

A detailed historical map of the Mississippi River basin, showing the river and its tributaries, various lakes, and geographical regions. The map is overlaid with a dark grey horizontal band containing white text. The text includes the journal title, issue information, and a URL. The map itself is a sepia-toned historical document with various place names and geographical features labeled.

ISSUE TWELVE : FALL 2018  
OPEN RIVERS :  
RETHINKING WATER, PLACE & COMMUNITY

WATERY PLACES & ARCHAEOLOGY

<http://openrivers.umn.edu>

An interdisciplinary online journal rethinking the Mississippi  
from multiple perspectives within and beyond the academy.

ISSN 2471-190X



The cover image is a detail from Hydrographical Basin of the Upper Mississippi River From Astronomical and Barometrical Observations Surveys and Information by Joseph Nicolas Nicollet, 1843.

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ISSN 2471-190X

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## INTRODUCTION

# INTRODUCTION TO ISSUE TWELVE

By Patrick Nunnally, Editor

A year or so ago, when I met with Amélie Allard about her work on the fur trade in Minnesota, I was interested generally in her observations about that contested, fraught place and time. When she mentioned that participants understood space from the perspective of rivers and water, rather than land, I was hooked, and asked her to think about editing an issue of *Open Rivers*. This issue is the result, and her guest editor's introduction speaks more eloquently than I could to the themes and questions raised here. So, read her introduction, and then the other

pieces in this issue. You may never think about the lakes region of Minnesota and Canada in exactly the same way again.

Speaking of reading that rearranges one's perspective, I highly commend Lark Weller's discussion of Ta- Nehisi Coates' *Between the World and Me*. When I have told people that this piece was in the works, some have asked why a journal on water would address a title that is this central to contemporary debates on race in America. My response: why wouldn't we? I think



*Detail from Hydrographical Basin of the Upper Mississippi River  
by Joseph Nicolas Nicollet, 1843.*



Weller's piece creates exactly the kind of extended conversation we need on issues of water, place, and community.

Our other columns are likewise provocative. John Crippen asks us to rethink what we think we know about historic sites along the Mississippi River. Kelly Meza Prado invites consideration of how innovative web-based technologies allow South American farmers to communicate across regions about water conservation. Craig Colten reminds us that rivers are important components of the multifaceted water dangers that come with hurricanes, although they don't get as much attention as inundations from tides. And finally, Kat Hayes' reading of mid-nineteenth-century

news accounts in Minnesota points out, unhappily, that maybe we haven't progressed as much in a century and a half as we might wish.

This issue, which closes our third year of publication, provides the happy occasion to thank all of the many, many people—readers, writers, reviewers, and more—who work to make the journal the insight-filled thing of beauty that it has become. On behalf of our editorial team, and our partners at the University of Minnesota Libraries Publishing Services Division, I thank them and assure them, and you, that we could not do it without them!

There's a lot to enjoy in this issue. Happy reading!

## Recommended Citation

Nunnally, Patrick. 2018. "Introduction to Issue Twelve." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/introduction-to-issue-twelve/>.

## About the Author

Patrick Nunnally coordinates the River Life Program in the Institute for Advanced Study at the University of Minnesota. He serves as editor for *Open Rivers* and was one of the lead scholars for the University's John E. Sawyer Seminar, "Making the Mississippi: Formulating New Water Narratives for the 21st Century and Beyond," funded by the Andrew W. Mellon Foundation.



INTRODUCTION

# GUEST EDITOR'S INTRODUCTION TO ISSUE TWELVE: WATERY PLACES AND ARCHAEOLOGY

By Amélie Allard

Archaeology, the study of past human societies, has a certain aura of mystery to it that captures the public's imagination. The authors in this issue, myself included, are broadly defined as archaeologists. Not the Indiana Jones kind—more the geeky and scholarly kind, whose

job and passion is not only to uncover how past people lived based on the things and structures they left behind, but also to take prodigious amounts of notes, photographs, measurements, and soil samples. Today's archaeologists have traded Indi's whip for a trowel and a bagful of



*An excavation unit has been carefully laid out and is awaiting excavation at Réaume's Leaf River Post, Minnesota. Photo courtesy of Amélie Allard.*



pencils, sharpies, tape measures, grid paper, and the latest technological tool they can get their hands on. The goal of all this work, of course, is to gather information and data from both the ground and the artifacts recovered from it, and ultimately to create and share narratives about how past people lived. Now, you might wonder: that's all good and fine, but what does archaeology have to do with water, place, and community? The place and community part of the question is obvious because archaeologists work on sites, that is to say specific locations where there are remnants of past human activities, and are often called upon to interact with local communities. But what about water?

As academically trained professionals, archaeologists generally have a land-based perspective: we excavate soils and sediments, and map geological strata. We are trained to understand how sites are created through human and nonhuman geological forces such as wind and erosion. Yet, as students of the past, archaeologists deal with lakes and rivers regularly, be it in our understanding of the strata that make up our site, or in our interpretation. However, the engagement that archaeologists have with water, and with rivers in particular, is not often theorized or acknowledged explicitly. Because of this dearth of theorizing, I was intrigued to ask other archaeologists how they engage with water in their work.

It is worth noting here that a potential exception to this lies in the subdiscipline of underwater archaeology, which has been gaining notoriety

since the 1960s. Though there are a lot of commonalities between terrestrial and underwater archaeology, the two subdisciplines necessarily have their own methodologies for recovering information about the past. This is because in the case of an underwater find (be it a shipwreck or an isolated pot) the context—that is, all of the relationships the object or site has with its surroundings, including with other objects—is often lost. And for a terrestrial archaeologist, context is everything. Context is what allows us to understand how objects relate to each other, and how we can create a more comprehensive picture from a site. With this in mind, while underwater archaeology is a fascinating field, for this issue I have been primarily interested in the different ways in which terrestrial or more typical archaeologists engage with water in their field.

The features of this issue highlight three different angles from which archaeologists engage with water: the first one is more common, and considers water as a geological force impacting archaeological sites and our understanding of the past. The second brings to the fore the interconnection between the work of archaeologists, rivers, and heritage. The third angle considers riverways as gathering forces; through their innate properties, rivers have the power to gather together humans, things, and animals in ways that go beyond the human scale of time. What these three angles have in common is that they take on the perspective from watery places to zoom in on archaeological practice and interpretation.

## Rivers as movers of archaeological information

One engagement with water that archaeologists readily acknowledge is how water has affected the geological history of the site they excavate. Indeed, we are trained to recognize the past and present impact of water upon archaeological sites, for example in the ways that water erodes away sediments and may carry archaeological evidence along with it. This important facet

of archaeological work is illustrated here in the feature by Katrina Yezzi-Woodley, Martha Tappen, Reed Coil, and Samantha Gogol. In this feature, the authors consider the impact of rivers on early humans' move out of Africa millions of years ago. Taking the fascinating archaeological site of Dmanisi in the Republic of Georgia as a case study, they illustrate how learning from



past ecologies can help us learn more about why and how early humans moved out of Africa. For an archaeologist or a paleontologist who specializes in taphonomy (the impact of human and nonhuman forces on animal remains from archaeological sites), water, and rivers especially, is a crucial factor to consider. As Yezzi-Woodley and her colleagues demonstrate, animal remains from an archaeological site may move through river action, and learning how bones behave in

water or in a riverine environment helps archaeologists understand how the bones came to be deposited in a specific way: did people leave them there, or were they carried there by some other forces, such as carnivores, or water? The careful compilation of experiments with a detailed analysis of surface modifications on animal bones can therefore reveal unfortold information about our species' history.

## River archaeological sites as heritage

Rob Mann's feature, "Life, Land, Water, and Time Revisited: Archaeologist Douglas A. Birk and the Little Elk Heritage Preserve in Little Fall, Minnesota," shifts our attention from a consideration of rivers in terms of paleoecology to the relationship between place, water, and heritage, and the role of the archaeologist in bringing this connection to the fore. Mann's piece is a tribute to a pioneer of Minnesota archaeology, the late Douglas Birk, who spent his prolific career bringing to public attention the rich archaeological history along Minnesota's riverways. Although his work has spanned a variety of contexts, his focus, as Mann tells us, was largely on the Little Elk River's confluence with the Mississippi River in Little Falls, Minnesota. This location was the home of a rich eighteenth-century fur trading

post known as 21MO20 (or just MO20), as well as the location of the Little Elk River Methodist Episcopal mission site. The missionaries had set up shop at this location at the request of Hole-in-the-Day, an influential chief among the Ojibwe in the nineteenth century. Through a history of this location, Mann relates Birk's success in creating an archaeological and cultural heritage preserve at this location in order to valorize local history. Through his project to protect and disseminate knowledge about the past at the Little Elk, Doug restored meaning to this once important meeting place. The feature further illustrates the paradoxical nature of an archaeologist's work; while we are working to reconstruct the past, our most important contribution is to the present.

## Rivers as gathering places

When archaeologists reconstruct the way that past people lived, waterways tend not to feature predominantly in the relationships that are discussed. Yet people in the past, just like people today, held meaningful relationships with water and waterways, just as they did with each other, the objects they used, or the landscape they traveled. The trappers and voyageurs of the North American fur trade, for instance, engaged with waterways in a meaningful way, yet this relationship is often overlooked by archaeologists or discussed in terms of the background upon

which human actions are played out. In our feature titled "The View from Watery Places: Rivers and Portages in The Fur Trade Era," Craig Cipolla and I challenge this idea as we explore the gathering power of rivers, highlighting their role in constituting fur trade history rather than merely enabling it.

Specifically, we consider the importance of watery places, such as rapids and the portages that allowed traders to avoid them, in thinking about the relationships that constituted the

eighteenth-century fur trade. Rather than consider the riverways in terms of mere mode of transportation, we envision the rivers as actors or agents in and of themselves, having an impact on human lives and their material legacies. Rivers gather people and things and animals in particular ways, and here we illustrate this via two examples, or two places of the fur trade. The first one is a late eighteenth-century trading post known as Réaume's Leaf River Post located in Central Minnesota. Situated on the Leaf River, a tributary to the Mississippi River, this trade post was established at the end of a portage, that is to say a land-based path that allowed traders to avoid dangerous rapids or to go from one river to another. These portages get their names from the French verb "porter," or to carry, because

the traders would have to carry their cargo, in addition to the canoes themselves, overland when taking the portage route. Establishing a trade post at the end of a portage was a meaningful decision, one that is ultimately influenced by the place itself.

The second place that we discuss is the river itself. We draw from fur-trade related objects housed at the Royal Ontario Museum that were recovered from two of Ontario's rivers: the French and the Winnipeg Rivers. Our discussion of those collections and the canoe accidents that created them emphasizes the dangerous nature of the river world of the voyageurs, as well as the indomitable character of the rivers themselves.

## Concluding thoughts

Overall, the goal of this issue is to showcase the relationship that archaeologists of different specializations have with water and rivers in their work. While for some disciplines this is somewhat of a banal exercise, for archaeologists this emphasis is rather unconventional. Yet the exercise is worthwhile, because it promises new ways of understanding the past. Giving deeper consideration to water and rivers in archaeological interpretation and practice has the power to completely alter our perspectives of the landscape, not only as archaeologists, but in terms of

human experience. It opens new avenues, and makes us see things that were not visible before. As I discuss in my co-authored feature with Craig Cipolla, a place that may seem "in the middle of nowhere" from a modern, land-based, perspective, can turn out to be a place rich with meaning and history when the river is taken into account. So it is my hope that through this issue you will learn more about archaeology as a discipline, but also that the features illustrate how riverways and water connect us all, just as they have since time immemorial.

## Recommended Citation

Allard, Amélie. 2018. "Guest Editor's Introduction to Issue Twelve: Watery Places." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/guest-editors-introduction-to-issue-twelve-watery-places/>.

## About the Author

Amélie Allard is an archaeologist and a recent doctoral graduate in anthropology from the University of Minnesota. She is now undertaking postdoctoral research at the Royal Ontario Museum. Her work has focused on issues of colonialism, mobility, and identity politics in eighteenth-century North America, especially in the context of the fur trade.



FEATURE

# THE VIEW FROM WATERY PLACES: RIVERS AND PORTAGES IN THE FUR TRADE ERA

By Amélie Allard and Craig N. Cipolla

On the drive northward from the Twin Cities on the straight and flat road of I-94, and then Minnesota's Highway 10, the landscape of urban and suburban development slowly cedes to wide open fields and scattered towns, sometimes lined with rows and patches of trees. This is not the most exciting or scenic of drives, but it's exciting

to us nevertheless, because this is the way toward another season of archaeological fieldwork on a late eighteenth-century fur trade post located on the Leaf River in Wadena County. Despite this excitement (that all archaeologists feel at the thrill of unearthing the past), there is this unshakable feeling that we are leaving the bubbling



*Fall of the Grand Recollet, French River, Ontario, by John Elliot Woolford, 1821.  
Via the Toronto Public Libraries.*



and lively environment of the Twin Cities and the University campus for, well, the middle of nowhere.

The road leading to the research site, which is known as Réaume's Leaf River Post, is an almost invisible dirt road that one accesses by taking a right turn off of a numbered county road, and it's easy to miss. Luckily, we have been here a few times, and have found landscape features (human-made and not) to remind ourselves when to take the turn. The site is on private property, but we have authorization to drive and walk all the way to the end of the field, where a patch of trees is visible. The walk through those woods is made unpleasant by all the mosquitoes, but it's worth it because all of a sudden, there it is, in all its beautiful, sun-touched splendor: the Leaf River.

At this location it's a relatively wide river, and the current is surprisingly strong, causing some erosion on the high banks where the site is located. For archaeologists like ourselves, this has specific implications: erosion is part of those natural processes that will affect a research design, especially where to excavate, and in considering what archaeological information may be lost to those waters. But despite this threat to archaeological potential, it's a beautiful spot. Suddenly, from the view of the river, it is easy to understand why, over two hundred years ago, this place was far from being "in the middle of nowhere."

In fact, it may well have been at the center of many things.



*Figure 1. Photo of the Leaf River from the Réaume's Leaf River archaeological site. Image courtesy of Amélie Allard.*



This is because rivers in the fur trading days of the late eighteenth and early nineteenth centuries were like highways, and the portages that allowed traders to avoid rapids were like HOV lanes on the freeway. Traders borrowed from Indigenous peoples the birch bark canoe and adapted it to their needs, and each year hundreds of brigades of them used the waterways of North America to transport goods from Montreal to interior trade posts. But rivers did more than merely allow traders to travel long distances efficiently. They constituted the trade itself, playing major roles in the ways in which fur traders understood and created senses of place and experienced the landscape. Rivers had an impact on social interactions among a diversity of trade participants, allowed traders to express and negotiate their masculinity in particular ways (Cipolla and Allard, n.d.), and affected how people reckoned time (see Mann 2017). In other words, rivers became very much a part of the traders' geographic imaginary—what we understand as an ensemble of thoughts, preconceptions, and expectations about the landscape and people's place within it. Framed differently, rivers, rapids and the portages that circumvented them were powerful places, where things, people, animals, and the immutable forces of gravity in the form of current, gathered. In this context, humans, in particular local Indigenous peoples, *métis*, and European-descended voyageurs, gave rivers and portages meaning in various ways.

Historical archaeology, or the combination of archaeology with documentary sources, provides a fascinating standpoint from which to view these processes. Indeed, historical archaeologists are trained to ask questions about past people's identities, about how they interacted with each other and with the environment. Studying rivers or their agency is not typically part of that training but the more we considered and learned about the late eighteenth-century fur trade, the more we realized the rivers themselves were

worthy of serious attention. The power they have held over humans since time immemorial, and their centrality in dictating the way the fur trade developed and changed over time, are not to be considered lightly.

It is in this frame of mind that we set out to explore influences beyond the human scale, in other words, not just human understandings of rivers, but rivers pushing and pulling humans. In this essay, we explore the gathering power of rivers, highlighting their role in constituting fur trade history. Although the might and importance of rivers may seem obvious, they have received little attention in the archaeological and historical literature on the trade. As Matt Edgeworth (2011) has pointed out, this is not a point that archaeologists often write about, let alone recognize. Rivers are truly the “dark matter” of landscape archaeology (2011, 25–26); rivers are the prime movers of landscapes, but archaeologists rarely acknowledge their power or influence. Edgeworth's argument is to challenge the view of rivers as purely natural, and rather show that throughout history they have also been cultural (altered by humans). We agree, and would push this a little further and say that, as components of the riverine landscape, rapids and portages too are deserving of our archaeological attention. We would like to illustrate this through two examples. The first one emphasizes the importance of portages and places in the establishment of trade posts like Réaume's Leaf River Post in Minnesota, as well as the social relations that are entangled in this use of space. Portages, or “carrying places,” were land-based paths that river travelers took in order to circumvent rapids or waterfalls. Portages and rivers are therefore closely related; portages, by definition, depend on the rivers for their identities. The second example draws from our current research on underwater archaeological collections recovered from Ontario's riverbeds. It highlights the materiality of the rivers themselves, and their indomitable gathering power.

## A Little Theory...

Some definitions and brief theoretical stances are probably in order at this point. We find inspiration in geographer Doreen Massey's work in considering place as a meeting and gathering place, the "location of intersections of particular bundles of activity spaces, of connections and interrelations, of influence and movements" (Massey 1995, 59). The ways in which humans make places or make sense of a particular space, through movement, stories, imagination, habitual practices, is also a tool for historical imagination (Basso 1996, 5), it is a way of constructing history itself, of fashioning novel versions of "what happened here" (Basso 1996, 6). As anthropologist Tim Ingold (2007, 2) reasoned in *Lines: A Brief History*, "To be a place, every somewhere must lie on one of several paths of movement to and from places elsewhere. Life is lived...along paths, not just in places...." Drawing inspiration from these works, we look not only at land-based placemaking during the fur trade era, we also consider paths of movement, including portages

and rivers themselves. Following thinkers like Ingold, we draw from recent elaborations of "assemblage" theory, a purposefully vague set of ideas and approaches that emphasizes the ways in which human-nonhuman relations constitute and bind one another into social wholes. The latter emerge from the interactions between their heterogeneous parts. Once in place, the assembled whole can start "acting as a source of limitations and opportunities for its components" (DeLanda 2016, 21). Emphasis is put both on the materials making up the components as well as the practices. An assemblage is therefore defined as the interactions between the components, not the result (McFarlane 2011, 653), it is emergent, *becoming*. Because they emerge out of an assembly of relations between humans and nonhumans, places and paths can thus be considered as assemblages, gathering together different entities, including humans, nonhumans, and a combination thereof (Jervis 2016, 385).

### 1) Portages: Carrying Places

*The Portage road is truly that to heaven [...]. Men who go over it loaded and who are obliged to carry baggage over it, certainly deserve to be called "men"!!!*

François Victoire Malhiot, (translated from French in Worthington 2010: 6)

The archaeological site of Réaume's Leaf River Post represents the remains of a small, late eighteenth-century trading post (Figure 2). It is characterized by at least two stone-lined fireplaces, one associated with the trading house and the other with the crew's sleeping quarters. The structures were enclosed within a picket palisade wall flanked by two diagonally placed bastions, one overlooking the river, and the other facing inland (Figure 3). Such defensive

features are not unique to Réaume's Leaf River Post, but are relatively common in other sites of the same period and area. Rivers, as the major routes within the fur trade landscape, played an important role in constraining or facilitating movement and access to the post. During the deep of winter, most rivers froze, hindering water traffic and making long journeys across the landscape more difficult. However, come spring the rivers opened up again, allowing for the flow of traffic to resume, bringing with it hopes of fruitful trading and fear of hostile incursions in equal measures. In trading posts where palisades were present, like we see at Réaume's, bastions were often diagonally positioned with the purpose of monitoring both the water and inland travelers.





Figure 2. Map showing the location of Réaume's Leaf River Post.  
Image courtesy of Amélie Allard.

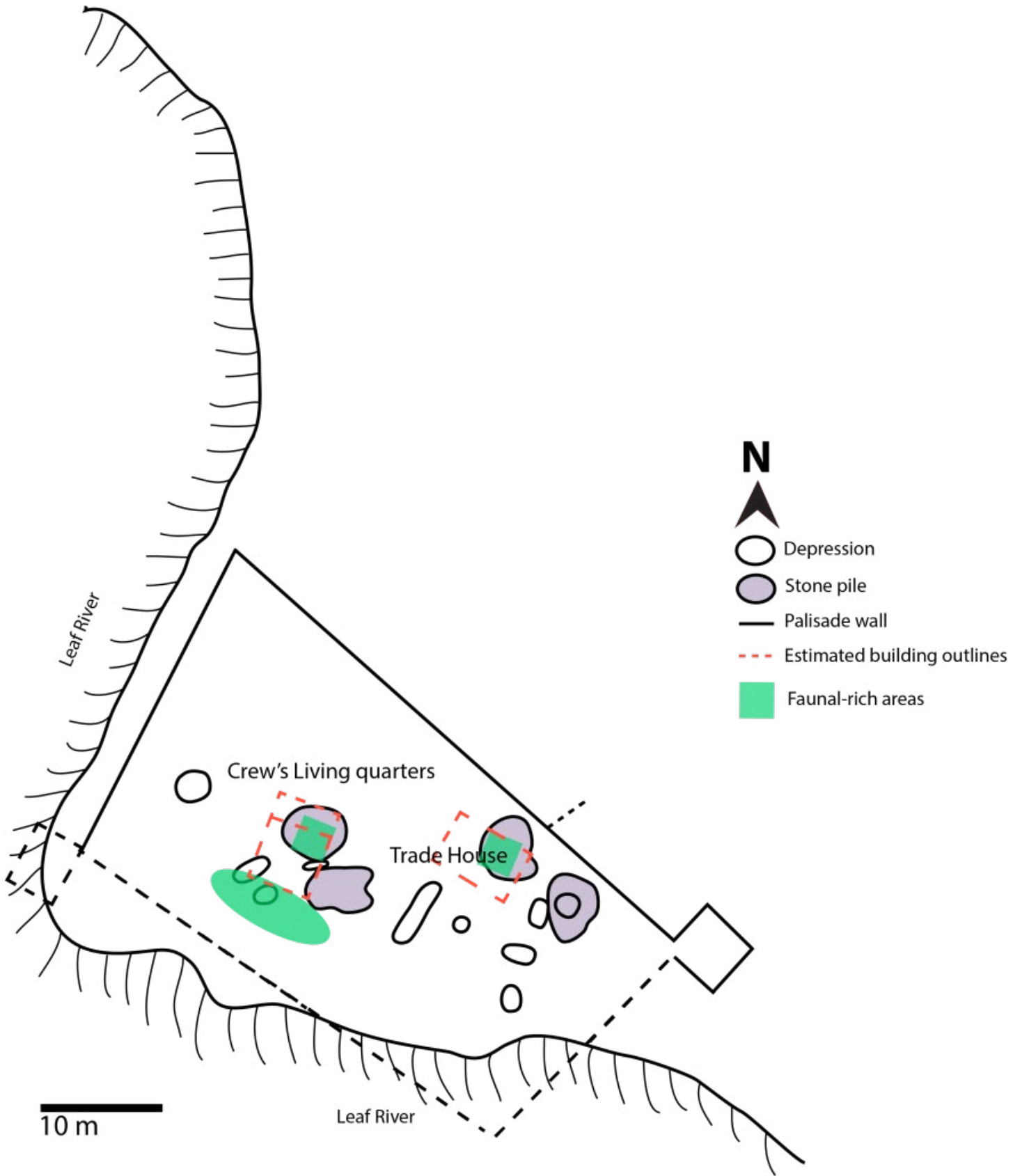


Figure 3. Sketch map of the Réaume's Leaf River Post archaeological site.  
Image courtesy of Amélie Allard.



According to documentary sources, this post was built in 1792 by trader Joseph Réaume, who had been outfitted to take an exploratory and trading party down the Mississippi into what was then a contested zone between the hunting territories of the Anishinaabeg-Ojibwe and the Dakota. Jean Baptiste Perrault recounts that, while having tea with North West Company man John Sayer in 1791, the latter told him that he “had sent two outfits inland of the Fond du Lac, that Mr. Cadotte and Mr. Jos. Réaume [...] had left, outfitted by Mr. [Alexander] Henry, a Montreal merchant, to also enter & lead the Indians of Leech Lake towards the plains” (translation from French by the authors, Cormier 1978, 85). In other words, this expedition “was intended to lead the Leech and Sandy Lake Ojibwe to contested hunting grounds west of the Crow Wing River” (Birk 1984, 57; 1999, 6). In his compilation of Ojibwe oral histories, William Warren ([1885] 1984) gave a detailed account of this expedition, and suggested that the Leaf River Post may be associated with this 1791-1792 outfit. He wrote:

[Jean Baptiste] Cadotte, noted for courage and fearlessness, easily formed a large party, consisting of traders, “coureurs des bois,” trappers and a few Iroquois Indians, who had assumed the habits and learned to perform their labor, of Canadian voyageurs to accompany him on an expedition to these dangerous regions. Besides his own immediate engages [sic] and servitors, the party consisted of the trader Reyaulm and his men: Pickette, Roberts, and Bell, with their men fully equipped for trading and trapping. Altogether they numbered sixty men .... (Warren [1885] 1984, 280–81)

The direct association between Joseph Réaume and the Leaf River post comes in a brief mention from trader John Hay in 1794 in “Captain McKay’s journal,” in which he recounts how his party, after going up the Leaf River, “arrived at Reaume’s fort a fort built in 1792 when he was stopt by the Sious [sic]” (Quaife 1915, 206–07).

What is of particular interest here, aside from the importance of river travel suggested by the orientation of the bastions, is the strategic location of this post. Indeed, archaeologist Doug Birk pointed out that the location of Réaume’s Leaf River Post is at one end of a long and well-traveled portage (Figure 4), a trail that connected the Cat and Wing Rivers and opened the way towards the Crow Wing River and Leech Lake (Birk 1999).

Places such as Réaume’s Post and others were closely interconnected through the mobility and the movement that rivers and portages facilitated. Those two features of the fur trade landscape were closely and inextricably intertwined; the very existence of portages was contingent upon the rivers and the flow of water, and the associated dangers to both human lives and their cargo. Taking a portage to avoid rapids was a slow and backbreaking process, as voyageurs unloaded the canoes, carried two 90-lb. bales on their backs, sometimes in addition to the canoes themselves, and carried everything overland to the foot of the rapids (Kenyon 1969, 8). Because of these hardships, portages left long-lasting imprints on the minds of fur traders. This is well illustrated by the close attention paid to them in narratives and journals. “Portages are anticipated, and once traveled they linger on the mind,” writes Birk (2007); “they have names and reputations that reflect conditions, impressions and experiences. Portages can influence exchange networks, settlement patterns, procurement activities, and spiritual connections to the land” (Birk 2007, 10). They are places where “people have adapted to, manipulated or succumbed to physical environments; they might serve as meeting places, trading stations, settlements, camps, cemeteries and other purposes” (Birk 2007, 11). They tend to have anecdotes and stories attached to them, many of which were of Anishinaabeg origin and shared by Anishinaabeg individuals (it is worth noting that by sharing such stories, the Anishinaabeg also staked a deep-rooted connection to this landscape). The following excerpt

from voyageur Jean Baptiste Perrault tells us such a story:

[One of the traders] wintered at the portage de la tortue. It was so called because in the days of [the Indians'] fathers, it had been their oracle, which they came to consult. For the turtle moved, and always kept its head toward the enemy, which warned them to be on their guard; but some years before I passed there it had ceased to be an oracle. (Jean Baptiste Perrault in Cormier 1978, 52)

As places imbued with history and meaning, portages held strategic value in trade and politics;

building trade posts on ancient portages, therefore, carried strong messages of ideological and political control (Zedeño and Stoffle 2003, 64).

Even though the traders were highly mobile (seasonally so), Réaume's Leaf River Post is far from the kinds of constructions that the Anishinaabeg and Dakota peoples favored for an efficient mobile lifestyle. Instead, its rectangular enclosure and stone-lined fireplaces speak to European methods and styles of construction. Was Réaume's objective to create a sense of familiarity in an unfamiliar landscape? To create a little piece of home in a space that was not well known or understood by his crew? Or was this



Figure 4. Close-up of Joseph Nicollet's *Hydrographical Basin of the Upper Mississippi River*, 1843, showing the Cat-Wing Rivers portage. Adapted from original courtesy of Cartography Associates (CC BY-NC-SA 2.0).



about power, and telling everyone in his environs “we are here”? Whatever the case, Réaume’s choices and the material traces of his decisions give us a glimpse into the importance of *place* and in particular into the agency of the waterways to influence relations at the human scale. It

brings to the fore how the choice to build a post at a particular spot was carefully thought out (i.e. at the end of a well-traveled portage with political significance), but also how access to the river was central to this decision.

## 2) Rivers and Rapids: Places of Fear and Danger

*“In due time we got to the “Grand Calumet,” a portage to avoid a succession of great rapids, rushing thro’ a narrow channel with an impetuosity as awful as it is grand.”*

(George Nelson in Peers and Schenck 2002: 36)

George Nelson was sixteen years old when he signed up as an apprentice clerk for the New North West or XY Company. He recorded his experiences in the fur trade in journals, and later, in a collection of what he called “reminescences” (see Peers and Schenck 2002). As demonstrated in his words above, he and traders like him clearly understood the power and danger of the riverways that they navigated and sometimes circumvented in their daily travels. A collection of archaeological materials housed at the Royal Ontario Museum (ROM) sheds new and valuable light on trader-river relations and entanglements. The collections speak not only to the ways in which these river powers were entangled with fur trade history, but also reveal how archaeologists involved in the project were swept up, organized by, and inundated by river flows.

These collections—retrieved by scuba divers from Ontario riverbeds—were recovered from the French and the Winnipeg Rivers and most are currently housed at the ROM in Toronto. They were collected as part of the Quetico-Superior Underwater Research Project (QSURP), a joint operation between Minnesota Historical Society and ROM archaeologists in the 1960s and 1970s. This ambitious survey of Ontario’s and Minnesota’s fur trade waterways not only helped in developing underwater archaeology as a subdiscipline (Bass 1975, vii–viii), but also

brought up to the surface (literally) thousands of objects that sank to the river bottom when canoes loaded with trade goods shot rapids and capsized or sank due to the “impetuosity” mentioned in the quote from George Nelson, above (Allard and Cipolla, in preparation). The waters of the French and Winnipeg Rivers were particularly dangerous (Figure 5). One observer, for instance, noted that the “River Winnipic [sic] is full of showing rapids which occasions frequent carrying” (Macdonnell in Gates 1933, 107). Hudson’s Bay Company trader Nicholas Garry further wrote in 1821: “we arrived at the Grand Rapid of the River Winnipic [sic] which we run without meeting with any Accident, though many Canoes have been lost here,” (Garry in Bourinot 1900, 131).

Such accidents are well documented in the traders’ journals and narratives (see Macdonnell in Gates 1933, 84), and these sometimes resulted in the loss of cargo in addition to human lives. Seasoned trader Alexander Henry the Younger recounted in harrowing details one such accident, which occurred in 1800 on the Winnipeg River:

Aug. 9th. ... One of my canoes, to avoid the trouble of making this portage, passed down near the N. shore with a full load.... I perceived the canoe on the N. side coming off to sault [shoot] the rapids. She had not gone many yards when, by some mismanagement of the foreman, the current bore down her bow full upon the shore, against a rock, upon which the fellow, taking advantage of his situation, jumped, whist the current whirled the canoe around. The steersman, finding himself within reach of the shore, jumped

upon the rock with one of the midmen; the other midman, not being sufficiently active, remained in the canoe, which was instantly carried out and lost to view amongst the high waves. At length she appeared and stood perpendicular for a moment, when she sank down again, and I then perceived the man riding upon a bale of dry goods in the midst of the waves. We made every exertion to get near him, and did not cease calling out to him to take courage and not let go his hold; but alas! he sank under a heavy swell, and when the bale arose the man appeared no more. At this time we were only a few yards from him; but while we were eagerly looking out for him, poor fellow! the whirlpool caught my canoe, and before we could get

away she was half full of water. We then made all haste to get ashore, unload, and go in search of the property. The canoe we found flat upon the water, broken in many places. However, we hauled her ashore, and afterward collected as many pieces as we could find. The men had landed a few packages above the rapid, otherwise our loss would have been still greater. (Henry in Coues 1900, 28)

Henry goes on to describe the loss in cargo, and does not mention the drowned man again. This may seem callous for him to worry so much about the cargo when he has just lost a canoe man. While it is impossible to know his thoughts, it is also important to keep in mind that Henry's

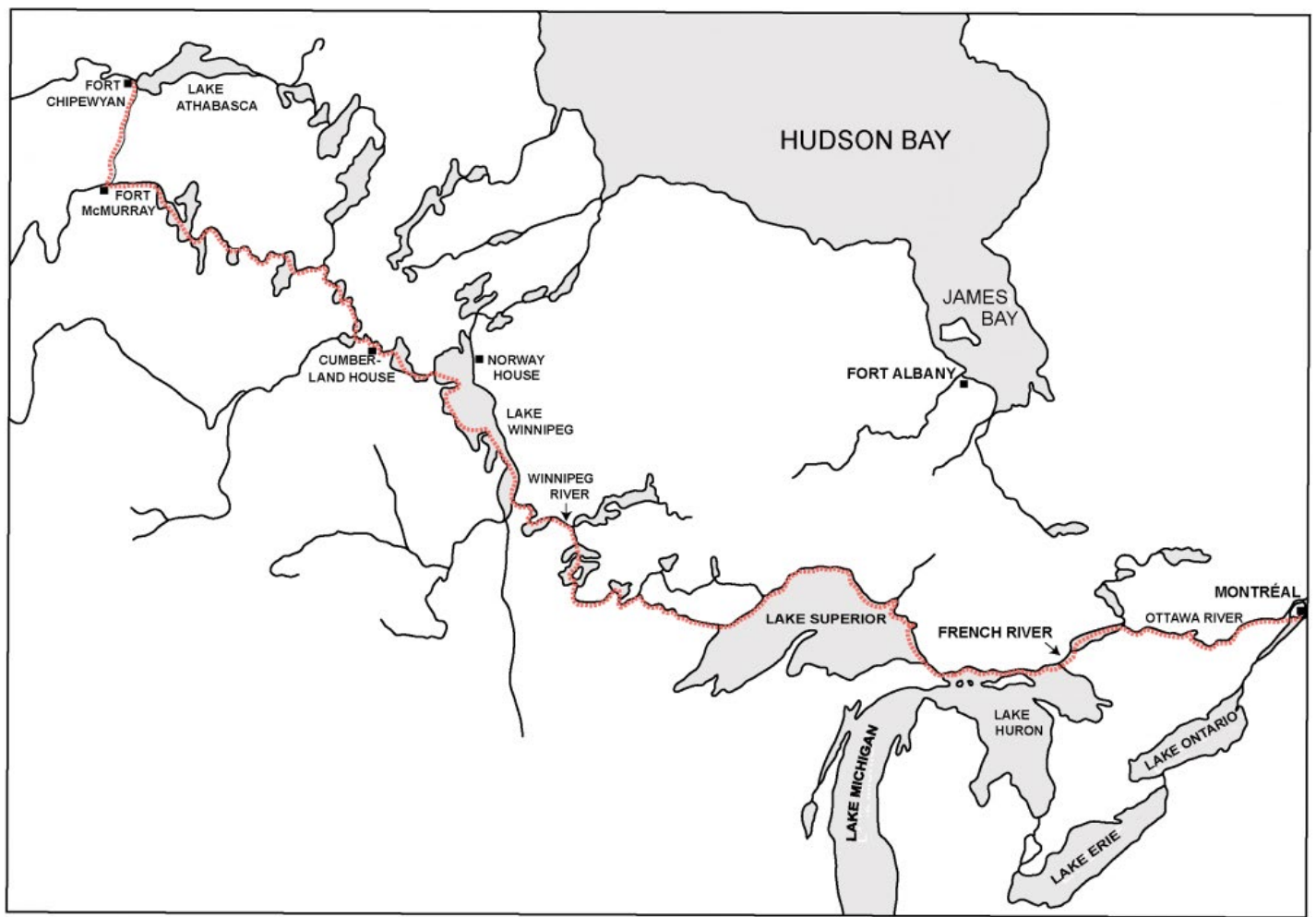


Figure 5. Map showing the location of the French and Winnipeg Rivers. Courtesy of the Royal Ontario Museum.



journal was for his superiors' benefit, the proprietors of the company, and not a personal diary. As the man in charge of the brigade, Henry was responsible for the merchandise and had to answer to the proprietors for any losses. The following description of the lost merchandise also helps us understand how items were packed, and how they were retrieved in the case of an accident. Trade goods were put up in bales or "pièces" of about 90 pounds each. Liquor and ammunition were carried in kegs, while the bales of dry merchandise were carefully packed to keep them from getting wet in accidents and bad weather (Wheeler 1962, 41; Kenyon 1969, 6). When an accident occurred, the voyageurs would salvage what they could, namely the floating, lighter

bales. But they had neither the equipment nor the time to retrieve heavier packages, such as nests of copper kettles, bags of shot and musket-balls or gunflints, muskets and other gun parts, or crates of files. Those heavy metal or stone items defied even river flow and their weight and properties took them to the bottom (Kenyon 1969, 8–10). Many such objects now make up the underwater fur trade collections at the ROM, and might even be those very objects whose loss Henry laments in the following passage.

The loss amounted to five bales merchandise, two bales new tobacco, one bale canal tobacco, one bale kettles, one bale [musket] balls, one bale [lead] shot, one case guns.



*Figure 6. Rapid of La Dalle, French River, Ontario, by John Elliot Woolford, 1821. Via the Toronto Public Libraries.*

I was surprised that a keg of sugar drifted down about half a mile below the rapid, as its weight was 87 lbs.; it proved to be but little damaged. The kegs of gunpowder also floated a great distance, and did not leak. Whilst we were very busily employed repairing damages, by patching and mending the canoe and drying the property, a few Indians came to us. I employed them to search for the goods, but they could find none....

Sunday Aug. 10th. This morning we made another attempt to recover our packages, but our labor was in vain. Although, at the place where the canoe upset, the water was not more than six feet deep, the current was so swift that everything must have been swept below the falls.... Aug. 11th. Everyone was anxious to get ahead and show his activity, as is generally the case in the N.W. This produced a scene of bustle and confusion, which cannot be conceived by one who has not been eye-witness of the great exertion of which the Northmen are capable. (Henry in Coues 1900, 29–30)

These events are quite remarkable because they speak to the physicality and risk of the voyageur's work, as well as the ways in which the pull of gravity "gives water an energy that people had to either work with or fight against" (Edgeworth 2011, 84). It illustrates the very palpable agency of river flows, its indomitable character that is larger than human lives or histories. But it also illustrates the degree of entanglement between human lives and river flow. In this light, we could easily flip the standard fur trade narrative on its end, where instead of traders using rivers, rivers enticed, entrapped, and organized traders.

Nowhere was this relationship better demonstrated than "en voyage," while the men paddled and portaged their way from a regional depot to a specific location in the Interior. By the late eighteenth century, waterways were for the most part well known by voyageurs and each

river, each portage, each rapid, had a name and a story, which became an important part of the traders' geographic imaginary. Both the French and Winnipeg Rivers feature prominently in the traders' lived experiences and imagination. One of the stories about the French River that is retold in a number of accounts, for instance, is that of

a beautiful spot called 'L'enfant perdu.' The Indians called it the "crying child" from the cries of a child [who had disappeared under water but whose cries] were heard in the ground.... after digging many days and hearing the cries of a child in distress, they ceased from fatigue & I dare say fear too. (George Nelson in Peers and Schenck 2002, 39; see also John Macdonnell's account of this story in Gates 1933, 83–84)

Stories such as this were not merely used to frighten the inexperienced; the dangers and risks of drowning were real, as the excerpt above demonstrates. Archaeologist Robert Wheeler pointed out that among the "many types of accidents that befell the traders and canoemen, perhaps the two most common occurred when canoes were shooting, lining or poling rapids or when they were caught in a wind squall on a big lake" (Wheeler 1975, 13). To avoid unnecessary risks, canoemen had different options: "If they were headed upstream, the voyageurs could half unload the canoes (*demi-charge*) or empty them completely (*décharge*). Made lighter, the canoes might then be paddled or poled through the fast water, or if that were impossible, they were often towed with a line pulled from the shore. Going downstream the canoemen might elect to shoot ("sault") the rapids with or without making a *décharge* beforehand (Wheeler 1962, 42; 1975, 13). However, the recovery of thousands of objects from Ontario's riverbeds shows that, much like the case of Alexander Henry's loss of a canoe, risks were sometimes taken, with grave consequences.



## The Power of Rivers: Gathering and Dispersing

What do the objects recovered from Ontario's riverbeds tell us about the power of rivers in driving human histories, or in the creation of a particular place? Water itself of course has powerful properties. Not only did the anaerobic and frigid environment of eddies preserve those materials, but the impact of gravity on this fluid material had the unusual ability to gather things. The turbulent waters of eddies and waterfalls can be a gathering force. In accordance with assemblage theory and the idea that heterogeneous components constitute and bind each other into wholes, rapids gathered—or trapped—things into an assemblage of nonhumans and humans composed of people's decisions, their practices and their fear, but also the fluidity of the water,

the heaviness of metal objects and the fragility of birch bark canoes, the hazardous rocks, and even gravity itself. The professional divers involved in the project noted that “a combination of features is necessary in rapids before they can catch and hold in an exposed position for two centuries any of the things that would fall out of an overturned canoe: moderate stream flow and clean rock bottom with crevices and boulders to trap the artifacts evidently created the one rich site so far discovered on the French River” (Macfie 1962, 51). A striking example of these gathering forces is seen in the recovery of hundreds of glass “seed” beads from the riverbeds. The beads were almost certainly destined to be exchanged for furs with local Indigenous groups, but instead ended



*Figure 7. Fall of the Grand Recollet, French River, Ontario, by John Elliot Woolford, 1821. Via the Toronto Public Libraries.*

up falling into the rivers and gathered in cracks and crevices, sometimes tens of feet below the water's surface.

At the same time, river flow also disperses things. While the professional divers involved in this project could attest to the cache-like nature of the finds (figure 8), they could also attest to the powerful currents of the waters, which had taken the lighter items downstream (figure 9). As Kenyon described, "in the worst rapids, [a diver] must fight his way upstream by hanging onto rocks and crevices, crawling along the bottom like some prehistoric monster that spews forth air bubbles instead of fire" (Kenyon 1975, 54; 1969, 11).

We undoubtedly understand more about eighteenth-century histories of the fur trade because of the innovative underwater archaeological project described here. We would, however, argue that this is not only because of the artifacts recovered; it is also due to the experiences that the archaeologists and divers had as they wrestled with and pushed back against the rivers in order to complete their surveys. The dangers associated with the diving expeditions must not be underestimated, and many of the early publications by members of the project focused as much on the logistics of safely investigating the rapids as on a description of the finds. The indomitable character of the water, combined with the fact that the divers have not recovered much of lighter



*Figure 8. A hoard of musket balls in the rocky bottom of the French River.  
Courtesy of the Royal Ontario Museum.*



items, like cloth, blankets, or tobacco, once again illustrates how the agency of river flows outscales human needs (e.g., Edgeworth 2014, 157) and human conceptions of space-time (Cipolla and Allard, n.d). Water channeled human experiences and lives, gathered them into an ensemble of human-nonhuman interactions, and sometimes

shifted human paths to re-gather them onto the rocky paths of the portages. Just like they did with the voyageurs of the eighteenth century, the rivers gathered the archaeologists, sometimes helping, sometimes hurting, and always threatening their progress.

## Conclusion

As far as we know, there has been no systematic underwater archaeological survey of the Leaf River in Wadena County, Minnesota, yet the area is rife with local histories about the banks of the rivers as gathering places. While these stories are so abundant they may be apocryphal, the point is that those stories, and the part that

we, as humans, play in passing them along, continues to give places like these meaning. More to the point, a view from the river has the power to completely alter our perspectives of the landscape—it opens new avenues (literally), and makes us see things that were not visible before. It makes sense then to remember that when



*Figure 9. One of the divers in the white waters of the Namakan River, Ontario.  
Courtesy of the Royal Ontario Museum.*

in the 1970s archaeologists were employed to survey the state of Minnesota for fur trade sites, the archaeologists Doug Birk and his associates used the waterways in order to best locate sites (see Rob Mann's feature in this issue for more on Doug Birk's work). In so doing they showed a sensitivity to, and an understanding of, the past centrality of rivers in fur traders' lives. Following in their footsteps (or more aptly, in their wake), our research on the late eighteenth-century fur trade has made us recognize the importance of rivers and waterways not as the background for human actions and economic pursuit, but as

dangerous places where materialities and non-human forces like gravity and flow get entangled in ways that powerfully affect human lives and experiences. The case studies of Réaume's Leaf River Post's position at the end of a portage and the underwater collections at the ROM each highlight the gathering power of different watery places of the fur trade landscape. Portages and rivers are closely related to one another, and in this sense they are parts of lines and gatherings, binding together humans and nonhumans into webs of relations.

## Works Cited

- Allard, Amélie and Craig N. Cipolla. N.D. Failure and Colonialism in the North American Fur Trade: the View from a Riverine Assemblage, In preparation.
- Bass, George F. 1975. Foreword, in *Voices from the Rapids: An Underwater Search for Fur Trade Artifacts 1960–73*, edited by R.C. Wheeler, W.A. Kenyon, A. R. Woolworth and D. A. Birk, pp. vii–viii. St. Paul: Minnesota Historical Society Series No. 3.
- Basso, Keith H. 1996. *Wisdom Sits in Places: Landscape and Language Among the Western Apache*. Santa Fe: University of New Mexico Press.
- Birk, Douglas A. 1984. John Sayer and the Fond du Lac Trade: The North West Company in Minnesota and Wisconsin. In *Rendezvous: Selected Papers of the Fourth North American Fur Trade Conference, 1981*, edited by Buckley, Thomas, pp. 51–61. St. Paul: The Conference.
- . 1999. Minnesota Archaeology Site Form. Office of the State Archaeologist. St. Paul, Minnesota.
- . 2007. On the Trail of Untold Stories: Archaeological Inquiries Along the Old Grand Portage, *The Minnesota Archaeologist* 66: 9–20.
- Bourinot, John, ed. 1900. *Diary of Nicholas Garry, Deputy-Governor of the Hudson's Bay Company from 1822–1835: a detailed narrative of his travels in the Northwest Territories of British North America in 1821*. Royal Society of Canada.
- Cipolla, Craig N., and Amélie Allard. N.D. Recognizing River Power: Watery Views of Ontario's Fur Trade, *Journal of Archaeological Method and Theory*, forthcoming (manuscript accepted October 2018).
- Cormier, Louis-P., ed. 1978. *Jean-Baptiste Perrault marchand voyageur parti de Montréal le 28e de mai 1783*. Montréal: Boréal Express.



Coues, Elliot, ed. 1897. *New Light on the Early History of the Greater Northwest; the Manuscript Journals of Alexander Henry and of David Thompson, 1799–1814*. Volume 1. New York: Francis P. Harper.

DeLanda, Manuel. 2016. *Assemblage Theory*. Edinburgh: Edinburgh University Press.

Edgeworth, Matt. 2011. *Fluid Pasts: Archaeology of Flow*. London: Bristol Classical Press.

———. 2014. On the Agency of Rivers, *Archaeological Dialogues* 21(2): 157–159.

Englebert, Robert. 2008. Merchant Representatives and the French River World, 1763–1803. *Michigan Historical Review* 34(1): 63–82.

Gates, Charles M., ed. 1933. *Five Fur Traders of the Northwest: Being the Narrative of Peter Pond and the diaries of John Macdonnell, Archibald N. McLeod, Hugh Faries, and Thomas Connor, with an Introduction by Grace Lee Nute*. Minneapolis: The University of Minnesota Press.

Ingold, Tim. 2007. *Lines: A Brief History*. London and New York: Routledge.

Jervis, Ben. 2016. Assemblage Theory and Town Foundation in Medieval England, *Cambridge Archaeological Journal* 26(3): 381–395.

Kenyon, Walter A. 1969. Our submerged archives, *Rotunda* 2(2): 4–13.

———. 1975. The Quetico Report. In *Voices from the Rapids: An Underwater Search for Fur Trade Artifacts 1960–1973*, edited by Robert C. Wheeler, Walter A. Kenyon, Alan R. Woolworth, Douglas A. Birk, pp. 45–54. Minnesota Historical Archaeology Series No. 3. St. Paul: Minnesota Historical Society.

Macfie, John. 1962. A short river reveals evidence of its long history. *The Beaver* (Winter): 48–51.

Mann, Rob. 2017. “They Are Fit to Eat the Divel and Smoak His Mother”: Labor, Leisure, Tobacco Pipes, and Smoking Customs among French Canadian Voyageurs during the Fur Trade Era. In *Archaeological Perspectives on the French in the New World*, edited by Elizabeth M. Scott, pp. 58–82. Gainesville: University Press of Florida.

Massey, Doreen. 1995. The Conceptualization of Place. In *A Place in the World? Places, Cultures and Globalization*, edited by D. Massey and P. Jess, pp. 45–76. Oxford: Oxford University Press/The Open Library.

McFarlane, Colin. 2011. The City as Assemblage: Dwelling and Urban Space. *Environment and Planning D: Society and Space* 29: 649–671.

Peers, Laura, and Theresa Schenck, eds. 2002. *My First Years in the Fur Trade: The Journals of George Nelson 1802–1804*. St. Paul: Minnesota Historical Society Press.

Quaife, Milo M. 1915. Extracts from Capt. McKay’s Journal—and Others. *Proceedings of the Wisconsin Historical Society at its Sixty-Third Annual Meeting*, Volume 63: 186–210. Madison: State Historical Society of Wisconsin.

Warren, William W. 1984 [1885]. *History of the Ojibway People*. St. Paul: Minnesota Historical Society Press.

Wheeler, Robert C. 1962. *Canadian Geographical Journal* LXV(2): 38–49.

———. 1975. The Quetico-Superior Underwater Research Project. in *Voices from the Rapids: An Underwater Search for Fur Trade Artifacts 1960–1973*, edited by Robert C. Wheeler, Walter A. Kenyon, Alan R. Woolworth, and Douglas A. Birk, pp. 7–13. Minnesota Historical Archaeology Series No. 3. St. Paul: Minnesota Historical Society.

Worthington, Richard, ed. 2010. *A Wisconsin Fur Trader's Journal, 1804. Journal du Fort Kamannaitiquoya A la Rivière de Montréal par François Victoire Malhiot*. Fur Trade Reprints Volume 1. Madison, WI: Fur Trade Reprints.

Zedeño, Maria N., and Richard W. Stoffle. 2003. Tracking the Role of Pathways in the Evolution of a Human Landscape: the St. Croix Riverway in Ethnohistorical Perspective. In *Colonization of Unfamiliar Landscapes: The Archaeology of Adaptation*, edited by M. Rockman and J. Steele, pp. 59–80. London and New York: Routledge.

## Recommended Citation

Allard, Amélie, and Craig N. Cipolla. 2018. “The View From Watery Places: Rivers and Portages in the Fur Trade Era.” *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/the-view-from-watery-places>.

## About the Authors

Amélie Allard is an archaeologist and a recent doctoral graduate in anthropology from the University of Minnesota. She is now undertaking postdoctoral research at the Royal Ontario Museum. Her work has focused on issues of colonialism, mobility, and identity politics in eighteenth-century North America, especially in the context of the fur trade.

Craig N. Cipolla is Associate Curator of North American Archaeology at the Royal Ontario Museum and a member of the Anthropology Department at the University of Toronto. His research interests include archaeological theory, North American archaeology, settler colonialism, and collaborative archaeology. His publications include *Becoming Brothertown*, *Archaeological Theory in the New Millennium* (co-authored with Oliver Harris), *Foreign Objects*, and *Rethinking Colonialism* (co-edited with Katherine Hayes).



FEATURE

# LIFE, LAND, WATER, AND TIME: ARCHAEOLOGIST DOUG BIRK AND THE LITTLE ELK HERITAGE PRESERVE

By Author Name

The title of the 1976 novella by Norman Maclean, *A River Runs through It*, is also an apt description of the career of Minnesota archaeologist Douglas A. Birk, who passed away unexpectedly in March 2017. Actually, several

rivers run through his remarkable and pioneering career, which spanned nearly 50 years. Birk was among the first historical archaeologists to conduct underwater investigations of sites relating to the North American fur trade along



*Archaeologist Doug Birk speaking to St. Cloud State University anthropology students enrolled in the author's 2014 archaeological field school at the Little Elk River Mission site. Image courtesy of the author.*

the “voyageur’s highway,” the chain of rivers, lakes, and overland portages that run along the Minnesota-Canadian border. He was a prominent participant in the Quetico-Superior Underwater Research Project (QSURP), a joint Canadian and American effort to locate underwater archaeological evidence of canoe wrecks and submerged terrestrial sites such as Fort Charlotte on the Pigeon River at the west end of the Grand Portage, which linked Lake Superior to the rivers and lakes of the interior of North America (see [Allard and Cipolla](#), this issue).

But it was the Mississippi River that loomed largest in Birk’s life and archaeological endeavors. Those who knew Doug tell the story of his fascination, since sixth grade, when he learned of Zebulon Pike’s exploration up the Mississippi River in 1805–06 and the possibility that the expedition might have crossed over his parent’s property near Pine River. Many years later, Doug would lead his own expedition to locate

the archaeological remains of Pike’s fort on the Mississippi near the mouth of the Swan River. Throughout the 1970s, 1980s, and 1990s Doug focused much of his professional attention on a short stretch of the Mississippi River at its confluence with the Little Elk River in present-day Morrison County, Minnesota. For Doug, the Mississippi River was part of a vast land- and “water-scape” that facilitated the movement of people, goods, and ideas both before and after the arrival of Europeans (Birk 1994). Doug’s research often revolved around the intersection of people and the environment. He was interested in the human-land/water relationship and how these interactions shaped human relations within and between different groups. Doug took a particular interest in the early colonial and settlement periods of Minnesota history and in particular the role of the fur trade and missionization on the relations between Native Americans and Euroamericans.

## Settlements on the Little Elk River

As Native and European people visited, settled in, and passed through the Mississippi River valley, they created stories, memories, and sites that reflect the importance of this place. Speaking of the Little Elk in the nineteenth century, Hole-in-the-Day, an influential chief among the Ojibwe, remarked that he hoped that establishing a village here would make it “a great place” (Birk 1991b:27). In this short piece, I recount Doug’s efforts to once more make this a great place through the creation of an archaeological and cultural heritage preserve along the Mississippi and Little Elk Rivers.

In the early 1970s, Doug was working as an archaeologist for the Minnesota Historical Society (MHS) conducting surveys in the Mississippi Headwater region to locate archaeological sites potentially eligible for inclusion in the National Register of Historic Places (Birk 1991a:251). In 1972, Doug and the MHS archaeologists were

drawn to the mouth of the Little Elk River by reports of rock piles thought by local residents to be “Indian mounds” and documentary evidence noting that the Missionary Society of the Methodist Episcopal Church had established a mission nearby. According to Birk’s research (1993), the records of the American Board of Commissioners for Foreign Missions reveal that missionaries had set up shop at this location at the request of Hole-in-the-Day. While this initial foray was not successful in locating the Little Elk River Mission site, Doug did take the time to map the so-called “Indian Mounds.”

Although skeptical that they were mounds when he mapped them, Doug would soon be drawn back to the Little Elk by these curious piles of stone. As he tells the story in a 1991 publication, Doug happened to meet Bruce Mellor, a poet, historian, and archivist with the Morrison County Historical Society, in 1978. As fate would have



it, Mellor was one of a group of young boys who had, in the mid-1960s, dug into the rock piles, supposing them to be full of Indian artifacts. Mellor told Doug that to their disappointment all they found was more modern looking materials like nails and “dishes” buried in thick layers of ash (Birk 1991a:251). Doug was sure that those rock piles were not “Indian mounds” but rather were collapsed stone chimneys. His curiosity now piqued, Doug was astounded to learn that Mellor still had some of these old relics stashed

away in a shoebox. Upon viewing the artifacts, Doug knew that they dated to the mid-eighteenth century, possibly earlier than 1760. This date was significant because it suggested that the site was associated with the French colonial period of Minnesota history (Birk 1991a:253). Along with the still un-relocated nineteenth-century mission site, and now this eighteenth-century site, the mouth of the Little Elk was proving to be a historically and archaeologically significant stretch of the Mighty Mississippi.

## Research, Education, and Stewardship

It was around this time that fate once more stepped in to draw Doug’s interests and efforts to the Little Elk. In 1981 Doug’s employment as an archaeologist with the Minnesota Historical Society came to an end. What seemed to be a career setback actually turned out to be an incredible opportunity. Along with two other former MHS archaeologists and a University of Minnesota Ph.D. student, Doug founded the Institute for Minnesota Archaeology (IMA) in 1982. The mission of the IMA was “research, education, and stewardship” as they pertained to the archaeological heritage of Minnesota (Gilman 2008:73). Although throughout its twenty years in operation the IMA was an organization with “no reliable source of income and never more than half a dozen full-time employees,” it made important and enduring contributions to Minnesota archaeology (Gilman 2008:72). Doug’s work at the Little Elk was a significant component of the IMA’s efforts throughout the 1980s and 1990s.

Invigorated with a fresh start and eager to explore the eighteenth-century site at the Little Elk,

now more commonly known by its Minnesota state archaeological site number, 21-MO-20 or just MO20, Doug and the IMA conducted test excavations at MO20 in 1982 to “substantiate the mid-eighteenth-century date” of the site and to try and identify the site’s “purpose and identity” (Birk 1991a:257). Using the rock piles and other surface features to guide the placement of their excavations, the crew uncovered the charred remains of one wall of a building built in a typical French colonial style known as *poteaux en terre*. This style of vernacular architecture used closely spaced vertical timbers set directly in the ground to form the walls of a structure. The building appears to have burned. The artifacts such as glass beads and pottery sherds found in and around the structure did indeed appear to date the site to the mid-eighteenth century. Remarkably, one of the recovered pottery sherds fit back together with one found by Mellor and his childhood friends in the 1960s (Birk 1991a:257). Even more fortuitous for Doug and the IMA, the owners of the property where the site was located decided to put the land up for sale that same year.

## Establishing the Little Elk Heritage Preserve

In 1983, Jan Warner, Director of the Morrison County Historical Society (MCHS) and the Charles A. Weyerhaeuser Memorial Museum,

joined the IMA Board, establishing what would turn out to be a long-term relationship between the MCHS, Doug, and the IMA. That year the

IMA also partnered with the Minnesota Parks Foundation (MPF) to purchase the property containing the MO20 site (Birk 1991a:257-258). This land acquisition marked the beginnings of what would become the Little Elk Heritage Preserve. Over the next five years, the IMA and the MPF would acquire 93 acres of land along the Mississippi River, above and below the mouth of the Little Elk River. In 1988 the title of the Little Elk Heritage Preserve was transferred to the IMA. At the time the Little Elk Heritage Preserve was the “largest privately owned archaeological preserve of its kind in the Midwest” (Birk 1991b:7). Significantly, a covenant attached to IMA’s title requires that the land is forever to be “held, developed, and managed as to preserve and

enhance its archaeological, historical and natural features and significance for the future education of and enjoyment by the public” (Birk 1991b:7).

This was the mission of Doug and the IMA over the course of the next 15 years. In 1987 the IMA conducted an archaeological survey over the entire 93 acres of the Little Elk Heritage Preserve. They recorded several archaeological sites spanning from at least 400 B.C through the late 19th and into the early 20th centuries. In addition to MO20, Doug and the IMA archaeologists discovered a historic mill, dam, and commercial complex, a stone quarry dating to the 1850s, and another rock pile thought to be the collapsed chimney of a ca. 1840 log cabin (Figure 1). This

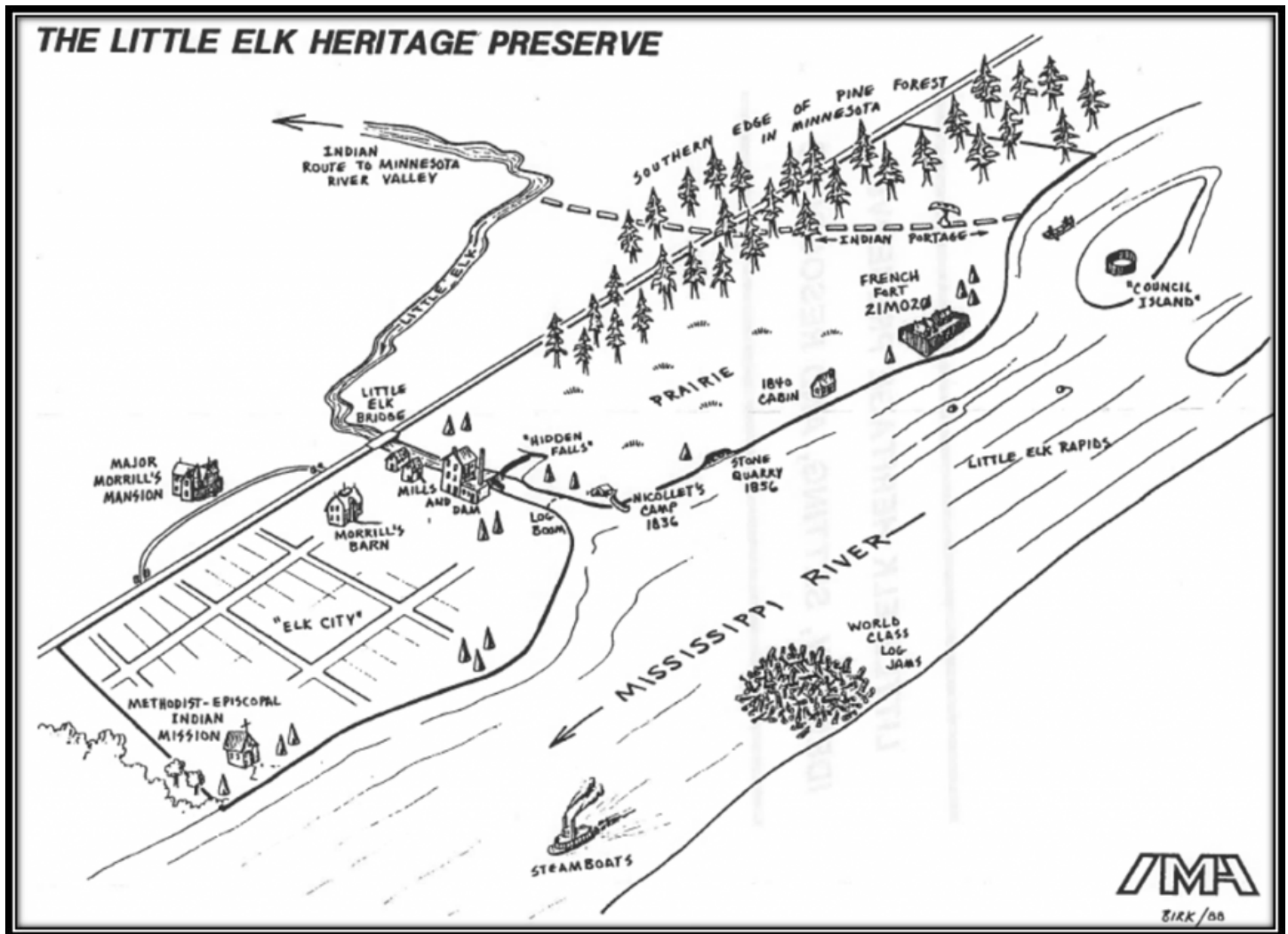


Figure 1. The Little Elk Heritage Preserve as Drawn by Douglas A. Birk. From Birk 1991b:9.



cabin may be related to the Little Elk River Methodist Episcopal mission site that had eluded Doug in the 1970s. That site was finally located by Doug following the discovery of additional documentary evidence that suggested the mission was south of the mouth of the Little Elk River. In 1985, Doug and Brian Hoffman found the site using a combination of metal detector survey and shovel probes. They discovered several iron fragments believed to be from a cast-iron stove as well as other nineteenth-century artifacts such as transfer-printed ceramic sherds and machine cut square nails. Doug and an IMA crew returned to the mission site in 1987 and excavated a 1 x 1 meter test unit at the site and also made a surface

collection of artifacts from gopher mounds. Once more they recovered a variety of nineteenth-century artifacts.

Meanwhile, research at MO20 continued apace. In 1983 MO20 was cleared of vegetation, mapped, and secured from vandals by the erection of a six-foot high fence. The clearing revealed that the site consisted of at least three structures, four fireplaces, and several other surface depressions that likely represented cultural features. (Birk 1991a:259). Doug, along with archaeologist Dean Anderson, also excavated several test pits. It was during these excavations that Doug implemented the exacting field methods that would

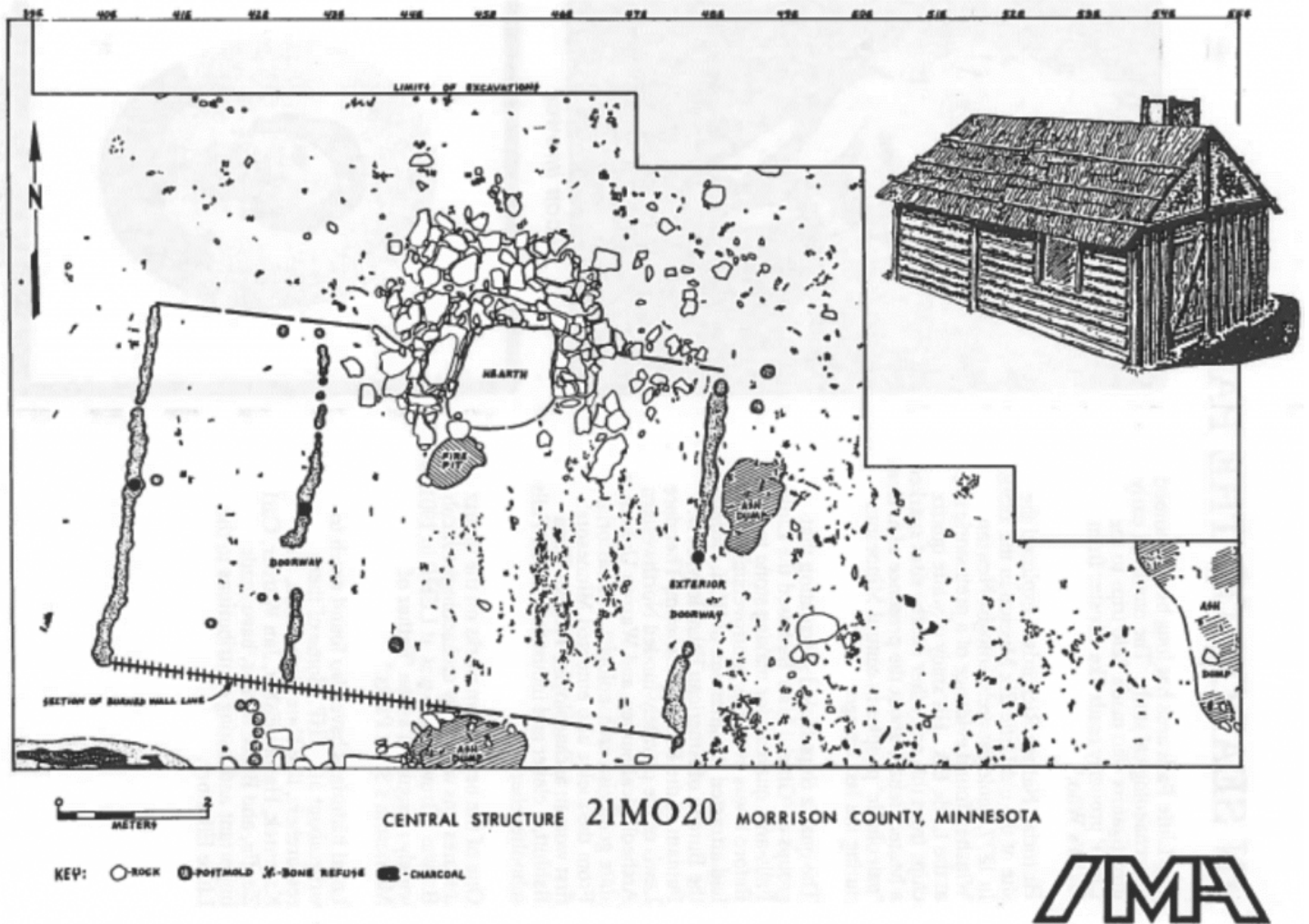


Figure 2. Archaeological Plan View Map and Artist's Reconstruction of the Central Structure at MO20. From Birk 1991b:24.

allow for the recovery of very small artifacts such as pins, needles, glass beads, lead shot, tiny fish and animal remains (Birk 1991a:258). These methods included washing all excavated soils through 1/8 inch mesh screens and hand excavating test units by trowels (rather than shovels) in order to plot the exact location of uncovered artifacts, stones, and cultural features (Figure 2). These efforts were done in advance of nominating the site to the National Register of Historic Places (NRHP). In 1984 the MO20 site was successfully listed on the NRHP. That year also saw the first large-scale excavations at the site, implementing the field methods mentioned above.

Between 1984 and 1988, Doug directed several field seasons of excavation at MO20. The goals were to determine the age of the site, how long it was occupied, the identity of the people who lived there, and the activities that took place there (Birk 1991b:251). These investigations focused on the central structure at the site. This structure measured 5 m (16.4 ft.) by 7.5 m (24.6 ft.) and consisted of two rooms, one heated by one of the stone hearths originally mapped by Doug back in 1972. The second, much smaller room was likely used for storage. Artifacts found in this structure offer some clues to life at the post. For example, artifacts found in proximity to the fireplace indicate that this space was used both as a place for leisure, as represented by bone and lead gaming pieces, and a place for labor, as represented by lead waste from the manufacture of small lead brooches (Birk 1991a:262). Careful excavation of the ash deposits within the fireplace indicate

that this structure was used at least two separate times over the course of a year or two as the traders left the post in the spring and returned the following autumn. The archaeological evidence suggested to Doug that MO20 was occupied sometime during the mid-eighteenth century. Combining this data with a careful combing of the early historical records, Doug proposed that MO20 represented the material remains of Fort Duquesne, a temporary outpost built somewhere in central Minnesota by Joseph Marin, an “explorer and officer in the French regular troops” (Birk 1991a:253). It should be noted that Doug always presented this interpretation of MO20 as a “working hypothesis” to be “tested with every new turn of a trowel or archival page” (Birk 1991a:257).

During this time MO20 became the focal point for public outreach activities at the Little Elk Heritage Preserve. Public outreach efforts included press releases, site tours, open houses, lectures, and a traveling exhibit entitled *Under the Fleur de Lis: The Archaeology of a French Colonial Fort in Minnesota*. Site tours and annual open houses attracted hundreds of visitors to the Little Elk Heritage Preserve and a riverside trail with interpretive signage brought additional visitors to the site. Doug and the IMA also partnered with the Minnesota Historical Society to develop a unit on the history and archaeology of MO20 for the state’s history curriculum. It was taught in the Little Falls school district and in other public schools across Minnesota (Birk 1991b:39-40; Gilman 2008:76-78).

## Life, Land, Water, and Time

These were the halcyon days for the Little Elk Heritage Preserve. In 1988 a management study, entitled *Life, Land, Water, and Time: A Resource and Planning Guide for the Little Elk Heritage Preserve* and authored by Doug, was a product of the Little Elk Planning conference held at the Morrison County Historical Society’s Charles A. Weyerhaeuser Memorial Museum in Little Falls

(Gilman 2008:78). Expanded and revised in 1991, *Life, Land, Water, and Time* maps out the future development of the Little Elk Heritage Preserve, noting that the archaeological sites within its 93 acres “represent a cultural continuum extending from the prehistoric past through the period of historic contact to more recent episodes involving Dakota and Ojibway peoples, fur traders,



explorers, missionaries, lumbermen, millers, merchants, settlers, and others. The research and educational potential of these sites is unsurpassed in central Minnesota” (Birk 1991b:7). The goal was to create a “friendly place for anyone who has an interest in human and natural history or who simply wants to bird watch, contemplate the changing of seasons, or enjoy a walk in the towering pines or open grasslands on the banks of the world famous “Father of Waters” (Birk 1991b:43). Doug envisioned that development of the Little Elk Heritage Preserve would unfold in three phases. The first phase would focus on preservation, education, and research. Some aspects of phase one were realized and are still extant, such as a main public entrance and small parking area, an expanded system of trails and interpretive signage on the north side of the Little

Elk River, and a “ghost” framing of the central structure at MO20 based on the archaeological evidence.

Phases two and three proposed to further develop the Little Elk Heritage Preserve to include a paved parking area, restroom facilities, and a cultural program center. A pedestrian bridge over the Little Elk River and additional trails and signage were envisioned to better include the natural and cultural resources, including the Episcopal-Methodist mission site, south of the Little Elk River. Unfortunately, these developments would not come to pass. The 1990s were tumultuous for the IMA, which suffered financial setbacks and internal fissures with the creation of a for-profit cultural resource management subsidiary known as the Institute for Minnesota



*Figure 3. Archaeologist Doug Birk speaking to St. Cloud State University anthropology students enrolled in the author’s 2014 archaeological field school at the Little Elk River Mission site. Image courtesy of the author.*

Archaeology Consulting-IMAC (Gilman 2008:79-85). Work at the Little Elk Heritage Preserve slowed but did not cease altogether. In the mid-1990s, teacher workshops were held on-site at MO20. Later, in 1999, an open house, site tours, and a public outreach campaign were designed to reenergize efforts to develop the Little Elk Heritage Preserve as a local and regional cultural and educational resource (Gilman 2008:84-85). In the spring of 2000, the Minneapolis Star Tribune ran a series called “Mystery of Little Elk” that could be used by teachers in the classroom (Gilman 2008:85). On the archaeology side, the IMA conducted a remote sensing survey over portions of the preserve. This included the site of the Episcopal-Methodist mission to the Ojibwe. Remote sensing uses sophisticated technologies to detect subsurface archaeological materials, which may later be targeted for archaeological excavation. The remote sensing survey was the final archaeological investigation undertaken by Doug and the IMA at the Little Elk Heritage Preserve. As the new millennium began, the IMA continued to face ever-mounting financial challenges. By 2002, twenty years after its founding, it was clear that the IMA would not survive, and in 2003 the Institute for Minnesota Archaeology was formally dissolved.

Today, the Little Elk Heritage Preserve is a unit of Charles A. Lindbergh State Park, keeping intact the preservation covenant protecting the natural and cultural resources at this special and uniquely Minnesota place that Doug Birk

## A Legacy of Stewardship

Doug’s passing in March of 2017 was not only the personal loss of someone I considered a colleague and friend, but also a loss to the archaeological community of the entire Great Lakes region. Over the course of nearly five decades as a professional archaeologist, Doug had amassed an unsurpassed grasp on the archaeology of many aspects of Minnesota’s past and, in particular, the history and archaeology of the Mississippi

spent much of his career researching, documenting, and promoting. Doug Birk was the first archaeologist I contacted when I arrived in Minnesota to take a position as a professor in the Department of Anthropology at St. Cloud State University (SCSU) in 2013. I had known Doug since 1997, when he assisted me with my dissertation research at a fur trading post on the Wabash River in Indiana. Once I was settled in at SCSU, he invited me to visit the Little Elk Heritage Preserve and we began to make plans to collaborate on research projects. Doug was also in the process of organizing his vast library and archives in preparation for finalizing many of the projects he had been working on over the course of his career, including the MO20 and mission site projects at the Little Elk. We began making arrangements for Doug to set up internships with graduate students in our Cultural Resources Management-Archaeology M.S. program. Graduate students would assist Doug in these projects and in return would gain valuable hands-on training in many aspects of Minnesota archaeology and earn graduate credit for their time and effort. Our collaboration extended to the field as well. With Doug’s encouragement, I taught an archaeological field school at 21MO38, the site of the Episcopal-Methodist mission to the Ojibwe in the summer of 2014 (Figure 3). These were to be the first of many future collaborations and I was excited to begin the next phase of my career as a Minnesota archaeologist partnering with Doug.

River valley of central Minnesota. Fortunately for all of us, Doug was probably also unsurpassed in his record keeping and note-taking skills. As of September 2018, Doug’s library and archives will be housed permanently within the Department of Anthropology at SCSU. Over the next few years, we will be working to inventory Doug’s materials and make them available to students and researchers across Minnesota and beyond. Our



goal is to continue Doug's legacy of stewardship, research, and public outreach/education. The former Little Elk Heritage Preserve is part of this legacy and I predict that in keeping with Doug's

vision for its future, we will continue to promote a program of field archaeology, public education, and scholarship at the Little Elk Heritage Preserve.

## References Cited

Birk, Douglas A. 1991a. French Presence in Minnesota: the View from Site MO20 near Little Falls. In *French Colonial Archaeology: The Illinois Country and the Western Great Lakes*, edited by John A. Walthall, pp. 237–266. University of Illinois Press, Champaign.

———. 1991b. *Life, Land, Water, and Time: A Resource and Planning Guide for the Little Elk Heritage Preserve*. Institute for Minnesota Archaeology, Minneapolis.

———. 1993. Church Schools and Chiefs' Houses: A Documentary View of Protestant Missions in the Folle Avoine District of the St. Croix Valley, 1833-1850. *The Minnesota Archaeologist* 52:39–51.

———. 1994. When Rivers Were Roads: Deciphering the Role of Canoe Portages in the Western Lake Superior Fur Trade. In *The Fur Trade Revisited: Selected Papers of the Sixth North American Fur Trade Conference, Mackinac Island, Michigan, 1991*, edited by Jennifer S. H. Brown, W. J. Eccles, and Donald P. Heldman, pp.359–376. Michigan State University Press and Mackinac State Historic Parks, East Lansing/Mackinac Island.

Gilman, Rhoda. 2008. The Institute for Minnesota Archaeology: Looking at the Questions, the Story, and the Records. *The Minnesota Archaeologist* 67:72–88.

## Recommended Citation

Mann, Rob. 2018. "Life, Land, Water, and Time: Archaeologist Doug Birk and the Little Elk Heritage Preserve." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/life-land-water-and-time-archaeologist-doug-birk/>.

## About the Author

Rob Mann is an Associate Professor of Anthropology and Director of the Archaeology Laboratory at St. Cloud State University. He is an anthropological archaeologist with interests in historical archaeology, ethnohistory, and the North American fur trade, whose research centers on the processes of colonialism and ethnogenesis (the formation of new cultural identities). His research on the role of tobacco pipes and smoking in the daily lives of the Native and European participants in the fur trade is published in *Smoking and Culture: The Archaeology of Tobacco Pipes in Eastern North America* (U. of Tennessee Press, 2004) and *Archaeological Perspectives on the French in the New World* (U. Press of Florida, 2017).

FEATURE

# RIVERS AND BONES

By Katrina Yezzi-Woodley, Martha Tappen, Reed Coil,  
and Samantha Gogol

The bones that lie below the ruins of a medieval fortress in Dmanisi, Georgia, tell a story about the exodus of early humans from Africa almost two million years ago. The remains of five early humans, known as *Homo erectus*, have been found at Dmanisi. This 1.78 million-year-old World Heritage site is located in the country of Georgia on a promontory above where the

Masavera and Pinasauri Rivers converge. Nearly two million years ago, a series of volcanic ash falls led to the rapid burial and protection of bones belonging to a variety of extinct animals that found their resting place there. A rich fauna thrived at Dmanisi, including muskoxen, bison, antelopes, many species of deer, and carnivores, such as the Etruscan wolf, the saber-toothed *Megantereon*,



*A picture of the Medieval citadel at Dmanisi that sits above the Pleistocene layers from 1.78 Ma.  
Photo courtesy of Katrina Yezzi-Woodley and Sean Greer.*





*A picture of the Medieval citadel at Dmanisi that sits above the Pleistocene layers from 1.78 Ma.  
Photo courtesy of Katrina Yezzi-Woodley and Sean Greer.*

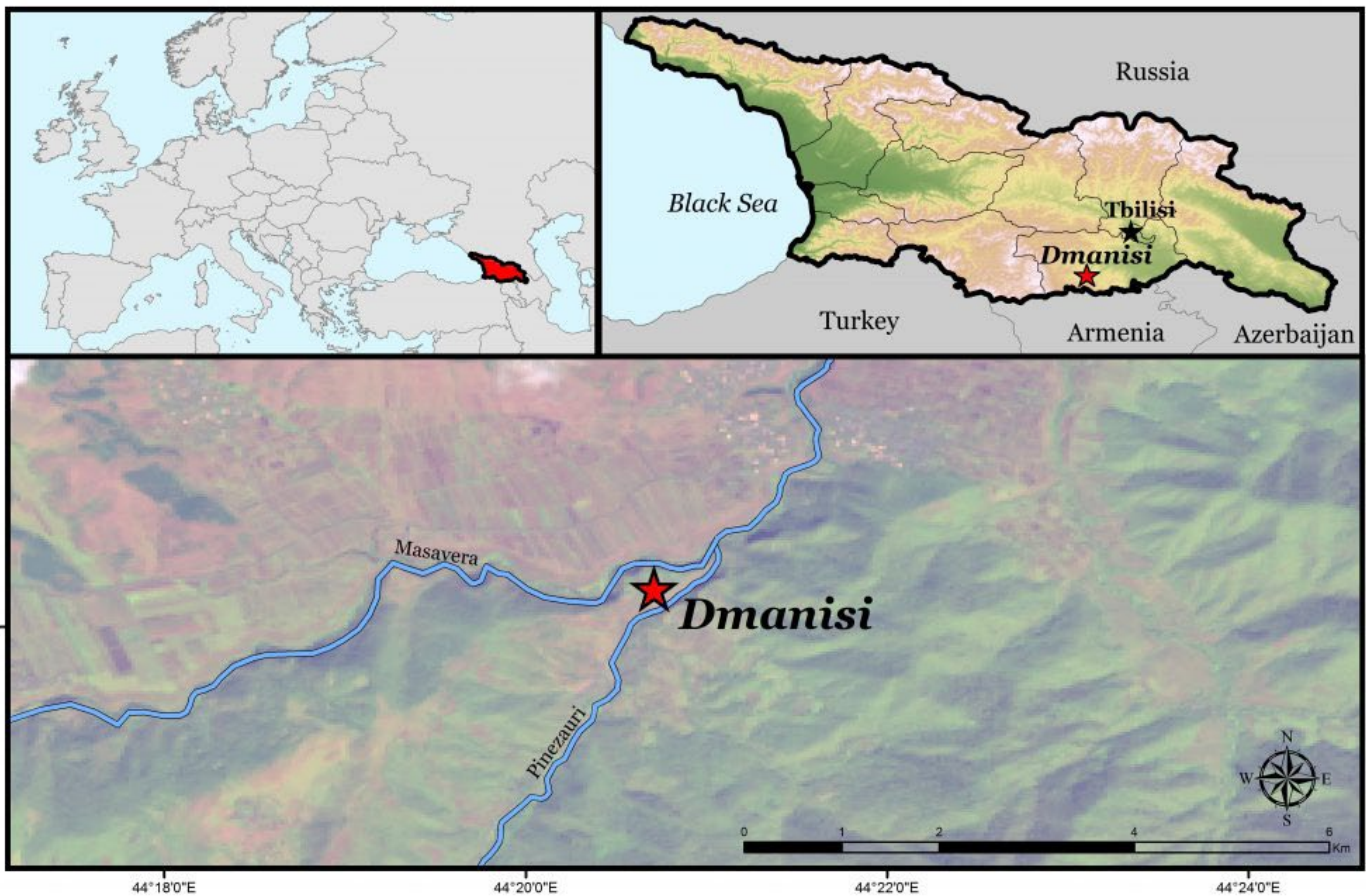
*Homotherium*, and the massive, bone-crushing hyena, *Pachycrocuta* (Ferring et al. 2011; Tappen et al. 2007; Tappen 2009). Thousands of bones have been analyzed at Dmanisi and these bones bring to life what may have happened there almost two million years ago.

Considered to be one of the earliest human sites outside of Africa, Dmanisi is central to research on early human dispersals; several hypotheses have been put forth to explain this departure. Some have attributed geographic expansion to technological change; yet, the stone tools at Dmanisi are some of the oldest tool types. Others have suggested that early humans were one of many African taxa that were engaged in a range expansion (Anton and Swisher 2004), though few taxa indigenous to Africa were recovered from Dmanisi, and most of those migrated into Eurasia prior to the dispersal of early humans (Tappen

2009; Tappen et al. 2007). Brain or body size increase has also been suggested as a driver of early human expansion. However, some of the individuals found at Dmanisi have the smallest brain size and stature of this early human species, *Homo erectus* (Lordkipanidze et al. 2013; Anton and Swisher 2004).

It seems as though something intrinsic motivated *H. erectus* to branch out. It could be that *H. erectus* evolved to be a more flexible species in response to environmental fluctuations and instability within Africa between 2.5 and 1.5 million years ago. Such climatic adaptability may have allowed for the dispersal of our ancestors (Anton et al. 2016).

Environments have changed throughout time and these changes have led to the extinction and subsequent radiation of various species. Like all



Map of Dmanisi. Map courtesy of Reed Coil.





*A picture behind the scenes at the Georgian National Museum in Tbilisi. Photo courtesy of Katrina Yezzi-Woodley and Sean Greer.*

other species on the planet, we operate within the context of our environment, interacting with that environment and its occupants. Humans have demonstrated an incredible capacity to change our environment and manipulate it to meet our immediate needs, the consequences of which remain a focus of research today. Studying past ecologies (paleoecological reconstruction) is important, since we can learn from our responses to environmental changes of the past and address concerns we have about our future as a species and as members of various ecological communities. One way to reconstruct past environments is to examine the bones of animals that lived at the same time as early humans.

Bones reveal important evidence for determining how these animals died, decomposed, and were buried. Vertebrate taphonomy is a field of study within paleontology and anthropology that uses the remains of animals to determine what happened to organisms from the moment of death to the moment the remains are extracted from a site by a paleontologist or archaeologist (Behrensmeyer and Kidwell 1985; Behrensmeyer et al. 2000). A taphonomist not only identifies the animals to which the remains belong, but also determines how those remains have changed over time due to physical and biological processes at work in the environment. Many museums and labs around the world house thousands of animal bones extracted from various archaeological and paleontological sites, which offer clues to

researchers about their life, death, and past environment.

The life history of a fossil is complex. An animal can die in a variety of ways; maybe it was killed by a carnivore or human, succumbed to illness or age, or fell victim to a catastrophe such as an earthquake or flood. After death, an animal's carcass can be exposed to the elements for a long period of time or buried immediately. If exposed, it could have been subjected to trampling by herds or scavenging by carnivores and/or humans.

Sometimes carcasses, or a portion thereof, are removed from the location of the animal's death; a carnivore or human may have brought it to another location to eat or butcher it. Maybe a river washed some of the bones downstream. Eventually, the soft tissues of the carcass are eaten or rot away and all that would be left are the bones. Even then, the denser, larger skeletal elements are more likely to preserve than the more delicate ones, so a skeleton is rarely preserved in its entirety.

A taphonomist does not have the luxury of witnessing the processes described above, which can happen over millions of years, and therefore must utilize the evidence left behind to determine what happened.



## Bones Move

Sometimes animals are buried precisely where they lived and died, which can inform greatly on the habitat at that specific location. In other cases, bones are transported to that location by other means, including rivers. Assemblages that result from bones accumulating from several different places complicate reconstruction of the environment.

Rivers are powerful forces that can carry bones away from their original location. Rushing waters can carry bones greater distances and may cause a more violent trip downstream than a soft, steady flow. When there is a curve in a river, point bars emerge and bones can become trapped in the riverbend or embedded in the sediments. Sometimes rivers have more than one channel, offering different paths for bones to travel, in turn

causing accumulations from different sources over undetermined periods of time.

By looking at the skeletal composition of the assemblage and by looking at the relative location and orientation of specimens, taphonomists can identify bones that were transported by hydraulic action. Some bones are more easily transported than others. The greatest transport potential resides in bones that have less volume but not necessarily less surface area. Some elements, like vertebrae, have wing-like projections that help carry them forward. Articulated bones and dessicated bones are also more easily transported than disarticulated or fresh bone (Behrensmeyer 1988; Boaz and Behrensmeyer 1976; Coard 1999). Long bones tend to orient in the direction of the flow and dip downstream; therefore, when



*Bones being transported by flowing water. Notice that some bones become trapped in the riverbend and those that continue to flow become oriented parallel to the river.  
Image courtesy of Samantha Gogol and Traci Eicholz. See this animated gif [here](#).*

several bones are generally parallel and pointing in the same direction, it can indicate a fluvial environment.

Given that Dmanisi is located near the convergence of two rivers, it would seem likely that fluvial transport is the reason for the accumulation of animal bones there. However, taphonomic analysis suggests otherwise. The bones at Dmanisi are found in natural, underground pipes (tunnels) and gullies which are often created by groundwater erosion during periods of high precipitation. The bones were deposited there by

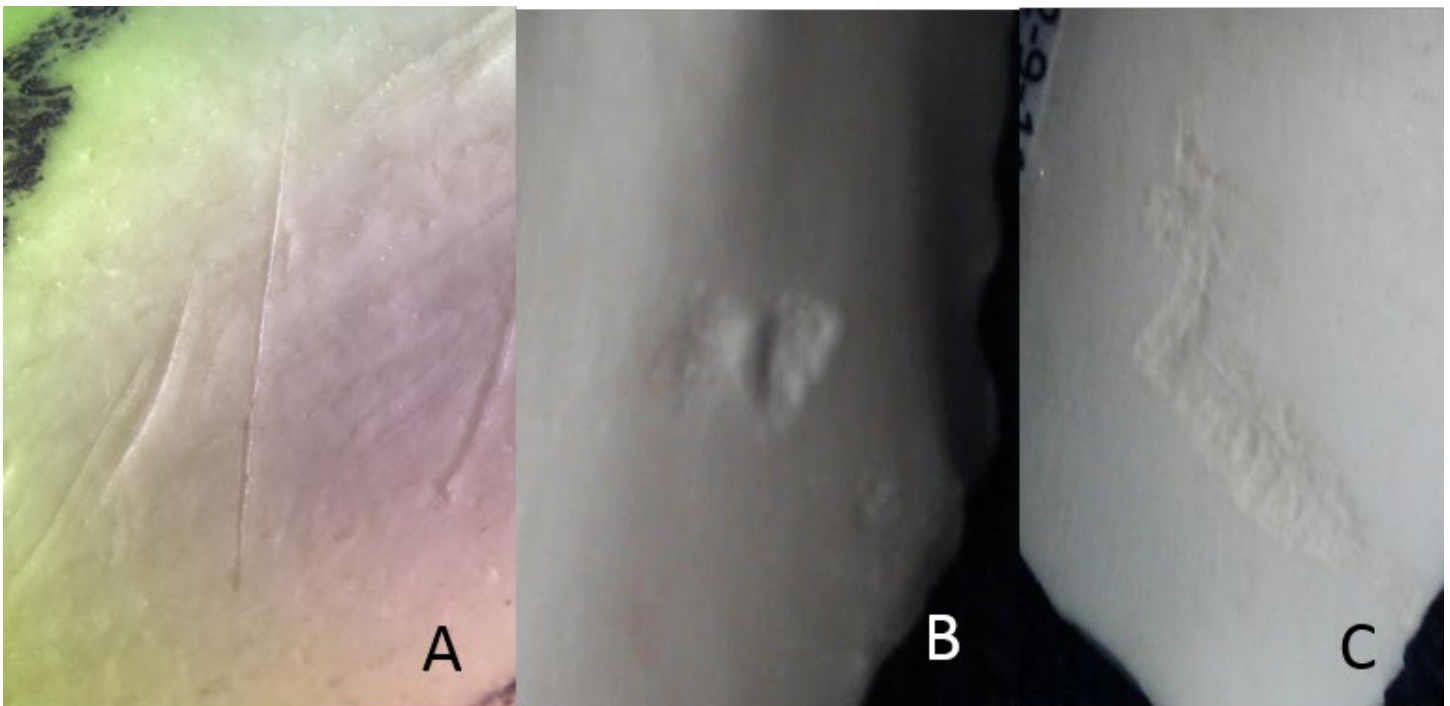
something other than water flow after the gullies were carved out. There is no evidence for high velocity transport or long distance travel as would be expected had the deposition been the result of fluvial transport. Bones that traveled did not travel far; on average, bones were found less than one meter apart. Many whole bones were present and there was no sorting based on size, shape, or density. Many of the bones were articulated or found anatomically close to one another and few of the bones were uniformly oriented (Coil 2016; Tappen et al. 2007, 2015).

## Bone Surfaces Get Damaged

Bone surfaces can be altered in many ways. Stone tools can leave cutmarks (pictured above) during the process of butchering a carcass. Humans used stone tools to break open bones to access marrow, leaving percussion marks behind. Acidic plant roots and microorganisms can etch patterns onto bones. Trampling and sediments can abrade bone. Carnivores can leave pits, punctures, and

scores (pictured above) on bones as they bite down and scrape their teeth across the surface of a bone.

Processes that can damage bone surfaces are continually taking place and one can overlay the evidence left by another. To test one overlay process, Chisholm et al. (2014) securely fixed



*Bone surface modifications. (A) stone tool cut marks, (B) carnivore tooth pits, (C) carnivore tooth score. Photo courtesy of Katrina Yezzi-Woodley.*

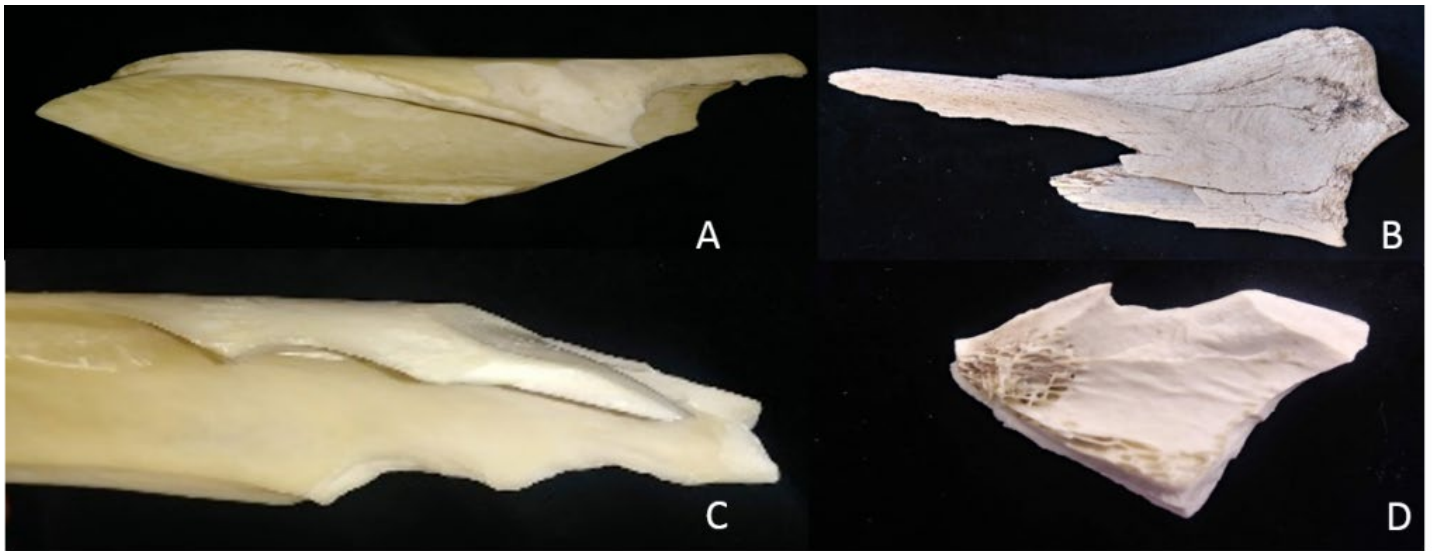


bones that were butchered using stone tools in a recirculating flume fed by the Mississippi River at the University of Minnesota's St. Anthony Falls Laboratory (SAFL) (see other articles about SAFL [here](#) and [here](#)). The water pushed sediment across the surface of the bone for several days; after 40 hours in the flume, attributes that are typically indicative of cut marks were completely erased by sediment abrasion.

There are stone tool cutmarks found at Dmanisi indicating that humans were butchering animals for meat, but the frequency of marks is low indicating humans were not the primary accumulators of bone at this site. Given that rounding and abrasion, key indicators of fluvial alteration, are minimal at Dmanisi, bone surfaces have been well preserved and cutmarks presumably have not been obliterated by fluvial sediments.

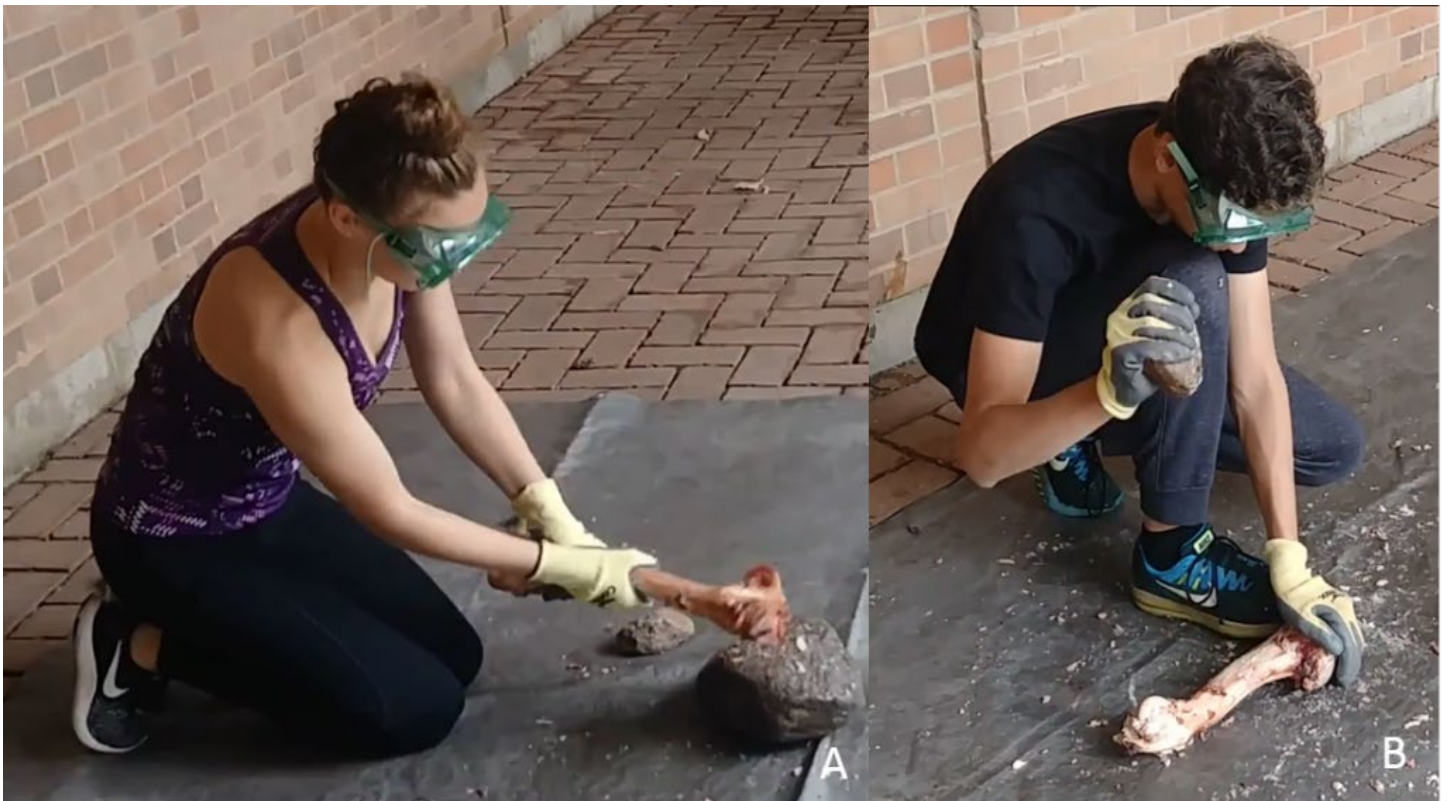


*This collage shows a bone suspended in a flume at the St. Anthony Falls Laboratory, illustrating sediments washing over the bone surface.  
Image courtesy of Katrina Yezzi-Woodley and Kirsten Jenkins.*



(A) A smooth, spiral fracture indicative of a fresh break, (B) A jagged, rough fracture indicative of a dry break, (C) Notches created by carnivores, (D) A notch created by a stone tool.

*Photo courtesy of Katrina Yezzi-Woodley.*



In both of these photos, bones are being broken for marrow. (A) The bone is being struck against a rock, referred to as *batting*, (B) the bone is being struck by a stone tool called a *hammerstone*.

*Pictured on the left is Gabriella Brisa Yezzi-Woodley. Pictured on the right is T.J. Palli.*

*Photo courtesy of Katrina Yezzi-Woodley.*



## Bones Break

Humans and carnivores break open bones to access the nutrients in marrow inside the bone cavity. Humans broke bones using stone tools. Carnivores, like hyenas and wolves, break bones open with their teeth. When a bone is broken while it is fresh, the breaks are smooth and curved. When bones are dried, the break has edges that are jagged. Stone tools leave percussion marks on the bone surface and both carnivore and humans can create notches, which are arcuate indentations on the edges of broken bone. Notches created by stone tools tend to be broader

and shallower, whereas carnivore notches are semicircular (Capaldo and Blumenschine 1994).

Many of the bones at Dmanisi have not been broken, but at least half of those that were broken were done so when fresh, as indicated by the smooth break surfaces. There are percussion marks and a variety of notch types that indicate stone-tool-wielding humans and bone-crushing carnivores were accessing the bone marrow. However, most of the notches at Dmanisi are indicative of carnivore activity (Tappen et al. 2007).

## Bones Weather

When an animal dies and begins to decompose, the soft tissue falls away, leaving the bones unprotected and exposed to the elements. When bones are exposed to the sun, wind, rain, and other erosional processes, they too begin to break down and exhibit cracking, bleaching, and flaking of the outer surface, which can obscure

modifications like cut marks and tooth scores (Behrensmeyer 1978). Fortunately, at Dmanisi, the bone surfaces are very well preserved. The bones were buried soon after the animal died and were not exposed to the elements for very long (Tappen et al. 2007). In fact, the majority of the specimens have no weathering damage at all.



*A picture of weathered bone from the University of Minnesota Anthropology laboratory's faunal comparative collection. Photo courtesy of Katrina Yezzi-Woodley.*

## Humans and Rivers

Rivers are resource- and energy-rich components of our natural world from which we have greatly benefited and most likely it is the case that we have been doing so since the beginning of our existence. Some have argued that rivers have played an important role in our biological evolution, particularly encephalization (the increase in brain size relative to body size), by providing the necessary types of foods and fatty acids that are available through aquatic resources (Stewart 2010). Dramatic fluctuations in climate during the Pleistocene would have caused early hominins to seek resources in aquatic areas, especially during arid periods when terrestrial vegetation and animal resources were depleted. Though still ephemeral, evidence for the exploitation of aquatic resources in the Early Pleistocene is beginning to emerge. More evidence is still needed before hypotheses regarding aquatic resources and human brain evolution can be fully supported. Nonetheless, there are fish bone assemblages at Olduvai Gorge (Tanzania) where our human ancestors *Homo habilis* and *Homo erectus* may have been consuming catfish; *Homo erectus* may have been consuming freshwater oysters at Kao Pah Nam Cave (Thailand) (Erlandson 2010). Cutmarks have been found on catfish and other aquatic animals such as turtles and crocodiles dating to 1.95 million years ago in the Turkana Basin. In fact, there is evidence that early modern *Homo sapiens*, *Homo neanderthalensis*, and *Homo erectus* all exploited aquatic resources to some degree (Joordens et al. 2014).

Our ancestors' ability to leave Africa and populate the globe may have been due, in some part, to passageways created by rivers. For example, Coulthard et al. (2013) used computer modeling to test the Green Corridor hypothesis as a viable means for *Homo sapiens* to migrate out of Africa around 100,000 years ago. The Green Corridor hypothesis states that rainfall north of the Trans-Saharan Mountains created river channels that

flowed toward the Mediterranean. These rivers provided lush pathways in the midst of an otherwise arid, inhospitable environment. By inputting known data about climate and precipitation at that time, Coulthard and colleagues were able to reconstruct river systems. They found that three paleo-river systems—the Irharhar River in the west and the Sahabi and Kufrah Rivers in the east—could have been active during this time and could have provided migratory passageways. This may explain how modern *Homo sapiens* left Africa more recently, but it does not provide an explanation for earlier migrations out of Africa by our ancestors such as *Homo erectus*. In fact, there seems to be decent evidence that the East African savannahs spread further northward, leading to a continual biome at least through North Africa, possibly even into Eurasia (Dennell and Roebroeks 2005; Dennell 2010).

At Dmanisi, the Masavera and Pinasauri Rivers cut into the landscape, which created a natural blockade that predators, human or otherwise, may have used to corner animals. However, one would expect the bones that were accumulated first to be more weathered than bones accumulated more recently, unless carnivores were taking the bones to their underground dens. The expected pattern of variation in weathering is not present on the Dmanisi specimens, but this does not mean that Dmanisi was not used as a predator “hot spot.” Dmanisi is a complicated site with many biological and geological processes that contributed to the assemblage of bones found there. Though there was some downhill movement of bones into gullies that can account for some of the accumulation, hominins and, primarily, carnivores are largely responsible for the assemblage of bones found at Dmanisi.

Carnivores were the primary accumulators at Dmanisi. Carnivore bones account for a considerable amount of all faunal specimens and there



are many coprolites (fossilized feces), which indicate a strong carnivore presence at the site. Tooth scores and tooth pits are present on bone surfaces, and tooth pit sizes are consistent with modern lion and hyena bite marks. Carnivores were hunting in the area and hyenas may have been using the pipes and gullies as dens (Tappen et al. 2015).

Though carnivores were mainly responsible for Dmanisi's bone assemblage, cutmarks, notches, and hammerstone marks found on a variety of taxa indicate that humans were butchering animals for food. Cutmarks found on specimens suggest that humans had early access to meaty portions of animals, meaning that they were hunting or, more likely, scaring predators away from a fresh kill (Tappen et al. 2015).

Dmanisi is not a classic example of fluvial bone deposition because there is little evidence that bones were deposited there by hydraulic action. Nonetheless, the site is flanked on two sides by rivers. Gullies, resulting from high precipitation run-off, perforate the site and made the preservation of the greatest number of bones at the site possible. At first glance, it may look as though these bones were amassed by the rivers, but a closer taphonomic analysis of the bones reveals that they were accumulated primarily by carnivores and to some extent by early humans who took advantage of the landscape created by the rivers. Although the rivers did not cause the bone accumulation, they shaped the behaviors that did.

## References Cited

- Antón, S. C., and C. C. Swisher, III. 2004. Early dispersals of Homo from Africa. *Annual Review of Anthropology* 33: 271–96.
- Antón, S. C., H. G. Taboada, E. R. Middleton, C. W. Rainwater, A. B. Taylor, T. R. Turner, ... and S. A. Williams. 2016. Morphological variation in Homo erectus and the origins of developmental plasticity. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1698): 20150236.
- Behrensmeyer, A. K. 1988. Vertebrate preservation in fluvial channels. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 63(1–3): 183–99.
- Behrensmeyer, A. K. 1978. Taphonomic and ecologic information from bone weathering. *Paleobiology*, 4(2): 150–62.
- Behrensmeyer, A. K., and S. M. Kidwell. 1985. Taphonomy's contributions to paleobiology. *Paleobiology*, 11(1): 105–19.
- Behrensmeyer, A. K., S. M. Kidwell, and R. A. Gastaldo. 2000. Taphonomy and paleobiology. *Paleobiology*, 26(sp4): 103–47.
- Boaz, N. T., and A. K. Behrensmeyer. 1976. Hominid taphonomy: transport of human skeletal parts in an artificial fluvial environment. *American Journal of Physical Anthropology*, 45(1): 53–60.
- Capaldo, S. D., and R. J. Blumenshine. 1994. A quantitative diagnosis of notches made by hammerstone percussion and carnivore gnawing on bovid long bones. *American Antiquity*, 724–48.

Chisholm, R., K. Jenkins, L. Vietti, R. Coil, K. Yezzi-Woodley, S. Carlson-Greer, and M. Tappen. 2014. Taphonomy of a Cut Mark: post-depositional changes to cut mark morphology in a simulated fluvial environment. Poster presented at the 74th Annual Meeting of the Society for American Archaeology, Austin, Texas.

Coard, R. 1999. One bone, two bones, wet bones, dry bones: transport potentials under experimental conditions. *Journal of Archaeological Science*, 26(11): 1369–75.

Coil, R. 2016. *Spatial approaches to site formation and carnivore-hominin interaction at Dmanisi, Georgia*. Ph.D. Dissertation, University of Minnesota.

Coulthard, T. J., J. A. Ramirez, N. Barton, M. Rogerson, and T. Brücher. 2013. Were rivers flowing across the Sahara during the last interglacial? Implications for human migration through Africa. *Public Library of Science (PLOS) One*, 8(9): e74834.

Dennel, R. 2010. The Colonization of “Savannahstan”: Issues of Timing(s) and Patterns of Dispersal Across Asia in the Late Pliocene and Early Pleistocene. In *Asian Paleoanthropology: From Africa to China and Beyond*, edited by C. J. Norton and D. R. Braun, 7–30. Springer, Dordrecht.

Dennel, R., and W. Roebroeks. 2005. An Asian perspective on early human dispersal from Africa. *Nature*, 438(22): 1099–1104.

Erlandson, J. M. 2010. Food for thought: The role of coastlines and aquatic resources in human evolution. In *Human brain evolution: The influence of freshwater and marine food resources*, edited by Stephen Cunnane and Kathlyn Stewart, 125–36. John Wiley and Sons, Inc. Hoboken, New Jersey. Published simultaneously in Canada.

Ferring, R., O. Oms, J. Agustí, F. Berna, M. Nioradze, T. Shelia, M. Tappen, A. Vekua, D. Zhvania and D. Lordkipanidze. 2011. Earliest human occupations at Dmanisi (Georgian Caucasus) dated to 1.85–1.78 Ma. *Proceedings of the National Academy of Sciences*, 108(26): 10432–36.

Joordens, J. C., H. B. Vonhof, C. S. Feibel, L. J. Lourens, G. Dupont-Nivet, J. H. van der Lubbe, ... and D. Kroon. 2014. A fish is not a fish: Patterns in fatty acid composition of aquatic food may have had implications for hominin evolution. *Journal of Human Evolution*, 77: 107–16.

Lordkipanidze, D., M. S. P. de León, A. Margvelashvili, Y. Rak, G. P. Rightmire, A. Vekua, and C. P. Zollikofer. 2013. A complete skull from Dmanisi, Georgia, and the evolutionary biology of early Homo. *Science*, 342(6156): 326–31.

Stewart, K. M. 2010. The case for exploitation of wetlands environments and foods by pre-sapiens hominins. In *Human Brain Evolution. The Influence of Freshwater and Marine Food Resources*, edited by Stephen Cunnane and Kathlyn Stewart, 137–71. John Wiley and Sons, Inc. Hoboken, New Jersey. Published simultaneously in Canada.

Tappen, M. 2009. The wisdom of the aged and out of Africa I. *Transitions in prehistory: essays in honor of Ofer Bar Yosef*, edited by John J. Shea and Daniel E. Lieberman, 24–41. Oxbow Books, Oxford.



Tappen, M., D. Lordkipanidze, M. Bukhsianidze, A. Vekua, and C. R. Ferring. 2007. "Are you in or out (of Africa)? Site Formation at Dmanisi and Actualistic Studies in Africa." In *Breathing Life into Fossils: Taphonomic Studies in Honor of C.K. Brain*, edited by T. R. Pickering, K. Schick, and N. Toth, 119–35. Stone Age Institution Press, Bloomington.

Tappen, M., R. Coil, R. Ferring, M. Bukhsianidze, and D. Lordkipanidze. 2015. "Site formation and interactions between Homo and the mammals from Dmanisi." *Paleoanthropology*, San Francisco, CA. A1–A39.

## Recommended Citation

Yezzi-Woodley, Katrina, Martha Tappen, Reed Coil, and Samantha Gogol. 2018. "Rivers and Bones." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/rivers-and-bones/>.

## About the Authors

Katrina Yezzi-Woodley is a Ph.D candidate in Anthropology at the University of Minnesota. She is interested in the impact of meat-eating on human behavioral evolution, particularly how early humans were competing with large-bodied carnivores for meat resources. Katrina uses 3D modeling, differential geometry, and machine learning to determine how animal bones were broken at archaeological sites and how to put them back together again. Katrina is also a founding member of Science and Social Studies Adventures (SASSA), a K-12 educational outreach program.

Dr. Martha Tappen is an Associate Professor of Anthropology at the University of Minnesota. Her research focuses on the evolution of human behavior especially human-animal interactions, archaeological site formation, the adoption of meat-eating and the spread out of Africa. For over a decade Dr. Tappen has been excavating and analyzing Dmanisi, a *Homo erectus* site in the country of Georgia, looking at bone accumulating mechanisms and modification by hominins, carnivores and natural processes.

Reed Coil finished his PhD in anthropology at the University of Minnesota in 2016 and now works as an Assistant Professor in the Department of Sociology and Anthropology at Nazarbayev University in Astana, Kazakhstan. His research focuses on human spatial organization, both past and present, and early human carnivory. He is currently working on archaeological projects in Georgia and Kazakhstan to explore trends in local space use and the extent of northward human range expansion in Pleistocene Eurasia.

Samantha Gogol is a second-year PhD student at the University of Minnesota working with taphonomist Dr. Martha Tappen. She is interested in taphonomic research examining bone modifications. Samantha's previous research examined paleoecology through ecomorphological signals and extant faunal habitat occupation.

PERSPECTIVES

# RIVERS FLOOD REGULARLY DURING HURRICANES, BUT GET LESS ATTENTION THAN COASTLINES

By Craig Colten



*Flooding in Kinston, North Carolina during Tropical Storm Florence, September 14, 2018. NC National Guard (<https://flic.kr/p/2a1u8yj>), (CC BY).*



## Note from the Editor

*Hurricane Florence generated a great deal of discussion in the water world this fall, and certainly the questions about climate change, about environmental justice, and about the role of human decisions in “natural disasters” are far from over. The eminent geographer Craig Colten, in this piece originally published in The Conversation, reminds us that rivers are important actors in the watery tragedies that hurricanes bring.*

—Patrick Nunnally, Editor

**H**urricane Florence dropped record-setting rainfall on parts of North Carolina. Many river gauges rose above their respective flood stages. Flash and long-term flooding, as well as a risk of landslides, continued for days.

Since the 1950s, coastal communities have ordered evacuations to move people out of the paths of dangerous storms. Coastal residents also prepare by building homes elevated above anticipated high water levels, and building codes commonly call for reinforced construction to endure high wind speeds.

Today, however, risk from hurricanes is extending inland. Some of the worst damage from Eastern Seaboard hurricanes in the past several decades has come from inland flooding along rivers after storms move ashore. Hurricane

evacuations typically direct coastal residents to retreat inland, but river flooding can put them at risk if there are not enough shelters and accommodations in safe locations. And inland communities may not take adequate measures to ensure the safety of their residents.

Much of my research, including my book, *Southern Waters: The Limits to Abundance*, has focused on the complex historical geography of water in the American South. What I have seen is that inland river flooding linked to hurricanes and heavy storms is a huge risk in the Southeast, but receives far less attention in emergency plans than coastal areas.

*See drone footage of flooding in Baton Rouge, Louisiana, after heavy rains, Aug. 16, 2016.*

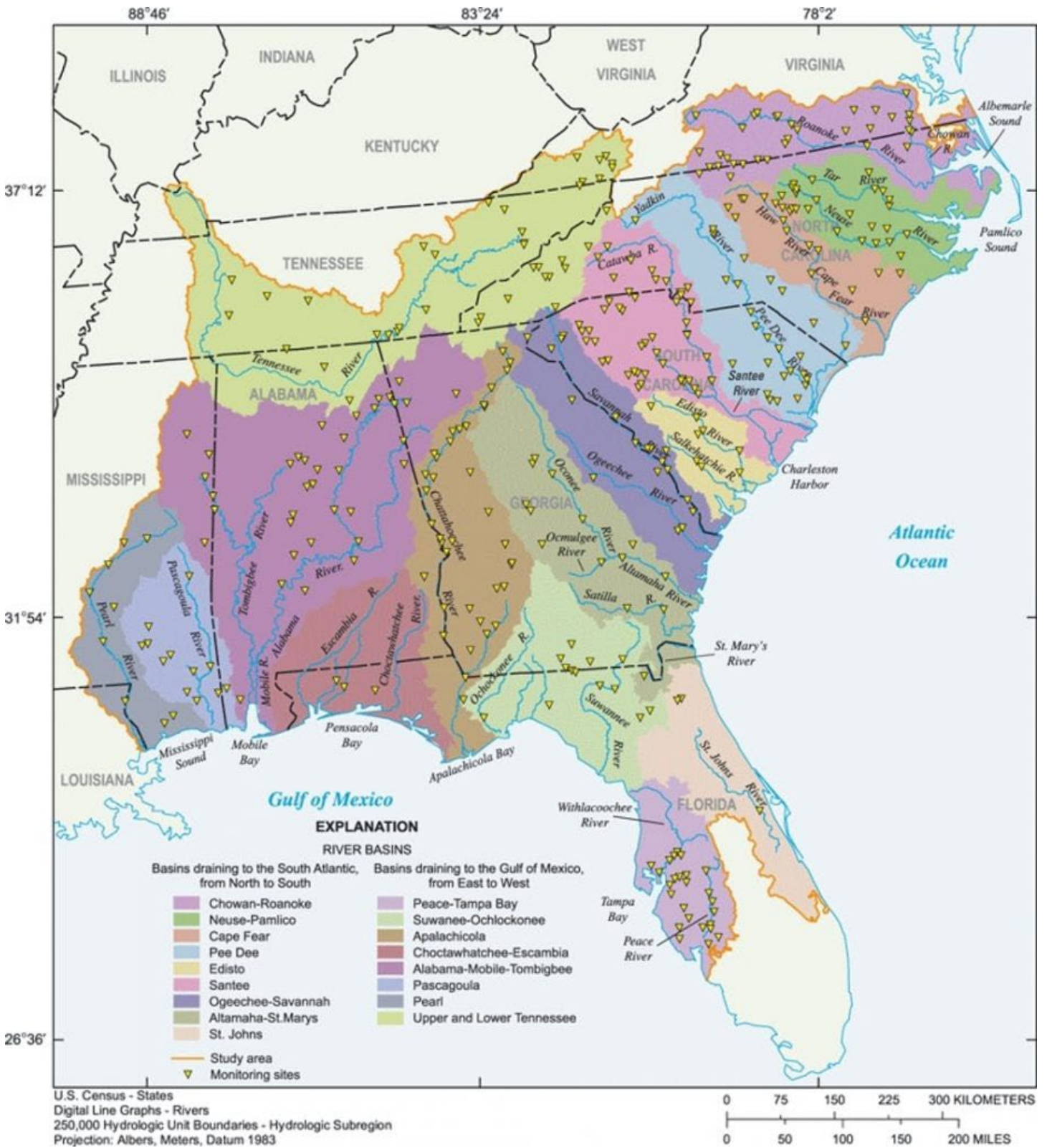
## Warm, rainy watersheds

The U.S. Eastern Seaboard is particularly susceptible to river flooding due to tropical weather that moves onshore. From New England to Georgia, a dense network of rivers flows down from the eastern Appalachians across the Piedmont – a broad, rolling plateau extending from the mountains to the coastal plain – and drains into the Atlantic Ocean. Steep gradients move water quickly down the mountain slopes.

On the Piedmont, many small streams merge and then become meandering rivers on the low-lying coastal plain. When tropical weather systems

lumber onshore and move inland, they rise up the steep face of the Blue Ridge Mountains. As the saturated air moves upward, it cools and releases huge quantities of rain – a process known as orographic precipitation.

This phenomenon, coupled with heavy rainfall dumped on lower elevations by these tropical systems, unleashes dramatic downpours that funnel into river networks and rush toward the sea, often spilling over the banks of overwhelmed channels.



*Rivers draining to the southeast U.S. Atlantic coast. Garcia et al, 2011., (CC BY).*

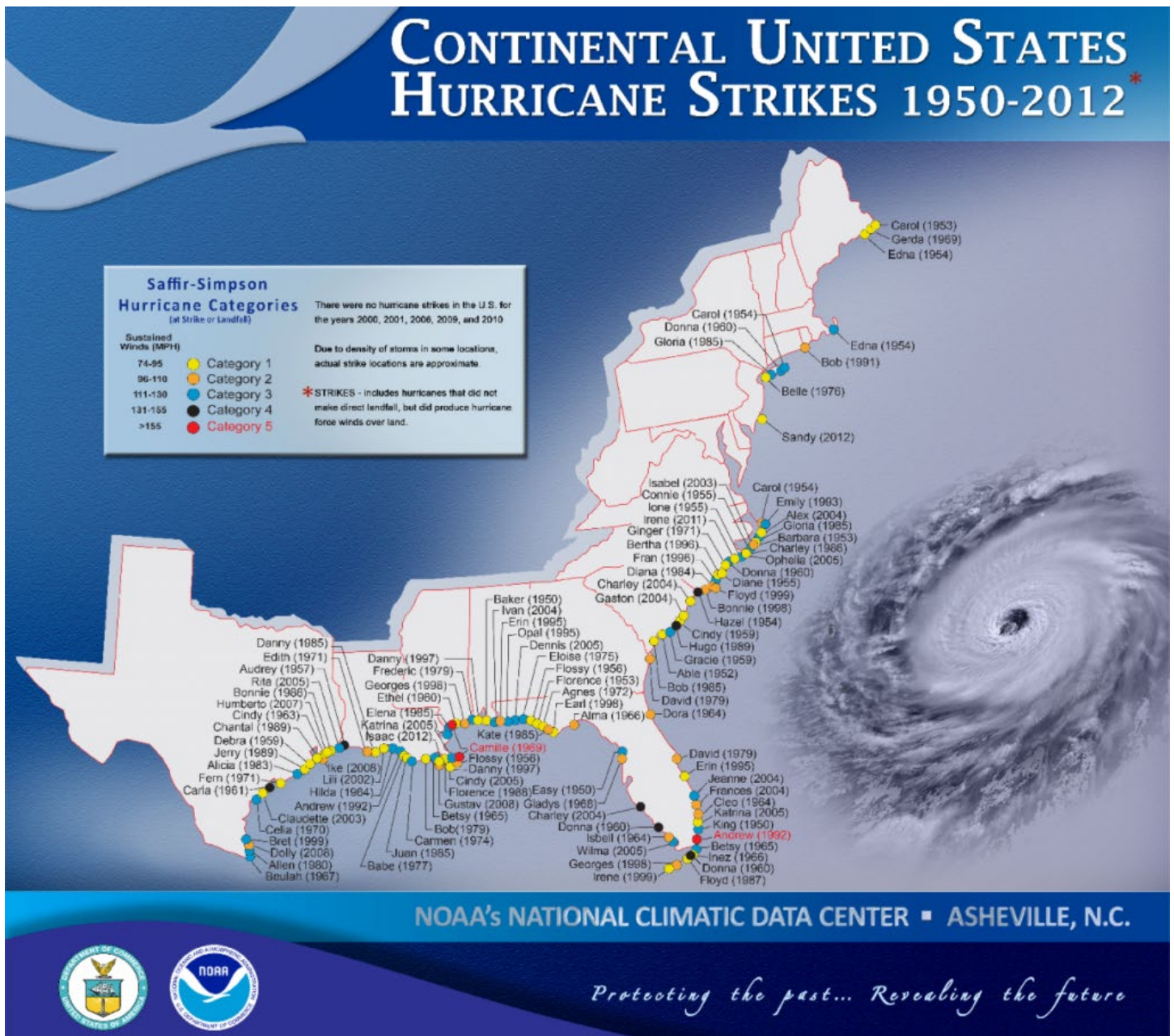


# Planning centers on coastal communities

A series of storms in the 1950s prompted federal agencies to start planning for extreme tropical weather events. In August 1954, Hurricane Carol grazed the Outer Banks of North Carolina before battering Long Island and Rhode Island and causing extensive flood damage in New England. Hurricane Edna followed a similar path two weeks later, but remained offshore. And an

October storm dumped up to 10 inches of rain across the Appalachians as it moved inland, causing serious flooding, damage and fatalities in Maryland and Pennsylvania.

In 1955 Hurricane Connie unleashed huge amounts of rain over upstate New York. Days later, Hurricane Diane produced modest damage



*The southern United States is regularly affected by hurricanes.*

along the coast, but caused extensive river flooding as it continued across New England. Although both of these storms made landfall in North Carolina, their impacts in the more heavily populated northeast spurred federal action.

Following these tragic back-to-back seasons, the U.S. Army Corps of Engineers launched a series of hurricane risk assessments for communities along the Atlantic and Gulf coasts, and the Weather Bureau – the forerunner of the National Weather Service – commenced studying tropical weather systems. The Corps considered building structural protection for most cities, but found

## The growing inland threat

Hurricane Floyd in 1999 showed that tropical weather events could wreak havoc inland, mainly through river flooding. Floyd moved onshore near Cape Fear, North Carolina, in mid-September with wind speeds of about 105 miles per hour and traveled northward, dumping up to 20 inches of rain along a path stretching into New England and Canada.

Copious rainfall pushed inland ahead of the storm's eye overwhelmed most of the rivers in eastern North Carolina. Emergency responders conducted hundreds of inland freshwater rescues. Some river flood crests did not occur until over a week after the storm had passed. Millions of hogs, chickens and other farm animals drowned, and dozens of animal waste lagoons overflowed, contaminating water supplies.

## Prepare inland

As the record shows, places adjacent to the sea are not the only danger zones during hurricanes. Inland river flooding from hurricanes is a major risk, particularly in areas with dense populations. Urban expansion and suburban sprawl have placed more people in areas where no one lived

that flood walls were too expensive in most locations. Instead, it recommended evacuations, building codes and zoning to limit exposure in areas subject to storm surge – that is, in the immediate coastal zone.

The Weather Bureau issued a model for hurricane planning in 1959 that used a hypothetical community situated directly on the coast. It emphasized effective emergency communication, public education, preparation, and most importantly, evacuation. Neither agency paid any significant attention to inland flooding.

Floyd's impact was compounded by the fact that it followed Hurricane Dennis by about 10 days, so soils were already saturated. And rivers were still at higher-than-normal stages when Hurricane Irene arrived a month later. Total damage from Floyd alone was estimated at US\$6.5 billion, much of it from inland flooding. Now preliminary reports indicate that Florence is setting new North Carolina rainfall records.

Massive floods in Columbia, South Carolina, in 2015 and southeast Louisiana in 2016, caused by rare heavy rainfall events, soaked major urban areas and triggered evacuations – again, mainly through river flooding. And in 2017, Hurricane Harvey dropped at least 52 inches of rain on Houston in six days, an amount NASA described as “unfathomable.”

in 1955 and the coastal Carolina region has seen extensive development.

As warmer ocean temperatures contribute to heavier rainfalls and slower moving hurricanes, inland flooding is likely to increase. Until



hurricane planning fully incorporates this threat, coastal communities will risk evacuating people straight into harm's way and inland residents will share a false sense of security.

*This is an updated version of an article originally published on September 13, 2018.*

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## Recommended Citation

Colten, Craig. 2018. "Rivers Flood Regularly During Hurricanes, But Get Less Attention Than Coastlines." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/rivers-flood-regularly-during-hurricanes/>.

## About the Author

Craig Colten is the Carl O. Sauer Professor of Geography at Louisiana State University. He has been involved with studying the geography of hazards for over 30 years, and started his career looking at the pre-EPA era practices for managing hazardous wastes and where such activities took place. More recently, he has focused on a range of urban flood hazards and community resilience. With a group of colleagues and students, he has considered the specific practices used at the community and family level that enable people to rebound from devastating events like hurricane, giant oil spills, and river floods. His books include *An Unnatural Metropolis*, *Perilous Place and Powerful Storms*, and *Southern Waters*.

GEOGRAPHIES

# PAST FLOWING TO PRESENT AND FUTURE ALONG THE UPPER MISSISSIPPI

By John Crippen

A turn-of-the-last-century logging camp; a modest house on the Mississippi that sparked the dreams of a young boy; an early-statehood-era farm; a flour mill; a fort and its surroundings that have layers of contested meaning; a collection of houses from the pre-statehood era; a railroad magnate's palatial house. What—if

anything—do these things have in common?

Well, for starters, they are all part of Minnesota's state network of historic sites—but then again, so are another couple dozen places around the state. A more compelling connector is their location on the Mississippi River. The river was often



*View of the Mississippi River and the city of Grand Rapids from the Fire Tower at the Forest History Center. Photo courtesy Minnesota Historical Society, Tumblr.*



the reason for their locations, and it provides an ongoing power to give them identity and meaning in our current era. But what are these mysterious places, anyway?

The representation of a 1900 logging camp is found at the Forest History Center, in Grand Rapids. First created in the 1970s, it is meant to act as an example of the mobile timber cutting operations from the height of the white pine

logging era. Rivers like the Mississippi were critical elements of this work, as they carried the logs away to the lumber mills. In recent years, the Forest History Center has worked hard to expand their programming from that original concept, now talking about people and forests over time, and weaving together human history, environmental issues, and a wide variety of recreational activities.



*1900 Logging Camp demonstration at the Forest History Center.  
Photo by Dan Marshall/Charlie Vaughn, courtesy of Minnesota Historical Society.*





*Dogsledding demonstration at the Forest History Center.  
Photographer Paul Pluskwik, courtesy of Minnesota Historical Society.*



ISSUE TWELVE : FALL 2018

A little bit downriver at Little Falls is the Charles Lindbergh House and Museum—the place where young Charles learned to tinker with machines and hatched a dream to fly airplanes. In many ways, this house is a springboard to look out, rather than a haven to stay in. One of the most compelling places here is the three-season porch, where Charles slept to the sounds of rustling pine

trees and woke up to views of the river flowing by. And while Lindbergh’s adult life was marked by a famous flight, a horrific kidnapping of his child, and racially charged rhetoric of isolationism prior to World War II, visiting this place makes it seem that it was no accident that he spent his final decades engaged in environmental activism.



*View of Mississippi River through the pine trees from the Lindbergh House porch. Photo courtesy of Charles Lindbergh House and Museum, Facebook.*



As the river flows through the Anoka Sand Plain, it broadens and gets shallower—and here you will find the Oliver Kelley Farm in Elk River. Oliver Kelley pursued land speculation and then farming by the book, but became most famous for being a key founder of the National Grange of the Order of Patrons of Husbandry—usually known simply

as The Grange. Like the Forest History Center, the Kelley Farm was long defined by this narrow slice of history but has since expanded its scope. Now, a visitor can explore agriculture—and its relationship to the surrounding environment—in a more holistic way, and over time.



*In the new FarmLab area, the Oliver Kelley Farm has developed programs from different eras, including this 1968 garden. Image courtesy of Oliver Kelley Farm, Facebook.*



And on, then, to St. Anthony Falls in Minneapolis, where Mill City Museum inhabits the remains of the Washburn A Mill. The Museum explores the power of the Mississippi, where logs from the north woods and grain from the farms were processed for the use of the world. Although a great deal of time is spent celebrating the wonderment of what remarkable people once achieved here, the museum also helps visitors create new cultural connections in the present moment, and to understand the more hidden environmental and cultural costs of this global business.

Following—backwards—the route of St. Anthony Falls through the only gorge on the Mississippi, you will find Historic Fort Snelling at Bdote. Like the sites at St. Anthony Falls, the river looms largest here. Bdote is a key place in the Dakota homeland, where Hahá Wakpá and Wakpá Mni Sóta come together. Not coincidentally, it is the strategic vantagepoint that the U.S. government commandeered in the nineteenth century to exert its influence westward—first for trade, then for settlement, and at various times, for war. The story of this place is still being written, and contested.



*Native Foods Cooking Demo with Chef Austin Bartold in the Baking Lab at Mill City Museum.  
Photo courtesy of Minnesota Historical Society.*







*The gorge of the Mississippi River, viewed from Fort Snelling.  
Photographer Tom Lalim, courtesy of Minnesota Historical Society.*



On the other side of Pike Island from Fort Snelling, on the Minnesota River, is the Sibley Historic Site. Saved in the early twentieth century as “Minnesota’s Mount Vernon,” it features the house of Henry H. Sibley—fur trader, first state governor, and a key participant in the U.S./Dakota War and subsequent tragic events of 1862. But the site also contains the houses of the DuPuis and Faribault families, which have their own stories to tell from that pre- and post-statehood era, as well as burial mounds from further back in time. Complicated, multi-racial history here is personal and close. But it is also removed and distant, with the houses standing uninhabited, and a later-era railroad bed standing as an imposing and disorienting barrier to the river system that was once just outside the front doors.

And then, finally—the James J. Hill House in St. Paul, not technically on the river, but high on one of its bluffs, surveying it from afar. Hill got his start down on the river flats, but made his name by replacing it as a transportation giant with his railroads. This place, too, ties back to St. Anthony Falls, where Hill built the iconic Stone Arch Bridge to connect places in defiance of the river’s reality.

Each of these places helps us understand our evolving relationship with the Mississippi and Minnesota Rivers; and often, our evolving relationship helps us see these places in a newly relevant light. Truthfully, only the most dedicated river aficionados dutifully tick visits to each place off their bucket lists to complete the set.



*View of the Sibley House, with the Minnesota River only 400 feet in front of it but completely obscured. Photo by Charlie Vaughn, courtesy of Minnesota Historical Society.*



## ISSUE TWELVE : FALL 2018

More often, people come to one of these places for other reasons, then find to their delight that it is yet another place with a connection to the beloved Mississippi River.

In Minneapolis, the mantra during the recent decades of riverfront revitalization has been that the city “turned its back on the river.” But that is not really true. People just used it in a different way—for industry rather than recreation and marketing. Since the side effects of industry were so toxic, of course people would look elsewhere for recreation or daily living. But the laborers who went to the river every day would look quizzically at someone who accused them of turning their backs. Rather, we just have different people looking at the river now, for different reasons.

At the Oliver Kelley Farm, intrusive development on the other side of the river has caused managers to accentuate the screen of trees that grew up through the twentieth century between the farm and the river. This makes it harder to understand the Kelley family’s initial dependence on the river. A windmill drew water from where? The house is facing away from the highway for what reason? But intrepid visitors are rewarded by surprising river encounters. People who look in the distance will notice a heron rookery, and then begin to understand the place in a new way. And as the site continues to engage with modern agriculture in relation to people today, having the river nearby can help them tell the story of the relationship between farms and environments.



*View of the Kelley Farm, with the Mississippi River obscured in the distance behind the treeline.  
Image courtesy of Oliver Kelley Farm, Facebook.*



ISSUE TWELVE : FALL 2018

In Little Falls and Grand Rapids, new trails give people more points of access and highlight the river's current use as balm and inspiration for people who seek to connect with the natural world. Or, if they'd rather, they can look across

the smooth waters and contemplate the legacy and future of a golf course and a paper mill—both hallmarks of twentieth-century life that are struggling to know their place today.



*View of the Mississippi River from the Lindbergh site, with Little Falls Golf Course on the opposite bank. Image courtesy of Melissa Peterson.*



And while James J. Hill would have looked out of his bedroom window to see the epicenter of his sprawling empire—acres and acres of railroad tracks going in and out of the city, with engines belching soot across the river valley—today’s guest in that room sees a very different landscape. The most noticeable pollution point at this time is noise, from the freeway that swooshes by at the base of the property. The old St. Paul levees are now home to a museum, parks, housing

developments, and people on the river for recreation.

And what of Bdote? The rivers have always been present there, and central to the narrative at Historic Fort Snelling even when it was limited to a narrow military story of the early nineteenth century. The Sibley Historic Site, as mentioned previously, has been physically removed from the rivers. The compromised landscapes of both



*The view of St. Paul and the Mississippi River from the Hill House, present day. The old St. Paul levees are now home to a museum, a hospital complex, parks, housing developments, and people on the river for recreation. Image courtesy of Christine Herbaly.*

sites add to the difficulties in reaching their full potential to engage in diverse, meaningful stories with broader audiences.

As people more fully appreciate the power and grace of Bdote in the Dakota homeland, how will that shape their understanding of our world? As people explore the confluence in canoes, how does this refresh and restore their daily lives? As people continue to celebrate achievements and mourn tragedies at this place, how can the rivers help each emotion live in relation to the other?

At their best, all of these historic places will continue to be part of the conversation, continue to ground people in the realities of the past and help them shape the future. And after all, this fits with the paradox built into rivers—they are at once constant and ever-changing. These historic sites share that trait. They appear at first glance to be anchors to an unchanged past. But as we change and our understanding of the past changes, our relationships with places change accordingly. So the conversations with each other and with our collective pasts continue, and enrich our understanding of our world.



*Bdote, the meeting of the Mississippi and Minnesota Rivers.  
Photo courtesy of Minnesota Historical Society.*



## Recommended Citation

Crippen, John. 2018. "Past Flowing to Present and Future Along the Upper Mississippi." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/past-flowing-to-present-and-future/>.

## About the Author

John Crippen was a staff member with the Minnesota Historical Society for nearly 30 years, and in that time held the positions of Director of Mill City Museum and Director of Historic Sites & Museums. In that latter role, he oversaw Minnesota's network of State Historic Sites, including Mill City Museum, Historic Fort Snelling, Split Rock Lighthouse, and 28 other properties. He recently completed a term as Chair of the Minneapolis Riverfront Partnership, and is active as a preservation and strategic consultant to help organizations realize the potential of their historic properties.

PRIMARY SOURCES

# FAKE NEWS? TRACING THE FLOWS OF PUBLIC PERCEPTIONS IN HISTORIC NEWSPAPER REPORTING

By Katherine Hayes

The assertion of “fake news” and the vilification of journalists are causes for concern (to say the least) in the contemporary moment, but as we reflect upon these concerns we might also remember that there is a reason why such accusations strike a chord with the public. Bias in media representation has impacts across the political spectrum. Activists in the Black Lives Matter movement have very effectively drawn

attention to the subtle and not-so-subtle ways that people of color have been made to appear violent or dangerous, even when they are the victims of violence, let alone when they are accused of criminal activity. This is brought into relief when white perpetrators are portrayed as merely troubled, suffering from illness or disadvantage, and as isolated cases rather than representative of a group. These representations



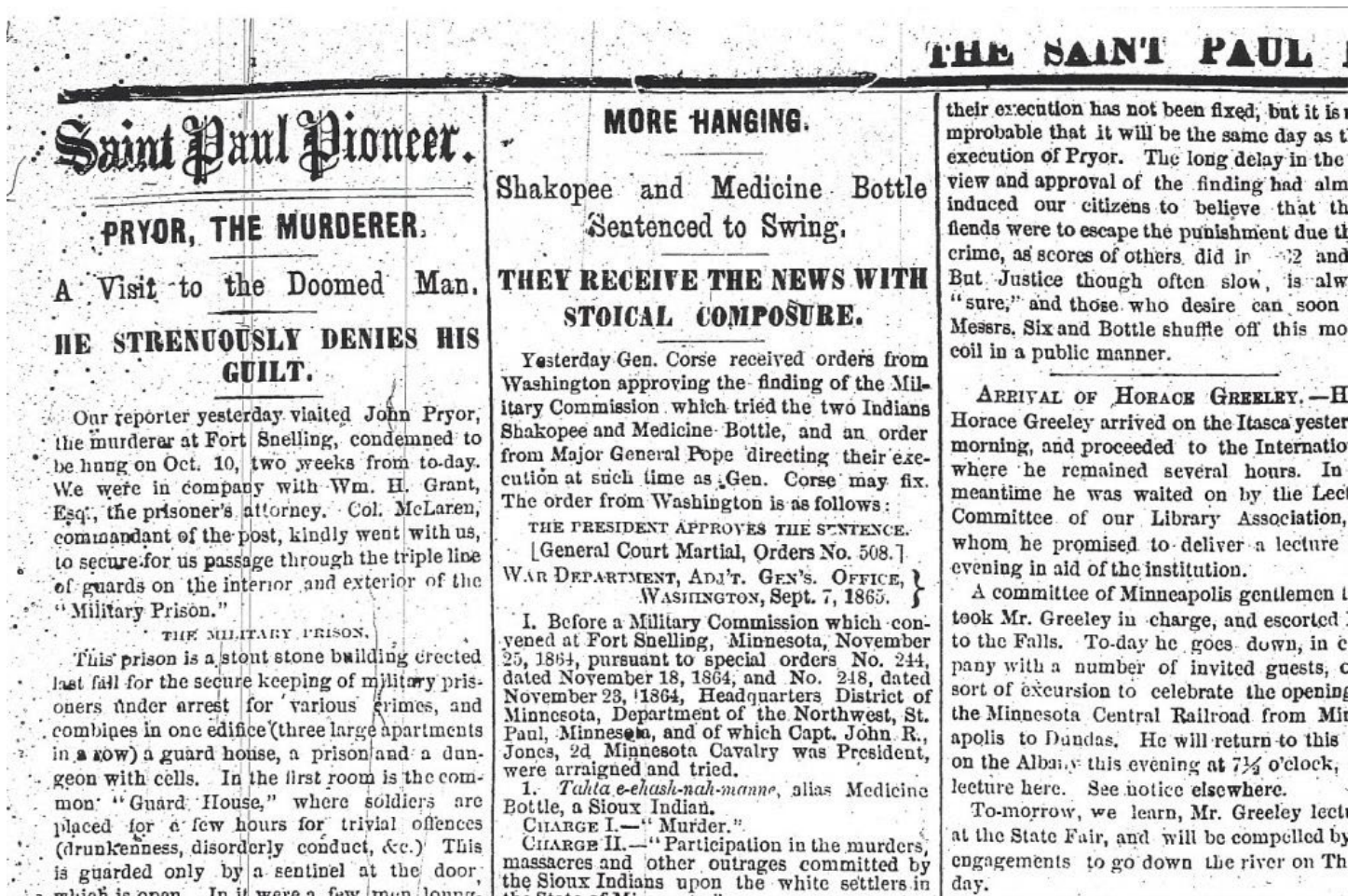
*Field work at Fort Snelling. Image courtesy of Lisa Miller, University of Minnesota.*



then circulate as widely as the media reaches, and have impacts. As wise consumers of news media, then, we constantly read through that bias, or at least attempt to discern its effects. Bias, after all, is simply the product of standpoint which we cannot avoid – we can only seek to understand our blind spots, and address them.

Historic newspaper reporting can be an excellent first-hand view on how public perception is shaped from specific standpoints, and how those perceptions flow across broad distances to connect and shape partisan discourse. I'll offer up an example from the Saint Paul Pioneer reporting on two criminal cases which played out at Fort

Snelling, the military installation at the confluence of the Minnesota and Mississippi rivers, in 1865.[1] I read these in the course of my research on how the constructed Fort Snelling and its place within the landscape have acted to enforce a carceral state on particular people. Though the cases are grounded in this place, I realized that the reporting carried their impacts far and wide. The cases are not fake news; the basic facts of the cases—charges, court rulings, appeals, and sentencing—may be easily corroborated. But the reporting demonstrates a striking parallel to some of the kinds of media bias we struggle with today: accusations of regional partisanship, and racialized representations of the accused.



*Detail from “Saint Paul Pioneer” on September 26th of 1865. Their cases were detailed in side-by-side columns. Headlines foregrounded how they would be painted: “Pryor, the Murderer... Strenuously Denies His Guilt” while Shakopee and Medicine Bottle “Receive the News With Stoical Composure.” All three were condemned to be hanged.  
Download the full page of the September 26, 1865, “Saint Paul Pioneer.”*



In the fall of 1865, the military prison at Fort Snelling held three men awaiting their sentences. Two of them are still referred to today, whenever we recall the Dakota 38+2 executed after the US-Dakota War of 1862. The “+2” were Sakpe and Wakanozanzan, called Shakopee or Little Six and Medicine Bottle in the newspapers, who were captured in 1864 in Canada and returned to Fort Snelling to be tried for their war participation. The third man was John Pryor, an Irish immigrant who had enlisted in the army to serve in the Civil War and who was found guilty of fatally shooting a fellow soldier. On September 26th of 1865, their cases were detailed in side-by-side columns of the Saint Paul Pioneer (SPP). Headlines foregrounded how they would be painted: “Pryor, the Murderer... Strenuously Denies His Guilt”

while Shakopee and Medicine Bottle “Receive the News With Stoical Composure.” All three were condemned to be hanged.

The side-by-side reporting foreshadowed—or possibly contributed to—how their cases unfolded. As detailed through reprinted correspondence, Pryor appealed his case through a writ of habeas corpus and an argument that as his crime was not committed as part of wartime activity he should not have been tried by a military court martial. On October 8, the SPP reported that Pryor’s appeal had been denied, and that the date of his execution was set for the following week. The unnamed reporter added that the scaffold was already under construction, and predicted that, when realizing his fate was sealed, Pryor’s



Detail from “Saint Paul Pioneer” on October 11, reporting a telegram from the Secretary of War ordering that the executions of Shakopee and Medicine Bottle be suspended.

*Download the full page of the October 11, 1865, “Saint Paul Pioneer.”*



“mental condition will be pitiable indeed.” In contrast, the writer noted that Shakopee and Medicine Bottle, who were supposed to be executed on the same scaffold during the same week, “view their approaching fate with great indifference and stoicism, either real or apparent.” The representation of this indifference, coupled with earlier descriptions denigrating their appearance, intelligence, and even humanity, helps to construct the settler colonial ideal of an inevitable Native disappearance. It rings familiar with contemporary representations of people of color as irredeemable and ungrievable.

And then the unthinkable happened. On October 11, the SPP reported a telegram from the Secretary of War ordering that the executions of Shakopee and Medicine Bottle be suspended. This was followed by an editorial diatribe: “We have no knowledge of the reasons which induced the President to suspend the execution of the Indian murderers, but it is presumed that the order was issued through the representations of their Eastern sympathizers who learned by the newspapers of the sentence of the Court and of the day appointed to carry it into effect. ...If the morbid sympathy of the people at [sic] the East for the red murderers of our citizens, can influence the Government to shield them from adequate punishment, the people of this State will find a remedy and fearlessly apply it.”[2] The circulation of information caused a flare of regional partisanship, no longer simply a matter of local politics, and especially engendering resentment towards the faraway federal seat of government.[3] Perhaps this resentment contributed to the representation in the same day’s reporting of a petition to commute Pryor’s sentence. While earlier reporting had cast doubt on his expressions of remorse, he was now painted with more sympathy – especially when held in comparison to the other case at hand. “There is much sympathy for John Pryor, who is sentenced to be hung at the Fort on Friday next for shooting a comrade, and it has greatly increased since the news was received that the execution of the

Indian murderers had been indefinitely postponed. Pryor killed one man, while he was under the influence of liquor and ungovernable passion, whilst each of the Indians were found guilty of murdering a score of frontier settlers.”

Download the full letter to the editor of the October 14, 1865, “Saint Paul Pioneer.”

This anti-Indian racism was not representative of all settlers; at least one citizen submitted a letter to the editor, printed on October 14th, which called attention to a number of “palliating” factors to the case against Shakopee and Medicine Bottle. The writer noted in their defense that evidence against them was weak, that Civil War rebels were being pardoned for their actions in war, that the Dakota people had been systematically disenfranchised for years, and that many reports of the two men were far more sympathetic than those appearing in the Saint Paul Pioneer. The editors responded with self-congratulations—for printing the letter—and a very back-handed acknowledgement of other perspectives: “Without endorsing the views of the writer... we are not unwilling to vary the monotony of abuse which has been poured upon these Indians, by ventilating whatever may be said in their favor, which is not much, although the Devil is not always as black as he is painted.” Despite the airing of dissenting opinion, the settler colonial order was shortly restored, as Pryor’s sentence was commuted while the execution of Shakopee and Medicine Bottle was rescheduled for November 11. Their hanging was public, and the Saint Paul Pioneer marked the occasion with a long write-up.

Was this all fake news, in the glaringly biased representations of the prisoners and their military interlocutors? “Fake news” is used, in the contemporary moment, either to accuse of bias or of outright misinformation. In the former sense, yes—and we can only hope that at least a reader today would easily identify those mischaracterizations. But the reporting gives great insight both



# Saint Paul Pioneer.

PUBLISHED DAILY, TRI-WEEKLY AND WEEKLY.  
Office--No. 170 Third Street.

Terms:--DAILY PIONEER--By mail, \$11.00 per annum, or \$1.00 per month, invariably in advance.  
TRI-WEEKLY PIONEER--\$7 per annum; \$3.00 for six months; \$1.75 for three months; 60 cents for one month.  
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ST. PAUL, SATURDAY, OCTOBER, 14.

## THE CONDEMNED INDIANS.

The Supposed Reasons which Induced President Johnson to Suspend their Execution.

The Evidence upon which they were Condemned--Palliating Circumstances &c.

To the Editor of the Pioneer:

What the influences were that procured a suspension of the execution of Shakopee and Medicine Bottle we do not know. Perhaps it was that it was thought their death would operate injuriously upon the consummation of the treaties which are now being attempted to be effected with the hostile tribes. Perhaps it was that the testimony was not entirely conclusive.

There is no witness who saw either Shakopee or Medicine Bottle kill a single person or fire at the whites in battle or otherwise. There is no evidence that Shakopee ever went to battle, or carried away any plunder. Four witnesses swear that Shakopee stated he had killed white people on the first day of the outbreak on the west side of the Minnesota, opposite the Agency. On such admissions, unsupported by other testimony, a conviction cannot legally be had in the civil courts. Two of these witnesses swear in effect that these admissions were made under the following circumstances. The massacre commenced in the morning--at night the warriors gathered in an immense crowd around Little Crow's house, and Shakopee came up, and Little Crow said "Shakopee where have you been all day? Why have you not been helping us kill these people?"

To which Shakopee replied, "I have been over the river."

"What have you been doing there?"

"Killing white people," he replied.

"Thirteen" in number one witness avers he said, and another witness that he said "six"--thus contradicting one another. The third witness says he spoke of the same thing the same day, and gave the number as seven.

When we reflect upon the motive that exist-

only three persons and had no Council present to cross examine the witnesses for although they desired one they had no money to pay, and strange to say the Government does not furnish Council when a prisoner is unable to supply one. As to Shakopee there is nothing to excite interest.

He was always rated by Indians and whites as a liar and a coward--nothing to excite interest, save what has been stated as to his saving the life of a white man and family, and the weakness of the testimony against him--and a certain native eloquence. For instance, when the first engine passed to the Fort, Shakopee broke from his guards and rushed to Colonel McLaren and said, "Look there--see that--that settles our fate--over these lands my father was once undisputed chief, and over these hills I once rode free upon my horse, and now," pointing to the chain about his waist, "look at this"--and pointing to the chain running from his waist to his foot, "and this"--and scanning himself all over, "and these rags."

As for Medicine Bottle, the evidence was sufficient to justify a conviction. But there is no one who has conversed with him,--unless with a heart of stone,--but has felt pity and admiration for him. Always the first, say they, at the Fort, among the prisoners, to dash to his feet when they were called to work--always cheerful and pleasant and making no complaint, saying when death stared him in the face, "I am a man and have always regarded myself as a man. God made me a man and I know I am going to die. I have been a warrior since I was eighteen. I have fought the Chippewas in twenty battles. I am not afraid to again face death."

"I would give my right arm," said an old man from Cleveland, "to save that man's life,"--and he started away the next night, although he was intending to remain several days longer. Perhaps he was the one who induced the President to suspend the execution. "Save Medicine Bottle," whispered the interpreter to another person talking with them, "I care nothing for Shakopee, but Medicine Bottle is too brave a fellow to suffer such a fate."

His sins are the sins of education and his nation.--he has a quality which has been deemed the noblest in man--ability to meet death without bravado and with a smile X.

## The Pacific Railroad.

Economic Difference in Favor of the Northern Route 745 Miles.

From the Chicago Republican.

The New York Times states, on the authority of the English capitalists who have been making a tour through the West, that these gentlemen are prepared to report favorably and without reservation on the immense resources of that portion of the country which they have visited.

It is now generally understood that the intention of these capitalists is to ultimately extend the Erie and other lines of eastern railroads to the Pacific, on the broad gauge plan. The questions then arise, are we to have two roads; if not, whether the northern, central or southern is the best.

During the past few weeks the commissioner of the northern line has been in Canada and is now in Boston, endeavoring to enlist the Canadian and New England people in that route. This route, as we have before stated, is to have a terminus at Paret's Sound, on the

## The Negro at the South.

A Lifelike Picture Drawn by the Loyal Governor Brownlow of Tennessee--Effect of Radical Teaching Portrayed--Negro Troops Must be Withdrawn.

From Brownlow's Whig of the 27th ult.

Thousands of free colored persons are congregating in and around the large towns in Tennessee, and thousands are coming in from other States, one third of whom cannot get employment. Indeed, less than one-third want employment, or feel willing to stoop to work. They entertain the erroneous idea that the government is bound to supply all their wants, and even to furnish them with houses, if, in order to do that, the white occupants must be turned out. There is a large demand for labor in every section of the State, but the colored people, with here and there a noble exception, scorn the idea of work. They fiddle and dance at night, and lie round the stores and street corners in the day time. And some of the indiscreet teachers of negroes from the North, who know nothing of the negro's character, have been known to tell them not to hire to white people! Having the single idea in their heads of abolition, they advise the simple and credulous negro to a life of precarious subsistence, of idleness and dancing, and of crowding into towns to be educated, in preference to good wages and comfortable homes in the country. If some great change is not made when winter comes on, and if the military force is withdrawn, as they will be, there will be great suffering and fearful mortality among them.

### SUFFRAGE AND SUFFERANCE.

There is a bad state of feeling now between them and the whites, and it is daily growing more bitter. Many of the negroes are insulting the white females who never owned any of their color and never did them any wrong. They frequently elbow unprotected white women off our narrow pavements and curse white women passing them, just to show their authority. Others are swearing on the streets, and we have heard them say that they will clear out the d--d town! And still another class will say that if they are not allowed their rights at the ballot-box they will resort to the cartridge-box! And they swear they will be backed up by the Government.

As one desiring the welfare of the colored people, they will permit me to say they could drive the legislature of Tennessee into conferring upon them the elective franchise. They can by the demonstrations they are making in this direction, deprive themselves of any such privilege, so far as Tennessee is concerned. The Federal Government has no right to control the suffrage question in Tennessee. And the great Union party of the nation will have more sense than to attempt to control the question by Congressional legislation.

### THE TOWNS TO BE CLEARED.

General Tilson, at Memphis, has determined that he will compel the free people of color to leave the city and surrounding towns, even if their removal requires military force. He has sent a patrol through the city to learn who have employment and who have not, and to notify them that no further supplies will be furnished to those that can support themselves and refuse to do so. At Memphis they have been contracting for wages and becoming dissatisfied, break their contracts and leave off abruptly. Gen. Tilson has notified them that this will not be allowed, that they must make good their contracts, and that he will compel them to work at the rates and places agreed upon.

I rank Gen. Tilson among the best men we ever had in command at Knoxville, and I am pleased to find that he is still showing his good sense and love of justice at Memphis. We lack such discipline among the colored people in this end of the State, and I hope it will not be long until more rigid regulations are adopted by the Commissioners of Freedmen, who, as I understand it, have control of this branch of affairs. There is no better man in the service

ing, preaching, praying, singing--as will take half of them to ruin in a

One half of all the colored soldi form in East Tennessee have no that uniform, and do not appreciate and importance. Two of them in f some time since, upon a narrow t this city, knocked the writer of into the gutter, throwing him up and knees. He was trying to get way and they saw it; but being leaning upon a staff, he moved to their ideas of progress. I made no but concluded these colored ruffia "I learned to respect the uniform of and went my way, not rejoicing, bu my left knee that I was worsted in t ter, which I had not brought about to prevent.

Soldiers and officers wearing the I form ought all to be gentlemen, no i their color, but the only two colort ever encountered did not, prove to style. I have no wish to try the might light upon others, less o would run me through with a be; ing denied a white man's choice, I negro's privilege, of getting out of

### THE NEGRO TROOPS TO BE WITH

The plain truth is, the colored ac not been properly instructed. Whi I am not able to say. Believing th continuance in East Tennessee will tive of no good, but of much ha written to President Johnson to re to those localities where they are i where the people are a unit in brin rebellion. Indeed I have informed dent that no troops are needed in E see of any color, and that the loyal the civic authorities are fully able order and take care of the country.

The Bench, from the County Cou Supreme Court, is occupied by lo; the prosecuting attorneys are loyal; the sheriffs and justices, and we a in East Tennessee to preserve ord the aid of troops.

### What Miles O'Reilly Think Grant.

Miles O'Reilly was formerly on leek's staff, and hence may be tl prejudiced against that gentleman' rival. At least he bears down on what in a late number of the Cit says:

Can we take his refusal to speak i any evidence of excessive modesty, find him rushing frantically about tions to receive the cheers, banners umphal arches and compliments public have not yet grown weary of his nodding but silent image? Th man should not speak too often or views too cheap, is very true; but Gen. Grant's place, a man never s; and leaves us in doubt whether he r red view about him," the error is the side of excessive reticence. If painfully diffident that he cannot uti words to the crowds he sees kotooi labalooing about his carriage, hote car--why does he continue to hav eminent modesty toted all around f Beershabs, as if with a hunger nevefied for the shouts and ovations of citizens? Some people say that Sherman has done too much talkin haps this may be true. Is not G just a little mite too much of the s hand-shaking business?

### The sons of New England!

A good joke is told of a judge in I shire. He always kept a demijoh Jamaica in his private office for hi friends. The Judge had noticed for that on Monday morning his Jamai sidersibly lighter than he left it o night. Another fact had establish his mind. His son Sam was misleo parental new in church on Sunday

Detail from the October 14, "Saint Paul Pioneer." This anti-Indian racism was not representative of all settlers; at least one citizen submitted a letter to the editor, which called attention to a number of "palliating" factors to the case against Shakopee and Medicine Bottle. Download the full letter to the editor of the October 14, 1865, "Saint Paul Pioneer."



into the nature of public opinion and racialization working against Dakota people, and that such sentiment was not universally shared. Those opinions were (and are) also shaped by larger political debates, taking individual prisoners and making them the face of a much larger cause. Amidst the racialized and political rhetoric,

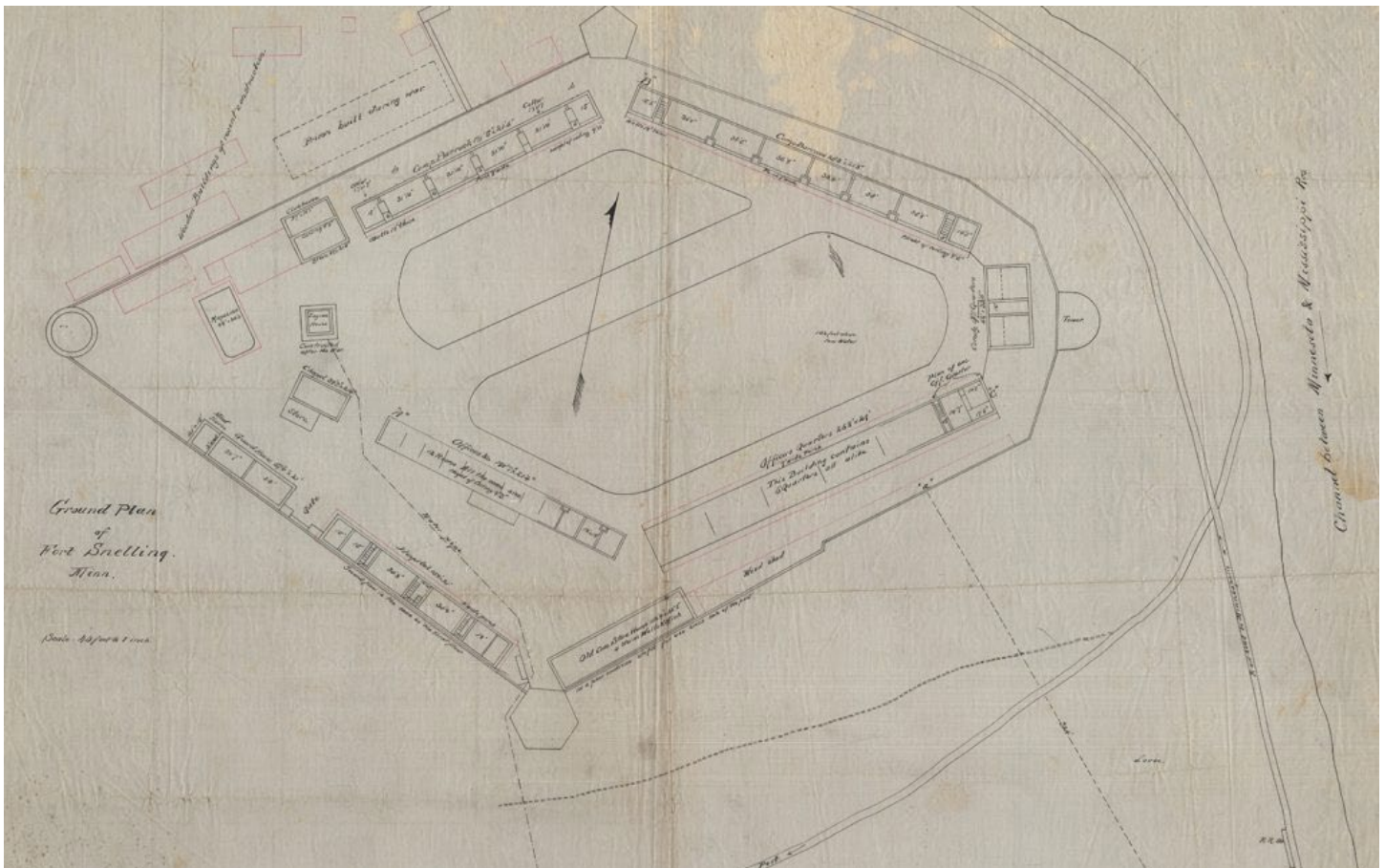
however, the basic events and places are evident, and from a social justice perspective it is important that we revisit the cases. Perhaps the stories of these three men should be told to visitors to Fort Snelling, the place which served as the source. Because, unfortunately, these stereotypes and prejudices are still with us today.[4]

## Footnotes

[1] For those interested in reading the reporting first-hand, I have found references to the cases in the *Saint Paul Pioneer* on September 26, October 1, 3, 5, 7, 8, 10, 11, 12, 14, and 26, and November 2, 10, 11, and 12. Issues were accessed on microfilm at the University of Minnesota (also available on microfilm at MNHS).

[2] The editorial comment also referred approvingly to a recent case in which a mixed-ancestry man was subjected to mob justice by townspeople; it is thus disturbing to consider how this editorial both condoned the act and encouraged further racial violence. This too has parallels to today.

[3] In fact, it had been a letter from Bishop Grace of St. Paul to the President which had prompted the



*Detail of a plan view of Fort Snelling, 1873.*

temporary suspension of Shakopee's and Medicine Bottle's executions. *Saint Paul Pioneer*, November 2, 1865.

[4] The contemporary issue of Native incarceration is the subject of several related exhibits in the Twin Cities. The "States of Incarceration" exhibit is in the Minnesota History Center in St. Paul November 20, 2018 to February 18, 2019. At the AIM Interpretive Center in Minneapolis, an exhibit titled "The Great Spirit Within the 'Hole': AIM and Culturally Focused Prison Education" opens December 1, 2018. A digital version can be found at <https://statesofincarceration.org/states/minnesota-carceral-colonialism-imprisonment-indian-country>.

## Recommended Citation

Hayes, Katherine. 2018. "Fake News? Tracing the Flows of Public Perceptions in Historic Newspaper Reporting." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/public-perceptions-in-historic-newspaper-reporting/>.

## About the Author

Katherine Hayes is trained as an American historical archaeologist with a focus on contexts of US settler colonialism, both in the past and in present heritage representations. She has worked in and written about sites in New York, Massachusetts, and Minnesota most extensively. She is a faculty member at the University of Minnesota (Twin Cities) and teaches in Anthropology, American Indian Studies, and the Heritage Studies and Public History program.



TEACHING AND PRACTICE

# PUTTING SUPPLIERS ON THE MAP

By Kelly Meza Prado

While there are many ways of approaching community-engaged research, the way that research projects are set up rarely provides the time and resources to create a research deliverable for community partners. This needs to change. Creating research products for academia and partners advances both science and the conservation work of communities. In order to

advance this vision, a team of researchers from the Institute on the Environment (IonE) at the University of Minnesota and the University of Hawaii Economic Research Organization, working on source water protection, devised a pilot study to translate research findings into a website of stories to add to our partner's communication toolkit.



*Baudelino Rivero shows one of the streams under protection of the Asobolo watershed organization. He visits this point in a weekly basis as part of his duties helping to monitor water quality. Image courtesy of Kelly Meza Prado.*

Asobolo is a watershed organization tucked in the cloud forest of the Valle de Cauca region in Colombia. For more than 26 years, the organization has worked with farmers, Indigenous peoples, and other landowners to protect the water sources that supply the clean water that many people in this area enjoy. Work with landowners includes the fencing of springs, protection of riparian forests, implementation of agroforestry systems, and other best management practices that help keep sediments and nutrients like nitrogen away from waterways. These conservation initiatives inspire a wide set of scientific questions often focused on the biophysical aspects of water. For instance, one branch of inquiry centers on measuring the degree to which these conservation

practices help retain nutrients in the soil and prevent soil erosion. While biophysical research is critical to assessing the effectiveness of water conservation to improve water quality and quantity outcomes, equally important is to understand what motivates local landowners to enroll their lands in water conservation programs, especially when this requires giving up part of their productive land or investing time and resources to implement conservation activities. To explore this issue, a seed grant from IonE allowed our team to set up a pilot study that consisted of interviewing participants of Asobolo to hear their stories as participants in this program and the motivations underpinning their work.



*From right to left: Amalia, director of the Asobolo watershed association and Lorena, GIS specialist, stand outside their office in the small town of Pradera in Cali, Colombia. Image courtesy of Kelly Meza Prado.*



We collaborated with Asobolo to carry out this research with a commitment to its director, Amalia Vargas, that we would create a research product that would be beneficial to her organization. In the past, amidst the internal conflict in Colombia, Asobolo decided to maintain a low profile, but now that the country's political landscape has taken a positive turn, the organization is aiming to increase its visibility. We agreed that a website of stories highlighting the experiences of participants from their own perspective would be effective at disseminating the work of the organization, bolstering their newly created digital presence. Reflecting the collaborative nature of this creation, Asobolo and participants provided their experience and stories, and we

leveraged our technical resources to turn them into a product that could represent everyone.

The website, "[Putting Suppliers on the Map: The stories of people conserving water upstream](#)," places the user in the Asobolo watershed using dynamic maps that progressively zoom into the specific geographical area of the watershed as its story unfolds. Most importantly, the website highlights the motivations that are driving people to participate, using stories based on interviews. We leveraged web technology and images of participants, their land, and their conservation work to bring the stories to life. The website is both bilingual and mobile-device-friendly, bringing these stories to a wider audience.



*One of the members of the Kwet Wala Indigenous community sits on top of the community's sacred place as he show us the forests and water source area that the community helps to protect. Image courtesy of Kelly Meza Prado.*



This tool allows us to highlight the motivations of people to conserve and protect the lands critical for water sources through the perspective of the participants themselves. For instance, one motivation that draws people to participate is that of identity tied to the land. The Kwet Wala Indigenous Community protects forest on 70 percent of their 1,200-hectare territory and more than 60 springs within it with best management practices aimed at sending water downstream as clean as possible. Although this is a significant effort to take on, the community's ancestral heritage and traditions are rooted in their land and its management, which makes conserving the land and water sources a critical part of who they are. As they stated, "We do conservation

independently of any institution since centuries ago, and we do it because it is our identity."

Another example featured in this website illustrates how participants on the ground are motivated to protect water sources, while at the same time lacking basic needs such as piped water and sewer systems. The springs in Diego Márquez's farm are his sole source for drinking and irrigation. Aqueducts do not reach his house. He told us that protecting his water sources with the help of Asobolo is "his only tool to keep the springs from going dry." While many participants have cultural and ethical motivations to preserve water and land as part of their own identity or for future generations, source watersheds tend to



*Diego shows us one of the more than twenty springs in his land, which function as his water supply and feed the streams nearby. Areas surrounding the springs are protected with fences to prevent pollution from cattle. Image courtesy of Kelly Meza Prado.*



be in areas underserved by the national and local governments where the water needs of its local dwellers are largely unmet. Diego's story is one of many stories of people tasked with protecting land to improve water outcomes for downstream users even when this service is not guaranteed for them in the first place.

Finally, a sense of community emerges from the relationships made through conserving the watershed and working in collaboration, which are critical motivations for maintaining participation. These relationships are the result of the careful work that Amalia Vargas has done by connecting and working with thousands of watershed residents within farms, local schools, and Indigenous and rural communities. Everyone

knows Amalia. People wave at her as she drives by and eagerly greet her with "tinto" (coffee) and pastries. When asked why they joined the program, a common answer is "because of Amalia." She explains that her work involves "long walks and visits" and "one-on-one relationships." Even if the resources are plentiful, she says, watershed conservation and water source protection are not possible without the full support of local people. These and many more stories are available on the website.

The motivations that drive people to participate in watershed and source water conservation are rooted in diverse values, which are not necessarily measurable in a precise numerical manner. Understanding these values is crucial to make



*Amalia (center) is the embodiment of connection for the watershed. A personal and continuous relationship with each participant is part of her everyday work, which has earned her the trust of all the participants that work with her. Image courtesy of Kelly Meza Prado.*

conservation programs sustainable and meaningful for participants. Our pilot study sought to open a window onto these motivations and to produce an internet-based tool that could be useful for Asobolo as our project partner. From that perspective, the pilot was successful: the website of stories has become one of Asobolo's communication tools and has been integrated into its official website.

We hope that this work is one more example of how community-engaged research projects might create products that are useful to partners, especially when they are grassroots organizations that tend to be under-resourced and overworked. As our team expands its collaborations with other watershed organizations across Latin America, this pilot project is a first step in a broader effort to develop research products specifically designed for the benefit of our community partners.

## Recommended Citation

Meza Prado, Kelly. 2018. "Putting Suppliers on the Map." *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/putting-suppliers-on-the-map/>.

## About the Author

Kelly Meza Prado is passionate about illuminating the full value of clean water for human well-being and producing collaborative research that draws pathways to best care for water resources in equitable ways and with ripple effects in development and health. Originally from the Peruvian Andes, Kelly's perspective motivates her to use interdisciplinary tools to effectively tackle the water challenges that expand the natural and social sciences. Her current work focuses on best practices to protect water sources for drinking water in Minnesota and Latin America. Kelly is a research manager at the University of Minnesota's Humphrey School of Public Affairs and researcher at the Institute on the Environment's Natural Capital Project.



IN REVIEW

# REVIEW OF *BETWEEN THE WORLD AND ME*, BY TA-NEHISI COATES

By Lark Weller

*Editor's note: The views expressed herein are those of the author individually, not of the National Park Service.*

As the water quality coordinator for the Mississippi National River and Recreation Area (MNRRA) for nine years, I organized and hosted the Mississippi River Forum. A monthly



*“Returning the River” by Molly Van Avery, Dameun Strange, and Michael Hoyt.  
Image courtesy of Michael Hoyt.*

informational and networking series, the River Forum was one of my more visible tasks. A fundamental organizing principle of this ongoing series was to bring together a disciplinarily diverse group of water resource practitioners and decision-makers for conversations with people beyond their typical working relationships. In hosting conversations with these interdisciplinary groups, I sought to explore water issues holistically together: how water was related to agriculture, to the economy, and to the social and political realms. I tried to bring together demographically diverse groups, too, and, given the makeup of “the environmental field,” considered it a victory when as many series speakers were women as were men.

Most of us are aware of, and many have discussed, the lack of racial diversity within environmental professions—often regarded simply as a problem of optics. I began to realize that the whiteness of the room was not just an optics issue, but reflected a deeper problem in our work: we didn’t seem to know how to have meaningful conversations with people who “don’t look like us,” or to recognize their experiences were often significantly different than ours. I wanted to move us toward more inclusive conversations, but didn’t know where to start, in the context of the River Forum series. I didn’t name it as such at the time, but I was no longer a water quality planner trying to apply an equity lens to the community conversations I’d been having all along. Instead, I was grappling with what it means to authentically make deeply inclusive principles central to what our community planning and water quality work, and conversations, should even be *about*. So, another way to put the question is: How (or can) water quality work be anti-racism work? Surely it can, but where to start?

I was learning that I, and most people in the United States, had been wildly mis-educated about race. I sought a **more accurate education** on this country’s history and its creation of racial identities and experiences. I also searched

for **tools to integrate that knowledge** so I could better recognize how that history has had an impact on my life and the lives of others. Finally, I searched for **actions** better aligned with my values (including professionally).

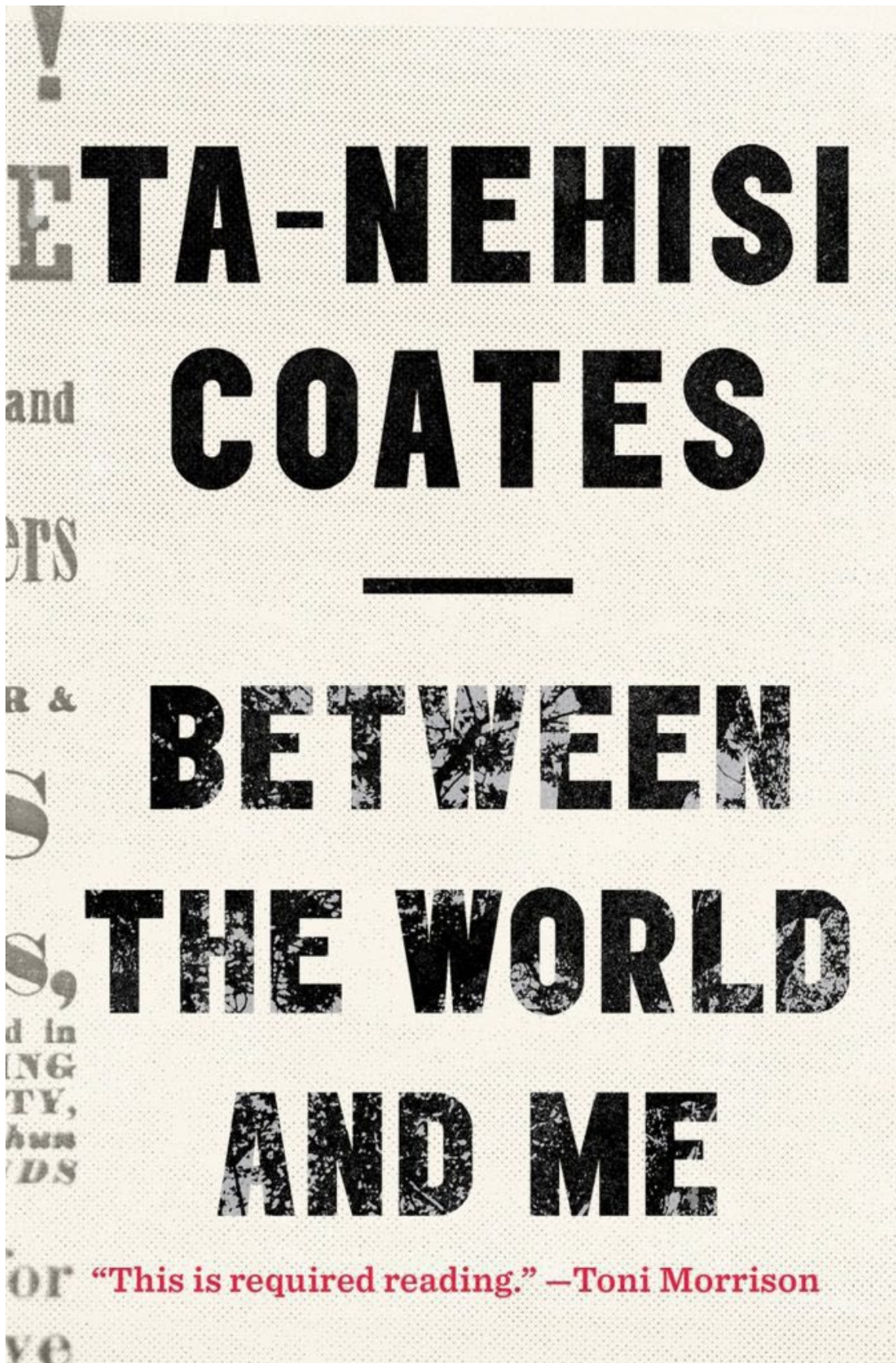
One of the books I read for guidance was *Between the World and Me*, by Ta-Nehisi Coates. Much has been made about Coates by white readers.[1] As a woman who identifies as white, I found that this book has shifted my perspective on my work as a water quality and community planner.

*Between the World and Me* is Coates’ letter to his adolescent son, Samori—his attempt to communicate with Samori his own experiences in this country as a black man, as well to recognize the ways his son’s experiences differ from his. It is part personal narrative, part national history, part analysis of current national racial dynamics. Putting all of that together, Coates asserts that he and his son will always have to explore the same ultimate question: “How one should live within a black body, within a country lost in the Dream,” in a nation built on separating black and Indigenous people from their bodies (p. 12).

This compact book is elegantly written. Coates clearly names racial practices that are designed to be nearly invisible, and consequences that are meant to feel natural, or so overwhelming that we convince ourselves they are insurmountable. He links these practices and consequences to the specific policies, decisions, and actions from which they stem, thereby illuminating a path to systemic racism that has been made difficult to see—especially for whites who benefit from the outcomes of these dynamics.

Coates details the role the streets of his upbringing played in defining his opportunities—and the difference between that and what white communities learned about *their* opportunities from the places in which *they* grew up. He walks his son through the realization that the city streets of his childhood—and the language of fear and power





*"Between the World and Me," by Ta-Nehisi Coates.*

with which he learned to navigate them—were a galaxy away from the streets of “other worlds where children did not regularly fear for their bodies” (p. 20).

In the evenings I would sit before [the] television bearing witness to the dispatches from this other world....That other world was suburban and endless, organized around pot roasts, blueberry pies, fireworks, ice cream sundaes, immaculate bathrooms, and small toy trucks that were loosed in wooded backyards with streams and glens. Comparing these dispatches with the facts of my native world, I came to understand that my country was a galaxy, and this galaxy stretched from the pandemonium of West Baltimore to the happy hunting grounds of *Mr. Belvedere*.... I knew that my portion of the American galaxy, where bodies were enslaved by a tenacious gravity, was black and that the other, liberated portion was not. (pp. 20–21)

Coates names educational infrastructure as another component of the equation keeping him and other blacks a safe distance from achieving the Dream.

If the streets shackled my right leg, the schools shackled my left. Fail to comprehend the streets and you gave up your body now. But fail to comprehend the schools and you gave up your body later. I suffered at the hands of both, but I resent the schools more. There was nothing sanctified about the laws of the streets—the laws were amoral and practical.... But the laws of the schools were aimed at something distant and vague. What did it mean to...“grow up and be somebody?” ... The world had no time for the childhoods of black boys and girls. How could the schools? (p. 25)

I came to see the streets and the schools as arms of the same beast. One enjoyed the official power of the state while the other

enjoyed its implicit sanction.... Fear and violence were the weaponry of both. Fail in the streets and the crews would catch you slipping and take your body. Fail in the schools and you would be suspended and sent back to those same streets, where they would take your body. And I began to see these two arms in relation—those who failed in the schools justified their destruction in the streets. The society could say, “He should have stayed in school,” and then wash its hands of him. (p. 33)

For those looking for a more accurate telling of our nation’s racial history, *Between the World and Me* is a solid guide—and, importantly, one told from the perspective of one whose ancestors have suffered under that history. The society Coates points to is where our national racial history plays out in my professional sphere. “What any institution, or its agents, ‘intend’ ... is secondary. Our world is physical....Very few Americans will directly proclaim that they are in favor of black people being left to the streets. But a very large number of Americans will do all they can to preserve the Dream.... ‘Good intention’ is a hall pass through history, a sleeping pill that ensures the Dream” (p. 33). Was my saying “I tried to invite diverse perspectives into (pre-defined) River Forum discussions” a “hall pass” through the reality that the discussions didn’t include the wisdom of diverse experiences as they were being created?

What would a different path mean for my professional life? The primary shift this book helped me make in my perspective on my work is that the problem of a lack of diversity in our environmental professions is a symptom, not an outcome. It is a symptom of the fact that the lack of meaningful personal and professional relationships outside of the Dream is both a result of and a way to maintain the country’s race-based inequities. Furthermore, I am struck by this realization: Unless—and *until*—white professionals like me allow ourselves to see, acknowledge, and *feel* the



Dream's toll on Indigenous people and people of color, conversations about equitable water and community planning will remain limited to focusing on optics.

Maintaining whites' Dream has required that the mechanics of building it be difficult, if not impossible, to see—and certainly makes the human cost of the Dream unappealing and uncomfortable to acknowledge. It makes a perverted “sense” that those benefitting from this Dream have resorted to collective “unseeing” in order to psychically stomach their benefits. Coates calls this the “habit of jabbing out one's eyes and forgetting the work of one's hands” (p. 98). The ability of its beneficiaries to un-see the ways in which the Dream continues to break the terms of social contracts like “equal access to opportunity” has essentially enabled the survival of the Dream.

Coates elegantly ties white America's refusal to see how it has plundered entire generations of human beings to how it has likewise looted the natural world in service to its insatiable appetite. The “Dreamers have improved themselves, and the damming of seas for voltage, the extraction of coal, the transmuting of oil into food, have enabled an expansion in plunder with no known precedent. And this revolution has freed the Dreamers to plunder not just the bodies of humans but the body of the Earth itself” (p. 150).

As Coates states, perhaps the hope is “to awaken the Dreamers, to rouse them to the facts of what their need to be white, to talk like they are white, to think that they are white, which is to think that they are beyond the design flaws of humanity, has done to the world” (p. 146). The call to “awaken the Dreamers” is the mandate I now seek to follow in my work, as I attempt to meaningfully align values of human inclusivity more fully with that work.

To Samori, Coates counsels, “Do not struggle for the Dreamers. Hope for them....But do not pin your struggle on their conversion. The Dreamers

will have to learn to struggle for themselves, to understand that the field for their Dream, the stage where they have painted themselves white, is the deathbed of us all. The Dream is the same habit that endangers the planet, the same habit that sees our bodies stowed away in prisons and ghettos” (p. 151). What might this struggle for wisdom look like in the work of a white water quality coordinator?

Since “hitting the pause button” on the River Forum series, I have helped bring training on facilitating inclusion dialogue to colleagues so we can seek greater understanding of these issues together. I have co-led a project (with partners including River Life) to identify institutional barriers to equity in water-related organizations. I have expanded my efforts to build a more respectful and inclusive National Park Service as a facilitator, Women's Employee Resource Group leader, and by bringing employees' voices to agency decision makers. I have started to open my mouth more with colleagues about our need to ask different questions of ourselves—to look at ourselves differently, with fresh, clear vision—and have tried to bring similar questions to my role as a community planner as the park conducts long-term planning.

I like to believe that I aspire to “be a conscious citizen of this terrible and beautiful world” (p. 108). This requires that I know my own personal history, and my society's history, and requires me to swim upstream against the Dream's powerful momentum. It's a *swim* I have the accidental “fortune” of choosing whether or not to take. I can tread water (or get out of the water entirely) anytime I want, and I catch myself doing both all the time. I need to be accountable to, and held accountable by, others who share a commitment to a future with more equitable racial—and environmental—outcomes than the past. This will enable me to keep principles of racial justice at the foundation of conversations about what my (and our) work should even be. Realizing a future with such different outcomes will require

deeper ways of working with and relating to each other—and (perhaps as importantly) to ourselves as individuals. Coates has given me clarity and language to more honestly see my place in this society, how I have gotten here, and

the enormous human and psychological costs associated with keeping me and others like me comfortable. Though I struggle to know what to do next, I will never see my place in the world the same again.

## Footnote

[1] My privileges and related experiences have shaped my perspective and how I interact with everything, including this reading. I hope any “misses” in what I share about my reading of Coates will become openings that lead me toward greater, shared understanding.

## Recommended Citation

Weller, Lark. 2018. “Review of *Between the World and Me*, by Ta-Nehisi Coates.” *Open Rivers: Rethinking Water, Place & Community*, no. 12. <http://editions.lib.umn.edu/openrivers/article/review-of-between-the-world-and-me-by-ta-nehisi-coates/>.

## About the Author

Lark Weller is a Community Planner for the Mississippi National River and Recreation Area, a unit of the National Park Service (NPS). There, she works to engage communities around environmental issues and special places. She is also helping NPS improve its institutional equity, inclusion, and employee engagement. Lark has a B.S. degree in agriculture, sociology, and anthropology, and a master’s degree in urban and regional planning, both from the University of Minnesota.



## EDITORIAL

# THANK YOU

By *Open Rivers* Editorial Staff

As of this issue, *Open Rivers: Rethinking Water, Place & Community* has officially been in production for three years. Over the past year, we have continued to reach new readers, include work from new writers, and expand community and campus conversations about the myriad ways water is implicated in shaping social and material landscapes. We are pleased to have been able to invite, review, and publish a meaningful collection of works over the past year

thanks to the efforts of guest editors, our editorial board members, reviewers, and writers. *Open Rivers* is made possible through the collaboration of these contributors from across disciplines, professions, and geographies. On behalf of the journal's editorial team and our partners at the University of Minnesota Libraries Publishing Services Division, we thank you all for being part of the *Open Rivers* community.

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*River in Aosta, Italy. Photo by Mario Álvarez on Unsplash.*

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