to those with limited mobility, those with empty gas tanks, those with young children at home, those who work remotely from different time zones, and anyone and everyone who is just plain busy with their own work.

Thank goodness for Zoom, which gave us the capacity to host virtual meetings via the institution where some of us work. Syncing schedules

and working with remote partners took some time. It was at least one year into the Field School work before we started to host biweekly Zoom meetings on Friday mornings. At first, there were only one or two people present, but we stuck with it, and after some months we started to build momentum. Meetings are still a place not only to discuss project work but to check in with each other, face some difficult truths, prioritize needs, and offer supportive words and comfort.

Making Kin

The Mid-River Field School project is life-adjacent and yet fully immersive. We show up with our families and become family to one another. Asking people to carve out time for extra things deserves reciprocity. Yes, there is some funding provided through our Mellon grant supporting the Mississippi River Open School for Kinship and Social Exchange, and that is essential. But what really drives the commitment to making time is not only shared values and shared vision but the feeling of relationship or *being* in relationship with each other. Two years into this project, we are cultivating care, compassion, and reciprocity for each other.

Being in relationship with each other feels very much like kinship, or what among the Anishinaabe people operates as "a web of relationships that [enables] agreements which is essentially a family-like way of defining some of the bonds that connect diverse entities to one another."[2]

Supporting each other and sharing resources has become an important part of our meeting time. For many, it's a check-in. For those who have been present, it has become a place to work out the nuances of institutional power and privilege that are inescapable in our lives. Kinship has helped us navigate these conversations with gratitude and helps lead us back together again so we can show up for each other. As adrienne marie brown explains in *Emergent Strategy*, "what we practice at the small scale sets the patterns for the whole system."[3] Perhaps this intention will spread out through our efforts and seed new generations of field work.

Seeing It Through

As we began our final year of the Field School project, we leaned into our relations. For some, it's a starting point leading toward a longer and deeper process of outcomes. For others, it's a midpoint in a collection of work, building a body of evidence that has touched and defined our place along the river. Others move deeper into the groove of leaving their mark upon this place. Collectively, it adds up to what Lucy Lippard might call "multicenteredness."[4] Our ongoing goal is to share out this work, weaving a web of tangible and ethereal situations and cultural tools that help us continue to explore, support, and define our Mid-River environment. We can only do this by showing up.

Best Practices for Showing Up

- Acknowledge elders and any special needs that they may have.
- Food makes it better. We all need a snack. This makes a difference and helps people feel welcome.
- Meet in person when possible, in a central location with free parking. We frequently use the community rooms at a branch of the local public library.
- Share resources for internet accessibility and virtual meeting technology.
- Make paperwork as easy as possible. Do it one-on-one in person to make sure it's done correctly.
- Check in on folks. Make time for one-on-one phone calls or texts to see how they are doing.

Footnotes

[1] adrienne maree brown, *Emergent Strategy: Shaping Change, Changing Worlds* (AK Press, 2017).

[2] Kyle Powys Whyte, "An Ethic of Kinship," in *Kinship: Belonging in a World of Relations: Vol. 5 Practice*, eds. Gavin Van Horn, Robin Wall Kimmerer, and John Hausdoerffer (Center for Humans and Nature Press, 2021), 30.

[3] brown, *Emergent Strategy*, 36

[4] Lucy R. Lippard, *The Lure of the Local: Senses of Place in a Multicentered Society* (The New Press, 1997).

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About the Author

Lynn engages communities and individuals in project design drawing from the depth of relational possibilities embedded in food systems, botanical histories, and interspecies landscape ecology. With this in mind, her role creates situations for embodied encounter and experience so that we may build and craft affinity narratives about who we are and where we come from. Through these practices, her wish is to cultivate a sense of belonging in this world for herself and others.

PERSPECTIVES

THE (NON)TERRITORIALITY OF THE MISSISSIPPI RIVER

By Niiyokamigaabaw Deondre Smiles

The Mississippi River is one of the most defining features of Minnesota. It is a body of water that commands the attention of all who encounter it. I may be speaking hyperbolically but spending time in the state and not experiencing the river is challenging, to say the least. There are a multitude of different relationships that individuals have with the river, ranging from romantic to indifferent. Some view the river as a recreational space. Others view it as a tool for industry. No matter one's attitude, it is a space that we, as Minnesotans, can relate to. One form of space-making is known as territoriality, which has played an oversized role in how we relate to and treat the Mississippi. That is the central point of this essay, but I should digress for a second and explain why I care about the Mississippi.

It begins with water.

A view toward the confluence of the Mississippi and Minnesota Rivers from the area of Lock and Dam Number One on the Mississippi River in Minneapolis, Minnesota. Image courtesy of Niiyokamigaabaw Deondre Smiles.

I've always enjoyed water—enjoyed being in it and being near it. This led me to several water-based endeavors, including being an avid competitive swimmer. Even when I was not racing, I was usually found somewhere close to water, whether it was a local lake, a swimming pool, or even just spending too much time in the shower in the mornings when I'd get ready for school. This love of water has meant that I am almost always drawn to water and its associated spaces. As a child growing up in the Twin Cities, I always appreciated being near the various lakes or, more importantly, being near the Mississippi River.

When I was nine, I attended a family reunion at Minnehaha Park. It was the first family reunion I had ever attended, so I felt extremely excited to see my family members again and eager for the entire experience. Of course, there were all the typical activities that one does at a family reunion, such as barbecuing, playing sports, or just catching up with family members you haven't seen in a couple of years (or even longer). Something a little different appealed to me for entertainment on that day: I somehow developed the idea of tracing Minnehaha Creek from the falls to the point where it emptied into the Mississippi River.

A view upstream on the Mississippi River showing the Lock and Dam Number One. Image courtesy of Niiyokamigaabaw Deondre Smiles.

I managed to recruit a few of my relatives to come with me, and off we went, starting at Minnehaha Falls and following the well-worn paths along the creek. Before too long, we had gone off trail to follow the creek's shoreline, going over and under logs and through bushes and densely packed, leaf-abundant tree branches as we followed the creek's winding route toward the larger Mississippi. After what seemed like hours (but was probably no more than a single hour), we finally reached the point where Minnehaha Creek and the Mississippi River meet. I felt like a triumphant explorer, having led my merry band of fellow adventurers through the brush and the forest to our ultimate destination.

It is a memory that I have held onto and cherished ever since. Even to this day, it gets brought up in conversations with my relatives. "Hey, do you remember that time you led us to the end of Minnehaha Creek?" my uncle might ask me. I would answer in the affirmative.

In the intervening years, the Mississippi River and its broader ecosystem have undergone current-like oscillations between being a critical site of contemplation and relaxation for me and being a more mundane feature that happened to be part of the backdrop of my journeys to places near the Mississippi. I would be lying if I said I took specific note of the river when I'd drive over it on the

Lock and Dam Number One on the Mississippi River from Minneapolis, Minnesota. Behind the dam, you can see the Ford Parkway Bridge spanning the river. Image courtesy of Niiyokamigaabaw Deondre Smiles.

I-94 bridge (or the many other bridges crossing it in the Twin Cities). But I remember the more introspective moments along the river, such as fall afternoons spent walking alongside the river near the campus of St. Cloud State University or at Lock and Dam 1, enjoying the changing fall colors of the trees and the stillness of the water. I remember whimsical moments, such as driving across the Mississippi bridge on Highway 2 on the Leech Lake Reservation and seeing young Ojibwe children getting ready to jump into the water on a warm summer day. And there have been emotional moments, such as reuniting with my mother at Minnehaha Park in May 2021. This was the first time we had met after over a year of not seeing each other due to the COVID-19 pandemic. We spent our time together hiking around and alongside the Mississippi, as I had done before. The gentle sounds of the slow-moving river and the sun shining through the trees were highlights of a wonderful day,

The Mississippi and its broader health have gained significance in my mind recently. In graduate school, I was introduced to a new term—*territoriality*, or how people and organizations lay claim to space. Joel Wainwright and Morgan Robertson (2003) introduced the term in reference to the late 1990s protests against the construction of Highway 55 (Hiawatha Avenue) through Minnehaha Park, a project which endangered a set of trees that were considered sacred to the local Dakota community. The authors showed the contested nature of the space. While the Dakota claimed relationships to the land and those trees through oral history, the state of Minnesota used historical maps (written by the state) and testimony from selected Dakota elders and knowledge holders to claim that the trees at the center of the controversy were not the sacred trees (Wainwright and Robertson 2003). Despite protests and direct action, the state built the road and the trees were eliminated. According to Wainwright and Robertson, the State of Minnesota asserted territoriality to the space, arguing forcefully that the need for an expanded road won out over the Dakota historical and spiritual claim to the land.

Colonial structures have been asserting their territoriality over the Mississippi River and its environs since the formation of the United States itself. If one were to look at historical maps of the territorial evolution of the United States, one would find that once upon a time (before the Louisiana Purchase), the Mississippi River marked part of the boundary of the United States. Then, once the "frontier" moved westward across the river, it marked the boundary of land cession treaty territories. In Minnesota, territories ceded by Indigenous peoples, including the Dakota, Ho-Chunk, and Ojibwe, to the United States under the Treaties of 1837, 1847, and 1851 used the Mississippi River as a boundary point.

This territoriality extends beyond simple political geographies; how the Mississippi has been treated from an environmental standpoint is a clear assertion of territoriality. There are several grievous examples of the state violently asserting its territoriality over the water and associated lands. One example is the placing of pipelines near the Mississippi and its tributaries, including the original and new routings of Enbridge's Line 3 pipeline, which had a massive spill over the Prairie River, a tributary of the Mississippi, in 1991 (Kraker and Marohn 2021). Another example is the construction of the Prairie Island Nuclear Power Plant near the Prairie Island Dakota community and next to the Mississippi River, a plant that carries the risk of contamination of the Mississippi River and its watershed through toxic nuclear waste.

The Métis scholar and scientist Max Liboiron makes the argument in their 2021 book *Pollution Is Colonialism* that we and the environment coexist in a set of relations—we can choose to be in good relation or bad relation to the environment. Liboiron asserts that we are not acting in good relation by viewing environments as places where we can place pollution (or polluting industries). What they mean by this is that much

as we might treat a relative poorly, we can also treat the land poorly and not think about the well-being of the land. The territoriality of how the Mississippi River has been viewed throughout Minnesota's history falls in the same category: it is considered a space to be controlled, claimed, and made to work for the supposed betterment and civilization of humanity. We can see this through the harnessing of the river to power the many industries that have called the Twin Cities home, such as flour mills or auto plants, or the current set of locks and dams that make the river navigable for boats.

But what if there is another way forward to relate to the river? What if we can create another form of territoriality? Or, better yet, how can we move past territoriality?

For me, the answer might lie back with the nine-year-old version of me, who viewed the river with such wonder, or with the subsequent versions of me, who regarded the river as a comforting presence at moments when I sorely needed them. I don't want to call this territoriality because I don't own the river—I wouldn't want to even if the opportunity arose, because to me, being in good relation with the environment (and by extension, the river) means ensuring that it can be a generative space for all. As trite as it may sound, we should think less about what the Mississippi can give us or do for us and more about what we can do for the Mississippi. To me, being in good relation means ensuring that we can preserve the river so that other nine-year-olds can lead expeditions along Minnehaha Creek to find its opening into the Mississippi River or so that young students can do all kinds of pondering along the river's banks. By rejecting pure territoriality, we can ensure that this space remains available for all to have their relationships with the water and the space. Rather than viewing the water as a resource to extract from, we can view the water as a calming, regenerative space. I argue this will give us the best benefit: a sense of well-being. I can't wait for the next time I spend time by the river again; it is something I will never take for granted.

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PERSPECTIVES

PLEIN-AIR PAINTING AS COUNTERVISUAL PERFORMATIVE FIELDWORK

By Sarah Lewison

We can open a portal to the stories of those whose lives have been subjugated by acts of economic control upon the landscape by experimenting with how we look at that place. As a visual artist, I think about how spaces reveal and conceal their histories, and as a teacher, I try to nudge students away from habits of looking that presume that *what we see is all there is*, in order to guide them and myself toward the recognition, identification, and activation of a site's history. When we encounter the unknown, I try to fire up my students' imaginations, using observation and empiricism as guides. What might not be so obvious in the frame of sight?

Practicing to see differently, especially to see the traces of economic control upon the land, builds our capacity to witness and speak about

Painting en plein air. Image courtesy of Ellen Esling.

social and ecological harm, and to recognize the dis-ease of others. In *The Right to Look*, visual culture theorist Nick Mirzoeff describes how socially conditioned practices of visuality derive from the ordering and control of a subject who views from the perspective of the overseer looking over the plantation.[1] When visiting spaces with a history of human subjugation, I think about how the cleaning-up or landscaping of these spaces constitutes a kind of ordering that obliterates memories of harm. Mirzoeff asks us to attempt to look from the perspective of the harmed, calling this an act of countervisuality. In this work, I adopt countervisuality as a practice for investigating retired industrial spaces, in order to respond to them from the perspective of the lives that have been ordered and objectified.

I've long experimented with activities that foster countervisual perspectives on landscapes around us, illuminating layers of social and ecological experience over time. Over the last decade, I've conducted workshops and tours in Southern Illinois backwaters, inviting people to view and contemplate the rise and fall of small-town industries, for example, or the leakage of liquid sulfur from coal mine slurry impoundments. In this practice, I follow in the footsteps of radical geographers such as urban psychiatrist Mindy Fullilove and researchers at the Center for Land Use Interpretation, who offer people analytical tools for seeing their surroundings.[2] To prepare for a site visit, I share background information as context for participants. Once on-site, I suggest we take time to encounter the space without

Painting at the Kopper site.

goals, feeling our own corporeal reactions. Sometimes we meet with people who used to work there. Or we gather materials: plants, seeds, stones, mementos, photos, and sound. We enlist our senses to develop questions like *where did that sound come from?* The group engages all kinds of perception, including temporality, touch, and orientations of scale, in order to discern traces of habitation, colonization, displacement, extraction.

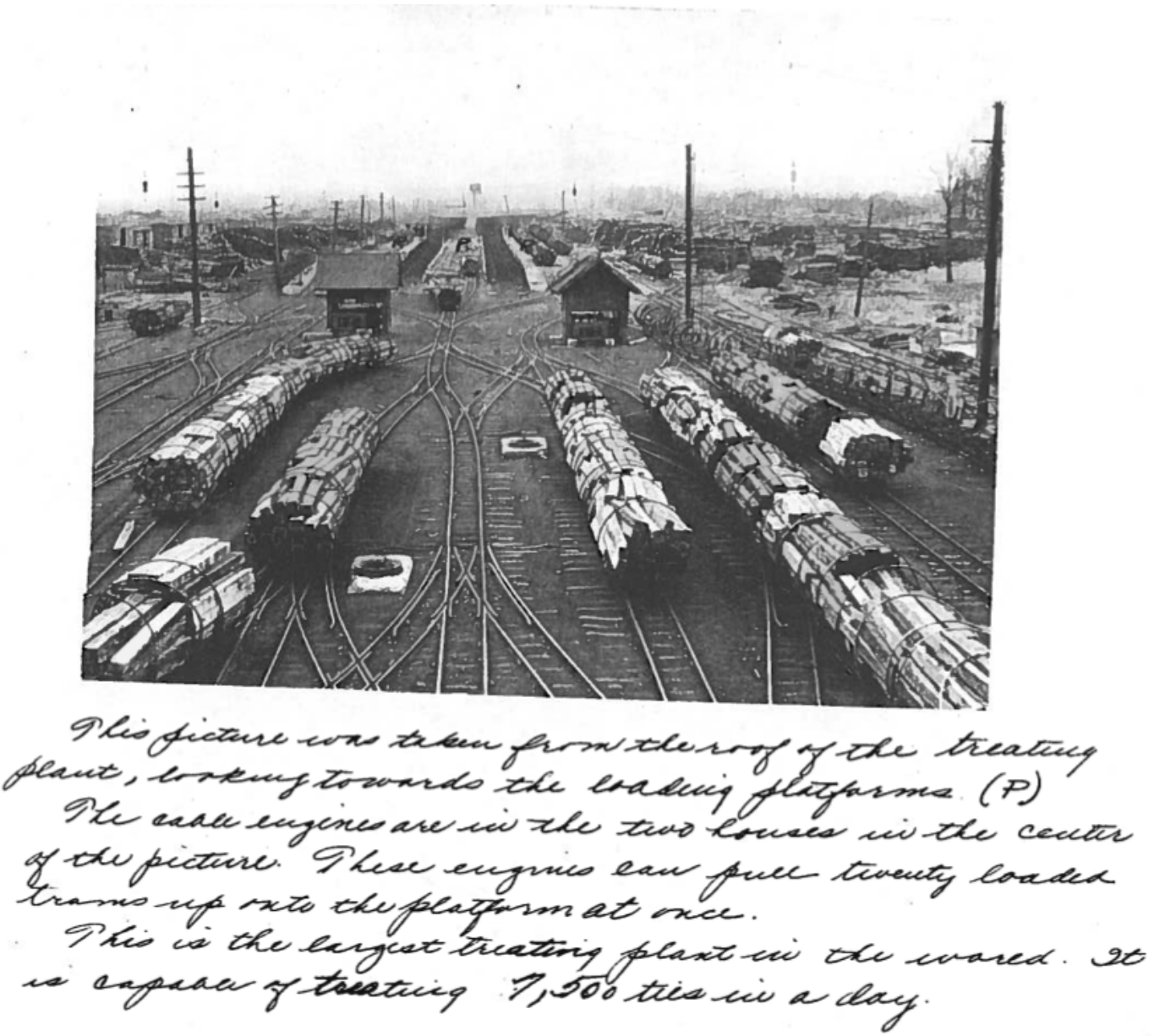
Over the last couple years, I've taken students to a brownfield on the edge of our small city for an experiential lesson that ties together local and national history, industrialization, environmental justice, and visuality.[3] We follow the approaches for sensing noted above to engage the site in a practice of countervisuality. In this article, I offer our class experiences of using painting in the field, or *plein air* painting, as a way of "unlocking" imaginations to the tangled history of a place and its impact on other places, people and nonhuman beings. For my students, coming from very different places—Chicago, California, Louisiana, and the country Jordan—there was a lot to unlock. Some of them may have encountered brownfields before in the form of closed factories or barren, gated, dusty fields with warning signs. To a city person, on a sunny day, this brownfield looked like the opposite: a grassy meadow with a majestic hill that gave few hints of its toxic past and residues. I asked the students to write about the experience and have included their perspectives in insets throughout this piece.

> Painting at the Kopper site was a tranquil experience. I didn't expect to enjoy it as much as I did. The large mound was breathtaking. If memory serves me right, the mound was man-made. I remember learning that it was built after the deconstruction of a nearby factory. The factory employed a large number of African Americans in the Carbondale area. . . . The mound resembles ones built by Native Americans. It more specifically looks like a conical burial mound. It's worth mentioning that while there aren't dead bodies there, a lot of lives were affected by the factory closing.
> —Micqwan

Micqwan surmises that people were affected by the factory's closing, but the truth is that more lives were impacted by the factory's operation. The Koppers wood treatment plant (formerly Ayer and Lord Tie Plant) was, in its heyday, the world's largest industrial wood preservative facility. Set on 220 acres north of Carbondale, Illinois, from 1902 to 1991, the plant produced millions of creosote-saturated railroad ties and utility poles to build the nation's rail and communication infrastructure. Creosote is a black, sticky substance derived by distilling coal tar, used since the 1800s as a wood preservative.[4] It is a cocktail of polyaromatic hydrocarbons containing or breaking down into other known toxic compounds, including pentachlorophenol, fluoro-chrome-arsenate-phenol, lead, fire retardant, dioxin, and furan.[5] Over its 87 years of operation, the plant employed scores of Black men who could not find other jobs in a society where Jim Crow laws and economic barriers restricted where black people could live and work. Creosote workers were hired by the day and paid on a piecework basis, a system that competitively pitted them against each other and sometimes led to violence. The work was grueling and dangerous.

To prepare for our visit to the site, my class read a 1932 term paper written by a Northwestern University student after three summers working at Ayer and Lord in supervisory positions. William S. Stewart's "Management of Negro Laborers in a Southern Industrial Plant" offers a great deal of detail about the creosoting process and working conditions at the facility.[6] Men spent entire days lifting, carrying, stacking, and loading timbers weighing up to 300 pounds, often dripping wet and hot with toxic creosote, which went home with them, caked onto their clothing and skin. Stewart notes that black laborers were universally relegated to the handling of creosoted

logs, while white employees were assigned jobs according to their skills. He describes the company town practices which regularly cheated the men out of their pay or housing, and concludes with a critique of a racist system which, he writes, the company had no reason or power to change. Each day, the creosote fumes wafted into the adjacent neighborhood with the wind; when the factory's ovens were fired up, people ran to pull clean laundry from clotheslines lest it be ruined by sticky black dust. A cluster of deaths from cancer in the neighborhood has never been investigated.[7]



Koppers Yard circa 1932 by William Stewart, in "Management of Negro Laborers in a Southern Industrial Plant," VFM 1489. Via The William S. Stewart Vertical File, Southern Illinois University Library Special Collections, Morris Library, Southern Illinois University Carbondale, 1932.

The facility stopped operating in 1991, and in 2003 the buildings were demolished. Today a thin strip of forest conceals the site from a nearby neighborhood. New residents know nothing about it, or about the possibility that their yards are contaminated. In 2004, the Environmental Protection Agency supervised a cleanup that entirely altered the site's topography.[8] Tainted soils were scraped away by the ton, and clean soil was brought from another part of the site, creating a "borrow pit" which is now a seasonal pond. A creek was moved. The most intractably creosote-saturated soil, sediment, and waste was consolidated within an impermeable textile bladder called a Corrective Action Management Unit (CAMU). A mound was constructed to accomplish the burial of this amalgamated corpus of creosote, dioxin, and contaminated soils, and the CAMU slowly drains, like an abscess, into a tank that is periodically emptied by Beazer East, the current owners of the property. They are also charged with protecting the public from the site and monitoring the land to ensure contaminants do not trespass into any bodies of water, animals or people. Before visiting, our whole party had to sign liability releases, and security guards were appointed to make sure we didn't wander off from a designated viewing point.

> I had no idea what to expect when we went to Koppers and feel a lot of responsibility to represent what has happened here. I had recently learned the history. Hearing all the stories of the terrible experiences people had working there and the idea that there was still a community there baffled me. . . . I was surprised to see the giant mound. It was like everything was literally being swept under the rug. I was shocked to learn that the security had no idea about the place they were guarding and why the history of that place was being swept away, yet no one could mistake the uneasy feeling it brought. —Dimmick

Painting the mound.

Nowadays, one is left to imagine the bouquet of creosote that once hung over the property. The adjacent neighborhood is still mostly African American, and while some families have been there for generations, many new folks have settled there, too. The class was prepared to think about those neighbors after reading excerpts from Robert Bullard's body of work on environmental racism and the emergence of the environmental justice movement.[9] It was here before the mound that our class set up easels and acrylics, to spend time contemplating the horrors and labors of a century in a space now attractively dressed up with sod.

> The time of day where the sun was peeking out over the mound was something I noticed immediately and the sky was a deep, rich blue. I knew, immediately, that the colors splashed across the sky was something I wanted to capture: the peeking orange sun, the streaks of white interrupting a clear blue sky, and the shadows hiding underneath the hilltop. . . . The ground was also discolored with brown soil scattered all over.
> —Kenny

Our class also got ready for the site visit by looking at other artwork. To the eye, the CAMU looks like a grassy hill, opaque, revealing nothing of what it contains. We looked at representations of other mounds to think about what a hill might contain. "Significant and Insignificant Mounds," a photographic series by Jennifer Colton and Jesse Vogler, investigates exactly this condition of opacity.[10] Some of the mounds in Colton's photographs contain industrial waste, some remnants from Mississippian cultures, while others are just piles of soil and rock.[11] Like the one before us, these mounds do not reveal their secrets. We examined archeological renderings and cross sections of burial mounds from Mississippian cultures, mulling over how this mound is a kind of burial mound made by

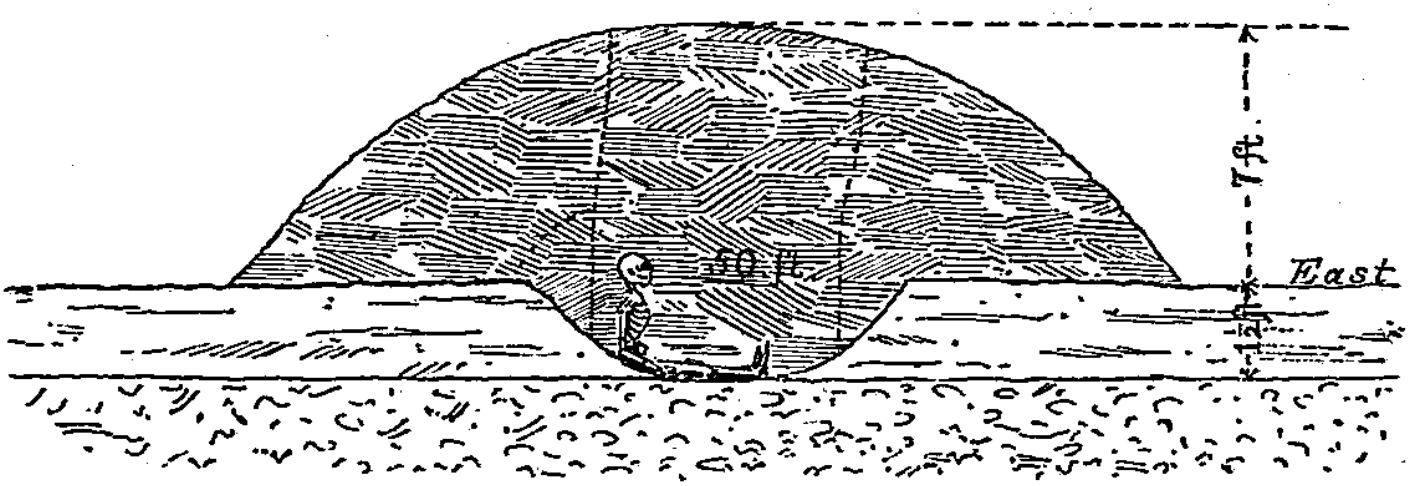
Three artists painting the mound.

terraforming the entire site around it, including relocating a creek. We considered how the thick synthetic pocket inside this mound contains something corpselike, maintained in its undeath by the drainage and removal by pump of its toxic fluids. We could not find out where this waste is taken. I asked the students to imagine what would it look like to try to show this in all of its truth, and we searched for examples of that. We looked at the work of Norman Akers, an Osage painter who depicts Western landscapes and animals in their fullness of nobility only to disfigure them with abstract scars and smears, expressively "correcting" the image to show the realities of clear cuts and chemical contamination.

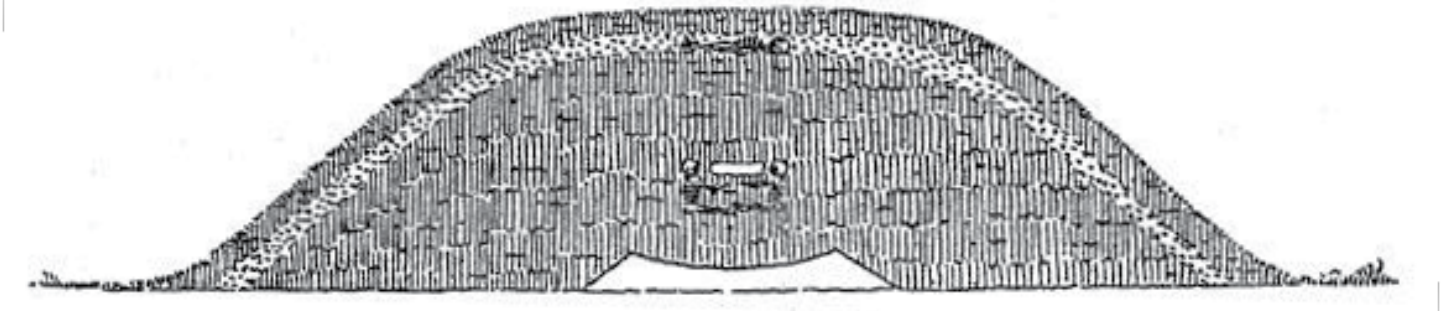
For our own painting exercises, I reached out to Project Human X, a Carbondale business started by artists Marquez Scoggins and Cree Sahidah Glanz to give people access to artmaking.

> When the classroom arrived, the organization Project Human X had multiple paints laid out, blank canvases, aprons, palettes, snacks/refreshments, and easels. The music that was playing had a quite upbeat melody like house party music.
> —Sahrmaria

On the morning of our on-site painting experiment at Koppers, our class met in the university



Section of burial mound near Racine, Wisconsin. From "Burial Mounds of the Northern Sections of the United States" by Cyrus Thomas, 1887, as a part of the Fifth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution.



Mound with so-called "altar," Kanawha County, West Virginia. From "Burial Mounds of the Northern Sections of the United States" by Cyrus Thomas, 1887, as a part of the Fifth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution.

parking lot and piled into a van to drive 10 minutes to the other side of Carbondale. Here we met Marquez, who, as Sahrmaria notes, brought all the materials we needed. Marquez also offered us tips for achieving a realistic image. Painting *en plein air* is translated from the French simply as painting in the outdoors. This strategy of painting directly from a subject in nature first emerged in the nineteenth century. It can be exemplified by the work of Impressionists such as Monet, who were interested in capturing changes of light and atmosphere in the landscape. The invention of paints in tubes made this itinerant form of working possible through their portability. The convenience that Marquez's supplies provided us parallels that history of plein air practice.

In the latter nineteenth century, dissatisfaction with the artificiality of the previous studio painting style contributed to an embrace of outdoor painting. Painters became interested in science, empiricism, and embodied truth. Communicating the three-dimensionality of physical landscapes is a particular type of creative expression. The painter commits to the labor of observation to (re)illustrate for viewers the way that light passes through space and falls upon objects. Doubling down on the question of how to represent the truth not only as light but also as social truth, the realist painter Gustave Courbet, who participated in forming the Paris Commune in 1871, painted what were considered then to be low subjects, such as laborers in their fields. Perhaps most appropriately yet also ironically, the philosophical allegiance to truth in plein air is best stated as "refusal to mythologize or fictionalize landscape."[12]

Selecting paints and other supplies.

> I remember imagining what it would be like to paint the inside of the [Koppers CAMU] mound: What if I took a mighty cleaver and sliced it in half? Would there be clear layers for me to draw or would the inside of it pour out?
> —Salaam

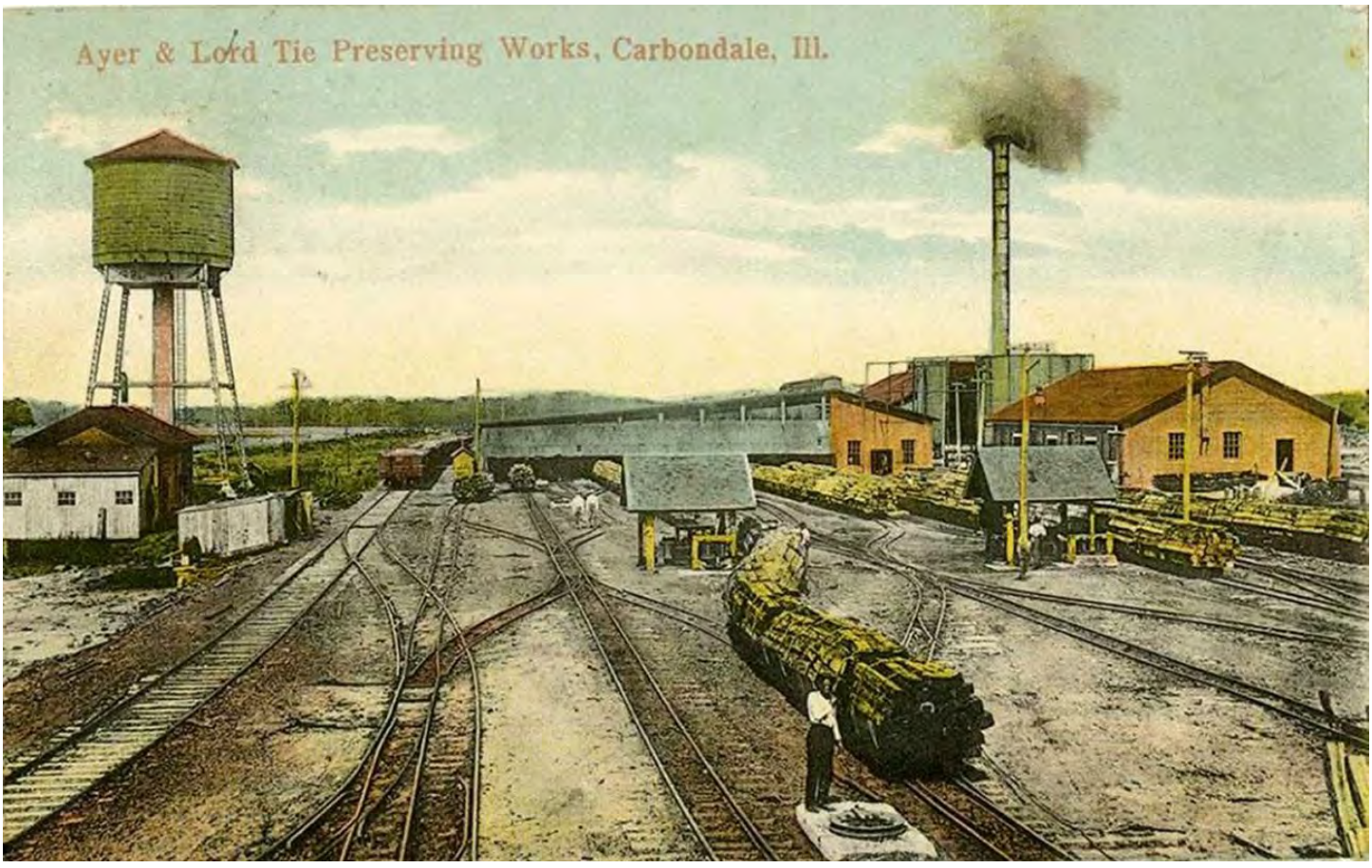
Our paintings were neither good nor realistic, but they were not bad either. That is not the point of the exercise. Plein air painting is really hard and takes years of practice. There's a cartoon by the late *New Yorker* magazine cartoonist Gahan Wilson in which a plein air painter sets his easel in a landscape and paints, not the scene before him, but monsters. The caption is "I paint what I see."[13] It is ironic that even though we were painting what we saw, the truth of what we stood before when we painted the mound was intentionally hidden. The landscape has been terraformed to convey a myth of purity and order. It was our task to honor two images at once: on one hand, the actual light shimmering over the grass and the elevation of the mound, and on the other, imagining the conditions which brought this mound into being.

Painting in detail.

> The mound had so much underneath it. Other than the knowledge of it being used to hide tons of waste, I felt like there was also life inside it trying to escape. For what could have been created during this time of continued industrialization? After setting up the easel I had this thought of a hand reaching through the mound, reaching for the sky. There was this life there, begging, hoping that when it would be released it could give back to the land. Escape its shackles, the prison that was shoveled on top. I wasn't sure what I felt when painting the mound the way I did; I just knew that something wanted to come out. Something was there. The mound had a spirit; the mound carried energy.
> —Lino

Countervisuality seeks to resituate the terms on which reality is understood. Lino's comments invite us to imagine the distance and velocity of the site's violence: slow and far, and potentially out of control as an unknown power resurfaces.

Very few images remain of the plant during operation, and the brownfield today reveals little about that past. The existing photos of the plant are visually framed in a way consistent with Mirzoeff's analysis, taking the perspective of the overseer, or owner, manager, or investor.[14] The viewer is situated at a distance, connected to the facility by orderly lines of tracks where cars with bundles of timbers wait to be rolled into creosoting ovens. We can see over the head of a black worker (switcher?) standing at the intersection of tracks like a conductor. Above it all is the smokestack, signaling productivity. The anthropologist James Scott, who writes about the production of visibility that was central to colonization and development, contends that all life and labor is directed from a central goal and



Ayer & Lord Tie Preserving Works in Carbondale, Illinois from the early 1900s.

viewing point.[15] The fact that we had to sign liability waivers to enter the property speaks to the site's potentially ongoing hazards and to Beazer East's interest in control. These current owners are a development company with a subsidiary that secures brownfields to manage their decontamination and eventual return to economic profitability.

> Painting is a coping mechanism I use for stress and anxiety. Every human should explore nature and go out painting outdoors.
> —Sahrmaria

> I wanted to paint what I saw but emphasized certain aspects. Most shocking was the flaming grass. I wanted to show the toxic land under our feet. We stood ten toes on hell. I emphasized the dying tree to show the futility of life to be sustained in such a place.
> —Dimmick

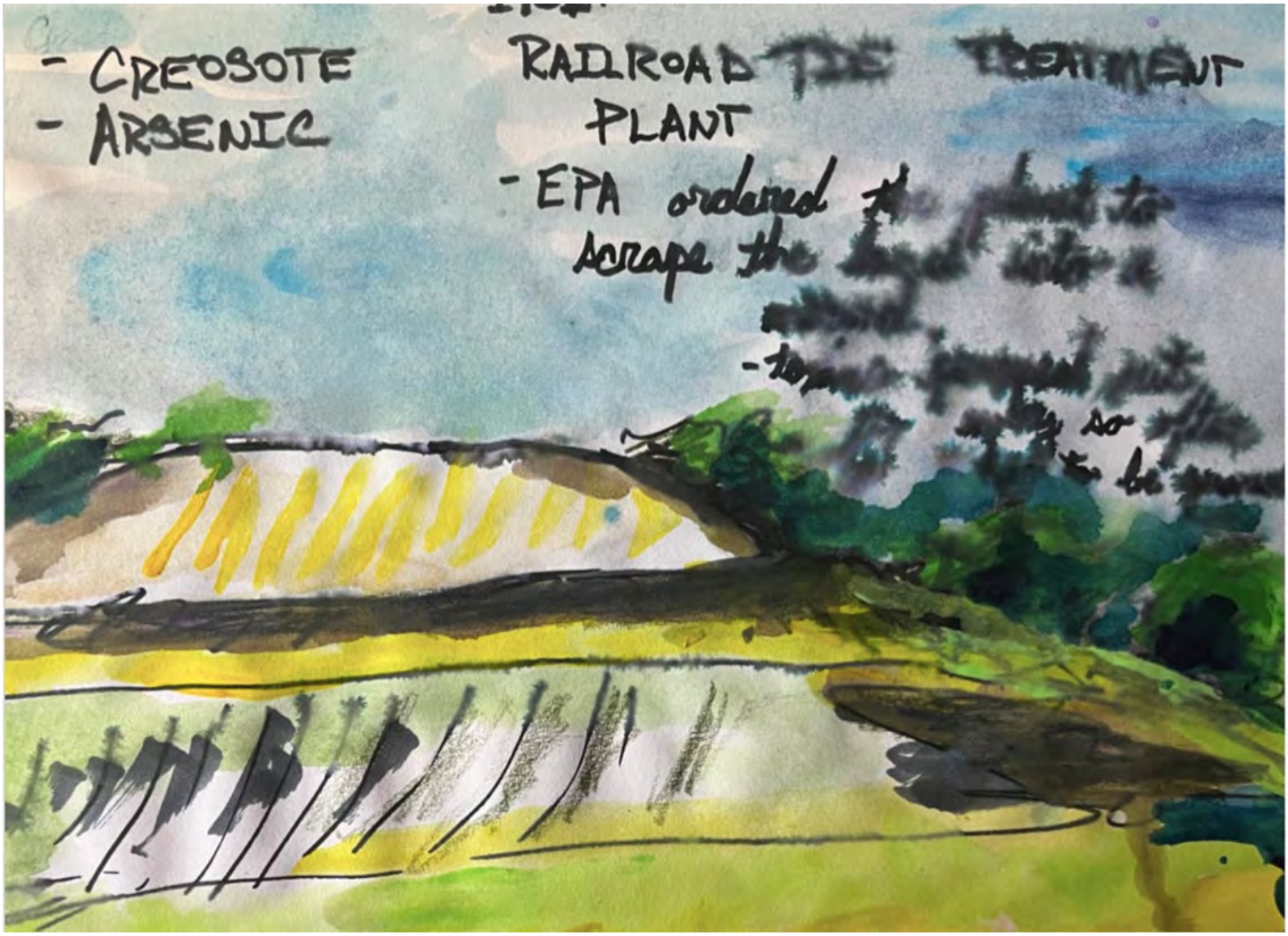
To stand before an object long enough to paint it is an act of recognition and solidarity. It requires a different kind of endurance than snapping a photo. The story of the site and its impact on the workers and their families is conveyed through a memorial located about a mile away from the facility.[16] This memorial, designed and erected by impacted community members, would also be worthwhile to stand before and reproduce as a plein air exercise. The memorial and its associated website commemorate the illness and dis-ease associated with the factory, which affected some families across generations. What other places

Another view of the mound. Image courtesy of Lino Escontrias.

and topologies are ignored, concealed, or used to hide away those who are vulnerable—human and beyond human—and the damages done to that life? Besides brownfields and industrially contaminated sites, we might consider standing before and painting prisons, mines, and landfills.

In *The Hologram*, a manifesto on mutual-aid healthcare, feminist economist Cassie Thornton ties vulnerability and damage to social isolation, suggesting that "all our crises are connected and . . . we are all a little sick."[17] She uses the pandemic crisis to show how many of our society's crises, from debt to mental illness to diabetes to environmental contamination, connect people through capitalist conditions that elevate profit and individualized, market-driven choices. She proposes instead a network of mutual aid and collectivized knowledge and care through which people learn to recognize and share trauma in order to heal through the creation of new solidarities.

Painting wounded places is humbling. It is hard enough to translate life onto the flatness of the canvas, and even more difficult if that translation involves recognizing the pain of an invisible other and, perhaps, one's own discomfort or



A watercolor sketch reflecting the environmental history of a railroad tie treatment plant, highlighting contamination issues with creosote and arsenic. The artist incorporates handwritten notes about EPA actions over a vibrant depiction of the landscape. Image courtesy of Sarah Lewison and Kendra Keefer.

vulnerability. This is one way that countervisuality lends itself to possible solidarities and emergent forms of power. The painter is like a channel, embodied, breathing, sensing; maybe the sun is warming their back as they let what they have learned ease off a brush onto a canvas.

All images are courtesy of Sarah Lewison unless otherwise noted.

Footnotes

[1] Nicholas Mirzoeff, *The Right to Look: A Counterhistory of Visuality* (Duke University Press, 2011).

[2] Fullilove (https://www.mindyfullilove.com/about) is a psychiatrist who studies cities. Interested readers might begin with her book *Root Shock: How Tearing Up City Neighborhoods Hurts America and What We Can Do About It* (Ballentine, 2004). The Center for Land Use Interpretation (https://clui.org/) was established in 1994 to build public knowledge about contemporary human intervention in the landscape.

[3] According to the EPA, "The term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." "Overview of EPA's Brownfield Program," Environmental Protection Agency, 2021, https://19january2017snapshot.epa.gov/brownfields/brownfield-overview-and-definition_.html.

[4] Creosote contains hundreds of chemicals including phenol, o-cresol, p-cresol, m-cresol, 3,4-xylenol, and 3,5- xylenol. "Toxicological Profile for Creosote," US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), July 2024, https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=66&tid=18.

[5] ATSDR, "Toxicological Profile."

[6] William Stewart, "Management of Negro Laborers in a Southern Industrial Plant," 1932, VFM 1489, The William S. Stewart Vertical File, Southern Illinois University Library Special Collections, Morris Library, Southern Illinois University Carbondale.

[7] Amelia Blakely, "A Tale of Two Brownfield Sites in the Midwest," WBEZ Chicago, February 11, 2021, https://www.wbez.org/2021/02/11/a-tale-of-two-brownfields-in-the-midwest; author's interviews with residents Pepper Holder, Marilyn Tipton, and Robert Ollie, ca. 2017.

[8] "Hazardous Waste Cleanup: Former Koppers Wood Treatment Facility—Carbondale, Illinois," United States Environmental Protection Agency, updated September 16, 2024, https://www.epa.gov/hwcorrectiveactioncleanups/hazardous-waste-cleanup-former-koppers-wood-treatment-facility.

[9] Robert Bullard, "Confronting Environmental Racism in the Twenty-First Century," in *Colors of Nature: Culture, Identity, and the Natural World*, ed. Alison Hawthorne Deming and Lauret E. Savoy (Milkweed Press, 2001).

[10] Jennifer Colton and Jesse Vogler, "Significant and Insignificant Mounds," Charting the American Bottom, accessed February 1, 2025, http://www.theamericanbottom.org/itineraryTwo.html.

[11] In one iteration, Colten and Vogler highlight the muteness of the mounds with phrases like "Blind Spot," asking the spectator to meditate on their simultaneous visibility and invisibility. "Significant and Insignificant Mounds," Saint Louis Art Museum, accessed February 1, 2025, https://www.slam.org/significant-and-insignificant-mounds-a-project-by-jennifer-colten-and-jesse-vogler/.

[12] Greg Thomas, "En Plein Air: Summary of En Plein Air," The Art Story, November 22, 2020, https://www.theartstory.org/definition/en-plein-air/.

[13] Gahan Wilson, *I Paint What I See* (Simon and Schuster, 1971), https://archive.org/details/ipaintwhatisee00wils.

[14] Mirzoeff, *Right to Look*.

[15] James Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (Yale University Press, 1998).

[16] Carbondale Concerned Citizens, "Carbondale Koppers Justice," accessed January 28, 2023, https://carbondalekoppersjustice.com/; "Carbondale Koppers Justice Memorial," Carbondale Park District, accessed February 1, 2025, https://cpkd.org/carbondale-koppers-justice-memorial/.

[17] Cassie Thornton, *The Hologram: Feminist, Peer-To-Peer Health for a Post-Pandemic Future* (Pluto Press, 2020).

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About the Author

Sarah Lewison is an artist and writer who looks for transversal perspectives of ecological relation and social kinship. Her participatory and installation works on land use, extraction, care, and commoning include public readings, installations, tours, films, and hearings that invite participants to imagine other ways of organizing society. Through durational projects like the Center for Subsistence Research, a platform for quotidian practices of care and repair, her work joins play, labor, living forms and community formation to attend to materialities of place, justice, and processes of relationship.

PRIMARY SOURCES

PERCEPTUAL ECOLOGIES OF SOUND AND VISION AT MARY MEACHUM FREEDOM CROSSING

By Sam Pounders

In the Midwest of North America, as in many places, settlements accumulate below confluences where the modern riparian condition unfolds as a series of complicated petrochemical corridors, wildlands, estuaries, and beaches filled with building debris. The edge is a jumbled ecosystem of products and byproducts guarded by a thicket of ruderal shrubs, grasses, vines, and brick rubble. Touching the water of the Mississippi River in the city of St. Louis, Missouri, where I write from, can take some effort and insider information. The larger context of my river experiments lies between the last locks and dam (Lock 27) north of St. Louis and the Army Corps of Engineers (USACE) Field Station at the end of Arsenal Street in south St. Louis.

Detail view of viewfinder image observing the edge condition along the Mississippi River below Mary Meachum Freedom Crossing, 2023. Collage courtesy of Sam Pounders.

Vessel: A utensil for holding something, as a vase, bowl, pot, kettle, etc. [1]

The *Carrier Bag Theory of Fiction*, by Ursula K. LeGuin, posits that the earliest form of human technology was a vessel or a recipient: "A leaf a gourd a shell a net a bag a sling a sack a bottle a pot a box a container. A holder. A recipient. The first cultural device was probably a recipient."[2] Le Guin, writer of science fiction, extends the definition to fiction as a vessel for stories, words, and ideas. If a vessel can be literal or symbolic, it can be many things. In fact, perhaps that which a vessel typically carries, say water, is a vessel itself. Water would be a cosmic vessel of wisdom and memory. Water moves across time and space indefinitely recreating itself. In a physical sense, water is what connects us more than land. The waves that lap at beaches in Mexico are the same waters that rain down from skies into the Great Lakes, and they are the same waters that we feel as tears of happiness or grief. Water is a memory keeper. Water itself is a vessel.

The projects discussed here center the river as a vessel of memory and wisdom, one which may be hard to touch or interact with. Therefore, the approach leans into perception. These projects rely on a sensorial inclination towards landscape. Perception is the tool that accrues intimacy with a place. These projects are like desire lines, where the journey towards the source produces a new frame for what it means to arrive at the destination.

Sound Gathering

Standing along the Mississippi River, north of the old port of St. Louis and just south of the mighty confluence with the Missouri River, one can hear much besides water. Deep and high-pitched frequencies are filled with beeps, scrapes, horns, wind whipping, crunching leaves underfoot, and tires on gravel. Although I stand a mere 100 feet from the river's edge, I cannot detect the wet splash of water with my eyes closed. Behind my lids, I imagine that bubbling underworld with characters large and slippery like the morose channel catfish and the dinosaurian paddlefish, silently drifting under the brown veil of shining river, which does not appear shy but cannot be heard. My ears are curious and angle toward the source, seeking to land on the playful tones of something wet and powerful.

I understand sound as not only a textural quality of environments but as a perceivable analog for the many unseen or unnoticed things at play in a given place. Sound often delivers wisdoms about the true shape of forms around. I have developed an exploratory practice for site analysis called Sound Gathering, a tool for understanding a site's non-visible character, a language of textures and environment. For some time, in the Middle Mississippi north of the city of St. Louis, I have collected field recordings at a specific location known as the Mary Meachum Freedom Crossing. These sounds, archived and arranged, paint a sonic landscape of a special riverine site: the only nationally recognized Underground Railroad site in Missouri and west of the Mississippi. It is also the historic location of a floating school where enslaved Black children were educated in the middle of the river.

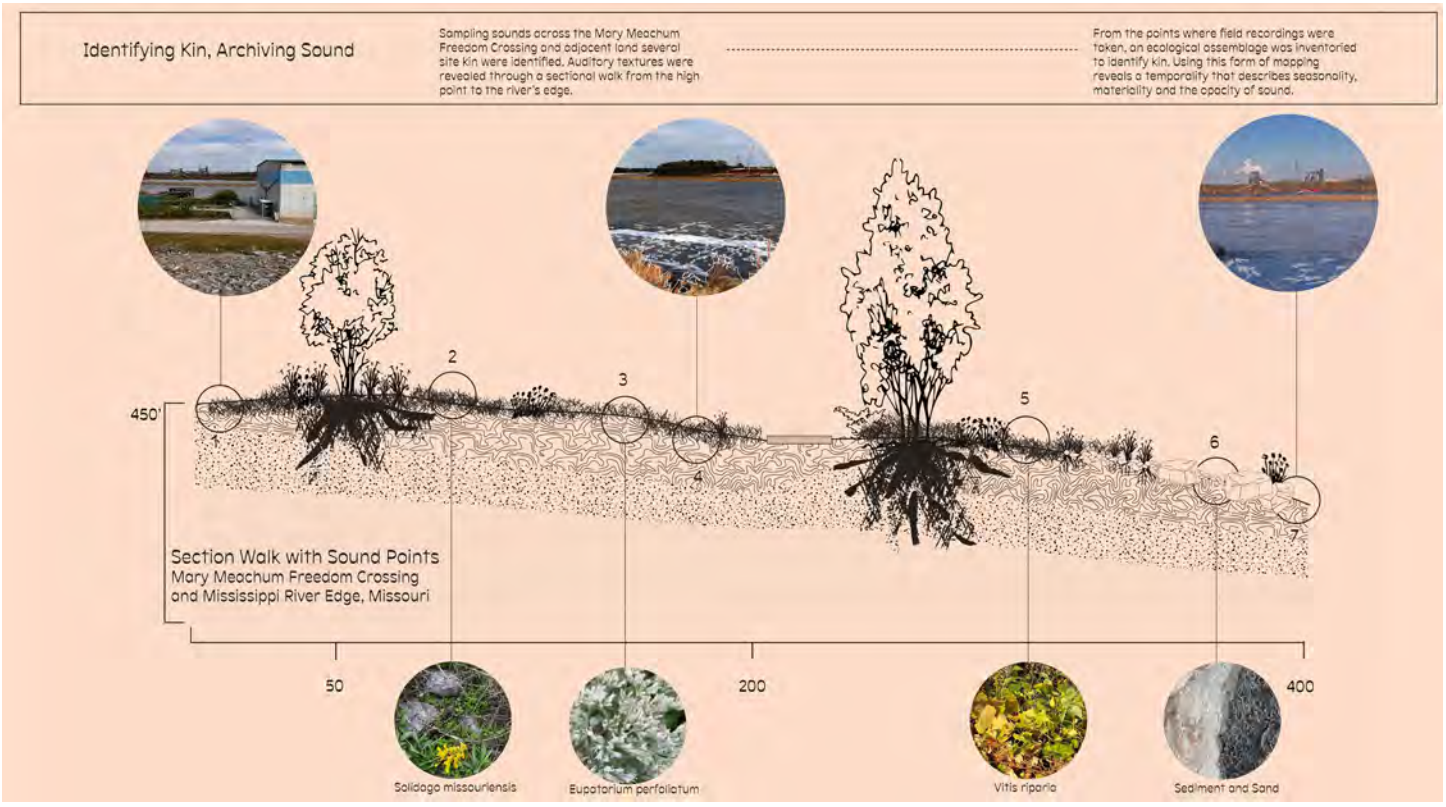
This sample of Sound Gathering addresses and engages the riparian edge of the Mississippi River's plant, sediment, rock, wind, and water forms as sonic kin. Sound Gathering paints a portion of the assemblage of a site. A mosaic of new knowledge about relationality emerges from

listening. The process of sound gathering creates space to witness kin and creates an interpretive opportunity for the listener.

I gathered sounds across the Mary Meachum Freedom Crossing and adjacent land by taking a sectional walk from the high point along a frontage road to the river's edge. The frontage road is used primarily for maintenance and access to the industrial nodes near the river, including a railroad, shipyards, an industrial soap factory, and water treatment plants. From this starting point, we hear wind and industry, the crunch of brittle grasses and gravel. The tone of the field recording changes as we draw closer to the water. The wind begins to whoosh instead of whip, and we feel the dampening of sound but not yet the actual tone of water. Birds in trees, fishermen sitting in peace, mice squeaking in tall grasses. The river is like a drum, a long conduit for reverberation.

Listen to a riparian cross section composition gathered and mixed by Sam Pounders.

My Sound Gathering process is as follows: about every 30 feet I take a sound map of a small area along my walk, which involves two to five minutes of listening with a sensitive field recording microphone. Along the walk, I drop a pin in my phone at each stop so I can collate sounds and collection points on a map. In the same location, I collect an ecological assemblage of plants, rocks, exoskeletons, fluff, and trash. These things are collected physically or with a snapshot of the camera if they do not want to be removed from their home. The plants found in this Sound Gathering are goldenrod (*Solidago missouriensis*), boneset (*Eupatorium perfoliatum*), riverbank wild grape (*Vitis riparia*), and several species of grasses (Poaceae). The plants intertwine complexly with one another and with other materials on the site, creating a site-specific sonic palette. This form of mapping reveals a temporality that describes qualities native to a place. Is it possible it only sounds like this right here?



A section of the Sound Gathering walk along Mary Meachum Freedom Crossing depicts the plant life encountered in this riverine landscape. Image courtesy of Sam Pounders.

In the Mary Meachum Freedom Crossing Sound Gathering shared here, sound assemblage points were taken on the Missouri side of the river proceeding toward the river's edge. This march towards the river cannot be extricated from the across side, known as Illinois. In the time that this location was an Underground Railroad stop, the focus would have been on what lay on the other side: Illinois, freedom. Today I witness that sounds are sent and received between banks, sloshing back and forth in the watery middle. To conduct the impossible would be to walk into the river, tracing along the basin of the riverbed to the other side, catching sounds every 30 paces in a slow prayer procession to the sediment.

Sound Gathering is an embodied practice of audio mapping. In the process of gathering sound, I discovered that each microsite was a pleasant moment to view the river. These points were sonically textural and variable from one another. My body corrects towards the river, eyes set on the opposite bank; I yearn to cross and consider the legacy of that desire. Human and nonhuman kin float, sail, swim, and blow across. Connecting embodied sound and vision, I seek to look closer at the crossing, to provide a trip to the other side.

Viewfinding in the Middle River

A visit to the Middle Mississippi River may prove difficult if we want to touch water or hear its babble. There are many industrial buffers along this portion of the river and few accessible trails

Viewfinder image of the historical floating schoolboat that was used to safely educate enslaved children in the middle of the Mississippi River, located at the Mary Meachum Freedom Crossing. Collage courtesy of Sam Pounders.

to its shore. Perhaps next to an access point is a culvert gushing industrial waste from the nearby soap factory, creating a poisoned slurry of pink bubbles on the olive-green waters. Such is the case next to the Mary Meachum Freedom Crossing. This site is a historically significant feature of the North St. Louis waterfront, although it is not widely known by the public. In

Viewfinder placement near the Mary Meachum Freedom Crossing along the Mississippi River. Collage courtesy of Sam Pounders.

1847, this was the location for the Candle Tallow School run by Mary Meachum and her husband, John Berry Meachum. To safely educate enslaved black youth, they taught classes on a boat in the middle of the river. The shores of Missouri and Illinois come closest here at the Mary Meachum Freedom Crossing, providing the safest passage to freedom in the St. Louis area.

Approaching the river proves to be difficult near the Freedom Crossing as at many places along the Middle River. In my desire to enable a riverine connection for myself and other visitors to the Freedom Crossing, I imagined the use of viewfinders, such as the ones seen at national sites of interest with grandiose landscapes. In a previous exploration of the site, I gathered

A viewfinder placed at the top of a service road. Collage courtesy of Sam Pounders.

sounds to explore with my ear first. As I spent a few thick minutes listening to each micro-site along my walk, I dropped into the riverine story being told in sound, smell, peeks of the river, and the waxing and waning views of the other side.

Viewfinding locations in this hypothetical site installation are determined by Sound Gathering and accessibility. With a viewfinder, visitors can visually visit the other side of the river, positioned intimately in thickets of riparian ecologies. Installed across the site and pointed across the river, the viewfinders are placed in areas of high textural auditory presence. The purpose of installing viewfinders is to immerse ourselves in riverine understanding. We can see the complexities of industry, rough ruderal ecologies, the presence of invisible pasts, the condition of fresh water in the middle of the country.

View from the thicket, 2023. Collage courtesy of Sam Pounders

Viewfinding lets one see as seeds float across on wind and on water. Or witness woody material floating from one side to the other, sharing in a depository flow of matter. Across the way from the Mary Meachum Freedom Crossing, Illinois' bank is less steep and foxes walk along the edge. The landscape appears as a mild-tempered floodplain yet committed to industry. The line of water is rarely accessible on either side. Industry and fences on the Illinois side, a four-foot-deep wall guarding steep, eroding bluffs on the Missouri side. Missouri's land is guarded by the military's Army Corp barracks walls while Illinois lies unguarded and open, a floodplain left to flood despite the capital sunk in production at the river's edge. The Mississippi River north of St. Louis is striped like a skunk's tail, one side of the water's flow carrying sediment from the Missouri River confluence, a gradient down the center in aerial photographs. The line seen from the heavenly gaze of satellites is not visible standing on the banks of the Mississippi. Instead, we see the ochre-green hue of the river with its curling undertow whispering caution and carrying on. Viewfinding on the edge is an opportunity to commune with the liminal space between land and water along the middle Mississippi banks.

The river's edge is a record of the water's fluctuation, a path of markings, of exposure and concealment, of the river's force and tranquility. The swell overtaking land, and the fall revealing

Viewfinder image observing the edge condition along the Mississippi River below Mary Meachum Freedom Crossing, 2023. Collage courtesy of Sam Pounders.

new shapes in arrhythmic terrestrial syncopation. Along the edge, changes are frequent. What is the river trying to teach us? Those that reside in this intermediate zone are brave and resilient, like sediment guarded by washed up fallen trees, covered in wild grapevine, anchored by burdock and pokeweed.

If the "recipient," to use Ursula K. Le Guin's language quoted above, or an individual—perhaps a storyteller—is an extension of this early cultural device, then their physical body is a vessel of wisdom and memories. To pass on memory is a curatorial process. Memory changes with its dispersal. Reverberations of sound convey a

Viewfinder image observing Illinois from the Missouri side of the Mississippi River, 2023. Collage courtesy of Sam Pounders.

sonic picture of a site. Viewfinding is another storytelling device, and in this case, both seek to see the river as a vessel, a keeper of memory, and a connection across the complex ecologies of perception.

A view of industry along the Mississippi River on the Illinois side, 2023. Collage courtesy of Sam Pounders.

Footnotes

[1] *Webster's New World College Dictionary*, "Vessel,". Accessed February 1, 2025, https://www.yourdictionary.com/vessel.

[2] Ursula K. Le Guin, *The Carrier Bag Theory of Fiction* (Ignota, 2019).

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About the Author

Sam Pounders is a landscape designer, horticulturist, multidisciplinary artist, and researcher interested in land stewardship and process-driven ecological design. Directed by an interest in the physicality of regenerative and justice-oriented futures, Sam utilizes analog and technological mediums to create places for embodiment in gardens, landscapes, and outdoor venues.

TEACHING AND PRACTICE

MISSISSIPPI AS METHOD

By Michelle Garvey

Praxis of Place

When I think about the kinds of praxis—the application of theory—that enable liberatory movements, I remember bell hooks. Her work teaches the reciprocal relationship between theory and practice: "Theory emerges from the concrete, from my efforts to make sense of everyday life experiences, from my efforts to intervene critically in my life and the lives of others. . . . Personal testimony, personal experience, is such fertile ground" (hooks 1991, 8). Alongside those of other Black feminist and Chicana intellectual trailblazers, hooks's observations stand as a major corrective to the way academia has historically valued theory over practice, implying the presumed objectivity a thinker could possess by virtue of being an unbiased, hands-off, passive observer.

HECUA Environmental Justice student Claire Cambray paddles past the Flint Hills oil refinery at Pine Bend along Mississippi, fall 2020. Image courtesy of Michelle Garvey.

I am a feminist-trained scholar organizing for and teaching environmental justice (EJ), a social movement that challenges dominating systems of power such as colonialism, white supremacy, anthropocentrism, and capitalism, which render expendable both nonhuman ecosystems and the politically vulnerable communities embedded in those ecosystems. Alongside the theories of EJ, I make it a point to teach students the biographies of EJ founders and first-person testimonies of people on the frontlines; these illustrate personal-to-political experiences of environmental injustice, as well as personal-to-political strategies to achieve liberation. Like hooks, they show us that who we are impacts how we think.

HECUA Environmental Justice student Trinity Ek on the banks of Mississippi River at Akiing Welcome Water Protectors Center in fall 2021. Image courtesy of Michelle Garvey.

A critical feature of EJ—and a sign of its conceptual efficacy, gathering, as it does, the realms of both nature and culture within its reach—is its recognition that who we are determines the uneven siting of environmental harms and benefits. This is why calls for liberation predominantly come from Black, Brown, Indigenous, and working-class communities. Clearly, "environmental" in EJ's namesake signifies place in a geographical, material sense. But "justice" does, too. For example, Carolyn Finney employs David Delaney's idea "geography of experience" to amplify shared experiences of racism across space (2014, 54). In further recognition that land is inextricably tied to collective identity, Malcolm X famously argued, "Revolution is based on land. . . . Land is the basis of freedom, justice, and equality" (1963). Indeed, *who* we are, and therefore how we think, cannot be distinguished from *where* and *with whom* we are.

On a weeklong paddle for the fall 2019 HECUA Environmental Justice program, Joseph Underhill interviews Michelle Garvey about river-based experiential education. Image courtesy of Linda Buturian.

I am further shepherded in these considerations by Indigenous researchers and educators whose relational perspectives ground place-based praxes. Linda Tuhiwai Smith instructs that a decolonial approach to scholarship necessitates resisting the colonial impulse to equate distance—both spatial and temporal—with objectivity (2012, 58). Robin Wall Kimmerer approaches plants as subjects, not objects, inviting us to scientific inquiry with neither the impersonal "what is it?" nor the reductionist and mechanistic "how does it work?" but rather the relational "who are you?" and the deferential "what can you tell us?" (2013, 42). Shawn Wilson (2008) reminds us that good research is about accountability to all our relations, human and more-than-human; we are *within* our relations, rather than outside of them.

Michelle Garvey facilitates an environmental justice tour of campus for students in the spring 2024 "Environmental Justice" course at UMN. Image courtesy of Artie Hillman.

This is why I believe that doing EJ education requires not just gesturing toward nor "studying about" place, but rather being *with*, *in*, *alongside*, and *of* place. If we are concerned with communicating EJ faithfully to the movement, grounded as it is in place-based experience, EJ's content and methods—what we study and how we study—require alignment. We must cultivate a praxis of place. What follows is my attempt to elucidate several approaches to teaching EJ with, in, alongside, and of Mississippi River[1], a site of deep historical, cultural, and ecological importance to members of its watershed. I begin by recounting my own teaching encounters with/in this river, and close by offering a sampling of activities curated from community partners deeply engaged with EJ through Mississippi-based education.

For Minnesota Transform's Summer Environmental Justice Institute facilitated by Michelle Garvey, students toured sites of EJ struggle, like the Upper Harbor Terminal, pictured here in the summer of 2023. Image courtesy of Michelle Garvey.

With/In River

What might it mean to learn not just *about* Mississippi River—as storied, mythologized, scrutinized, celebrated, abused as the river has been—but *from within* Mississippi? *Alongside* Mississippi? Indeed, *as* Mississippi, the life-giving force upon which every one of us not just in the Twin Cities but up- and downstream depends?

Images from the 2019 River Semester, when Michelle Garvey accompanied the crew from Baton Rouge to New Orleans. Image courtesy of Michelle Garvey.

Professor Joseph Underhill facilitates a unique learning experience that gestures toward answers. On Augsburg University's River Semester, when students and various river folk paddle from Mississippi River's headwaters to the Gulf over the course of one hundred days, the river is instructor.[2] Syllabi, course schedules, and projects emerge as winds, temperatures, currents, and climates shift. Encounters with place-specific flora and fauna heighten sensory sensitivity. The ever-moving and constantly reconstructed makeshift classroom forces students to grapple with real-life conundrums, contend with discomfort, and problem-solve with ingenuity. Exchanges with diverse peoples and cultures along their path weave an evolving "co-created community" (Underhill 2017). River Semester embodies a praxis of place—indeed, 2,350 miles of place.

Images from the 2019 River Semester, when Michelle Garvey accompanied the crew from Baton Rouge to New Orleans. Image courtesy of Michelle Garvey.

Though far less intensive than River Semester, I've also facilitated and been gifted opportunities to learn EJ with/in Mississippi River over the years. Among fond impressions of riverbank slop lining our boots, boats clanging into each other, windburned cheeks, and laughter carrying across the water, I also recall several poignant moments enabled by river engagement alongside those who live, work, play, or pray with/in Mississippi: listening by firelight to researcher Margarida Mendes' terrifying underwater recording of the industrial cacophony in constant play below our canoes floating through Louisiana's chemical corridor; Nibi Walker Sharon Day's riverside prayer with dozens of Water Protectors at Akiing as giant snowflakes fell around us; the muskrat building their nest with plastic refuse washed ashore as students and I watched sadly from our boats alongside paddle guides Lee Vue and Natalie Warren; learning how to twist

Images from the 2019 River Semester, when Michelle Garvey accompanied the crew from Baton Rouge to New Orleans. Image courtesy of Michelle Garvey.

dead stinging nettle into rope from Seneca elder Hope Flanagan, educator with Dream of Wild Health, on the floodplains of Bdote, or witnessing the variety of edible plants and medicines she foraged in the so-called dead of winter; the rhythmic spoken word spontaneously bellowed by Project Sweetie Pie's Michael Chaney into the echo chamber of a once-standing Upper Harbor Terminal dome silo; somberly floating over Dakota burial mounds flooded by Lock and Dam 3 at Prairie Island; witnessing animals—squirrel and deer—most of us never before realized could swim, making their way across the channel; restlessly camping next to alligator-filled swamps where we'd arrived for the night after Louisiana's Poche family came to greet us with cold drinks and freshly baked pralines.

The collection of edible and medicinal plants foraged by Hope Flanagan at Crosby Farm, March 2021. Image courtesy of Michelle Garvey.

While facts, dates, and figures may fade from memory, the sentiment (sediment?) persists—emotional impacts and sights-smells-sounds-feels-tastes. In addition to the proven effectiveness of experiential learning, learning with/in Mississippi River can also promote low-or-zero carbon, decolonial projects and modes of transportation.[3] Because of the river's longevity, scale, and significance across cultures, learning with/in Mississippi invites interdisciplinarity. It can therefore welcome a plurality of knowers, cultivate collaboration among educators, and accommodate ancestral to cutting-edge analyses, which simultaneously increase educational accessibility and foster cultural competency among learners.

Critically, river encounters do not only bring EJ to life; they can protect and nurture life itself. As Amy Powers' preliminary studies have shown, place-based experiences paired with skill-building can produce a positive feedback loop where attachment to place and enhanced self-efficacy foster community engagement.[4] Community engagement can strengthen our resolve to value, heal, steward, and take pleasure in water, which can in turn produce healthier ecosystems.

A student of Garvey's HECUA Environmental Justice program floats across Mississippi River near Prairie Island Indian Community, spring 2021. Image courtesy of Michelle Garvey.

Guided by conservation biologist Carolyn Carr on behalf of Friends of the Mississippi River, students seed the Mississippi River gorge as part of Michelle Garvey's HECUA Environmental Justice program, fall 2020. Image courtesy of Michelle Garvey.

Toolkit

The Mississippi River Open School for Kinship and Social Exchange community of activists, artists, Water Protectors, and scholars celebrates and inspires engagement with/in Mississippi River. One of the greatest joys of taking part in this team has been coming together for "confluences" to develop praxes of place and to practice and experiment with Mississippi-inspired

For the second Mississippi River Open School confluence in May 2023, participants tour Wakan Tipi Awanyankapi, Dakota sacred site and nature sanctuary on Mississippi River floodplains. Image courtesy of Michelle Garvey.

activities. In the spirit of these confluences, I've gathered a toolkit—a list of activity summaries—meant to spark the imagination for meaningful EJ learning with/in Mississippi. In many ways, the toolkit is also a celebration of the creative river people whose pedagogies have fueled me. May it inspire your own place-based practices of hope, healing, and appreciation of water's human and more than human communities.

The Mississippi River Open School visits UMN's Indigenous Futures Lab. Here, visitors engage with a 3D virtual reality model of Mississippi River. Image courtesy of Michelle Garvey.

Members of the Mississippi River Open School gather at Wabun Picnic Area above Lock and Dam 1 to personalize plant medicine kits gifted by Stephanie Lindquist. Image courtesy of Michelle Garvey.

CMEJ Environmental Justice Tours

Adapting a popular consciousness-raising method in the U.S. EJ movement to the context of North Minneapolis, Community Members for Environmental Justice (CMEJ) hosts bus tours for learners to bear witness to the consequences of racist zoning policies, industrial pollution, and land theft. While the tours explore greater North Minneapolis, many of the stops occur along Mississippi River's corridor. Here, highway I-94 segregates majority-Black neighborhoods from water access, the bank is lined with emissions-heavy industry like GAF Roofing and Northern Metals Recycling (recently shuttered thanks to the organizing work of CMEJ), and the city bungled community engagement for a once-in-a generation opportunity to redress environmental injustice through redevelopment of the 48-acre former Upper Harbor Terminal site.

Guides from CMEJ welcome the Mississippi River Open School to the Terrell Mayes Garden, May 2023. Image courtesy of Michelle Garvey.

CMEJ's tours, led by EJ leaders like Roxxanne O'Brien and Justice Jones, attach names, faces, and places to stories and histories that could otherwise remain abstract for students, politicians, and health professionals learning about EJ. Crucially, they also engage tour-goers with sites of resistance and healing, including the Terrell Mayes Jr. Memorial Garden, created to honor victims of gun violence. CMEJ's first-person testimonies contribute to movements not just for justice and ecological health in North Minneapolis but, as CMEJ member Danielle Swift reminds us, for everyone and everything downstream. Request a tour, and donate to support CMEJ's advocacy.

Anthropocene Sediment Sampling by Catherine Russell

River Semester facilitator Joseph Underhill employs geoscientist Catherine Russell's plastic sediment sampling protocol, inviting students to consider river ecology in the Anthropocene. Using a relatively accessible set of field research methods to engage Mississippi River as citizen scientists, students sample river sediment to both categorize plastic particles following Russell's classification system, and attribute their presence to particular petrochemical facilities. Required materials include glass bottles for gathering specimens, measuring tape to gauge the distance of samples from shorelines, and a smartphone microscope. Beyond observing the site-specific implications of plastic proliferation and toxicity at various points along Mississippi River, Underhill encourages students to contextualize their investigation by applying Max Liboiron's idea of pollution as colonialism.

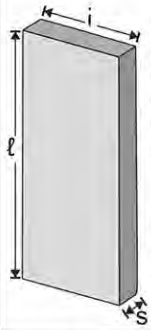
Additionally, this activity pushes the boundaries of geology, which has traditionally been based on studies of the physical structures and processes of the more than human world. Russell argues that we need to consider the increasingly human influences constructing Mississippi River, the largest sediment transportation system on the continent.

Summary sheet for classifying plastic as a sediment

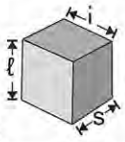
Item 1
Item 2
Item 3

Multiple joined plastic particles are a "compound" item. Describe each item separately and indicate that they are related through using the narrow column on the log sheet. In a set of 3 (or more) items, the first and second boxes will be filled in the lower and upper halves respectively and the middle box(es) entirely filled.

Dimensions

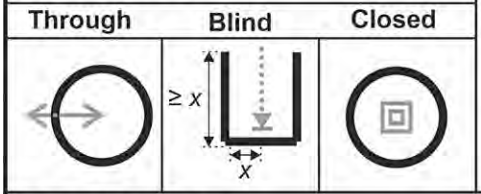


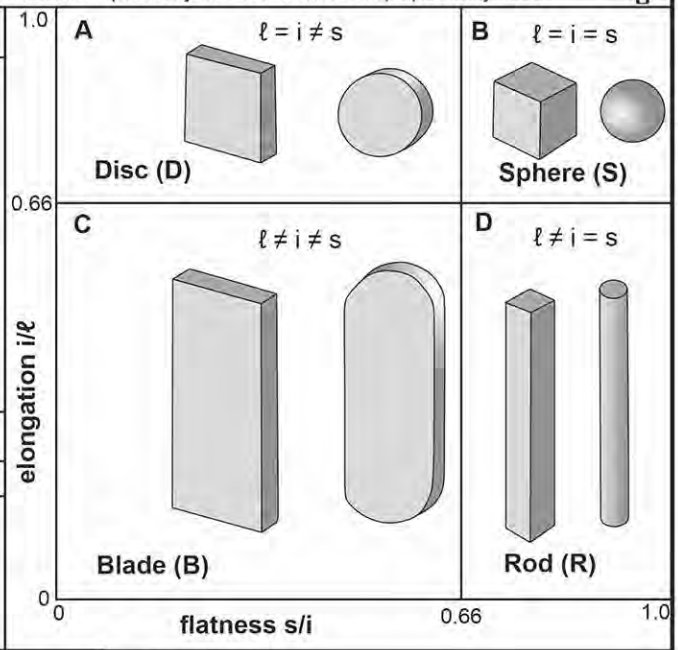
Nanoplastic (≤1 nm - 1 µm)
Microplastic (1 µm – 5 mm)
Mesoplastic (5 mm – 5 cm)
Macroplastic (5 cm – 1 m)
Megaplastic (1 m – 10 m)
Gigaplastic (≥ 10 m)



The longest measurement in each direction is recorded.

Types of Hole



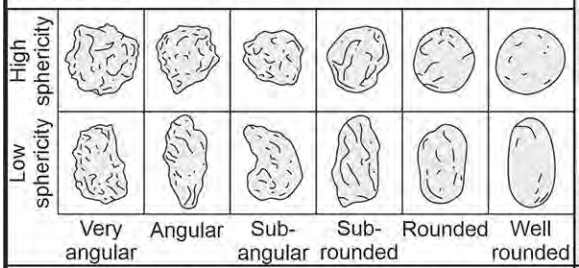


Hole Notations

- Number of holes : Through; Blind; Closed = TnBnCn
- If a number exceeds 10 as 10+, e.g., T10+B0C0
- If the item is opaque but at least one closed hole is suspected notate with "?" e.g., T0B0C?1+
- If the material is more hole than solid, notate as "net" e.g., TnetB0C0
- If the material is more solid than hole, notate as "por" for porous e.g., TporB0C0

Dominant holes are the ones that define the structure of the item. It is interpretive so may be a factor of function.

Surface texture



Colour

The dominant colour of the item should be recorded and if there is no colour, record as "colourless".

Material Properties

O - Opacity No light can penetrate the polymer itself.	**T - Transparency** Some to almost all light can penetrate the polymer.
B - Brittleness Breaks under stress without significant deformation.	**P - Plasticity** Can be permanently deformed without breaking.
S - Softness Can be readily marked by another object.	**H - Hardness** More able to withstand surface indentations.
F - Flexibility May be repeatedly stretched without breaking.	**E - Elasticity** Returns to original size and shape post deformation.
St - Static Electricity May have a tendency to attach to other materials.	**Hy - Hydrophobicity** Where the item properties seemingly repel water.

Convert absolute density, mass, and volume

$$\text{Absolute Density} = \frac{\text{mass}}{\text{volume}}$$

$$\text{Mass} = \text{absolute density} \times \text{volume}$$

$$\text{Volume} = \frac{\text{mass}}{\text{absolute density}}$$

Other Information

- If the shape is further definable or object is recognised, include details or item name here.
- Include information on the status of the item in relation to physical environment, i.e., content of sand, water, or air.
- Any biological activity can be noted here, e.g., algal films or other growths / interactions with fauna.
- If alterations to the item exist, interpretations on the natural or mechanical derivations can be noted.

Russell's summary sheet is employed by River Semester students to classify plastic sediment samples collected along Mississippi River. Image via Russell et. al. "Plastic as a Sediment" (2025) (CC BY 4.0).

A collection of nurdles—microplastic pellets indicative of petrochemical manufacturing and transport—littering the river shoreline in "Cancer Alley," Louisiana. Image courtesy of Michelle Garvey.

Buckthorn Ink Paintings with Kimberly Boustead and Christine Baeumler

Mentored by Bousted, students harvest, process, and paint with buckthorn and other plant-derived inks in Dr. Baeumler's "Art and Ecology" course. Image courtesy of Christine Baeumler.

Mentored by Bousted, students harvest, process, and paint with buckthorn and other plant-derived inks in Dr. Baeumler's "Art and Ecology" course. Image courtesy of Christine Baeumler.

Mentored by Bousted, students harvest, process, and paint with buckthorn and other plant-derived inks in Dr. Baeumler's "Art and Ecology" course. Image courtesy of Christine Baeumler.

For the fall 2022 Art and Ecology course at the University of Minnesota Twin Cities, Professor Christine Baeumler partnered with artist Kimberly Boustead and the Minneapolis Park and Recreation Board (MPRB) to explore the intersection of invasive species, water ecology, and art. In preparation, students watched *Know Where You Are: Bdote* (courtesy of the Minnesota Humanities Center) as a way to understand the history and significance of Mississippi River to Dakota people, and to acknowledge this place as Dakota land. Then, students met along Mississippi's east bank with MPRB staff to learn how buckthorn outcompetes native plants that retain rainwater, prevent erosion, and filter pollutants before they can reach the water (FMR n.d.). To mitigate buckthorn's negative impacts on water quality, MPRB engaged students in a buckthorn removal and berry harvest. Boustead then facilitated an ink-making workshop using the leaves and berries collected, creating what she calls a "place-based palette" that reflects a certain time and place. Finally, students painted with buckthorn and other botanical inks, such as sumac and wild grape. They used baking soda and vinegar to change the inks' pH values, altering colors and textures.

See the video Know Where You Are - Bdote.

A multi-step activity like this can inspire several considerations for learning with/in Mississippi River, including: How do normative approaches to invasive species limit our ability to engage creatively with them, and how does reframing the concept of invasives—perhaps as displaced relatives—impact our relationships with them? And as Boustead suggests, how can invasives—so often perceived as "excess"—be reconceived as a resource?

Tarpee with Paul Cheoketen Wagner, Sebastian Müllauer, John Kim, Molly Reichert, and Community

Originally designed by Paul Cheoketen Wagner (Saanich First Nations), the tarpee is a conical tent that honors traditional teepees but is constructed with the low-cost, widely available materials of tarps and poles. Wagner was inspired to house Water Protectors at Standing Rock in 2016, and since then, tarpees have been constructed across the continent to relieve housing insecurity and support resistance movements in need of shelter.

For students of EJ, many of whom accompanied Macalester Professor John Kim and me to the Welcome Water Protector Center at Akiing throughout ongoing struggles to resist Enbridge's Line 3, tarpees can prompt learning at the nexus of Indigenous sovereignty, Land Back, water protection, and housing justice. Akiing is one of three locations where Line 3, a conduit for Alberta tar sands oil to Superior, Wisconsin, crosses Mississippi River, endangering Anishinaabe treaty rights, sensitive ecosystems, climate stabilization, and drinking water downriver. Akiing was one of many Indigenous-led community-building and mutual aid sites, embodying something between an upstart and a prefigurative community, centered around resistance to pipeline proliferation and mining. Thousands of Water Protectors across the region converged here between 2020 and 2021, and these often-emergent gatherings required emergent shelter. During many months of community

building, Kim, along with Sebastian Müllauer, Professor Molly Reichert, and Reichert's students at Dunwoody College, worked with Wagner to refine the tarpee design. To learn more about the process, read Kim's article "Action Camps Everywhere: Solidarity Programs in the Anthropocene" in this issue of *Open Rivers*.

Tarpee-inspired EJ inquiry could center on sustainable, affordable housing design; best practices for accomplicing social justice movements; and the construction of shelters responsive to cultural traditions, climate-changed weather, or transportability. Project-based courses could adapt the tarpee design to fit contextualized needs and locations; fulfill community requests for tarpee construction labor; or conduct fundraising campaigns to supply tarpee materials.

Tarpee prototype design submitted by John Kim. Image courtesy of John Kim.

Healing Circles, a Project of Society of Mother Earth

When is the last time you were welcomed to grieve in community, or share your fears and frustrations openly, in response to climate change? How do you cope with the daily onslaught of devastating climate news? To support those of us "processing [our] emotions surrounding the climate crisis and dreaming what will follow" (Oyate Hotanin 2025), Strong Buffalo, Laura LaBlanc, Ben Weaver, and Jothsna Harris—the people behind Oyate Hotanin, Buffalo Weavers, and Change Narrative—collaborated for a yearlong project entitled Society of Mother Earth (S.O.M.E.) to facilitate community healing circles. S.O.M.E.'s healing circles blend ancient practices of Indigenous talking circles with those taught by the National Association of Community and Restorative Justice, privileging listening over questioning, or as Harris says, "uncorking, not responding." Participants are encouraged to both take up space sharing and practice deep listening.

Methodologically, these healing circles weave sharing with music, spoken word, quiet reflection time, and collectively created art, such as mandalas crafted of nearby natural objects. Pedagogically, they are adaptable, accessible, and

Image via Mississippi Park Connection and Grace Generous.

possible to practice almost anywhere. While the circle I attended occurred at East Side Freedom Library, former Change Narrative intern Grace Generous attended a circle in the floodplains of Bdote at Crosby Farm Regional Park alongside Mississippi River. In "Cracking Open the Possibility of Joy" (2022), she recounts several powerful moments that might be instructive for educators seeking to facilitate healing circles with/in Mississippi:

> Buffalo's voice filled the clearing,
> while the clear twang of Ben's banjo carried across the field.
> You could feel everyone's presence
> as we collectively processed what we had shared.
> As the day turned to night,
> the cool air seemed to decompress the tensions
> we had each spoken out loud.

A film depiction of S.O.M.E.'s healing circles can be viewed here.

Safe Water with Roopali Phadke and Stephanie Lindquist

Professor Roopali Phadke writes in reference to her fall 2023 Water and Power course at Macalester College, "we are a community nested in a much larger community—and what we do here matters to that larger community. Water is a perfect vehicle for making that apparent" (Macalester n.p.). Indeed, because water transgresses boundaries across built environments, ecosystems, and property lines, it embodies the fundamental interdependence of life on Earth. As the saying goes, "we're all downstream." Yet because water also reveals uneven distributions of pollution, climate impacts, and resource ownership, EJ offers the valuable qualification "some are more 'downstream' than others."

To investigate the concept of safety versus risk in that context, artist Stephanie Lindquist facilitated an activity for students at Macalester's Idea Lab that was inspired by the water safety fact

sheet disseminated by the Centre for Affordable Water and Sanitation Technology. Students built their own biofilters from scratch, critically assessing which natural and synthetic materials filtered water from Mississippi River's stream, lake, and spring tributaries most effectively. To complement this activity, the class toured the City of Minneapolis drinking water treatment facility, which processes nineteen billion gallons of Mississippi water every year.

Of course, effective filtration systems equitably distributed across geographies can only ensure safety with respect to sanitation and drinking, one of the many ways water governs our lives. Attention to power distribution and watershed inputs "upstream" is required to ensure just access to, and governance of, water. Safe Water, then, can be a springboard to engage students in lessons on water sovereignty, fair distribution, and stewardship of commonable resources.

Students assemble materials to create bio filters as part of Lindquist and Phadke's Safe Water activity. Image courtesy of Stephanie Lindquist.

Students assemble materials to create bio filters as part of Lindquist and Phadke's Safe Water activity. Image courtesy of Stephanie Lindquist.

Fabric Flood Installation, Facilitated by Michelle Garvey's Spring 2021 HECUA Environmental Justice Students

During the height of the Line 3 resistance movement, my Environmental Justice Program at the Higher Education Consortium for Urban Affairs (HECUA) joined advocates from Health Professionals for a Healthy Climate and students from UMN, Macalester, and HECUA's Art for Social Change Program in accepting an invitation from organizers of the Water Protector Welcome Center in Akiing. The snowy winter day included prayer on the riverbank, a pipeline tour followed by a symbolic body movement session facilitated by artist-educator Marcus Young, outdoor fires around which we gathered to share hot drinks, stew, and stories, direct action education, and performances from Ananya Dance Theatre and Ananya Chatterjea's UMN students.

Gatherers of the February 2021 day of community building at Akiing affix personal messages of gratitude to branches along a highway where Line 3 crosses Mississippi River. Image courtesy of Michelle Garvey.

My class desired to offer a public art installation that would engage gatherers and demonstrate solidarity with frontline Water Protectors. What emerged from this cohort's creativity, resourcefulness, compassion, and intellect was the Fabric Flood: a collection of strips of fabric in blue hues—to indicate allegiance to water—upon which participants could pen messages of solidarity with and gratitude for Mississippi River and Water Protectors. Students then invited the community to fasten their fabric messages to the branches of trees and shrubs lining the highway where Line 3 crosses before it bores underneath the river. In this way, passersby could witness a flood of support for treaty rights, ecological integrity, and climate justice every day.

As for the project itself, I believe the power embodied in this simple activity lies in its simultaneous accomplishment of several goals: to enact consciousness-raising, build community, consider the strategical efficacy and ethics of direct action and public art, and contribute to a justice movement. Pedagogically, the project demonstrates the potential ingenuity of students, if supported in their endeavors to apply EJ theory toward self-expression, gift-giving, and change-making.

Weekly Water Blessings Offered by Joseph Underhill for River Semester

Though punctuated by emergent weather and site-specific learning opportunities, there is a rhythm to most of the one hundred days that students, educators, artists, and researchers spend on Augsburg University's River Semester. Together, they assess winds, complete chores, share meals, learn lessons, set up camp, break down camp, stoke fires, pack boats, unpack boats, and paddle miles.

Yet each Sunday morning, the expedition pauses to perform a ritual that honors the water responsible not just for the journey, but for life itself. Inspired by the Nibi Walks grounded in Ojibwe water ceremony, River Semester joins water blessing rituals conducted at several points along Mississippi River—like the weekly ceremony led by Sharon Day at Hidden Falls Park—to acknowledge the Indigenous lands through which they travel and to offer gratitude to the water. Often the Wishita (Water) Song is sung in seven rounds:

Wishita do ya do ya do ya
Wishita do ya do ya hey

Whisha tenaya hey a hey a
Whisha tenaya hey a hey
Whisha tenaya hey a hey a
Whisha tenaya hey a hey

(Last round) Hey Hey Hey hey hey

During the 2019 trip, Saundi McClain-Kloeckener gifted River Semester with a copper cup, which each expedition now uses as a vessel to hold, and then release, river water for the ceremonies. In a related ritual, a bottle of water from the headwaters is gathered at the beginning of each voyage and carefully shepherded along Mississippi River for release into the Gulf of Mexico at the journey's completion. Upon arriving at the Gulf, the water is given back to the sea, and seawater is gathered to be brought back to the headwaters, where the cycle can begin again. These practices, which are widely accessible, can connect us with enduring rituals of gratitude and foster a valuation for Mississippi River that propels future water advocacy and stewardship.

Glass bottle filled with water from Lake Itasca before a backdrop of the "Cancer Alley" stretch of Mississippi River on the 2019 River Semester expedition. Image courtesy of Michelle Garvey.

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Footnotes

[1] To reinforce the idea of more than human creatures and entities as active partners in EJ learning (rather than as passive objects about which students study), I employ "Mississippi River" without the definitive article "the." This decision is inspired by Kimmerer, who writes, "we never refer to a member of our family, or indeed to any person, as *it*. . . . *It* robs a person of selfhood and kinship. . . . So. . . . we use the same words to address the living world as we use for our family. Because they are our family" (2013, 55).

[2] To learn more about students' experiences on the Fall 2023 expedition, see the "Big Muddy" map facilitated by political ecologist Brian Holmes.

[3] See, for example, Powers (2004), who concludes that place-based learning increases levels of attachment to place, improves academic achievement, and strengthens students' motivation to learn.

[4] In particular, community-engaged experiential learning has been shown to promote a "prosocial, active conception of citizenship" in students (Powers 2004, 18). Gavillet's (2018) summary similarly demonstrates that experiential learning both leads to "behavior that enhances social well-being within communities" and improves students' abilities to influence their community (142).

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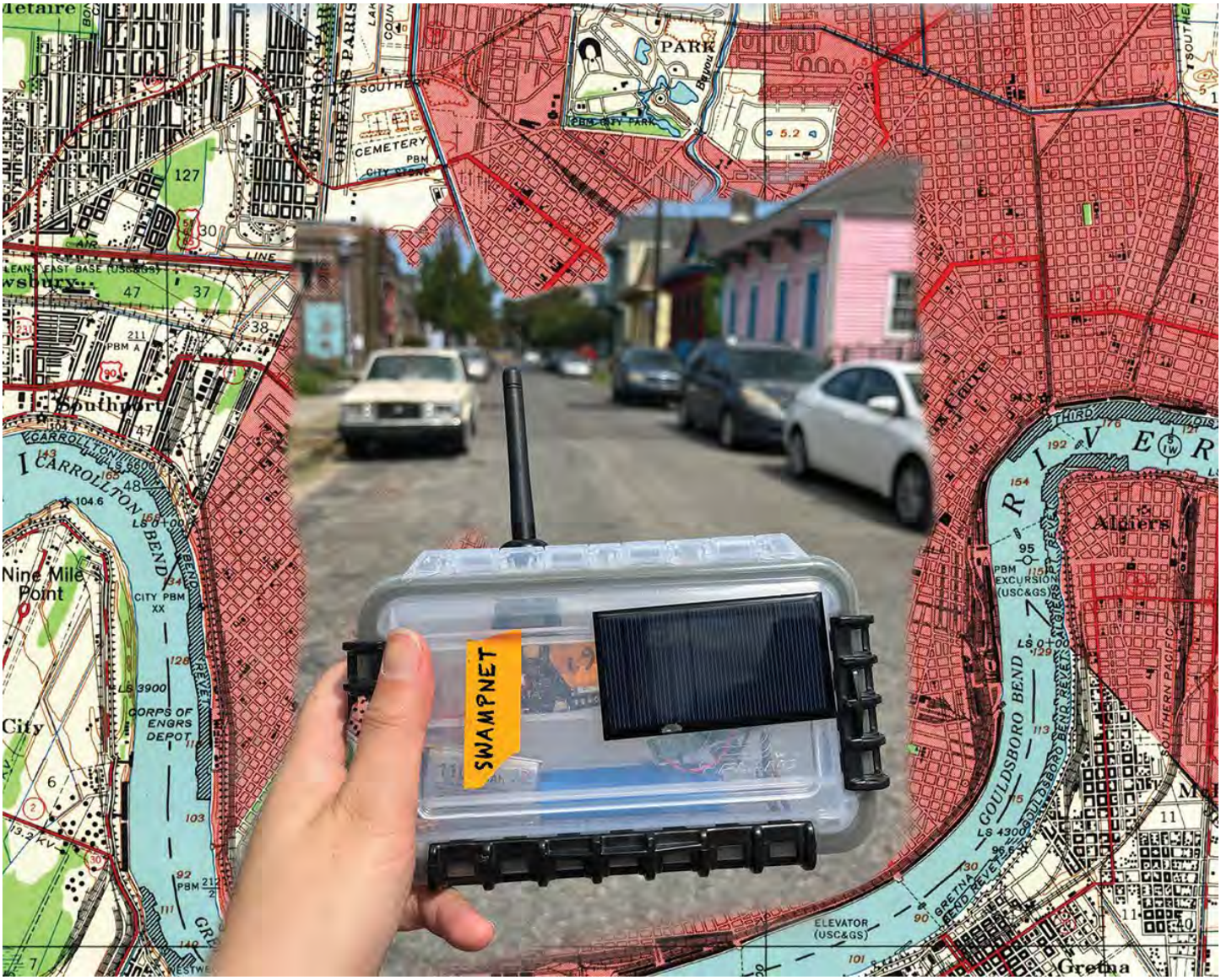
Dr. Michelle Garvey is an interdisciplinary educator-activist specializing in environmental justice (EJ) theory, history, and activism. Incorporating many interconnected fields—climate justice, Indigenous sovereignty, food justice, reproductive justice, and queer ecology among them—Michelle educates through community-engaged projects that channel student scholarship and academic resources into the EJ movement.

TEACHING AND PRACTICE

NETWORKING A NETWORK

By Jen Liu and Monique Verdin

Beginning in May 2023, we started building an emergency communication network to connect an existing network of mutual aid distribution hubs across Bvlbancha (New Orleans). Bvlbancha Liberation Radio began hosting meetings for mutual aid networks to gather and connect following Hurricane Ida, a powerful storm that swept through southeastern Louisiana



Alternative communication proof of concept using radio-enabled microcontrollers, Meshtastic software, and LoRa technology to create a 3.5-mile network in Bvlbancha | New Orleans in the summer of 2023. Photograph taken by Jen Liu, digital assemblage by Monique Verdin, USGS Map New Orleans East, Louisiana, 1951. Image courtesy of the authors.

in 2021. With wind speeds measuring up to 150 miles per hour, Ida caused extensive damage to the electricity and communications infrastructure, leaving millions of people in the dark. Despite these conditions, community members organized to distribute food, water, medicine, and other supplies to their neighbors. Community spaces were transformed into hubs that also provided power charging stations for electronic devices and places to cool off in the sweltering late-summer heat. During these mutual aid network meetings, people shared best practices in running their hubs and strategized around how to prepare for future emergencies. However, as mutual aid community members often noted, the lack of communications hampered these relief efforts. Without electricity there was no Internet to access shared documents, while text messages sent over cell networks came in scrambled and delayed, if they were ever delivered. In these meetings, we began to ask: How can communication networks be built to support existing mutual aid networks?

All kinds of networks are made up of nodes and edges. Nodes are connection points, whether those are devices like smartphones or laptops, or places like distribution hubs stewarded by mutual aid groups. Edges are how nodes are connected. For devices, this could be through a cable or

Bvlbancha Liberation Radio, Community Tech NY, and Swampnet collaborator Jen Liu range tested a portable network kit on the Lafitte Greenway in Bvlbancha | New Orleans during hurricane season in the summer of 2024. Photograph + digital assemblage by Monique Verdin; USGS Map Breton Sound 1957; USGS Map Breton Sound 1957; USGS Map New Orleans 1945; USGS Map Mobile 1953; USGS Map Baton Rouge 1954. Image courtesy of Monique Verdin.

wirelessly via radio signals. For distribution hubs, edges are the relationships that people have with other mutual aid groups, built through working with each other.

One of our first steps was to determine how we wanted to build our communication network. Given time and budget constraints, we decided to use Meshtastic software, which runs on radio-enabled microcontrollers (little computers). Meshtastic is an open-source software (free and open to modifications) used to create off-grid and decentralized networks. The software works by connecting a device (e.g. phone, tablet, laptop) to a microcontroller updated with the Meshtastic firmware (computer code for electronic devices), using the Meshtastic app. This connection forms a node. Each node is then able to send and receive messages to one another over LoRa, a radio communication technique that can send signals over long distances. These nodes are portable and can be rearranged as necessary to create a network, an important factor when considering uncertainties following a hurricane: some hubs may be damaged or inaccessible, while new locations for hubs may emerge.

We also made cases for each node to house and protect all the components (microcontroller, antenna, battery). Based on feedback from mutual aid community members on how to make the nodes more self-sufficient, we also added equipment allowing the node to be run on solar if needed. This equipment included a solar panel, charge controller, and battery that were harvested from solar-powered surveillance lights.

Our next step was to test our network. Over the course of the summer of 2023, we conducted a series of range tests. Range testing is a way to understand the signal strength of a network from a specific location. After setting up an antenna at a distribution hub, we would test to see from how far away we would be able to send and receive a message. These range tests served as opportunities to teach people how to set up and use the equipment, build relationships with interested hubs, and understand how our network should be arranged across the city. We also learned how certain factors such as buildings, trees, and weather impacted our signals. Over the course of five range tests, we determined a number of locations where nodes could be set up to send a message to three distribution hubs located in different neighborhoods, resulting in a network spanning a 3.5-mile distance.

What Are Our Next Steps?

For the past few years, the hurricane season has been quiet in southeast Louisiana. Seeing Hurricane Helene hit the southern Appalachian region was a reminder that no place is completely safe from disasters. Since building this initial emergency communication system, we have continued to grow our networks in other ways. This growth includes building our redundancy and learning how to work with different technologies to build multiple forms of connections. This desire led us to work with Community Tech New York and learn how to build their Portable Network Kits, which can extend existing Internet connections and also work offline to provide a local wireless network. We have been sharing our work with others at public events, such as our Sunday Signals event held in August 2024, where we hosted a public range testing from Nanih Bvlbancha on the Lafitte Greenway. We also facilitated a Propagation Workshop where we invited members of community-based organizations to learn, experiment, and imagine with networking technologies. Workshop topics included understanding basic networking concepts,

setting up and operating a portable network, and discussing communication strategies for emergencies. We have also been experimenting with our equipment in the rural prairies and bayous of south Louisiana, thinking about other terrains where we can seed and plant our network.

As our network grows, so do our questions: How can we think about the relations between data, place, and memory? How should we steward our own data? How do we consider ways of working with technology beyond capitalistic and extractive conditions?

For more information about our work, including tutorials and zines, please visit swampnet.info.

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Monique Verdin is an artist, citizen of the Houma Nation and Bvlbancha Liberation Radio collaborator. She supports the Okla Hina Ikhish Holo, network of Indigenous gardeners, as the WECAN Gulf South food sovereignty coordinator. Monique is the primary steward of the Land Memory Bank & Seed Exchange, facilitating community-built record-making, experiential education, research, and site activations celebrating the diversity of coastal communities and native ecologies present in the wetlands, swamps, and prairies of south Louisiana. Monique co-stewards the Nanih Bvlbancha (2024) earthen mound in New Orleans, she is a Gulf South Open School (2023) collaborator, experimenting with autonomous and alternative communication systems with the mutual aid SwampNet project.

TEACHING AND PRACTICE

BUILDING A SMALL, SOLAR-POWERED WORK SHED

By Joseph Underhill

What does resistance to the current set of unsustainable, unjust, and unhealthy practices look like? In the face of large-scale, daunting problems—climate change, the morass of social media, addiction, obesity, other mental and physical health challenges, and so on—we need to begin to explore alternatives through small-scale social experiments using available materials,

Dedication ceremony for the "unit of resistance" with members of the Augsburg University community. The shed is now used for student-led construction projects and for work on repairing the boats used for the River Semester program. Image courtesy of Joseph Underhill.

resources, and technologies. Given the challenges of bringing about change at the systemic level in the near term, one approach is to plant seeds of an alternative future in the form of small "units of resistance." These units of resistance can enable a range of responses to systemic problems, including the opportunity to imagine ways of "living otherwise," transitioning to a post-carbon economy, obtaining skills relevant for green jobs, and giving students a set of healthy, outdoor, hands-on learning opportunities. The units of resistance project aims to chip away at the Anthropocene infrastructure on university campuses (land, buildings, culture, and curriculum) as a form of "rewilding" and rethinking curriculum and pedagogy. Drawing inspiration from Robin Wall Kimmerer's call to "become Indigenous" to place, rewilding here implies a way of rethinking our relationship to the wider world that minimizes our entanglement in the multiple forms of violence of the current carbon-intensive, consumerist, militarized systems.[1] It is a form of subversive experimentation and diffusion that aims to bring about social and political change.

At Augsburg University, we followed these practices of resistance by building a solar shed to use as an outdoor woodworking shop. Below is a rough set of plans for building this small autonomous outdoor work shed, which serves as a way to provide tools and space for building things on campus. The shed is currently used for building boats, benches, paddles, and other outdoor structures to facilitate outdoor experiential education. A solar energy system powers the tools needed for this work. The shed itself serves as a storage container and power source. It also functions as a visible manifestation of an alternative to large, energy-intensive buildings that isolate students from the world around them. This set of plans and specifications for building a simple, low-cost, 8′ X 8′ work shed with a self-contained solar power system is based on the shed we built at Augsburg. This kind of shed could be used in a range of settings, such as resistance camps, community gardens, college campuses, urban encampments, tiny home sites, and more.

The work shed at Augsburg was built by a professor and a small group of students with funds from Augsburg's Environmental Action Committee (EAC), a campus greening fund supported by an annual "green fee" charged to students. The building uses local materials, and building it cultivates skills such as design, basic construction, woodworking, and setting up solar power systems. The process of designing and building the solar shed gave students an opportunity to experiment with building simple, low-cost, and low-carbon structures.

The idea draws inspiration from the "Structures of Resistance" project organized by Molly Reichart, John Kim, and others, which focused on the production of low-cost shelters or "Tarpees" for various uses. It likewise aspires to reclaim spaces and technologies in ways that have a minimal impact on the land, build community through shared construction projects, and reconnect students to the land by getting them outside to work with their hands.

The solar shed unit on the Augsburg campus, built in summer 2022, houses tools and is currently being used as an outdoor maker space and teaching resource. One of the first projects built at the shed was a mobile outdoor classroom cart, which consisted of a mobile whiteboard and a storage cart for supplies and seating for outdoor classes. The shed's energy supply comes from six 320-watt solar panels from Renogy Solar. The panels power a 24-volt battery bank and an inverter that creates the alternating current needed to run power tools. Solar sheds like this are most useful and versatile when their design is simple, modular, and accessible for folks with limited carpentry skills. They are self-contained and off the grid, powered by renewable energy, and resilient in the face of increasingly severe weather. On a practical level, they are secure and low maintenance.

Rough Construction Details

The dimensions of the solar shed are roughly eight feet by eight feet with a solar roof. These measurements are based on the most readily available material, namely four-by-eight foot sheets of plywood and eight-foot, two-by-four-inch lumber used for framing. One consideration in designing the shed was the need for grounding the electrical system. Per local electrical codes, this required sinking two eight-foot copper rods into the ground adjacent to the shed. In order to deploy this shed on campus, it could not be permanently located. This would have required significantly more approvals and funding. Instead, the unit had to be set up in a temporary location in an out-of-the-way spot on campus. Even in this location, the shed raised some concerns about its appearance and purpose. The solar shed can be moved by trailer, so it can be brought to different locations. Given the countercultural nature of these structures, they are generally best located in liminal spaces on the less regulated margins.

The solar shed's roof is angled at 45 degrees to match the average angle of the sun in Minneapolis (which is at 45 degrees latitude). Further north, the roof's angle should be made proportionately steeper. The solar power system is mounted on top of an asphalt shingle roof, with the charger, batteries, and inverter located inside the shed. The interior of the shed has shelves and workbenches for storing the power system, tools, and supplies.

As noted, the main purpose of the solar shed at Augsburg is for students to do outdoor wood-working projects, but other units of resistance can be used for any combination of outdoor construction, community gardening, workshops, or powering a modest sound system/projector for outdoor events. Building one on a trailer would also make sense in terms of mobility, and for future builds I plan on looking into that option.

The Solar Shed Under Construction

The floor and one wall of the solar shed as it is being framed. The shed sits on two four-by-four-inch wooden beams. Image courtesy of Joseph Underhill.

The solar shed is located on the edge of a parking lot on the Augsburg campus by the I-94 freeway wall. Image courtesy of Joseph Underhill.

The solar shed, now framed and covered with tar paper on the roof, sits on the edge of a parking lot at Augsburg University. Image courtesy of Joseph Underhill.

The solar shed is now fully painted and the solar panels are partially installed. Image courtesy of Joseph Underhill.

The shed's interior shows two batteries (grey boxes on the lower left), a charger and inverter (on the wall on the upper left), and various tools, flags, and supplies. Image courtesy of Joseph Underhill.

Cost

The materials for this work shed or unit of resistance cost approximately U.S. $9,000 with donated labor. The solar energy system was ordered from Renogy, although there are a growing number of small-scale solar package vendors.

The solar system consists of the following components:

- 1200 WATT 12 VOLT Monocrystalline Solar Kit (premium kit with mounting brackets and four 320-watt solar panels) plus two additional 320-watt solar panels = U.S. $4,175 (prices are in flux, as the cost of solar panels continues to drop)

Deep Cycle AGM Battery 12 Volt 200Ah = U.S. $880

- 24V Pure Sine Wave Power Inverter 4000-Watt = U.S. $400 – $1,000 (These are available through a variety of online vendors.)

- Miscellaneous wiring, grounding rods, etc. = U.S. $100

Total cost for 1800w solar system: U.S. $5,500 – $6,100

Lumber & Materials List for the Solar Shed

Total cost of materials is about U.S. $3,000–$3,500. Using salvaged or reused material would lower the cost and the project's environmental impact if you have the time and wherewithal to acquire them.

Floor	# of Units	Length
2" x 6" treated lumber	10	8'
3/4" plywood	2	4' x 8'
4" x 4" treated lumber (base for shed)	4	10'
16d sinker nails	a few boxes	
8d sinker nails	a few boxes	
Walls	**# of Units**	**Length**
2" x 4" lumber	40	8'
1/2" sheathing plywood	8	4' x 8'
T1-11 siding plywood	10	4' x 8'
hinges	2	
door handle	1	
lock	1	
caulk	4 tubes	
primer	3 gal.	
paint	3 gal.	
trim	10	1" x 4" x 8'
Roof 10' X 12'	**# of Units**	**Length**
rafters	14	2" x 6" x 12'
tar paper	1 roll	
shingles	1.33' squares	
flashing	50'	
5/8" plywood	5	4' x 8'
soffit	3	4" x 8'
Interior Workbench and Shelves	**# of Units**	**Length**
5/8" plywood	3	4' x 8'
2" x 4"	10	8'

Footnote

[1] Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants,* Minneapolis, MN: Milkweed Press, 2013, p. 9.

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Joseph Underhill received degrees in Interdisciplinary Studies from UC Berkeley and San Francisco State University and a doctorate in Political Science from the University of Michigan. He has been working at Augsburg University in Minneapolis, MN since 1998 and from 2010–12 served as Batalden Faculty Scholar in Applied Ethics. In 2016–18 he was Program Director of the Nobel Peace Prize Forum. He is a founding member of Augsburg’s Environmental Stewardship Committee and helped create and currently directs the Environmental Studies Program. Prof. Underhill also created and now directs the River Semester program, the nation’s only full semester program offered on the Mississippi River. He has been teaching and researching the political, cultural, and psychological dimensions of environmental and security issues for the last twenty years and has written and presented on the intersection of political psychology, security, and the environment, and is the author of *Death and the Statesman* (Palgrave, 2001). Dr. Underhill teaches courses in environmental and river politics, research methodology, political movements, and a range of topics in environmental politics. In his courses, he emphasizes experiential, critical, democratic, place-based pedagogy, regularly engaging students in fieldwork and service projects, including courses in New Zealand, Costa Rica, Nicaragua, Egypt (2012), Tanzania (2013), and now regularly on the Mississippi River.

TEACHING AND PRACTICE

HOW TO LAUNCH A RIVER SEMESTER: CREATING EXPERIMENTAL PROGRAMS

By Joseph Underhill

How do we create the wildly different kinds of programs needed to respond to the multiple, compounding crises of our day in the context of the tradition-bound institutions of higher learning? My response to that question has been to work on creating the River Semester program, which takes students down the length of the Mississippi River on a 100-day expedition. On learning of the River Semester, many folks in higher education have wondered how it came

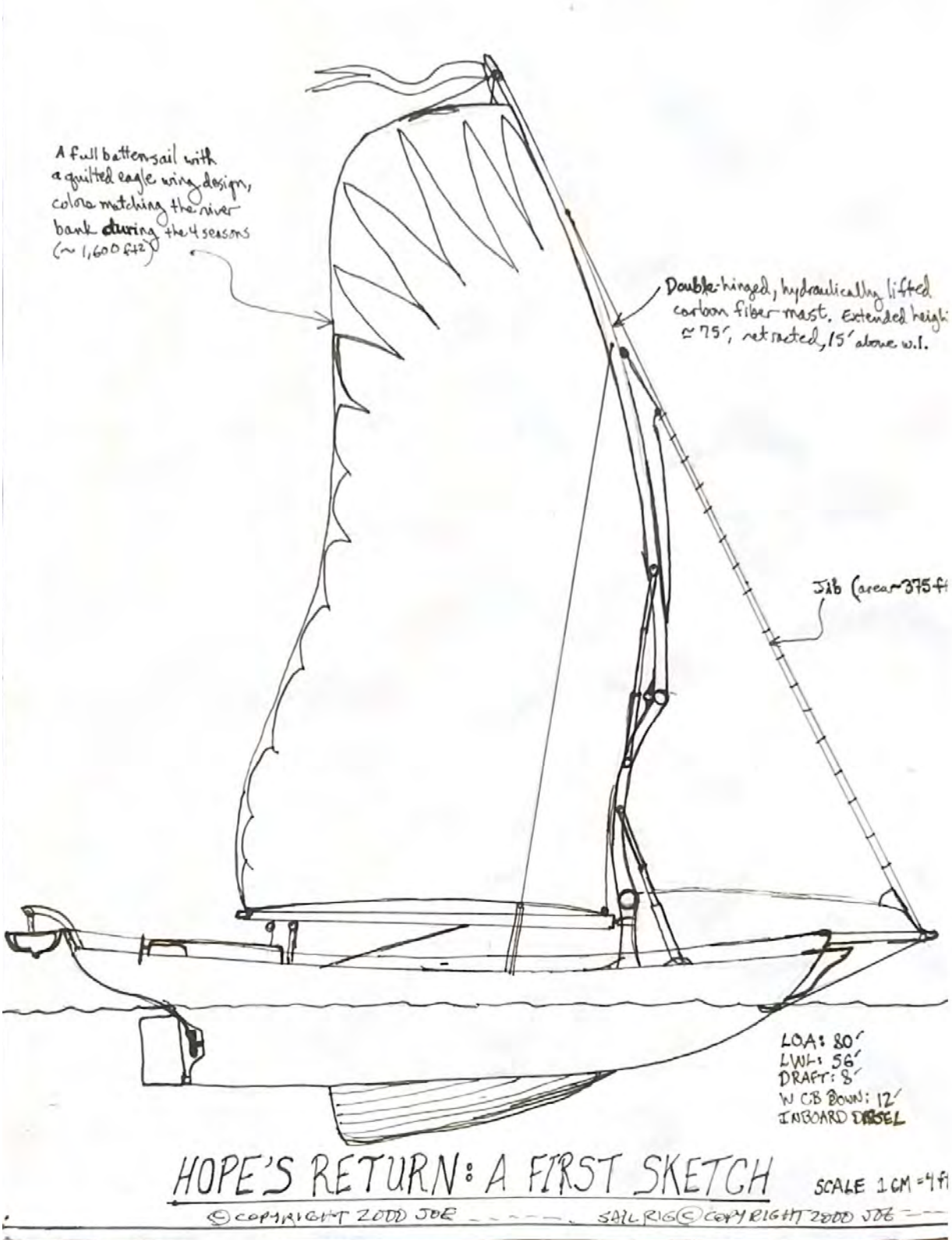
Hope's Return on the Mississippi River. Image courtesy of Joseph Underhill.

to be. In early 2000, having recently started work at Augsburg University (then Augsburg College), which is located just a few blocks from the Mississippi, I began dreaming about some way to get students out on the river. I sketched out a picture of a big river sailboat and the idea for a program called the River Education and Arts Program, or REAP (see photo above). I initially tried getting financial support from local philanthropists but was unsuccessful. I then created a January term course called "Environmental and River Politics" that explored the way that the Mississippi River has shaped and been shaped by the human communities along its length. The following year, I turned it into a summer course that included a five-day trip on the Mississippi. Over a few years, I built up connections to local nonprofits and programs related to the Mississippi River, including Urban Boatbuilders, the University of Minnesota's River Life program, Friends of the Mississippi River, and Wilderness Inquiry. With those partners and their collective wisdom, in 2015 we launched a program that took a group of undergraduate students down the length of the Mississippi River in canoes. That program then connected with the Anthropocene River Project, the River Field Studies network, and now the Mississippi River Open School.

For faculty, staff, and students interested in developing alternative programs and pedagogies, I am sharing a rough set of observations and reflections on what has worked for me in developing, implementing, and sustaining the River Semester. This is just one kind of program that has worked relatively well in one particular institutional and geographical context. Other kinds of experimental educational programs that address current environmental and social justice crises are most likely to succeed if they respond to, and are based in, their own contexts. My observations and experiences apply mostly to faculty with tenure-track positions at smaller colleges or universities, since that is the context in which this particular experiment took place and with which I am most familiar. With that in mind, this article includes ideas about how to navigate institutional bureaucracy, push the boundaries of existing rules, raise funds, recruit students, deal with legal or liability concerns, and overcome the various obstacles to teaching and learning outside the bounds of the standard, carbon-intensive, and often extractive systems in which higher education is entangled (Paredes-Canencio, et al. 2024; paperson 2017).

One: Begin with a positive, problem-solving mindset, with the presumption that a nontraditional education program can happen. Without a clear sense of agency and optimism, any innovative programming is almost certainly doomed to failure. I would not have pursued these kinds of nontraditional courses if I started with the attitude that they were dependent on the approval of the higher-ups or administrators. Within established institutions of higher education, folks can sometimes feel helpless or beholden to these authorities. In my experience, the key is to approach the proposal of an unconventionally shaped course with the mindset of a problem solver. I didn't ask, "can this happen?" I asked, "how do we make this happen?" By looking for the way forward, I found routes through the obstacles. With this mindset, every objection or reason not to proceed became instead a problem to be solved.

Two: Go big or go home. To do this kind of innovative work, educators need a clear and inspiring vision, something that is sufficiently different and intriguing to draw interest from both students and administrators. I started small and built credibility, first establishing proof of concept with short-term courses. Eventually, I was ready to offer something sufficiently ambitious to get people excited. Taking folks out on the river for a few days is fine, but doing the whole river on a 100-day trip? That is something people get excited about. At my institution, I found that the further outside the box and innovative my idea was, the less the administration could say; they didn't have the necessary expertise to critique the project. When I presented the idea for a



A conceptual sketch of "Hope's Return," a sailboat designed for the Mississippi River, featuring a full batten sail with an eagle wing design and a double-hinged, hydraulically lifted carbon fiber mast. Image courtesy of Joseph Underhill.

river semester to the committee at Augsburg that approves curricula, they didn't offer much feedback, as none of the committee members had experience with a program like this. Would this work? The committee members couldn't say one way or the other and deferred to my own experience on the river.

Three: A nontraditional education program should be ambitious, but it does still need to be feasible. There are obvious limits (budgetary, physics, time, etc.) to any project like this. The trick for me was to figure out exactly how far I could push things, which I discovered by trial and error. When I found my project to be overly ambitious, I did scale it back somewhat. I also recognized that if it was really easy, then I could push for something more ambitious. I started my project by thinking about building a large sailboat that would have cost at least $1 million. I had to scale back those plans. The fact that I was not able to implement that initial ambitious proposal was not a sign of failure, but a signal that a different, more modest approach was called for.

Four: Building nontraditional educational programs requires patience, persistence, and commitment to the project. I found that I was able to sustain this commitment in part because I was deeply passionate about it, as it was a reflection of who I am and my values. This connection to the work gave me the ability to work very hard on it for a long time, and to sacrifice other things (friends, family, publishing, sleeping) in order to see it through. It took a long time. If you need or expect a project like this to happen in the short term, know that it probably won't. In my experience, this kind of project requires hundreds of hours of volunteer time and labor to make it happen; that's just the nature of this kind of transformative, innovative work. You do it because you enjoy it and are committed to it, not because you're getting paid to do it (at least not at first, and maybe never).

Five: This kind of nontraditional education experience may not be possible in all institutional contexts. It may seem counterintuitive, but the bigger and wealthier the institution, the more hurdles and barriers there may be. In my experience, this worked well in a more permissive institutional context. In many cases, smaller and less wealthy institutions, in part because they are understaffed, do not have the institutional capacity to monitor or stop projects from moving forward. Smaller, teaching-focused institutions also are often not as concerned about academic prestige (publications, large grants, ranking, etc.) and thus are more open to unconventional kinds of pedagogy and curriculum. Many innovative and unusual programs have come out of smaller schools, such as the schools in the Ecoleague, Evergreen College, Northern Arizona University and Prescott College (the Grand Canyon Semester), Whitman College (Semester in the West), and Emory & Henry College (Semester-A-Trail). For those outside of academia or other formal institutional settings, or at larger and more highly regulated institutions, this list of recommendations may need to be modified to find success within the constraints of those contexts.

Six: Be flexible. Be iterative. Keep trying, learning, adjusting, and improving. Meander like a river.

I did not end up creating the River Education and Arts Program I initially envisioned. As certain ways forward became impractical, I revised plans, scaled them back, and tried different ideas. The key thing is just to keep moving forward. Rivers meander, but there is also no stopping a river. My program started with a five-day trip, and then a week-long trip, and then worked with an outfitter, and then did a ten-day trip, at the end of which we thought, "why stop there?" At each stage, a fluvial restlessness pushed us forward. As we bumped into obstacles, we adjusted course but kept moving downstream.

Seven: With time, many faculty will build up credibility and authority at their institution. While it isn't necessary to wait until getting tenure, tenure does make some things easier to do. I started working on river programming in my third year at Augsburg University, but did not get the full semester program approved until after having gotten tenure and after having run a number of shorter trips on the river. By then, people at my institution trusted that I knew what I was doing.

Eight: Think about how to sell the program to the institution. I found that it was helpful to market a nontraditional education program as a chance to distinguish the institution from its peers—something that would make the school unique or at least unusual. A key element of this is showing that the program can pay for itself and generate enough revenue to be sustainable. I learned to be comfortable working with budget spreadsheets, estimating costs, coming up with recruitment strategies and pipelines, and attending to more details related to the logistics of the project. These are not skills generally learned in graduate school, so I had to teach myself and be willing to pick up these kinds of practical skills in order to keep developing the program.

Nine: Show evidence of success through the *fait accompli*. In some instances, it is possible to run a program or build some part of it without going through too many institutional channels. Once the program is done and in place and useful, it becomes much harder for institutions to say no. For me, it was clear that the more work my project made for other people, the more likely administrators were to oppose it. If, on the other hand, it would take more work for them to stop a project (or undo it), then administrators are more likely to allow it to proceed. Again, this works better in underfunded institutions where there are fewer staff members and everyone is overworked.

Ten: In terms of insurance and risk, colleges have surprisingly good coverage. Students travel all over the world and engage in all sorts of risky activities that are covered by the insurance policies of the sending institutions. Although many might expect otherwise, insurance coverage has basically been a non-issue for us. As the instructor, my responsibility is to take care of the students, not do anything stupid or reckless, hire good outfitters, and have students sign waivers. We have developed an extensive set of safety protocols, have a full risk-management manual, and been able to keep everyone safe and cared for on the trip.

Eleven: There is money available. Universities are multimillion-dollar institutions drawing on tuition, fees, financial aid, large endowments, and so on. The River Semester is funded primarily by the tuition and program fees paid by students, who in turn have access to financial aid. This can generate a significant amount of revenue to pay for these kinds of programs. There are grants available as well, and we continue to work on applying for grants and outside support.

Twelve: Build a network of like-minded teachers, organizations, and schools. There are some really great folks and programs out there to connect with.

Conclusion

It has not been easy creating and maintaining the River Semester, and several times it has almost been cancelled. But with any luck, and with a continuation of the attitude and approach that led to its creation, I am hopeful that it will continue. One of the more gratifying parts of the process of developing and running the program has been to see how it has sparked interest among other faculty, educators, and community organizers in developing similarly unusual and experimental

programs. As we continue through the twenty-first century, with climate change, artificial intelligence, resurgent ethnonationalism, and a swirl of economic and social challenges intensifying, I think we will need to keep thinking outside the box about how we educate students to successfully navigate these challenges. The River Semester has been my response to what I have experienced as the problems of modern life. Other responses will reflect the particular resources, constraints, and priorities found in other contexts, but it is exciting to think about what kinds of creative responses we can dream up and make real in the years to come.

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