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"Deep" South: Mammoth Cave, Kentucky, and Environmental Knowledge, 1800-1974

Alyssa Diane Warrick

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“Deep” south: Mammoth Cave, Kentucky, and environmental knowledge, 1800-1974

By

Alyssa Diane Warrick

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in History
in the Department of History

Mississippi State, Mississippi

December 2017

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Alyssa Diane Warrick

2017

“Deep” south: Mammoth Cave, Kentucky, and environmental knowledge, 1800-1974

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Mammoth Cave in Kentucky is the longest known cave in the world. This dissertation examines the history of how scientists and non-scientists alike contributed to a growing body of knowledge about Mammoth Cave and how that knowledge in turn affected land use decisions in the surrounding neighborhood. During the nineteenth century visitors traveled through Mammoth Cave along with their guides, gaining knowledge of the cave by using their senses and spreading that knowledge through travel narratives. After the Civil War, cave guides, now free men who chose to stay in the neighborhood, used the cave as a way to build and support their community. New technologies and new visitors reconstructed the Mammoth Cave experience. Competing knowledge of locals and science-minded individuals, new technologies to spread the cave experience, and a growing tourism industry in America spurred the Kentucky Cave Wars during the late-nineteenth century. In the twentieth century, cutthroat competition between caves crystallized support for a national park at Mammoth Cave. Park promoters met resistance. Cave owners’ knowledge of what they owned underground helped them resist condemnation. Those affected by the coming of the national park made their

protests known on the landscape, in newspapers, and in courtrooms. The introduction of New Deal workers, primarily the Civilian Conservation Corps, at Mammoth Cave and a skeleton staff of National Park Service officials faced antagonism from the local community. Important discoveries inside Mammoth Cave hastened the park's creation, but not without lingering bitterness that would affect later preservation efforts. The inability of the park promoters to acquire two caves around Mammoth Cave was a failure for the national park campaign but a boon for exploration. The postwar period saw returning veterans and their families swarming national parks. While the parking lots at Mammoth Cave grew crowded and the Park Service attempted to balance preservation and development for the enjoyment of the visiting public, underground explorers were pushing the cave's known extent to new lengths. This new knowledge inspired a new generation of environmentalists and preservationists to use the Wilderness Act to advocate for a cave wilderness designation at Mammoth Cave National Park.

DEDICATION

For Clifford, whose patience, understanding, and cooking made this possible. I could not have done this without you. For my mom, Cathy, and late father, Ron, who always encouraged my curiosity, supported me at every step, and took me to my first cave before I could walk.

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CHAPTER I

INTRODUCTION: GETTING TO KNOW MAMMOTH CAVE

On July 16, 2012, park ranger Chuck DeCroix addressed a crowd of about twenty Mammoth Cave National Park cave guides, new and old alike, gathered underground for an educational evening trip into a section of cave no longer open to the general public. The goal was to hike about three miles to Echo River at the lowest level of the cave and learn about the way people experienced the cave in the nineteenth century, albeit with twenty-first century safety gear, footwear, and lights. He spoke seven words of warning: “This is a privilege, not a right.” These trips were special, requiring advance planning, safety precautions, and preservation of the cave passages. If the guide group disobeyed the restrictions, park managers could place a moratorium on after-hours trips. To get to the underground hall they listened to those important words, the party had driven to an artificial entrance to the cave created in 1931 when the area was being transformed from private hands into a national park. In the matter of a few minutes, the party reached a point in the cave that took nineteenth-century visitors hours and many miles of hiking, climbing, and scrambling through the dark passages from the natural entrance. Five hours later, the party emerged from the cave. At least one person’s life had changed forever—I had been bit, as they say, by the “cave bug.” When I made it to my apartment in seasonal housing, I could not sleep. I had to put my feelings into words, but someone had beaten me to it. The first guidebook to Mammoth Cave, written as an account “by a Visiter” [*sic*]

declared that “the aquatic excursion was more to our taste than any thing we had seen, and never can the impression it made be obliterated from our memories.”¹

Over the course of 200 years of touring, hundreds if not thousands of visitors must have felt something similar. Their continued visits and curiosity about the cave have created new knowledge of the cave that has in turn, changed the way the cave has been used, thought about, and affected the world around it. This pursuit of knowledge has also led to groundbreaking exploration underground.

Mammoth Cave is the longest cave in the world. Volunteers with the Cave Research Foundation (CRF) have mapped and surveyed 412 miles (663 kilometers) of passages in what is technically known as the Flint-Mammoth Cave System, all within about forty-nine square miles of a cavern-rich section of south central Kentucky. By the end of the year, that number will be unofficially obsolete, as each holiday weekend the CRF teams will have mapped and surveyed more avenues.² Unbeknownst to the hundreds of thousands of visitors who tour the underground chambers of this national park, geologists, biologists, archaeologists, and other scientists carry out research projects. Scientists and non-scientists alike converge at Mammoth Cave National Park and the cave region of Kentucky, all taking part in a process of knowledge creation that has been carried out for centuries.

¹ [Alexander Clark Bullitt], *Rambles in the Mammoth Cave during the Year 1844 by a Visitor* (Louisville: Morton & Griswold, 1845), 84.

² During the course of writing this dissertation, officials at Mammoth Cave updated the total length to 412 miles. The previous mark before 2017 was 405 miles.

Around four thousand years ago, prehistoric people first began exploring some twelve miles of passages in Mammoth Cave.³ Perhaps for spiritual reasons or because a big dark hole in the ground looked inviting, it is unknown exactly why they first entered Mammoth Cave. They found a place rich with minerals and began mining various naturally-occurring salts such as gypsum, mirabilite, epsomite and selenite by scraping and hammering them off the walls and ceilings. They may have used the gypsum to make a white paint, or used the mirabilite or epsomite as a laxative.⁴ The scatological evidence suggests that only males entered the cave.⁵ These late Archaic-early Woodland people stopped using the cave around 2000 years ago, but remained on the surface as farmers and, to a lesser extent, hunters of game like white-tailed deer, turkeys, raccoon, and squirrels.⁶ There is little evidence of Native American use of the cave; on the surface by 1750 most of the Shawnee and Cherokee groups had been nearly wiped out from European contact as what historians James and Freda Klotter call “invisible pioneers”—diseases—killed thousands who had no immunity.⁷

In the recorded era, history at Mammoth Cave begins in a 1798 deed to a Valentine Simons (sometimes called Simmons) for 200 acres of land that included two

³ Colleen O’Connor Olson, *Prehistoric Cavers of Mammoth Cave* (Dayton, OH: Cave Books, 2004), 6.

⁴ *Ibid.*, 15-17.

⁵ *Ibid.*, 33.

⁶ *Ibid.*, 35.

⁷ James C. Klotter and Freda C. Klotter, *A Concise History of Kentucky* (Lexington: The University Press of Kentucky, 2008), 9.

saltpeter caves.⁸ Over the next two centuries, different groups of people would form specific kinds of knowledge and spread that knowledge, which in turn changed the way the cave—and the surface—was used. Mammoth Cave has experienced resource extraction, exploitation, experimentation, exploration, conservation, and preservation. Mammoth Cave has been a battleground for resources, tourists trade, and a crucible for conservation and preservation. It might be one of the only natural wonders that even hard-core preservationists did not want to see set aside as a national park. The fight to make Mammoth Cave a national park was itself a protracted battle waged in the halls of Congress to the hills of Kentucky. Once established, Mammoth Cave National Park became a contested site as a new generation of environmentalists and cave explorers tried to redefine and expand the definition of wilderness under the Wilderness Act of 1964.

The people closest to the cave—the workers extracting, the guides and surveyors exploring—have developed an up-close and personal relationship with the cave. Many of those who have come intending only to visit have been “bit by the cave bug” and continue coming back again and again, discovering the cave for themselves. These people look, feel, and experience the cave differently than the first-time visitor who may have simply seen a sign on Interstate 65 indicating there was a national park just seven miles from exit 48 and decided to take a tour. The guides and explorers have been critical in building on the knowledge of Mammoth Cave, serving as a human link between the

⁸ Samuel W. Thomas, Eugene H. Conner and Harold Meloy, “A History of Mammoth Cave, Emphasizing Tourist Development and Medical Experimentation under Dr. John Croghan,” *The Register of the Kentucky Historical Society* 68, no. 4 (Oct. 1970): 323.

surface and the underground world, and are the only reason Mammoth Cave is the longest known cave in the world.

Situated almost exactly halfway between Louisville, Kentucky, and Nashville, Tennessee, Mammoth Cave sits in an area of south central Kentucky in what is known to geologists as the Chester Upland.⁹ This area is made of layers of limestone, capped with shale and sandstone. To the southeast of the cave, the Sinkhole Plain pockmarks the Pennyroyal Plateau. Where the sandstone and shale may have been broken over time, water can seep through these sinkholes. Because of this geological setting, known as a karst landscape, there are not many surface streams in the Mammoth Cave region. There is, of course, one major exception. The Green River, which today bisects the national park into northern and southern sections, has been essential to Mammoth Cave's creation.

Geologists can read the natural history of Mammoth Cave in much the same way that historians can read its environmental history by going straight to the sources. Mammoth Cave, like most caves, has been formed by three main factors: unique geologic layers, water, and time. During the Mississippian Era about 300 million years ago, the area now called Kentucky was under a shallow, tropical sea. As shelled organisms in that sea died, they sank to the bottom. Over time, heat and pressure compacted the dead matter into layers of calcium carbonate, limestone.¹⁰ These layers stacked up like a plate of pancakes. As the continent moved and uplifted, the sea receded. A river, which geologists call the Michigan River, brought sand and silt into its delta over Kentucky.

⁹ Arthur N. Palmer, *A Geological Guide to Mammoth Cave National Park* (Teaneck, NJ: Zephyrus Press, 1981), 5.

¹⁰ *Ibid.*, 43, 51, 63.

Those sand and silt deposits hardened into layers of shale and sandstone.¹¹ The sandstone and shale layers act as a roof and shingles over Mammoth Cave. The rock layers are just the first ingredients; it takes water to make a cave.

Like the humans who have visited Mammoth Cave, water spends a temporary time underground and affects the cave in subtle ways that add up to great change. Water's goal is to make it to sea level. As water falls to the earth it picks up carbon dioxide from the air. On the surface in Kentucky, as the water glides past dead leaves of tulip poplar, ash, and oak trees, through decaying animal matter, it picks up more carbon, becoming slightly acidic. Carbonic acid (carbonated water, the same ingredient in soda pop only one-one thousandth the acidity) goes down sinkholes, between layers of limestone, dissolving it on the water's journey to the Green River, to the Ohio River, to the Mississippi River, down to the Gulf of Mexico and into the Atlantic Ocean.¹² Water can change its path through the cave. As the Green River has cut deeper in its valley, the water flowing through the cave had to find new routes through the layers of limestone. When water vacates a passage, gravity might factor into shaping the passages. Layers of limestone now unsupported can collapse, creating even larger passages than before if the floor of an upper chamber sinks into a lower avenue. These breakdown canyons, as they are often called, are a hallmark of Mammoth Cave. However, breakdown can also cut off passages as well. Over millennia, this process created the passages of Mammoth Cave. In fact, the process still continues today. At the lowest levels of Mammoth Cave, Echo River, the River Styx, and other underground rivers continue to carve out passages. Like

¹¹ Ibid., 60.

¹² Ibid., 85.

the explorers and guides, water has been a critical link between the surface and subsurface.

Where water does not flow as a stream but drips from the ceiling, cave formations (speleothems to geologists) such as soda straws, stalactites, stalagmites, and cave bacon might form. As carbonic acid dissolves limestone, it carries a little portion of limestone with it. If that carbonated water “goes flat” like a soda, it loses the carbonation and then deposits the limestone. If the limestone is deposited from the ceiling, it might begin to form a soda straw, and perhaps eventually a stalactite. If the limestone deposits on the ground, it might begin to form a stalagmite. Sometimes the limestone deposits on the ground may form to look like a wall or a dam (often called rimstone), or even like grapes and popcorn. When the deposits look like a waterfall, they are referred to as a flowstone. Possibly the strangest-looking speleothems, helictites, are formed “where the amount of water seeping into a cave is so small that only a thin film adheres to the surface of a speleothem without dripping off.”¹³

As agents of change, water and gravity act either exceedingly slow (on a human time scale) or extremely fast (on a geologic time scale). The same has been true in the human history of Mammoth Cave. Mammoth Cave has never been known for its formations, but for its size. This was what attracted the first modern tourists to the cave and where this story of a contested southern environment and national park begins. Now having situated Mammoth Cave in space, its historiographical setting becomes important.

¹³ Ibid., 120. Helictites might be described as stalactites having a bad hair day. They hang down from the ceiling, but instead of a uniform icicle-like shape, grow back up again in places.

Mammoth Cave fits into several historical conversations, but no one seems to be talking about it. As a southern natural wonder, it fits into southern environmental history, and environmental history writ large. As a national park, it belongs in analyses of the national park idea, the conflicting mandate of national parks, and the federal government as a land manager.

Historians have not neglected the environmental history of the South, especially in recent years. Historians have taken various approaches to the myriad ways southerners have changed the land in the South. Agricultural transformation in the region, for instance, has a history that stretches back for generations.¹⁴ More recently, scholars have turned towards more “traditional” environmental histories of various parts of the South,

¹⁴ See Timothy B. Silver, *A New Face on the Countryside: Indians, Colonists, and Slaves in South Atlantic Forests, 1500-1800* (New York: Cambridge University Press, 1990); Warren R. Hofstra, *The Planting of New Virginia: Settlement and Landscape in the Shenandoah Valley* (Baltimore: Johns Hopkins University Press, 2005); S. Max Edelson, *Plantation Enterprise in Colonial South Carolina* (Cambridge: Harvard University Press, 2006); Mart Stewart, *"What Nature Suffers to Groe": Life, Labor, and Landscape on the Georgia Coast, 1680-1920* (Athens: University of Georgia Press, 1996); Megan Kate Nelson, *Trembling Earth: A Cultural History of the Okefenokee Swamp* (Athens: University of Georgia Press, 2005); Pete Daniel, *Breaking the Land: The Transformation of Cotton, Tobacco, and Rice Cultures since 1800* (Champaign: University of Illinois Press, 1986); Gilbert C. Fite, *Cotton Fields No More: Southern Agriculture 1865-1980* (Lexington: University Press of Kentucky, 1984); James C. Giesen, *Boll Weevil Blues: Cotton, Myth, and Power in the American South* (Chicago: University of Chicago Press, 2011); Melissa Walker, *All We Knew was to Farm: Rural Women in the Upcountry South, 1919-1941* (Baltimore: Johns Hopkins University Press, 2002); Jack Temple Kirby, *Rural Worlds Lost: The American South, 1920-1960* (Baton Rouge: Louisiana State University Press, 1986); Sarah T. Phillips, *This Land, This Nation: Conservation, Rural America, and the New Deal* (New York: Cambridge University Press, 2007); R. Douglas Hurt, *Agriculture and Slavery in Missouri's Little Dixie* (Columbia: University of Missouri Press, 1992); or David Benac, *Conflict in the Ozarks: Hill Folk, Industrialists, and Government in Missouri's Courtois Hills* (Kirksville, MO: Truman State University Press, 2010). As a native of the Missouri Ozarks, the point can be made that the state is more midwestern than southern, but historically these regions within the state have more in common with Appalachia than with corn and wheat plains of the Ohio and Mississippi River valleys.

including wetlands, the Appalachian mountains, plantation landscapes, and different states.¹⁵ These studies lend themselves well to analyzing the variegated natures of the South. Adding Mammoth Cave and how this natural landmark has contoured the history of south-central Kentucky, gives a new dimension to traditionally rural, agricultural environmental histories of the South. Its status as “a candidate for the American version of the Grand Tour” and continual tourist destination as a national park has played a critical role in the development of a regional identity.¹⁶

¹⁵ See Albert E. Cowdrey, *This Land, This South: An Environmental History* (Lexington: University Press of Kentucky, 1983); Jack Temple Kirby, *Mockingbird Song: Ecological Landscapes of the South* (Chapel Hill: University of North Carolina Press, 2008); Paul S. Sutter and Christopher J. Mangienello, eds., *Environmental History and the American South* (Athens: University of Georgia Press, 2009); Jack Temple Kirby, *Poquosin: A Study of Rural Landscape & Society* (Chapel Hill, University of North Carolina Press, 1995); Avery O. Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1880* (Urbana: University of Illinois Press, 1926); Paul S. Sutter, *Let Us Now Praise Famous Gullies: Providence Canyon and the Soils of the South* (Athens: University of Georgia Press, 2015); Timothy B. Silver, *Mount Mitchell and the Black Mountains: An Environmental History of the Highest Peaks in Eastern America* (Chapel Hill: University of North Carolina Press, 2003); Donald Edward Davis, *Where There Are Mountains: An Environmental History of the Southern Appalachians* (Athens: University of Georgia Press, 1999); Scott Weidensaul, *Mountains of the Heart: A Natural History of the Appalachians* (Golden, CO: Fulcrum Publishing, 1994); Kathryn Newfont, *Blue Ridge Commons: Environmental Activism and Forest History in Western North Carolina* (Athens: University of Georgia Press, 2012); Susan L. Yarnell, *The Southern Appalachians: A History of the Landscape* (Asheville, NC: U.S. Forest Service, 1998); Drew Swanson, *Remaking Wormsloe Plantation: The Environmental History of a Lowcountry Landscape* (Athens: University of Georgia Press, 2012); Lynn A. Nelson, *Pharsalia: An Environmental Biography of a Southern Plantation, 1780-1880* (Athens: University of Georgia Press, 2007); Albert G. Way, *Conserving Southern Longleaf: Herbert Stoddard and the Rise of Ecological Land Management*; Mark D. Hersey, *My Work is That of Conservation: An Environmental Biography of George Washington Carver* (Athens: University of Georgia Press, 2012); Christopher J. Manganiello, *Southern Water, Southern Power: How the Politics of Cheap Energy and Water Scarcity Shaped a Region* (Chapel Hill: University of North Carolina Press, 2015), among others.

¹⁶ Katie Algeo, “Mammoth Cave and the Making of Place,” *Southeastern Geographer* 44, no. 1 (2004): 32.

This is not surprising. Historians have analyzed how both visitors and hosts contribute to creating and reinforcing cultural identities, for better or for worse. Southern historians have paid particular attention to non-southerners' ideas about the South, and a few have analyzed southerners' own ideas about the South and its people.¹⁷ Mammoth Cave is rife with examples of both southerners' and non-southerners' takes on the cave and its surroundings, and how expectations do not always meet with realities of a visit or experience. The transformation of Mammoth Cave into a national park, and the expectations and challenges that come along with such a recognized status also put this dissertation into a large historiography of national parks.

National parks have attracted a wide range of histories ranging from studies of the national parks as a system to histories of individual parks, from examinations of the “golden age” of park preservation to the politics of public memory in a multitude of landscapes, from landscape design in parks to the social consequences of establishing

¹⁷ See, for example, Marguerite Shaffer, *See America First: Tourism and National Identity, 1880-1940* (Washington, DC: Smithsonian Institution Press, 2001); Rebecca Cawood McIntyre, *Souvenirs of the Old South: Northern Tourism and Mythology* (Gainesville: University Press of Florida, 2011); Richard Starnes, ed., *Southern Journeys: Tourism, History, and Culture in the Modern South* (Tuscaloosa: University of Alabama Press, 2003); Anthony J. Stanonis, ed., *Dixie Emporium: Tourism, Foodways, and Consumer Culture in the American South* (Athens: University of Georgia Press, 2008); Karen L. Cox, *Destination Dixie: Tourism and Southern History* (Gainesville: University Press of Florida, 2012); Aaron K. Ketchell, *Holy Hills of the Ozarks: Religion and Tourism in Branson, Missouri* (Baltimore: Johns Hopkins University Press, 2007); Brooks Blevins, *Arkansas/Arkansaw: How Bear Hunters, Hillbillies, and Good Ol' Boys Defined a State* (Fayetteville: University of Arkansas Press, 2009); Lynn Morrow and Linda Myers-Phinney, *Shepherd of the Hills Country: Tourism Transforms the Ozarks* (Fayetteville: University of Arkansas Press, 1999); Richard D. Starnes, *Creating the Land of the Sky: Tourism and Society in Western North Carolina* (Tuscaloosa: University of Alabama Press, 2003); C. Brenden Martin, *Tourism in the Mountain South: A Double-Edged Sword* (Knoxville: University of Tennessee Press, 2007).

these public lands.¹⁸ Overwhelmingly, national park studies focus on the American West, and understandably so, given that the first national parks were carved out of the public domain in that half of the continent.

¹⁸ System-wide studies of the parks include John Muir, *Our National Parks* (Boston: Houghton, Mifflin & Co., 1901); Alfred Runte, *National Parks: The American Experience* (Lincoln: University of Nebraska Press, 1989); Dwight Fay Retie, *Our National Park System: Caring for America's Greatest Natural and Historic Treasures* (Urbana: University of Illinois Press, 1995); Kathy Mason, *Natural Museum: U.S. National Parks, 1872-1916* (East Lansing: Michigan State University Press, 2004); Janet McDonnell and Barry Mackintosh, *The National Parks: Shaping the System* (Washington, DC: Government Printing Office, 2005). Ethan Carr is the best source on landscape design and the role of designers in the National Park Service to create the scenic views national parks are known for; see *Wilderness by Design: Landscape Architecture and the National Park Service* (Lincoln: University of Nebraska Press, 1998), *Mission 66: Modernism and the National Park Dilemma* (Amherst: University of Massachusetts Press, 2007), and with Shaun Eyring and Richard Guy Wilson, eds., *Public Nature: Scenery, History, and Park Design* (Charlottesville: University of Virginia Press, 2013). Notable histories of individual parks include Runte, *Yosemite: The Embattled Wilderness* (Lincoln: University of Nebraska Press, 1990); Chris J. Magoc, *Yellowstone: The Creation and Selling of an American Landscape, 1870-1903* (Albuquerque: University of New Mexico Press, 1999); Brian C. Kalt, *Sixties Sandstorm: The Fight over the Establishment of Sleeping Bear Dunes National Lakeshore, 1961-1970* (East Lansing: Michigan State University Press, 2001); Jerry J. Frank, *Making Rocky Mountain National Park: The Environmental History of an American Treasure* (Lawrence: University Press of Kansas, 2013); Jen A. Huntley, *The Making of Yosemite: James Mason Hutchings and the Origin of America's Most Popular National Park* (Lawrence: University Press of Kansas, 2011). The social implications of national parks generally deal with relations between the United States government and various Native American groups, as seen in Mark David Spence, *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (New York: Oxford University Press, 1999); Robert H. Keller and Michael Turek, *American Indians & National Parks* (Tucson: University of Arizona Press, 1998); Joel C. Janetski, *Indians of Yellowstone National Park* (Salt Lake City: University of Utah Press, 2002); Peter Nabokov and Lawrence L. Loendorf have addressed the more modern trend of including Native American presence in the first national park in *Restoring a Presence: American Indians and Yellowstone National Park* (Norman: University of Oklahoma Press, 2004); Karl Jacoby researched disruptions that park proponents and officials had on trappers and hunters in *Crimes against Nature: Squatters, Poachers, and Thieves and the History of American Conservation* (Berkeley: University of California Press, 2001); Louis Warren's *The Hunter's Game: Poachers and Conservationists in Twentieth-Century America* (New

It has only been in recent years that historians have turned their gaze eastward to the second-generation of parks like Great Smoky Mountains, Shenandoah, and Everglades National Parks.¹⁹ Regrettably, historians in recent years have yet to go under the surface environment to examine Mammoth Cave National Park in Kentucky. This is regrettable, because Mammoth Cave has been an important site in the creation of environmental knowledge. The land use decisions based on that knowledge have shaped the history of an entire region within the Commonwealth of Kentucky. Owing to its geology, the Mammoth Cave neighborhood has had limited agricultural potential beyond subsistence farming. Centered in the South, where agriculture has provided the basis of the economy, Mammoth Cave stands as an outlier. The people who lived in the Mammoth Cave area found other ways to engage in emerging market economies.

To be sure, historians have examined a saltpeter mining operation at Mammoth Cave preceding and during the War of 1812.²⁰ A couple of historians have engaged the

Haven: Yale Historical Publications, 1997), especially chapter five on white hunters and Blackfoot Indians contesting the federal government's authority at Glacier National Park.

¹⁹ See Sara M. Gregg, *Managing the Mountains: Land Use Planning, the New Deal, and the Creation of a Federal Landscape in Appalachia* (New Haven: Yale University Press, 2010); Daniel S. Pierce, *The Great Smokies: From Natural Habitat to National Park* (Knoxville: University of Tennessee Press, 2000); Margaret Lynn Brown, *The Wild East: A Biography of the Great Smoky Mountains* (Tallahassee: University Press of Florida, 2000); Jack E. Davis, *An Everglades Providence: Marjory Stoneman Douglas and the American Environmental Century* (Athens: University of Georgia Press, 2009); David McNally, *The Everglades: An Environmental History* (Gainesville: University Press of Florida, 1999), Anne Mitchell Whisnant, *Super-Scenic Motorway: A Blue Ridge Parkway History* (Chapel Hill: University of North Carolina Press, 2010), among others.

²⁰ See Burton Faust, "The History of Saltpeter Mining in Mammoth Cave, Kentucky," pts. 1-7 *The Filson Club Historical Quarterly* 41 (1967): 5-20; 127-140; 227-262; 323-352; Angelo I. George and Gary A. O'Dell, "The Saltpeter Works at Mammoth Cave and the New Madrid Earthquake," *The Filson Club Historical Quarterly* 66, no. 1

nineteenth century experience: John F. Sears' examination of the role of romanticism at Mammoth Cave (in addition to Niagara Falls, Mount Auburn cemetery, and other nineteenth century tourist attractions) was among the first ventures for academic historians underground.²¹ Building from that, Peter West analyzed the role of slavery at Mammoth Cave and visitors' experiences underground with enslaved guides as an important way of crafting a nineteenth century racial imagination.²² Jeanne C. Schmitzer's master's thesis on African American life and experiences at Mammoth Cave is crucial to understanding Mammoth Cave history.²³ Recently, Judy Kertesz wrote a dissertation centered on the "Mammoth Cave Mummy," a preserved body of a Woodland era woman that was found in the saltpeter mining days, and how white scientists and speculators began to use this and other Native remains as "both natural and national

(January 1992): 5-22; Angelo I. George, *The Saltpeter Empires of Great Saltpetre Cave and Mammoth Cave* (Louisville: H. M. I. Press, 2001); George, *Mammoth Cave Saltpeter Works* (Louisville: H. M. I. Press, 2005); Duane DePaepe, *Gunpowder from Mammoth Cave: The Saga of Saltpetre Mining Before and During the War of 1812* (Dayton, OH: Cave Books, 2013).

²¹ John F. Sears, *Sacred Places: American Tourist Attractions in the Nineteenth Century* (Amherst: University of Massachusetts Press, 1989): 31-48.

²² Peter West, "Trying the Dark: Mammoth Cave and the Racial Imagination, 1839-1869," *Southern Spaces*, February 9, 2010, accessed November 14, 2014, <http://southernspaces.org/2010/trying-dark-mammoth-cave-and-racial-imagination-1839-1869/>.

²³ Jeanne C. Schmitzer, "The Black Experience at Mammoth Cave, Edmonson County, Kentucky, 1838-1942" (M.A. thesis, University of Central Florida, 1996).

resources.”²⁴ These studies treat Mammoth Cave as backdrop, rather than as a character worthy of development.

Geographer Katie Algeo has written one of the more important works related to the overall history of Mammoth Cave, arguing that the 200 years of touring the cave has made it a “cultural production,” and a “national icon,” not just a natural wonder.²⁵

Algeo’s continued research of the Mammoth Cave region has included examining late nineteenth and early twentieth century topics, including African American tourism to Mammoth Cave, an unusual mushroom growing venture in the passages of the cave, turn-of-the-century trustee and manager of the Mammoth Cave estate, Albert Janin.²⁶

Algeo’s works help to paint an impressionist picture of Mammoth Cave. Judging Mammoth Cave history from afar, as she does in “Mammoth Cave and the Making of Place,” Algeo captures a remarkable scene. Algeo’s specialized topics, although they are interesting, do not always convey some of the overall themes of Mammoth Cave history, which will be explored here.

²⁴ Judy Kertesz, “Skeletons in the American Attic: Curiosity, Science and the Appropriation of the American Indian Past” (Ph.D. dissertation, Harvard University, 2012).

²⁵ Katie Algeo, “Mammoth Cave and the Making of Place,” *Southeastern Geographer* 44, no. 1 (2004): 27-47.

²⁶ Algeo, “Underground Tourists/Tourists Underground: African American Tourism to Mammoth Cave,” *Tourism Geographies* 15, no. 3 (2013): 380-404; “Underground Farming: The Historical Geography of Cave Mushroom Production,” 2015 Annual Meeting of the Agricultural History Society, Lexington, Kentucky; “The Puzzling Mr. Janin and Mammoth Cave Management, 1900-1910,” in *Proceedings of the Max Kaemper Centennial Symposium and the 9th Science Symposium, Mammoth Cave, Kentucky, Oct. 9, 2008* (Bowling Green, KY: Western Kentucky University), http://digitalcommons.wku.edu/mc_research_symp/9th_Research_Symposium_2008/Day_one/5.

For the most part, histories of Mammoth Cave have been taken up by non-historians, or at least, non-academic historians.²⁷ Most who have written about aspects of Mammoth Cave's history have been people with direct connections to the cave as either guides or volunteer explorers. Roger Brucker, a founding member of the Cave Research Foundation, has co-written several pertinent works related to exploration of Mammoth Cave.²⁸ Along with Roger K. Murray, Brucker wrote the definitive account of Floyd Collins, a local cave owner who became trapped while exploring a cave.²⁹ Collins' s entrapment and the rescue effort that followed was one of the top human-interest stories of 1925 and served as an important milestone in the effort to make Mammoth Cave and the surrounding area a national park. Stan Sides, a physician and cave owner and explorer, has contributed to the medical history of Mammoth Cave in his study of a failed tuberculosis hospital in the 1840s.³⁰ Colleen O'Connor Olson, a long-time guide, is probably the most prolific author on various subjects at Mammoth Cave, including the

²⁷ That is not to diminish the stories they have told and continue to tell, but these histories have rarely put Mammoth Cave and the national park effort in a context of national park and southern history.

²⁸ See Roger W. Brucker and Richard A. Watson, *The Longest Cave* (New York: Alfred A. Knopf, 1976); and Joe Lawrence, Jr. and Roger W. Brucker, *The Caves Beyond: The Story of the Floyd Collins' Crystal Cave Exploration* (Dayton, OH: Cave Books, 2005).

²⁹ Robert K. Murray and Roger W. Brucker, *Trapped! The Story of Floyd Collins* (Lexington: The University Press of Kentucky, 1982).

³⁰ Stanley D. Sides and Harold Meloy, "The Pursuit of Health in the Mammoth Cave," *Bulletin of the History of Medicine* 45, no. 4 (Jul.-Aug. 1971): 367-379. For more on the tuberculosis hospital and John Croghan's role at Mammoth Cave, see Samuel W. Thomas, Eugene H. Conner, and Harold Meloy, "A History of Mammoth Cave, Emphasizing Tourist Development and Medical Experimentation under Dr. John Croghan," *The Register of the Kentucky Historical Society* 68, no. 4 (Oct. 1970): 319-340.

nineteenth-century experience of visitors, archaeology, and the Mammoth Cave Railroad.³¹ David Kem, a former guide, has written on the Kentucky Cave Wars and their role in turning Mammoth Cave into a national park.³² Local historians have authored general histories on photographers at Mammoth Cave and the Mammoth Cave hotel and estate, and the people of the Mammoth Cave neighborhood.³³ Joy Medley Lyons, late supervisor of guides at Mammoth Cave, wrote an accessible work similar to Schmitzer's on African Americans' roles in shaping Mammoth Cave.³⁴

Everyone who goes through Mammoth Cave understands and experiences it a little differently than the person next to them. The same is true with the history of Mammoth Cave. The varied authors of Mammoth Cave's histories fits well with a theme throughout the following dissertation: those with the up-close, day-to-day interaction with the cave come at the subject with a passion that is not always present in academe,

³¹ Colleen O'Connor Olson, *Mammoth Cave Curiosities: A Guide to Rockphobia, Dating, Saber-toothed Cats, and Other Subterranean Marvels* (Lexington: University Press of Kentucky, 2017); *Nine Miles to Mammoth Cave: The Story of the Mammoth Cave Railroad* (Dayton, OH: Cave Books, 2012); *Mammoth Cave by Lantern-Light: Visiting America's Most Famous Cave in the 1800s* (Dayton, OH: Cave Books, 2010); *Prehistoric Cavers of Mammoth Cave* (Dayton, OH: Cave Books, 2004).

³² David Randolph Kem, *The Kentucky Cave Wars: The Century that Shaped Mammoth Cave National Park* (Cave City, KY: by the author, 2014)

³³ See Norman Warnell, *Mammoth Cave: Forgotten Stories of Its People* (Fort Washington, PA: Eastern National, 2006); Richard Hobart and Bob Thompson, *The Mammoth Cave Estate in Historical Photographs* (Mammoth Cave, KY: by the author, 2013); Bob Thompson, *Photographers of the Mammoth Cave Region: 150 Years of Cave Photography* (Mammoth Cave, KY: by the author, 2014); Bob and Judi Thompson, *Mammoth Cave and the Kentucky Cave Region* (Charleston, SC: Arcadia Publishing, 2003).

³⁴ Joy Medley Lyons, *Making Their Mark: The Signature of Slavery at Mammoth Cave* (Fort Washington, PA: Eastern National, 2006).

yet both build from each other to form a basis of knowledge for Mammoth Cave, and perhaps an appreciation for it as well. Geology, water, and time created the physical Mammoth Cave, but people have changed the cave through the knowledge they acquired and their experiences in cave country. These changes came large and small, fast and slow, based on the knowledge and changing attitudes towards that knowledge. The story unfolds mostly chronologically. Katie Algeo identified five eras of Mammoth Cave history, and this largely fits that mold.³⁵ The chapters will take turns going underground, so to speak, but always coming back to the surface.

Chapter two explores the first “modern” era of knowledge and use of Mammoth Cave—tourism in the antebellum period. The tourism era at Mammoth Cave began in earnest in 1816 after a period of saltpeter mining before and during the War of 1812. As guides, including enslaved African Americans, explored more of the cave and found miles more passages, tours began to take a more definitive turn. During the nineteenth century visitors from Europe and the United States traveled through Mammoth Cave along with their guides, gaining knowledge of the cave by using their senses and spreading that knowledge through travel narratives. Guides named landmarks in the cave such as the Giant’s Coffin, Echo River, the Snowball Room, and Fat Man’s Misery, all of which suggested sights, sounds, and a physical nature to the trip through Mammoth Cave. The exploitation of the caves and mining of tourist dollars gave new meaning to the

³⁵ Algeo’s identified eras include resource extraction (early 1800s), scenic tourism (1810-1850s), mass tourism (1870s-1920s), nationalization (1920s-1940s), and environmentalism (1960s-present). The chapters of this dissertation expand on these eras and complicate her narrative. Algeo, “Mammoth Cave and the Making of Place,” 27.

discovery of new caves nearby Mammoth—perhaps instead of a hindrance to farming, cave owners could harvest tourist profits.

Chapter three looks at the dawn of the Kentucky Cave Wars, an intense period of competition between rival cave owners against Mammoth Cave. Postbellum changes impacted the Mammoth Cave experience—most significantly the ending of slavery. Cave guides, now free men who chose to stay in the neighborhood, used the cave as a way to build and support their community. New technologies and new visitors reconstructed the Mammoth Cave experience. Competing knowledge of locals and science-minded individuals, new technologies to spread the cave experience, and a growing tourism industry in America spurred the Kentucky Cave Wars during the late-nineteenth century.

Chapter four chronicles the rise of the automobile and new entrants into the Cave Wars, which turned rivalries into cutthroat competition in the twentieth century. Fragile cave formations could fall victim to vandals working on behalf of other caves, or to the souvenir seller at the entrance. Men lost their lives in the pursuit of fortune during the Cave Wars, which crystallized support for a national park at Mammoth Cave.

The story of Mammoth Cave National Park's creation has been told in a celebratory tone, but it deserves a more critical look.³⁶ The National Park Service has taken much criticism in national park histories, but this oversimplifies the Mammoth Cave National Park story.³⁷ The federal government was a reluctant participant for

³⁶ Cecil E. Goode, *World Wonder Saved: How Mammoth Cave Became a National Park* (Mammoth Cave: Mammoth Cave National Park Association, 1986).

³⁷ Algeo, Warnell, and Brucker have been critical of the park creation effort at Mammoth Cave, particularly the role of the National Park Service. See also Spence, *Dispossessing the Wilderness*; Jacoby, *Crimes against Nature*; Mark W. T. Harvey, *A*

Mammoth Cave National Park's creation until the New Deal era. This park-making era involved essentially three goals: getting the park legislation through Congress, acquiring caves and lands, and transforming privately owned farm land into a "national park" looking landscape. This story will be told over two chapters.

Chapter five examines the fight to make Mammoth Cave a national park, from the halls of Washington to the hills of Kentucky. Some Progressive Era Kentuckians saw the Cave Wars as a threat to the overall reputation of the Commonwealth, and saw a threat to the public if Mammoth Cave continued to remain in the hands of a single owner. They organized the Mammoth Cave National Park Association and began the campaign to turn Mammoth Cave into a national park. They met resistance at nearly every turn. The very idea of a cave being a national park drew criticism from at least one leading preservationist, Robert Sterling Yard, but the thought of the well-trod, well-known Mammoth Cave seemed to counter ideas of many as to what national parks should be. Getting the legislation passed for the creation of Mammoth Cave National Park turned out to be much easier than the actual acquisition of nearly 53,000 acres of privately-owned land and caves. The Mammoth Cave National Park Association did not work alone; Kentucky's state government organized the Kentucky National Park Commission to condemn lands for presumably easier acquisition. Here, cave owners' knowledge of what they owned underground came into play. Eventually, the federal government stepped in for the remainders, but the inability of the park promoters to acquire two of the

Symbol of Wilderness: Echo Park and the American Conservation Movement (Seattle: University of Washington Press, 1994).

primary caves around Mammoth Cave may have been one of the most significant failures of the campaign.

Chapter six examines the transition of Mammoth Cave from private hands into public ownership, and the results of federal intervention in cave country. Those affected by the coming of the national park made their protests known on the landscape, in newspapers, and in the courtrooms. The introduction of New Deal workers, primarily the Civilian Conservation Corps, at Mammoth Cave and a skeleton staff of National Park Service (NPS) officials faced antagonism from the local community. Important discoveries inside of Mammoth Cave hastened the park's creation against this opposition, but not without lingering bitterness that would affect later preservation efforts.

Chapter seven looks at how the NPS began to manage and preserve Mammoth Cave in the postwar period. The National Park Service's competing mandate of resource preservation and providing enjoyment of those resources has been an ongoing struggle since the 1916 creation of the NPS. Unlike private owners who could do whatever they wanted with caves, public ownership at Mammoth Cave brought the public to the conversation, and thus conflicting ideas about how the park and cave should be managed and preserved. The postwar period has been examined as one of the most trying times for preservation as returning veterans and their families swarmed into national parks, national forests, and new recreation areas.³⁸ While the parking lots at Mammoth Cave

³⁸ See Carr, *Mission 66*; Harvey, *A Symbol of Wilderness*; Richard West Sellars, *Preserving Nature in National Parks: A History* (New Haven, CT: Yale University Press, 1997); George B. Hartzog, Jr. *Battling for the National Parks* (Mt. Kisco, NY: Moyer Bell Limited, 1988); Clayton R. Koppes, Gerald D. Nash, and Harold L. Burstyn, "Environmental Policy and American Liberalism: The Department of the Interior, 1933-1955," *Environmental Review* 7, no. 1 (Spring 1983): 17-53; Robert B. Keiter, *To*

grew crowded and the Park Service attempted to balance preservation and development for the enjoyment of the visiting public, underground explorers were pushing the cave's known extent to new lengths. At Mammoth Cave, three great forces converged: one of Lyndon Johnson's Great Society social programs, the Wilderness Act of 1964, and the National Park Service's long-term planning program, "Mission 66." The CRF's new knowledge pushed a new generation of environmentalists and preservationists to campaign to expand the definition of wilderness to include caves at Mammoth Cave National Park.

Chapter eight concludes with a look at the cave and the park since the 1974 recommendation against a wilderness designation (surface or underground) at Mammoth Cave National Park, future challenges for the park, and the possibilities for further research and knowledge of Mammoth Cave.

Conserve Unimpaired: The Evolution of the National Park Idea (Washington, DC: Island Press, 2002).

CHAPTER II
SENSING KNOWLEDGE: ANTEBELLUM VISITORS EXPERIENCE MAMMOTH
CAVE, 1800-1865

In 1851 German composer and conductor Julius Benedict, on an American tour with Swedish singer Jenny Lind, found himself gazing into an abyss. More than two hundred feet underground, Benedict, Lind, and their company were visiting Mammoth Cave, Kentucky. Their guide, Stephen, lit a piece of magnesium paper and let it drift down, deeper and deeper, until the glowing light faded into darkness. Staring into the depths below, Benedict attempted to make out the craggy features that lined the pit. Though accompanied by several companions, Benedict stood transfixed, alienated from his friends and from the world. He later recalled the sensations he felt as he looked into

[T]he unfathomable space below—the unnatural features...and the awful silence that reigns around, unbroken, save by the whispers and muttered observations of the party which stands almost lost in the gloom of the silent cavern, give it a character of extreme and unutterable solemnity.³⁹

By the time he reached and crossed over the “Bottomless Pit,” Benedict and his party had passed through avenues forty feet tall and nearly as wide, heard water dripping into shallow pools, and observed strange stalactites and stalagmites “wreathed with tracery cluster along its sides,” and a natural pulpit decorated with “tangled ornaments

³⁹ Julius Benedict, “Made. Jenny Lind’s Visit to the Mammoth Cave,” in Horace Martin, *Pictorial Guide to the Mammoth Cave, Kentucky* (New York: Stringer & Townsend, 1851), 12.

and appears ready for the preacher.” At the Bottomless Pit, he was sure he had witnessed “the earthly entrance to a spiritual Hades...”⁴⁰

Benedict was not alone in his astonishment and awe. Between 1816 and the end of the nineteenth century, hundreds of visitors wound their way through the great cave in south central Kentucky. Visiting Mammoth Cave was more than a leisurely stroll. Tours were a challenging (at times grueling) adventure for the senses. Those who made the trip often recorded their experiences in travel writings, newspaper articles, and scientific journals, making Mammoth Cave as well-known in antebellum America as Niagara Falls or the Great Pyramids of Giza.

Accounts like those of Benedict at this time speak volumes about the way southerners and non-southerners, Americans and foreigners alike came to know and understand this unique southern environment and place. Visitors, be they scientists or pleasure-seekers, knew the cave from seeing, hearing, touching, smelling, and even tasting their way through it. Their experiences, disseminated as travel narratives or in journals, informed others what they should expect on their own visit. These narratives also influenced the ways the cave owners and guides exhibited the natural wonder to replicate and standardize the Mammoth Cave experience. More than that, these early visitors who popularized the cavern helped to put Mammoth Cave on a pathway towards preservation, first at a local, private level, and then after 1941 as a national park.

Visitors’ knowledge of the cave depended on those most intimately connected to it: the guides who explored labyrinthine passages and led the tours, and the owners and managers who built transportation and tourism infrastructure. From roughly 1837 to

⁴⁰ Ibid., 11.

1860, the guide force consisted of enslaved African American men. Their pathways to freedom and their families' futures intertwined with Mammoth Cave's passages. Ironically, enslaved men held the key to knowledge of the cave. The owners of the cave (two of whom owned or leased the enslaved guides) trusted these men to wield this power, even when they did not have faith in others. The managers financed road projects, built lodging, and furnished stagecoaches to bring more guests to the cave.

Mammoth Cave fits into a literature of work and leisure and of locals' performance set against tourists' expectations.⁴¹ The owners, guides, and visitors had a codependent relationship. Owners relied on guides to explore the cave and show visitors through the darkness, and guides relied on owners to bring visitors to the cave, from whom they earned either a salary (in the case of free guides) or tips (which even the enslaved guides were allowed to receive). Visitors relied upon the owners for lodging and hospitality, and on guides for their knowledge and entertainment.

Mammoth Cave was a prominent landmark during the Romantic era, when "tourist travel was dominated by a genteel elite...when the categories of the sublime and

⁴¹ See Bryant Simon, *Boardwalk of Dreams: Atlantic City and the Fate of Urban America* (New York: Oxford University Press, 2004); Simon Coleman and Mike Crang, eds. *Tourism: Between Place and Performance* (New York: Berghen Books, 2002); Jane Desmond, *Staging Tourism: Bodies on Display from Waikiki to Sea World* (Chicago: University of Chicago Press, 1999); Tim Edensor, "Staging Tourism: Tourists as Performers," *Annals of Tourism Research* 27, no. 2 (April 2000): 322-344; Tim Edensor, "Performing Tourism, Staging Tourism: (Re)producing Tourist Space and Practice" *Tourist Studies* 1, no. 1 (June 2001): 59-81; Connie Y. Chiang, *Shaping the Shoreline: Fisheries and Tourism on the Monterey Coast* (Seattle: University of Washington Press, 2008); Paul Outka, *Race and Nature: From Transcendentalism to the Harlem Renaissance* (New York: Palgrave Macmillan, 2008).

the picturesque...shaped the way tourists viewed the landscape.”⁴² Most of the extant recollections from visitors to the cavern reflect notions of the sublime that appeared in paintings and literature.⁴³ Unlike Niagara Falls or the Hudson River Valley, however, Mammoth Cave’s beauty was not as easily seen or immediately recognized. For many Easterners, Mammoth Cave was far south and west, distanced from the center of population. Limited transportation networks, a hodgepodge of steamboats, limited rail service, and stagecoaches made travel to the interior of the country difficult for those who did not have the time or money to travel long distances. Surface scenery could be described as “wild and beautiful,” as an 1844 guidebook to the cave boasted, but might not impress those who had seen mighty rivers like the Hudson, grand vistas in the Adirondacks, or a sunrise over Horseshoe Falls at Niagara.⁴⁴ Mammoth’s beauty was underground, silent, and in the dark, damp, fifty-four degrees Fahrenheit air. To see even a modicum of beauty required access, lights, and energy.

Tourism was not the first use of the giant Kentucky cave. Before it was mined for the sublime, Mammoth Cave was mined for resources. In the late archaic and early

⁴² John F. Sears, *Sacred Places: American Tourist Attractions in the Nineteenth Century* (New York: Oxford University Press, 1989), 10.

⁴³ See Sears, *Sacred Places*; Gina Crandell, *Nature Pictorialized: ‘The View’ in Landscape History* (Baltimore: Johns Hopkins University Press, 1993); Bruce Greenfield, *Narrating Discovery: The Romantic Explorer in American Literature, 1790-1855* (New York: Columbia University Press, 1992); Roderick Frazier Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1967); Timothy M. Costelloe, ed. *The Sublime: From Antiquity to the Present* (New York: Cambridge University Press, 2012); Barbara Novak, *Nature and Culture: American Landscape and Painting, 1825-1875* (New York: Oxford University Press, 2007).

⁴⁴ Alexander Clark Bullitt, *Rambles in the Mammoth Cave, During the Year 1844, By a Visitor* (Louisville: Morton & Griswold, 1845), vii.

woodland periods, people took minerals such as Epsom salts (sodium nitrate) and gypsum (calcium sulfate) from the cave. These ancient people were the first discoverers and explorers of the cavern; for some 2500 years these peoples climbed some of the same stones and saw the same sights that tourists would later illuminate in prose. European Americans and African Americans found evidence such as stone tools, shoes woven from plant fibers, and a plethora of torch sticks in over four miles' worth of passages, which many visitors also noted. Anthropologists and cavers have found torch sticks and footprints even in places thought to be previously unknown.⁴⁵ Anthropologists and archaeologists are better equipped to discuss these ancients' achievements; thus, this examination of caves uses begins at the turn of the nineteenth century.⁴⁶

More recent usage of the cave stems from another mineral prevalent in the cave, calcium nitrate, which could be chemically altered into saltpeter (potassium nitrate), a key ingredient in gunpowder.⁴⁷ In 1798, surveyors listed Mammoth Cave as one of two

⁴⁵ Brucker and Watson, *The Longest Cave*, 70.

⁴⁶ See Louise M. Robbins, "A Woodland 'Mummy' from Salts Cave, Kentucky," *American Antiquity* 36 (1971): 200-206; Patty Jo Watson, "Prehistoric Miners of Salts Cave, Kentucky," *Archaeology* 19 (1966): 237-243; Patty Jo Watson, ed. *The Archaeology of the Mammoth Cave Area* (New York: Academic Press, 1974); George Crothers, "Early Woodland Ritual Use of Caves in Eastern North America," *American Antiquity* 77 (2012): 524-541; David H. Dye, ed. *Cave Archaeology of the Eastern Woodlands: Essays in Honor of Patty Jo Watson* (Knoxville: University of Tennessee Press, 2008). There is little information relating to Native American use of Mammoth Cave, a significant gap in the historical record.

⁴⁷ Mammoth Cave's mining history has been fairly well documented. See, for instance, Burton Faust, "The History of Saltpeter Mining in Mammoth Cave, Kentucky" *The Filson Club History Quarterly* 41 (1967): 5-20, 127-140, 227-262, 323-352; Angelo I. George and Gary A. O'Dell, "The Saltpeter Works at Mammoth Cave and the New Madrid Earthquake," *The Filson Club History Quarterly* 66, no. 1 (January 1992): 5-22; Marsha A. Mullins, "Mammoth Cave Saltpeter Works," *Historic American Engineering Record No. KY-18* (Washington, DC: National Park Service, Historic American

saltpeter caves on a 200-acre plot of land sold to one Valentine Simons, the first private owner of the cave.⁴⁸ In 1806 Dr. Samuel Brown of Transylvania University in Lexington, Kentucky, traveled to the American Philosophical Society in Philadelphia to report on the nitrate-rich caverns in the Commonwealth.⁴⁹ American saltpeter became an important commodity as tensions heightened between Britain and the United States in the years leading up to and during the War of 1812. By the time of the war, the cave had changed hands from local ownership to merchant Hyman Gratz of Philadelphia, and saltpeter dealer Charles Wilkins of Lexington, intent on capitalizing on the high price of saltpeter.⁵⁰ The two men transformed the previous saltpeter operations from subsistence-style practiced by early settlers into a commercial operation on a large scale.⁵¹ In 1814 Wilkins and Gratz contracted with E. I. DuPont for \$20,000 to supply saltpeter to his

Engineering Record, 1986); Duane DePaepe, *Gunpowder from Mammoth Cave: The Saga of Saltpetre Mining Before and During the War of 1812* (Hays, KS: Cave Pearl Press, 1985); Angelo I. George, *The Saltpeter Empires of Great Saltpetre Cave and Mammoth Cave* (Louisville: H.M.I. Press, 2001); and Angelo I. George, *Mammoth Cave Saltpeter Works* (Louisville: H.M.I. Press, 2005).

⁴⁸ Willard Rouse Jillson, *The Kentucky Land Grants: A Systematic Index to All of the Land Grants Recorded in the State Land Office at Frankfort, Kentucky 1782-1924* (Louisville: Standard Printing, Inc., 1925), 412; Harold Meloy, "A Short Legal History of Mammoth Cave," Mammoth Cave National Park Vertical Files.

⁴⁹ Samuel Brown, "A Description of a Cave on Crooked Creek, with Remarks and Observations on Nitre and Gun-Powder," *Transactions of the American Philosophical Society* 6 (1809): 235-247.

⁵⁰ Duane DePaepe, *Gunpowder from Mammoth Cave*, 10.

⁵¹ *Ibid.*, 17.

gunpowder factories on the Brandywine River, which he produced and sold to the United States.⁵²

Salt peter mining at Mammoth Cave involved teams of enslaved men working various tasks. As far as two miles into the cave, men were digging cave soil, filling ox-drawn wagons, and driving the carts to sets of “hoppers” located closer to the entrance. Enslaved men had built the hoppers, essentially wooden boxes three feet high and twelve feet square.⁵³ The hoppers, or leaching vats, worked similarly to a home coffee-maker, except with more manual labor. Men shoveled the wagonloads of dirt into the hoppers, poured water from the cave entrance’s spring over the dirt. The muddy mixture that contained the calcium nitrate of the soil, often known as niter liquor or beer, filtered into a trough. From the trough, other men operated hand pumps to draw the liquor upward to be sent out of the cave through a pipeline of hollowed-out tulip poplar trees.⁵⁴ On the surface, more enslaved workers boiled the solution in furnaces to evaporate the water. Later, they mixed in potash to chemically alter the calcium nitrate into potassium nitrate. Once dry, the final step was for the enslaved men to pack salt peter onto mule-drawn wagons that took the gunpowder ingredient to DuPont’s factories.⁵⁵ The operation continued twenty-four hours each day, seven days a week, although it is unclear how

⁵² Horace Carter Hovey, “Mammoth Cave, Kentucky,” *Journal of the American Geographical Society of New York* 23 (1891): 55.

⁵³ George, *Mammoth Cave Salt peter Works*, 22.

⁵⁴ *Ibid.*, 22-23.

⁵⁵ *Ibid.*, 26-27.

many hours per day each man worked.⁵⁶ There was always work to be done: dirt to dig, mud to remove from the hoppers, trees to fell for the furnace fires, hollowing out poplars with a spoon bit augur to replace segments of the pipeline, or finding more nitrate-rich dirt. Their efforts failed to produce enough saltpeter, however, causing Wilkins and Gratz to lose the contract with DuPont, mostly due to circumstances beyond their control.

Historian Angelo George identifies four main problems for the Mammoth Cave operation. One, the New Madrid earthquakes of 1811 and 1812 nearly destroyed the saltpeter works. Two, overland shipping could not supply DuPont's factories fast enough. Three, the other saltpeter operations of Wilkins and Gratz produced inferior saltpeter. Finally, Mammoth Cave saltpeter's quality began to decline (although George does not say how.)⁵⁷ At war's end, the saltpeter market petered out, but the owners refused to give up a different opportunity to make money from the cave.

After the return to *status quo antebellum* in 1815, Wilkins and Gratz ceased the commercial saltpeter operation and became the first to exhibit the cave to people who had heard word-of-mouth descriptions of Kentucky's great underground wonders. In 1816, Nahum Ward, a Shrewsbury, Massachusetts, native living as a merchant in Ohio, published an account of his visit to Mammoth in his hometown newspaper, *Massachusetts Spy*, signaling the beginning of the tourism era.⁵⁸ As word spread of "The

⁵⁶ Ibid., 19, 23.

⁵⁷ Ibid., 171.

⁵⁸ Benjamin Thomas Hill, ed., *The Diary of Isaiah Thomas, 1805-1828* (Worcester, MA: The American Antiquarian Society, 1909), 327; Nahum Ward, "Mammoth Cave: Description of the Great Cave in Warren County, Kentucky. Extract of a letter from a Gentleman Resident in the Western Country to his Friend in This County Giving an Account of an Excursion into Kentucky in the Fall of Last Year—Dated

Mammoth Cave,” as it was then known, enough visitors sought out the underground wonder that showing the cave became a business that required order through established routes, and lodging for guests.

Knowledge of the extent of the cave predicated where tours could go. The saltpeter speculators and enslaved miners during the War of 1812 were among the first explorers of Mammoth Cave. Both their explorations and those of later owners and the cave guides were necessary for advancing capital gains for the owners.

One of the earliest-known maps of the cave (printed around 1806), known as the “Eye Draught of the Mammoth Cave,” showed only a few miles of passages related to the saltpeter excavation. Enslaved miners could sometimes use the quest for more saltpeter as an excuse to go exploring in the cave. Details of their explorations have disappeared from the historical record, but stories of their discoveries remain. One story several visitors found entertaining to include in their travel narratives involved an enslaved miner named “Little Dave” who was lowered into a newly-discovered pit, today known as Mammoth Dome. A team of miners lowered him into the darkness with a single lantern. At some point, the solitary explorer dropped his lamp, which bounced off of several rocks before extinguishing. The team lifted him out of the expanse. Some twenty-odd years later, the famous enslaved guide Stephen Bishop and a German visitor found the lantern at the bottom of the shaft, near where he had entered from a lower passage. Knowing the story from the saltpeter mining days, Stephen knew where he was in relation to the main cave passage. Though years apart, these enslaved men working in the cave advanced the

Marietta, Ohio, April 4, 1816,” reprinted in *Journal of Spelean History* 41, no. 1 (January-June 2007): 9-13.

knowledge of the extent and circuitous nature of the many avenues that made up Mammoth Cave.⁵⁹

Once tourism began at Mammoth Cave in 1816, guides built on the knowledge of the saltpeter mining days of the previous decade to open new passages. In the first year of exploration, owner Charles Wilkins estimated that the main cave passage and branches combined for around twenty-five miles in length.⁶⁰ These were only estimates, though, and not based on surveyed measurements.

In 1835, Ohio surveyor Edmund F. Lee created the first engineered survey of the cave. From his calculations, the known extent of the cave was less than eight miles.⁶¹ Even if the cave was officially shorter than prior estimates believed, Mammoth was still bigger and longer than most caves. George Brewer, a panoramic artist who visited in 1849, thought the cave's size and extent was its most significant feature.⁶² Within the

⁵⁹ The story of "Little Dave" is told in several narratives of cave visits and somewhat verified by different cave owners. See, for instance, Bullitt, *Rambles in the Cave*, 74, 77; John Wilson, *A Visit to the Mammoth Cave of Kentucky* (Edinburgh: n.p., 1849), 14; or Horace C. Hovey, "Mammoth Cave, Kentucky," *Journal of the American Geographical Society of New York* 23, (1891): 56-57. Like many stories of discovery, though, there is probably a significant amount of myth attached to the story. Separating fact from fiction, or at least myth from history, is both challenging and intriguing when it comes to Mammoth Cave.

⁶⁰ Charles Wilkins, Letter to Samuel M. Burnside, Secretary of American Antiquarian Society, *Archaeologia Americana: Transactions and Collections of the American Antiquarian Society* 1 (1820): 363.

⁶¹ Frederick Hall, *Letters from the East and From the West* (Washington, DC: F. Taylor and Wm. M. Morrison, 1840), 147.

⁶² George Brewer, *A Description of the Mammoth Cave of Kentucky, Niagara River and Falls, and the Falls in Summer and Winter, The Prairies, or Life in the West; The Fairmount Water Works and Scenes on the Schylkill, etc., to Illustrate Brewer's Panorama* (Boston: J.M. Hewes & Co., 1850), 31.

constraints of the eight miles or so, visitors were able to see “forty-nine distinct places,” with some of “the most sublime views imaginable.”⁶³

Ownership of the cave was the most significant factor in terms of exploration and advancement of the knowledge of the cave’s extent. In 1828, the executors of Charles Wilkins’ estate sold his remaining interest to his partner Hyman Gratz of Philadelphia. Four years later, Gratz sold the cave to a former part-owner, Fleming Gatewood.⁶⁴ Gatewood’s family guided tours and established the first lodgings at the cave, but limited their operations to the known extent of the cave rather than pursuing potential new paths through the underworld.⁶⁵

The most significant advances in the exploration of the cave were the result of a change in ownership and guides. In 1838, local attorney Franklin Gorin purchased the cave and “placed a guide in the Cave—the *celebrated* and *great* Stephen—and he aided in making the discoveries.”⁶⁶ Stephen Bishop remains one of the most celebrated guides of Mammoth Cave. Born around 1820, Stephen was the son of an enslaved mother and a white father, likely his owner, Lowry Bishop. In 1837, Lowry Bishop paid attorney Franklin Gorin for working on Bishop’s divorce, in part, using Stephen, Stephen’s

⁶³ Ibid., 33.

⁶⁴ Joy Medley Lyons, *Making Their Mark: The Signature of Slavery at Mammoth Cave* (Fort Washington, PA: Eastern National, 2010), 12.

⁶⁵ Harold Meloy, “A Short Legal History of Mammoth Cave,” Mammoth Cave National Park Vertical Files.

⁶⁶ Franklin Gorin to W. Stump Forwood, February 9, 1868. Emphasis in original. W. Stump Forwood Papers #260, Southern Historical Collection, The Wilson Library, University of North Carolina at Chapel Hill.

mother, and Stephen's brother.⁶⁷ It is unknown why Gorin placed Stephen at Mammoth Cave, but all accounts from the time indicate that Stephen took to the cave like it was second nature. In terms of significant passage discoveries, in 1839, Stephen and a visitor from Georgetown, Kentucky, crossed over the Bottomless Pit, a one hundred-five-foot drop between ledges. From there he and other guides discovered the underground rivers that flowed through the lowest depths of the cave, and Stephen discovered one of the most decorated passages, Cleaveland Avenue.⁶⁸

Part of this exploration was out of legitimate concerns over the safety of cave tours. In 1838, Gorin's nephew, Charles Harvey, became lost in the cave. Harvey had apparently taken a wrong turn in attempting to catch up to his touring party. Thirty-nine hours later, a search party found him.⁶⁹ Explorations that pushed the cave's boundaries beyond the extent from the 1835 Lee map made a new guide necessary.

Shortly after purchasing Mammoth Cave, Dr. John Croghan (pronounced Crahn) commissioned Stephen Bishop with creating a new map suitable for publication in a forthcoming official guidebook, *Rambles in the Mammoth Cave During the Year 1844, By a Visiter*. In 1842, Stephen traveled to Croghan's estate in Louisville and drafted a

⁶⁷ Joy Medley Lyons, *Making their Mark*; 14-15. Stephen's paternity has been debated, although Lyons declares it was "most certainly a white man" (15). We can get an idea of Stephen's thinking, perhaps, by the few written sources he left behind—his signatures in Mammoth Cave. Stephen wrote his name numerous places. In some passages, he simply wrote "Stephen." In others, he wrote "Stephen Gorin," indicating that he was the property of Franklin Gorin. Most of the "Stephen Gorin" signatures were later crossed out, perhaps his own doing. This may have been around the time that his older, steadier hand, wrote what I believe to be a claim to his true paternity—"Stephen Bishop."

⁶⁸ Bullitt, *Rambles in the Mammoth Cave*, 91.

⁶⁹ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 24-25. Today, the passage is known as "Harvey's Lost Way."

map primarily based on Lee's original. In the four years of his explorations, Bishop was able to add nearly twenty miles to the known length of Mammoth Cave.⁷⁰ Perhaps more incredible than the extent of passages and relative accuracy of a map drawn from memory was the fact that Croghan gave Stephen Bishop credit for his knowledge. "Map of the Explored Parts of the Mammoth Cave of Kentucky, by Stephen Bishop, One of the Guides" gave no hint to potential visitors that a slave would guide them, perhaps because of the class of visitors Croghan sought to attract. A knowledgeable slave could make wealthy white travelers uncomfortable enough to refuse to visit.⁷¹

It was important to Croghan that guests felt safe and comfortable in their visit. Croghan spared little expense in easing the travel to the cave, paying for a new road in 1849 that extended to the cave from the Louisville-Nashville pike at the village of Dripping Springs and another from Bell's Tavern.⁷² The doctor's efforts paid off. In 1855,

⁷⁰ Roger W. Brucker, "Stephen Bishop at Mammoth Cave," *Journal of Spelean History* 44, no. 2 (July-December 2010): 11.

⁷¹ Fears of slave rebellions were often justifications for white regimes to restrict slaves' knowledge, most notably by outlawing the education of enslaved people. However, owners profited from slaves' knowledge, particularly when that knowledge involved agricultural products. See for instance, Philip D. Morgan, *Slave Counterpoint: Black Culture in the Eighteenth-Century Chesapeake and Lowcountry* (Chapel Hill: University of North Carolina Press, 1998); Eugene D. Genovese, *Roll, Jordan, Roll: The World the Slaves Made* (New York: Vintage Press, 1976); Judith Ann Carney, *Black Rice: The African Origins of Rice Cultivation* (Cambridge: Harvard University Press, 2001); Walter Johnson, *Soul by Soul: Life inside the Antebellum Slave Market* (Cambridge: Harvard University Press, 1999).

⁷² Oliver Shackelford, "An Account of the History of Mammoth Cave during the Middle Nineteenth Century," Mammoth Cave National Park Vertical Files, 3-4.

poet Bayard Taylor reported that nearly two thousand visitors, mainly from Tennessee and Kentucky, but also from abroad, toured the cave each year.⁷³

With the influx of tourists and a working knowledge of the cave, guides created two tour routes: the Long Route, and the Short Route. The Short Route went down Main Cave a mile to the Star Chamber, including a sojourn through a branch passage, Gothic Avenue, then continued back down Main Cave to a landmark rock known as the “Giant’s Coffin.” A passage behind Giant’s Coffin took visitors to the Bottomless Pit and a hike and climb brought them to a large dome-pit, Gorin’s Dome, for a total of about three miles.⁷⁴ The Long Route included some of the Short Route, but crossed over Bottomless Pit and continued down to Echo River. Visitors crossed Echo River in boats and then hiked approximately two miles to Cleaveland Avenue, then a mile to the end of the cave at “Dismal Hollow” and a pit known as “The Maelstrom.” After that arduous journey, hiking across loose rocks, ducking under low ceilings, and squeezing through tight passageways, visitors then turned around and returned the same way. All told, visitors traveled “nine miles...in about twelve hours.”⁷⁵

The cave’s environment, relative isolation, and strenuousness created the perfect conditions for the enterprising owners to establish hotel accommodations. The underground tours brought visitors to the cave region and informed them of the

⁷³ Bayard Taylor, *At Home and Abroad: A Sketch-Book of Life, Scenery, and Men* (New York: G.P. Putnam, 1860), 224.

⁷⁴ A dome-pit is a shaft in a cave where a visitor can look up the shaft to the ceiling (dome) and down the shaft to the floor (pit).

⁷⁵ J. N. Gwin, *A Visit to the Mammoth Cave* (Indianapolis: John G. Doughty Book Printer, 1875), 10.

curiosities of the cave, but the hotel attempted to give visitors a hospitable place away from the inhospitable cave.

The hotel grew from rough conditions from the saltpeter mining years into a fine southern estate worthy of hosting the elite tourists to Mammoth Cave. Fleming Gatewood, one of the mining operation principals, opened his home to the first visitors in the eighteen-teens and offered “all his house afforded.”⁷⁶ Franklin Gorin, the attorney who purchased the cave in 1838, converted cabins that had once housed enslaved miners into a single structure for guest rooms.⁷⁷ Dr. John Croghan, who purchased the cave (and Stephen Bishop) in 1839, made many of the enhancements to the hotel, making it fit for visitors from his rank who had similar expectations. Croghan, born into his father’s fortune from surveying and land speculation, expanded the number of facilities to include parlors, offices, a dining room, ballrooms, and verandas.⁷⁸ By 1845 when the celebrated panoramic artist George Brewer visited the cave, the Hotel stood “two stories high, 200 feet long, and 45 wide, with double piazzas running its entire length.”⁷⁹ The Reverend Horace Martin, visiting a year later, reported that the expansions allowed up to 150 guests at a time, and was often at full capacity “during the season.”⁸⁰ The “season” usually

⁷⁶ Ward, “Mammoth Cave: Description of the Great Cave in Warren County, Kentucky,” 9.

⁷⁷ Lyons, *Making Their Mark*, 10-11.

⁷⁸ James J. Holmberg, “William Croghan,” *The Encyclopedia of Louisville*, ed. John E. Kleber (Lexington: The University Press of Kentucky, 2001), 233.

⁷⁹ Quoted in Joseph Earl Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” *Filson Club Historical Quarterly* 39, no. 1 (January 1965): 33.

⁸⁰ Martin, *Pictorial Guide to the Mammoth Cave, Kentucky*, 18.

began around June as the weather heated up and the wealthy in particular looked to the Mammoth Cave resort for respite.⁸¹

Though the cave hosted a number of travel writers, scientists, and other curiosity-seekers, many southern planters made their way to Mammoth Cave as well. Oliver Shackelford, a local subsistence farmer and sometime-cave guide, wrote of the summer travel season as a time when “a great many of the rich planters... would come to the cave and bring their families and a few slaves to wait on them and spend week[s] and sometimes months at the cave up to the beginning of the war of 1861.”⁸² The visiting slaves may have intermingled with the enslaved workers at the resort, including the cave guides Stephen Bishop and Mat and Nick Bransford, while the planters exchanged pleasantries about the weather, crops, or the natural wonder below their feet.

Unfortunately, these visitors, the planter elite and their enslaved servants, left few, if any, records of their stays.⁸³

⁸¹ Leaving cities for summertime resorts was becoming commonplace by the mid nineteenth century. See Jon Sterngrass, *First Resorts: Pursuing Pleasure at Saratoga Springs, Newport, and Coney Island* (Baltimore: The Johns Hopkins University Press, 2001); Theodore Corbett, *The Making of American Resorts: Saratoga Springs, Ballston Spa, and Lake George* (Piscataway, NJ: Rutgers University Press, 2001); John V. Quarstein and Julia Steere Clevenger, *Old Point Comfort Resort: Hospitality, Health and History on Virginia's Chesapeake Bay* (Charleston, SC: The History Press, 2009); Richard H. Gassan, *The Birth of American Tourism: New York, the Hudson Valley, and American Culture, 1790-1830* (Amherst: University of Massachusetts Press, 2008); David R. Goldfield, “The Business of Health Planning: Disease Prevention in the Old South,” *The Journal of Southern History* 42, no. 4 (Nov. 1976): 557-570.

⁸² Shackelford, “An Account of the History of Mammoth Cave...,” 4.

⁸³ The few diaries that I have found from wealthier southern visitors that mention visits to Mammoth Cave simply mention that they went, with little else to say about the matter. See, for instance, Rachel Carter Craighead Diaries, 1855-1911, Tennessee State Library and Archives, Nashville, Tennessee. The most significant works on African Americans at Mammoth Cave, including Lyons, *Making their Mark*, and Katie Algeo,

That so many planters visited and returned, speaks to Croghan's (and later, his heirs' and cave managers') spirit of hospitality. Built in the "Southern style," with its verandas and comforts of home—including servants for those who did not bring their own—the hotel allowed visitors to mingle and recuperate from their journeys underground or overland.⁸⁴ Upon arrival, the "gentlemanly" hotel manager welcomed his guests and endeavored, as one visitor recalled in 1847, to make them "feel perfectly at home."⁸⁵ Here, a visitor could quaff "the finest whiskeys, wines, and brandies," play a round or two of "ten pin alley" and, if he cared to do so, hear "a fine string band of musicians."⁸⁶ After the Civil War, one visitor described playing a number of games, including croquet and billiards, and dancing the "Cave Quadrille" in the ballroom.⁸⁷ Upon retiring from the entertainments to their rooms, guests found the fires in their rooms lit for the night, and if they still ached and pained from the journey, could enlist a massage complete with "an external application of Kentucky whiskey," which one visitor

"Underground Tourists/Tourists Underground: African American Tourism to Mammoth Cave," *Tourism Geographies* 15, no. 3 (2013): 380-404, are only speculative as to what enslaved people may have experienced when visiting Mammoth Cave with their owners, if they were allowed in the cave.

⁸⁴ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 37; Horace Carter Hovey, "Mammoth Cave, Kentucky," *Journal of the American Geographical Society of New York* 23 (1891): 49.

⁸⁵ "Outis," *The (Louisville) Examiner*, August 9, 1847, 3.

⁸⁶ Shackelford, "An Account of the History of Mammoth Cave...", 4.

⁸⁷ The dance, which he described as "very stately and old-fashioned, thoroughly indigenous and incapable of being transplanted" was an early version of a square dance. While the visitor seems to have taken a condescending tone, he nonetheless seemed entertained at the sight. Anonymous, "Mammoth Cave Drew Visitors from Across America during Last Century" *The Kentucky Explorer* (July-August 1995): 51.

hailed as the cure for his fatigue.⁸⁸ Comfort was paramount at the Mammoth Cave Hotel, and few elements of comfort in the southern experience that the gentlemanly Dr. Croghan offered were more important than food.⁸⁹

The central Mammoth Cave Hotel experience, aside from the cave itself, was in the dining room. As one of the largest rooms in the hotel, it promised visitors Southern dining that was wild, echoing the surrounding estate, but also tame, for those less adventurous. Gardeners tended a vegetable patch and apple and peach orchards to supply fresh fruits and vegetables in season.⁹⁰ Other slaves evidently hunted for some of the meats at the table. As one minister attested, “venison is always to be found here in abundance.”⁹¹ Beginning at six o’clock in the morning, visitors put away hearty breakfasts before their lengthy tours. Bacon, sausage, and eggs were not unusual, and fried chicken that “enrich the palate with that delicious flavor” was also common.⁹² Visitors often ate lunch in the cave, and hours later returned to find “a bountiful supper”

⁸⁸ George B. Flint, “A Visit to Mammoth Cave,” trans. Martin F. Hawley *Journal of Spelean History* 42, no. 1 (January-June 2008): 11; Taylor, *At Home and Abroad*, 222.

⁸⁹ See, for example, Joe Gray Taylor and John Egerton, *Eating, Drinking, and Visiting in the South: An Informal History* (Baton Rouge: Louisiana State University Press, 1982); Adrian Miller, *Soul Food: The Surprising Story of an American Cuisine* (Chapel Hill: University of North Carolina Press, 2013); and Rick McDaniel, *An Irresistible History of Southern Food: Four Centuries of Black-Eyed Peas, Collard Greens & Whole Hog Barbecue* (Charleston: The History Press, 2011) among others.

⁹⁰ Edmund F. Lee, *Notes on the Mammoth Cave, to Accompany a Map* (Cincinnati: James & Gazlay, 1835), 10.

⁹¹ Martin, *Pictorial Guide to the Mammoth Cave, Kentucky*, 18-19.

⁹² Quoted in “Mammoth Cave Drew Visitors from Across America during Last Century,” *The Kentucky Explorer* (July-August 1995): 51.

awaiting them around eight o'clock in the evening.⁹³ While most who wrote of their partaking praised the cooks, their assistants, and "the experienced Negro waiters," not all were pleased.⁹⁴ One reviewer complained that the kitchen staff could not properly broil steak or brew coffee; he put a positive spin on breakfast, though, which consisted of "pie and hot biscuits."⁹⁵ If the food did not impress all visitors, the hotel grounds did.

The Mammoth Cave estate impressed visitors with its calming greenery and planned gardens. The estate grew from around 1700 acres acquired by early mining owners Wilkins & Gratz, to more than 2000 by the time of its inclusion into the national park.⁹⁶ In his 1851 *Pictorial Guide to the Mammoth Cave*, Horace Martin heaped praise at the shrubbery and the trees, both the ornamental cedars and "forest trees of great antiquity."⁹⁷ That the hotel included a manicured bluegrass lawn with gravel walking paths made it a civilized sight for sore eyes that had traveled through the "uncultivated backwoods" of Kentucky to get there.⁹⁸ The estate did not only highlight the verdant

⁹³ Gwin, *A Visit to Mammoth Cave*, 9-10; Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 143; Flint, "A Visit to Mammoth Cave," 11.

⁹⁴ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 37.

⁹⁵ Walter Wellman, "Visit to Mammoth Cave, 1887" in "Under the Ground: A Visit to Kentucky's Wonder, Mammoth Cave," *The Kentucky Explorer* (April 2008), 28.

⁹⁶ Martin, *Pictorial Guide to the Mammoth Cave*, 17; The forest cover was probably not as old as Martin described it, due to the saltpeter operation that would have had to nearly deforest the area to keep the furnaces running. George, *Mammoth Cave Saltpeter Works*, 11.

⁹⁷ Martin, *Pictorial Guide to the Mammoth Cave*, 17.

⁹⁸ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 38; Horace Carter Hovey, "Mammoth Cave, Kentucky," 50.

nature. Though he personally spoke disapprovingly of the organized gardens when compared to the “divine beauty” of the cave and woods, John Muir, who visited just after the Civil War, described the gardens as “in exact parlor taste” and arranged “in strict geometrical beds.”⁹⁹ The gardens and grounds reminded one visitor of the “pleasures of country life,” that offered both the “comforts of civilization” with grand scenery.¹⁰⁰

The grounds and hotel also offered visitors a hint of the cave’s prehistoric past and curiosities. The lawn also included a fossilized imprint of a tree, known as the lepidodendron. Around 1840, when it was discovered and excavated from the cave, the fossil baffled scientists. One speculated that “some rude Indian artist” created the half-inch, irregular, indentations in the rock, which he compared to “the openings in the ordinary cane-seated chair.”¹⁰¹ Inside the hotel office, where visitors could warm up by the hearth, guests often met their guides and could inspect species of eyeless fish found in the cave’s rivers.¹⁰²

Beginning in 1839 with Dr. John Croghan’s purchase of the cave and grounds, hotel managers geared their services to giving guests a unique southern experience both

⁹⁹ John Muir, *A Thousand Mile Walk to the Gulf* (Boston: Houghton Mifflin Co., 1916), 11-12.

¹⁰⁰ Gwin, *A Visit to the Mammoth Cave*, 2; Anonymous, “Mammoth Cave Drew Visitors from Across America,” *The Kentucky Explorer* (July-Aug 1995): 50. Although this account dates to when Alexander Jackson Downing and Frederick Law Olmsted created modern landscape architecture in America, there is no extant source as to who, other than perhaps Croghan, designed the grounds at Mammoth Cave or how much influence enslaved people working at the hotel may have had over the gardens.

¹⁰¹ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 38-39.

¹⁰² Flint, “A Visit to Mammoth Cave,” 10.

above and below the surface. Guests to the Mammoth Cave Hotel could expect to be attended to, and to exercise their power of wealth, prestige, and whiteness against the enslaved, impoverished black workers. When guests arrived, the managers greeted guests as they disembarked from the stagecoach. At the hotel, visitors were waited on by enslaved workers—chambermaids, butlers, cooks, waiters, stable keepers, carpenters, and the like. Whether cooking and serving meals or repairing carriages and tending to horses, these workers provided plantation hospitality without the plantation.¹⁰³ Even after the Civil War, when African American employees gained their freedom and worked for wages, visitors noted the manner of attention these servants paid to guests to be in “old Kentucky style; even though African-American workers were not slaves, they were by no means equal to the white visitors.”¹⁰⁴

Before heading into the cave, tourists stopped at a small structure just above the cave entrance to “dress *à la mode du caverne*” by donning cave costumes.¹⁰⁵ Women visitors changed into mustard-colored Bloomers so as to ease the task of climbing and walking that dresses and skirts would render difficult.¹⁰⁶ Men dressed down in wool jackets and skull-cap head coverings to protect them from unfortunate interactions with the low ceilings along the route.¹⁰⁷ The spectacle of the well-to-do “borrow[ing] the cast-

¹⁰³ Taylor, *At Home and Abroad*, 224.

¹⁰⁴ Gwin, *A Visit to the Mammoth Cave*, 3.

¹⁰⁵ “Outis,” *The (Louisville) Examiner*, August 9, 1847, 2, 3.

¹⁰⁶ Wellman, “Visit to Mammoth Cave, 1887,” 25.

¹⁰⁷ Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” 33-34; Gwin, *A Visit to the Mammoth Cave*, 4.

off clothes of the servants” provided the first of many entertainments of the cave.¹⁰⁸ In a sense, wearing the garments of the working classes allowed the wealthy visitors to take on an unrefined manner if they so chose. Once their adventure underground ended, they would simply shed the costumes and the coarseness, returning to the refined sensibilities they cultivated among their own class.

Visitors also picked up lanterns. Natural sunlight did not reach past the first hundred feet or so inside the cave, making lanterns and fuel a highly valued tool. Unlike the oil lamps visitors may have used at home, the lanterns for the cave tour had to be able to survive a rough and tumble hike. Given the likelihood of it being broken on the loose rocks, the Mammoth Cave lanterns used no glass, as it would be very expensive to replace over and over again, and an added danger on tours should a visitor step on a piece.¹⁰⁹

Similarly, fuel was of great concern. Whale oil was a standard fuel in the East, but in the semi-isolated Kentucky countryside, whale oil was harder to come by. Instead, the estate used a slightly more sustainable solution, favoring the grease and lard from the hotel kitchen. After the Civil War and spread of the railroads made the transportation of goods cheaper, the hotel switched to cottonseed oil to fuel the lanterns.¹¹⁰ Regardless of the kind of fuel the guides employed, they had to keep it on hand wherever they went.

¹⁰⁸ “Outis,” *The (Louisville) Examiner*, August 9, 1847, 2, 3.

¹⁰⁹ Flint, “A Visit to Mammoth Cave,” 10.

¹¹⁰ Receipt for Cottonseed Oil, Janin Family Papers, Huntington Library, San Marino, California.

Guides carried cans of fuel with them, and kept fuel stations in the cave to fill the lanterns every five hours, if necessary.¹¹¹

After filling and lighting lanterns, guides led visitors to the cave entrance, where the tour began in earnest. Here visitors sensed the first of many feelings of what they were about to experience. Gazing into a dark archway that opened under the same hill they walked down, visitors saw a “nether world” below, something that prompted the first guidebook author to declare the view “an appalling spectacle—how dark, how dismal, how dreary.”¹¹² A small stream ran over the opening of the cave and fell onto the rocks below, which provided the first sounds that visitors would hear on their underground journey. In the summertime, visitors felt the cool, damp cave air blowing out of the opening and continuing down the hill towards the Green River. If it blew fast enough the air could extinguish the globeless lanterns, but a prepared guide armed with “Lucifers” (matches) was ready to re-light them.¹¹³ As the air moved past the plants and trees surrounding the entrance, visitors could get their last smell of “rank vegetation” of the surface mixed with the musty-scented cave air.¹¹⁴ The entrance gave visitors an introduction to the cave, and a last chance to opt out of the tour. If they could not withstand the first few minutes of the Mammoth Cave experience, a tour of four to fourteen hours would be dreadful.

¹¹¹ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 115.

¹¹² [Bullitt], *Rambles in the Mammoth Cave*, 11.

¹¹³ Hall, *Letters from the East and from the West*, 143.

¹¹⁴ Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” 34.

Most of the information about antebellum tourism at Mammoth Cave is found in travel journals, guide books, and newspaper accounts from those who visited. Tourists penned untold numbers of words, turns of phrases, and paragraphs about the cave, but those who knew the cave best—the guides—scoffed at the notion that one could understand the underground by writing about it. Alfred, an enslaved guide, instructed one writer that “If anybody wants to know ‘bout the cave, they must come and see it.”¹¹⁵ But seeing the cave as a way of knowing the cave presented a challenge.

Once inside the cave, guides opened and closed an important man-made feature—the gate—and as the parties walked on they began to see just how dark a cave could be. Mammoth Cave’s entrance opens into a low (anywhere between five and six feet high), narrow passageway, today referred to as Houchin’s Narrows or simply The Narrows. About one hundred feet down The Narrows, sunlight ceases to penetrate. In this liminal space between lightness of the outside and total darkness of the inside—“the twilight zone”—visitors began to adjust their eyes to the eternal night of the cave. John Wilson, a Scottish singer visiting in 1849, noted that it seemed like “the lamps only tended to make the darkness more visible,” but “by and by we get more used to it.”¹¹⁶

With each step down The Narrows and into the first room, The Rotunda, “a strange sensation” overtook these romantic visitors.¹¹⁷ The “world of darkness” they were

¹¹⁵ John Loraine Abbott, *The Wonders of the World: A Complete Museum, Descriptive and Pictorial, of the Wonderful Phenomena and Results of Nature, Science, and Art* (Hartford: Case, Tiffany, and Co., 1856), 147.

¹¹⁶ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 5.

¹¹⁷ John Hayward, *A Gazetteer of the United States of America* (Philadelphia: James L. Gihon, 1854), 650.

experiencing, perhaps for the first time, was limiting their abilities to know the natural world the way they traditionally had.¹¹⁸ With only lanterns to guide them, visitors had difficulties grasping the exact sizes of the spaces and rooms they visited in the cave. As the author of *A Gazetteer of the United States of America* noted, “The darkness, deeper than that of the blackest midnight, which pervades these subterranean recesses...renders it difficult for the spectator to form anything like an adequate idea of its vast dimensions, its great heights and depths of the natural decorations they contain.”¹¹⁹

Instead of knowing the rocks, the wide halls, and creatures within, most visitors came to know the darkness most of all. Darkness was everywhere, “under, above, around” them, canopying and walling them in as a sort of containment device.¹²⁰ The darkness in this sense was not just something to be seen, but something that could be felt and could act upon an unsuspecting visitor. “This is darkness,” Bayard Taylor wrote, “solid, palpable darkness. Stretch out your hand and you can grasp it, open your mouth and it will choke you.”¹²¹

The underworld of Mammoth Cave, then, was dark and possibly dangerous. Taylor continued that he felt as if he were in a place on the eve of Creation, a “primal chaos before Space was, or Form was.”¹²² Mammoth Cave was a world apart, yet of this

¹¹⁸ Ibid.

¹¹⁹ Ibid.

¹²⁰ Martin, *Pictorial Guide to the Mammoth Cave, Kentucky*, 21; Robert Montgomery Bird, *Peter Pilgrim: Or, A Rambler's Recollections*, Volume II (Philadelphia: Lea & Blanchard, 1838), 85.

¹²¹ Taylor, *At Home and Abroad*, 201.

¹²² Ibid.

world. Taylor was never far from another human being, chiefly his guide, Stephen, but in the vast, dark cavity away from his normal day-to-day life on the surface, the darkness took him to a disorderly dimension.

While more than one antebellum visitor felt disoriented from the lack of light in the world below, 1853 visitor Nathaniel Parker Willis found the darkness to create the precipice of a new Eden. More comfortable in the subterranean darkness, Willis compared the experience to what he imagined to be “like a visit to a just-created and more brilliant planet, where God has not yet said, ‘Let there be light.’”¹²³ Willis felt somewhat liberated being away from “King Sun and Queen Moon and Princes of Little Stars” while in Mammoth Cave, divorced from the “tyrannical” beings that regulated the time of the day.¹²⁴

It was little wonder why lanterns and sources of light were so important to visitors and the guides. Obviously the light was necessary to be able to see their way through the cave and avoid getting lost or injured in the darkness. Guides used this to their advantage, both in showing the cave and in controlling visitors’ behavior. While the guides knew the cave very well, they still depended on the light to see their way through. One concerned visitor, Frederick Hall, inquired if his guide could find a way to daylight should all light sources extinguish in an accident. The unnamed guide indicated the best course of action was to remain where he was, since a search party would come looking for them if they did not get out of the cave in a reasonable amount of time.¹²⁵ Hall imagined the

¹²³ Willis, *Health Trip to the Tropics*, 182.

¹²⁴ *Ibid.*, 185.

¹²⁵ Hall, *Letters from the East and from the West*, 146.

possibility of being without light to be worse “than confinement in a cell of the Bastille.” For Hall it was an exercise in imagination; to another party it was a reality.

Around 1854, a wedding party celebrating “in high glee” on a cave tour, overturned the boat they were riding in on Echo River, at the lowest level of the cave, and thus extinguished all of their lanterns. Stephen Bishop ordered the guests to remain still and to not move or try to swim in the water. They had overturned in a fairly shallow part of the river and all could stand on the river bottom. In complete darkness, Bishop knew that they could not see where to swim to, and if they tried they could end up either getting hurt or getting into deeper water. The party remained in the cold water for five hours until fellow guide Mat Bransford came to their rescue. When Bransford found them, Bishop was swimming around them, using the sounds of their voices to guide him, and encouraging the group to remain calm. Bransford found the wedding party, “one and all” raising their voices “in prayer and supplication for deliverance.”¹²⁶ Five hours in the cold river in complete darkness was probably not the experience they sought in visiting Mammoth Cave. It was far from a typical tour, especially considering the loss of light. In complete darkness, even a single lantern made a difference.

A single lantern on its own was insufficient to light some of the sizable rooms and limestone formations, however. The guides, however, used groups of lanterns to produce great effects that served two purposes: entertainment and education about the cave. By arranging lanterns around grotesque pillars or hanging them from places along the ceilings, guides affected the way visitors knew the cave. Even if they could not see the entire room in one view with the limited light sources, visitors came to know their

¹²⁶ Story related in Abbott, *The Wonders of the World*, 157.

shapes, approximate sizes, and the “scene surprisingly grand” within.¹²⁷ In taking control of the lanterns and using alternative light sources, guides could change the way visitors understood the cave’s labyrinthine passages and rocky halls.

Guides, who knew the cave’s landmarks better than anyone, could choose which of these features to display and how to light them.¹²⁸ Some rooms and shafts were so large that lanterns alone could not show visitors everything. At a tall dome at a lower level of the cave, known as Gorin’s Dome, guides often used Bengal lights, similar to flares, and “unfolded the wonders of the dome” to visitors.¹²⁹ In other instances, guides lit balls of turpentine-soaked paper or cotton and tossed them down shafts.¹³⁰ Oiled paper was particularly useful in perpetuating myths about the limitless depths of “Bottomless Pit.” Experienced guides who knew how long it took for the paper to burn could calculate

¹²⁷ Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” 24.

¹²⁸ Flint, “A Visit to Mammoth Cave,” 10.

¹²⁹ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 10. Bengal lights were invented for use in studio photography, but their application in caves enriched visitors’ experiences throughout the nineteenth century. A contemporary source for photographic use of Bengal lights indicates that when burned, the combination of chemicals can either produce white or blue lights. Additionally, the Bengal lights produced “noxious fumes” from the burning gases, often sulfur or ammonia, which limited their use in studios; however, large cave rooms would allow more diffusion of the odors. See Hermann Wilhelm Vogel, *Chemistry of Light and Photography* (New York: D. Appleton & Co., 1875), 68; Michael Pritchard, “Artificial Lighting” in *Encyclopedia of Nineteenth Century Photography*, vol. 1, ed. John Hannavy (New York: Routledge, 2008), 84; Chris Howes, *To Photograph Darkness: The History of Underground and Flash Photography* (Gloucester: Alan Sutton Publishing, 1998), 55.

¹³⁰ J. P. Leams, “A Visit to the Mammoth Cave,” transcribed by Rose Sisler, Mammoth Cave National Park Vertical Files, 3.

how to illuminate the shaft for just a few seconds until the paper would have hit the bottom around 105 feet below, as essentially a magic trick.

Illusions such as this and at the famous “Star Chamber” room highlighted guides’ abilities to entertain visitors. Approximately one mile into the main cave passage, the Star Chamber appears in the limited light as a canyon with a starry sky above. In actuality, the cave ceiling is composed of calcium sulfate, gypsum, stained black from years of smoke billowing through the halls. Where flakes of gypsum have fallen or have been knocked off by human intervention (thrown rocks, for instance), pure white gypsum remains, giving the visage of a night sky. While visitors rested on benches, the guides instructed them to watch the stars come out. Meanwhile, the guides took the lanterns down a parallel passageway that looped back around to the ground they had just covered minutes before. The guides’ pathway out of Star Chamber while holding the lanterns gave the illusion of a sunset. Upon their return back to Star Chamber, guides mimicked roosters crowing, dogs barking, “and other barnyard sounds” as visitors saw the illusion of a sunrise.¹³¹ The sunrise/sunset illusion was often a visitor favorite, and is continued in the twenty-first century on evening lantern tours.

Light was essential for antebellum, romantic visitors to find the sublime in Mammoth Cave. In the largest single room, Chief City, approximately two acres in size, guides lit Bengal lights and built fires to demonstrate the size. John Wilson found it “impossible for words to convey...the least idea of its magnificence.”¹³² The fleeting

¹³¹ Horace C. Hovey, “Mammoth Cave, Kentucky,” *Journal of the American Geographical Society of New York* 23 (1891): 60.

¹³² Wilson, *A Visit to the Mammoth Cave of Kentucky*, 11.

light of the Bengals made visitors demand more so they could take in the whole scene: a mountain of rocks, torches cast aside from the late archaic and early woodland people, and ledges of varying size and shapes. On Wilson's visit, Stephen Bishop, the guide, used a light similar to a Bengal but longer lasting and softer in brilliance that allowed "more awe in contemplating this vast place."¹³³

The light, combined with the cave's creation and formation, affected how visitors came to know the cave's features. The sandstone and shale layers above the limestone rock prevented much water from entering through the ceiling, which in the right conditions can create speleothems such as stalactites, stalagmites, and columns or pillars. While some visitors such as Wilson found inspiration in the vast expanses like Chief City, others found the beauty of the cave in those decorated portions. Serena's Arbor, approximately nine miles underground from the entrance, was hailed as more beautiful than anything found in Queen Victoria's Windsor Castle.¹³⁴ When water was present, such as at a natural well off of Audubon Avenue, a branch off of Main Cave from the Rotunda, the lanterns created reflections of formations, giving a "rare and picturesque" appearance.¹³⁵ In dryer areas, sometimes the ceiling looked so smooth and white as to appear almost unnatural, as if a plasterer had created it.¹³⁶ The light-colored rocks in the blackest darkness showed visitors just one of many contradictions at the cave.

¹³³ Ibid. Wilson did not go into detail as to what kind of light was used, but it might have been a slower-burning magnesium light. See Howes, *To Photograph Darkness*, 55.

¹³⁴ [Bullitt], *Rambles in the Mammoth Cave*, 97.

¹³⁵ Ibid., 17-18.

¹³⁶ Ibid., 23.

Mammoth Cave, then, was a world of contrasts. Lanterns provided an artificial light through the natural darkness. Underground visitors provided sounds in the unpeopled silent passages, adding to the rippling, dripping sounds of flowing and seeping water. When all was still, the silence soon attracted visitors' attention. In 1843, the first guidebook to the cave described the first room of the tour, the Rotunda, as being so empty of sound that one could hear "not even a sigh of air—not even the echo of a drop of water falling from the roof."¹³⁷ Ten years later, Nathaniel Parker Willis concurred, adding that it possessed "a profound silence, gloomy, still, and breathless..."¹³⁸ to great effect. The "solemn" atmosphere, combined with the "impenetrable [*sic*] wall of darkness" created an "unbroken" stillness that "oppressed" his mind "with a sense of vastness, and solitude, and grandeur indescribable."¹³⁹ Despite his inability to describe the scene before him, Willis attempted to relate the experience to surface-dwellers: "The grass must stop growing, and the stars hold their breath, to give you, above ground, any idea of that silence."¹⁴⁰

In the stillness, some visitors found tranquility. On Echo River, the deepest level of the cave, "God spoke" to John Abbott, "with a voice such as I had never heard before."¹⁴¹ Stump Forwood, a Baltimore physician visiting in 1867, felt "calmness and peace, harmony and love." Writing after the cacophony of the war that tore apart the

¹³⁷ [Bullitt], *Rambles in the Mammoth Cave*, 14.

¹³⁸ Nathaniel Parker Willis, *Health Trip to the Tropics*, 196.

¹³⁹ *Ibid.*

¹⁴⁰ *Ibid.*, 174.

¹⁴¹ Abbott, *The Wonders of the World*, 157.

nation, the Confederate-sympathizing doctor found his “ideal of an approach to spiritual life.”¹⁴² His senses of sight and sound working together at Echo River made the experience, to Forwood, “the most charming reminiscence” at Mammoth Cave. Here in the silence and beauty was a gateway to an afterlife, “the fairy river that rafts upon its bosom the wandering traveler to the mystic regions beyond.”¹⁴³ Death and silence were never far from visitors’ minds as they traveled through Mammoth Cave.

In 1843 Louisville physician and cave owner Dr. John Croghan set up an experimental facility to treat consumptive patients.¹⁴⁴ Twenty-four hour life in the cold, damp air proved (perhaps unsurprisingly) to quicken the deaths of those who suffered from the disease, and the experiment was abandoned. The stone huts built for the care and housing of the patients remained as part of the tour. Willis found the place of significant “horror” of a place “miles away from the sunshine,” where “the intense silence and darkness ...reign there like monsters.”¹⁴⁵

¹⁴² Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 82.

¹⁴³ *Ibid.*, 77-78.

¹⁴⁴ Dr. Croghan’s purchase of Mammoth Cave stems in part from his hope to use the cavern as a consumptive hospital. Croghan’s three youngest brothers died from tuberculosis, one while on a trip in Europe in search of a cure. “Croghan and Clark Families,” Locust Grove, <http://locustgrove.org/learn/croghan-and-clark-families/>. See also Samuel W. Thomas, Eugene H. Conner and Harold Meloy, “A History of Mammoth Cave, Emphasizing Tourist Development and Medical Experimentation Under Dr. John Croghan,” *Register of the Kentucky Historical Society* 68, no. 4 (Oct. 1970): 319-340; and Samuel W. Thomas and Eugene H. Conner, “John Croghan: An Enterprising Kentucky Physician,” *The Filson Club Historical Quarterly* 40 (1966): 205-235.

¹⁴⁵ Forwood. *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 156.

Through the deathly silence, though, visitors heard the evidence of their humanity. “The little bells of the brain are ringing in your ears,” the guide book asserted.¹⁴⁶ “You can hear the throbbings of your heart,” Nathaniel Parker Willis declared.¹⁴⁷ In addition to his own cardial pulsations, visitor J. N. Gwin declared that he could even hear a fellow visitor’s heartbeat so clearly that he could count the *thump-thump* of the ventricles opening “at a distance of several feet.”¹⁴⁸

The biological sounds of life in the otherwise soundless passages played tricks on unsuspecting guests. An 1847 correspondent to the *Louisville Examiner* who stayed behind while his friends went with the guide on a short trip to a deeper level of the cave, heard a sound of a steamboat until he “suddenly reflected that I was out of the steamboat region.” His pulse in “the stillness of those silent chambers” was the source of his imagined soundscape.¹⁴⁹

Visitors were not the only ones who became confused by the sounds, however. Singer John Wilson, visiting in 1849, related a story involving a visitor tricking a guide. The visitor, “gifted with ventriloquial powers,” threw his voice into a parallel passage. The guide immediately followed the voice. As far as the guide knew, a visitor or a fellow guide was without a light and stuck in the darkness. The trickster threw the voice in several other areas of the room, causing more alarm to the guide. Upon reaching the surface the guide informed the landlord of the emergency, but the visitor confessed his

¹⁴⁶ [Bullitt], *Rambles in the Mammoth Cave*, 14.

¹⁴⁷ Willis, *Health Trip to the Tropics*, 196.

¹⁴⁸ Gwin, *A Visit to the Mammoth Cave*, 6.

¹⁴⁹ Examiner Correspondence, *The Louisville Examiner*, August 21, 1847, 3.

role in the ruse. “The mysterious affair ended,” Wilson explained, “with a hearty laugh at the poor guide’s expense.”¹⁵⁰ Guides might know every passage—most importantly, the way out—but that did not stop white visitors from making fun of their black guides.

For the most part, however, guides’ and visitors’ uses of sounds were for education and victimless entertainment. At the Gothic Chapel, known today as the Bridal Chamber, John Wilson “broke the silence by singing Luther’s Hymn, while those around me stood like statues.”¹⁵¹ The 1843 guidebook claimed Mammoth Cave to be the site of several concerts.¹⁵² Cave signatures reveal a number of musicians traveled to the cave and likely performed there. The Sable Melodists, a traveling minstrel group, sang in the late 1840s. Most notably for mid-nineteenth century visitors was Jenny Lind’s 1851 tour through the cave, although the only first-hand account of her visit does not mention her singing in the vast underground.¹⁵³ However, at the Star Chamber on that trip, a violinist who accompanied the trip broke the silence “and the Prayer from the *Der Freyshutz* poured its melody on the Chamber,” to the surprise and delight of his party.¹⁵⁴ The natural amplification in the cave allowed for the entertainment; even the stone walls themselves

¹⁵⁰ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 6-7.

¹⁵¹ *Ibid.*, 6.

¹⁵² [Bullitt], *Rambles in the Mammoth Cave*, 20.

¹⁵³ Julius Benedict, “Made. Jenny Lind’s Visit to the Mammoth Cave,” published in Horace Martin, *Pictorial Guide to the Mammoth Cave*, 9-14.

¹⁵⁴ *Ibid.*, 13.

could make musical sounds when struck, such as the “Chime Rocks” deep in the Pass of El Ghor along the Long Route.¹⁵⁵

The limestone walls and ceilings of Mammoth Cave provided ample surfaces off of which sounds could echo throughout the chambers. Guides and guests alike listened to the cave to know it better. While standing above pits, visitors gazed into “a profundity of darkness” as the guide threw a stone over the edge. If they counted the seconds until a splash “echo[ed] up from a vast cavern of stillness,” the visitors could guess the depths.¹⁵⁶

The bouncing sound waves were essential clues to determine the sizes and shapes of rooms and passages when lights failed to fully demonstrate the enormity. One of the favorite places for guides to demonstrate such phenomena was at the appropriately named lowest level of the long route, Echo River. Here the guides assisted visitors into boats and paddled them across a quarter-mile expanse, pausing to entertain and show off the acoustical power deep within the cave.

Guides used the few resources at their disposal to let the cave speak, in a sense. A favorite tradition at Echo River was the “ringing of the bells.” Over millions of years, Echo River carved out scallops, smooth cuts in the rock similar to the divots in a golf ball. When the water moved more quickly, smaller scallops remained behind; the slower the water, the larger the scallop.¹⁵⁷ A visitor recalled when Stephen Bishop dipped his oars into the nearly still river, swished the paddle back and forth, stirring the water to

¹⁵⁵ Gwin, *A Visit to the Mammoth Cave*, 13.

¹⁵⁶ Willis, *Health Trip to the Tropics*, 159.

¹⁵⁷ Palmer, *A Geological Guide to Mammoth Cave National Park*, 115.

either side of the tunnel. After a short time, Stephen stopped and instructed them to remain silent as the water hit the scalloped edges “rumbling away like the echoes of thunder.”¹⁵⁸ In his 1882 guidebook to the cave, Horace Carter Hovey described the “most extraordinary effects” of the ringing of the bells, “when Echo River is allowed to speak for itself” and if guests remained silent:

The method is simply by the guide’s agitating the water by rocking the boat and striking the water vigorously with his paddle. The first sound to break the intense stillness is like the tinkling of myriads of tiny silver bells. Then larger and heavier bells take up the harmony as the waves seek out the cavities in the rocky wall. Then it is as if all chimes of all cathedrals had conspired to raise a tempest of sweet sounds. These die away to a whisper, followed by mutterings of noise as if of an angry multitude, mingled with unearthly shrieks. Alarmed, we are ready to go to the rescue; but the guide motions to us to keep quiet and await what is to follow. We sit in expectation. Lo, as if from some deep recess that had hitherto been forgotten, comes a tone tender and profound; after which, like gentle memories, are reawakened all the mellow sounds, the silver bells, the alarm bells, the chiming cathedral bells, till River Hall rings again with the wondrous, matchless harmony.¹⁵⁹

Peaceful sounds of lapping water continued when the guides sang in the chambers for the visitors.¹⁶⁰ Stephen Bishop had several songs in his repertoire, as visitors noted him singing “Negro songs,” such as “Old Uncle Ned” and “Oh, Susanna,” written by Kentucky native Stephen Foster, while Alfred sang “Auld Lang Syne” for some groups.¹⁶¹ Their time on Echo River was the explicit case of guides’ performing for

¹⁵⁸ Taylor, *At Home and Abroad*, 210.

¹⁵⁹ Horace Carter Hovey, *Celebrated American Caverns, Especially Mammoth, Wyandot, and Luray, Together with Historic, Scientific, and Descriptive Notices of Caves and Grottoes in Other Lands* (Cincinnati: Robert Clarke & Co., 1882), 114.

¹⁶⁰ Taylor, *At Home and Abroad*, 210-211.

¹⁶¹ Willis, *Health Trip to the Tropics*, 172; Wilson, *A Visit to the Mammoth Cave of Kentucky*, 11, 15.

visitors. Just as wealthy visitors put on old, dirty clothes and performed as adventurous cave explorers, guides performed as entertainment not entirely dissimilar from the minstrel shows. Singing for visitors gave the impression to visitors that the guides were happy to serve—Stephen appeared as “a merry fellow” in part because of his impromptu concerts.¹⁶² The visitors had certain expectations of their guides, and the guides may have felt it their duty to perform, since they could keep any tips they earned. Even though the enslaved guides were ostensibly in charge of their companies from a safety standpoint, white visitors still held the upper hand.

Postbellum visitors did not report the same kind of singing on their cave trips. Around 1877, George Flint reported that Mat Bransford “kept up a succession of low musical notes, with an occasional shout which seemed to travel through the cave and return to us.”¹⁶³ Rather than singing songs as Mat formerly may have had to do, he invited visitors to entertain themselves by firing pistols. Visiting in 1875, J. N. Gwin described the report of a pistol as “the murmuring of distant thunder.”¹⁶⁴ Flint boasted further that “a battery of artillery, and a regiment of infantry, backed by the thunders of heaven could scarcely equal it.”¹⁶⁵

If guides did not sing, sometimes the visitors entertained themselves with the cave acoustics. J. N. Gwin’s party sang “Oft the Stilly Night” on Echo River, where it sounded as if there were “a thousand voices in the distance, each one repeating the music in a

¹⁶² Wilson, *A Visit to the Mammoth Cave of Kentucky*, 11.

¹⁶³ *Ibid.*, 15-16; Flint, “A Visit to Mammoth Cave,” 10.

¹⁶⁴ Gwin, *A Visit to the Mammoth Cave* 16.

¹⁶⁵ Flint, “A Visit to Mammoth Cave,” 10-11.

sweeter, softer, and more melodious tone.”¹⁶⁶ Music was one of the easiest ways for some visitors to put their minds at ease in the otherwise silent chambers. “The deep solemnity” and “solitary helpless individuals” when visitors were occasionally left alone while guides took care of logistical work of working their way around floods or other obstacles kindled excitement and anxiety.¹⁶⁷ In those situations, music, either their own or from the guides, gave visitors a sense of security. No one had forgotten them in the bowels of the earth; someone would get them out. When they were not playing musician, guides were rescuers.

Visitors often felt Mammoth Cave before even entering. At the entrance, in the summer months, cool air issues outward as the hot air of the surface pushes into cracks and crevices along the ground. The pressure of the hot air sends the cave air out, mainly through the large entrance. In the winter, the air flow reverses and the first passageway, the Narrows, can be quite frigid.

Inside the cave, though, visitors felt a stable climate and a stable place. “A change of seasons is unknown in the Mammoth Cave,” Baltimore doctor Stump Forwood explained.¹⁶⁸ More than the constant temperature, though, visitors found “an eternal sameness.”¹⁶⁹ Although water flowed through the lower regions of the cave and some

¹⁶⁶ Gwin, *A Visit to the Mammoth Cave*, 12.

¹⁶⁷ Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” 40; Wilson, *A Visit to the Mammoth Cave of Kentucky*, 15.

¹⁶⁸ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 44.

¹⁶⁹ *Ibid.*

trickled in from the surface at various points in the cave, that natural agent of physical change was largely missing. The unchanging environment of the cave seemed to trap time itself, as Forwood found that without changes in light, water, and rapid temperature, “the three great forces of geological transformation cease to operate.”¹⁷⁰ The constancy of air and temperature was less interesting to most visitors, but captivated the attention of scientists and physicians who wanted to put the cave to work.

Physicians had linked temperature and health for some time by the era of tourism at Mammoth Cave.¹⁷¹ Unlike the “foul airs” that karst geology and heavy populations created in St. Louis, though, Mammoth Cave’s continuous airflow, steady climate, and no permanent human population created what many believed to be a “favored spot for sanitary purposes.”¹⁷²

Before 1816 the experiences of the enslaved saltpeter miners helped men of science connect the cool cave air to energy and vigor. Franklin Gorin, who purchased the cave in 1837, wrote to Forwood in 1868 that the men who worked in the cave “came out

¹⁷⁰ Ibid., 45.

¹⁷¹ Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002) perhaps best addresses the ways Americans in particular linked disease and environment. See also David Arnold, ed. *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900* (Atlanta: Rodopi B.V. Amsterdam 1996); and Simon M. Kevan, “Quest for Cures: A History of Tourism for Climate and Health,” *International Journal of Biometeorology* 37 (1993): 113-124.

¹⁷² Valencius, *The Health of the Country*, 129; M. H. Crump, “Experiments with Cave Air,” *Science* 15, no. 379 (May 9, 1890): 291.

healthy, and had a beautiful gloss, with shiny faces and skins.”¹⁷³ Visitors who engaged in the Long Route often commented that despite the strenuousness of the eighteen-mile trek to and from places like Serena’s Arbor and Croghan Hall, the temperature and purity of the air sustained them “as a tonic.”¹⁷⁴ It was only when visitors left the cave and returned to “the upper air,” that some felt fatigued.¹⁷⁵

The believed purity and steady temperature that sustained workers and visitors, some thought, could be used for health purposes. Dr. Forwood believed the cave air to be “freer from...septic influences.”¹⁷⁶ In 1890, M. H. Crump, writing in *Science* about cave air, noted two physicians’ studies of air that found it to be “of the highest value for respiratory use in diseased organs.”¹⁷⁷ These doctors were not the first to be attracted to the cave for medicinal purposes.

In 1839, Louisville physician John Croghan purchased Mammoth Cave from Franklin Gorin for \$10,000. That same year, Kentucky-born Dr. Joseph Nash McDowell visited the cave with interest in obtaining a cave for performing medical experiments

¹⁷³ Franklin Gorin to W. Stump Forwood, February 9, 1868; W. Stump Forwood Papers #260, Southern Historical Collection, The Wilson Library, University of North Carolina at Chapel Hill.

¹⁷⁴ R. S. Thompson, *The Sucker’s Visit to the Mammoth Cave* (Springfield, OH: Live Patron Publishing Office, 1879), 78.

¹⁷⁵ Bird, *Peter Pilgrim*, 109.

¹⁷⁶ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 46.

¹⁷⁷ M. H. Crump, “Experiments with Cave Air,” 291.

involving the preservative qualities of saltpeter.¹⁷⁸ Both physicians were interested in the cave environments, but for radically different purposes. In addition to his interest in capturing tourist dollars, Croghan sought to cure disease; McDowell was more interested in preserving dead bodies. Sometime in the 1840s McDowell allegedly attempted these experiments after he purchased a cave near Hannibal, Missouri, which most famously became a setting in *The Adventures of Tom Sawyer*.¹⁷⁹

In 1843, Dr. Croghan established a series of stone huts and wooden cabins inside the cave as a sort of tuberculosis hospital. Patients were tasked with staying inside the cave all day and all night, taking their meals in the huts. Dr. Croghan thought the pure air of the cave could help cure them, but the realities of living in a 54°-Fahrenheit environment meant that patients needed heat. Fires, the logical solution, created smoke that stagnated when the temperature in the cave was a similar temperature as outside.¹⁸⁰ In a letter home, patient Oliver Hazard Perry Anderson complained of irritation in his lungs from smoke and his nose “offended by a disagreeable effluvia,” from the lack of ventilation that the pure cave air was supposed to have provided.¹⁸¹ Anderson noted upon

¹⁷⁸ H. Dwight Weaver, *Missouri Caves in History and Legend* (Columbia: University of Missouri Press, 2008): 15.

¹⁷⁹ Ibid.

¹⁸⁰ John Croghan to General T. S. Jesup, January 13, 1843, Thomas Sidney Jesup Collection, Manuscripts Division, Library of Congress, Washington, DC; quoted in Olson, *Mammoth Cave by Lantern Light*, 78.

¹⁸¹ Oliver Hazard Perry Anderson to Harry Wingate, Esq., January 12, 1843; Mammoth Cave National Park Vertical Files; quoted in Olson, *Mammoth Cave by Lantern Light*.

his departure that he was the fifth patient to leave and that two patients had died during the experiment.¹⁸²

In 1861 a writer for Charles Dickens' *All Year Round*, called it a "strange episode in the history of quackdom," but was nonetheless interested in hearing the story from his guide.¹⁸³ Nick Bransford, one of the guides, evidently served as an assistant to Dr. Croghan in the experimental sanitarium. In 1863 Bransford related to F. J. Stephenson of his role in calling patients to meals by blowing a horn. He had also witnessed at least three patients die while in the cave.¹⁸⁴ These victims of consumption who died in the cave did not die alone, but may not have been surrounded by family or someone to take their last words or otherwise give them a "Good Death" that was sacred ritual in antebellum America.¹⁸⁵ Those who visited during the Civil War, when thousands of men died so far from home, perhaps felt a twinge of sympathy for the who died in the cold, damp air of cave.

Of course, visitors felt more than air in their cave trip. Climbing, crawling, and squeezing their way along the tour brought visitors in contact with the limestone rocks. Around 1839 when Stephen Bishop first discovered a narrow, serpentine passage just past Bottomless Pit, he named it "The Winding Way." Once visitors began to go on this route

¹⁸² Ibid.

¹⁸³ "A Tour in the Mammoth Cave," *All Year Round* 4, no. 91 (January 16, 1861): 345.

¹⁸⁴ F. J. Stephenson, "Adventures Underground: The Mammoth Cave of Kentucky in 1863," *Blackwood's Magazine* (June 1932): 729-730; quoted in Olson, *Mammoth Cave by Lantern Light*, 77.

¹⁸⁵ Drew Gilpin Faust, *This Republic of Suffering: Death and the American Civil War* (New York: Alfred A. Knopf, 2008), 7.

the pathway took on a new name that indicated the size, rather than the direction. “It is throughout torturous...the terror of the Falstaffs and the ladies of ‘fair, fat, and forty,” the 1844 guidebook teased.¹⁸⁶ After a rotund gentleman visitor found himself temporarily stuck in an especially tight spot from which he “soon burst his bonds, not, however, without damage to his indispensables,” the passage soon came to be known as Fat Man’s Misery. Scottish singer John Wilson related a story of a woman who faced a similar predicament. In her escape from the clutches of the cave, “the appendix...of a bustle was squeezed out of existence.”¹⁸⁷ The common story of getting stuck and temporarily injuring oneself related a sense of danger and humor to the cave tour that one would not often experience on the surface.

As visitors went deeper in the cave, the tall ceilings from Main Cave sloped down into low ceilings one could easily touch. In contrast with the mammoth passages, these smaller spaces became landmarks in their own right. Places such as “Tall Man’s Misery,” when the floor of Fat Man’s Misery came up about a foot, leaving a pass about three feet high and two feet wide, and “The Valley of Humility,” where all visitors taller than five feet had to bow their heads to get through safely, spoke to the shorter stature required. When it occasionally flooded, Echo River could force visitors to squeeze through as best they could against the ceiling. Stump Forwood related a story of his party having to lie down in their boats, “some laughing, some complaining that the ceiling had damaged

¹⁸⁶ [Bullitt], *Rambles in the Mammoth Cave*, 71.

¹⁸⁷ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 12.

their heads,” to move through to the second half of the Long Route.¹⁸⁸ The physicality of the trip was half of the adventure.

The cave tour was not a simple walk through long passages. The tour involved climbing, hiking, and at times balancing on rocks. In the early nineteenth century, the saltpeter miners cleared paths for oxen carts to drive through. Antebellum visitors thus used those paths where they existed. Beyond the mining operation, tours had to navigate large rocks strewn around the floor, the result of the cave’s formation. In the off-season, guides cleared the rubble where they could, building walls in places like Gothic Avenue, or creating walkways out of flat rocks along the Main Cave. Guides cunningly devised a way for visitors to help them in this task of clearing rocks: for a gratuity, guides might let visitors build stone towers during their visit.

Visitors could leave their mark on the cave, without marring the limestone, by piling rocks into a makeshift monument. Dr. Stump Forwood noted one known as "Nicholas' Monument," after the guide.¹⁸⁹ These stone memorials served two purposes. The first was a way for guests to memorialize their visit or their state, or a particular cause. The second, and more beneficial to the guides, was that piling rocks to the side of the cave helped to clear them from the pathways. Some of these monuments still stand today. The Kentucky Monument in Gothic Avenue, is the only one that stretches from floor to ceiling, making it effectively the tallest. Others have since fallen down, and

¹⁸⁸ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 79.

¹⁸⁹ *Ibid.*, 162.

lacking markers, their cause collapsed into obscurity. The monuments, even those that collapsed, took less of a toll on the cave than the practice of souvenir hunting.

Since the earliest tours, taking souvenirs from the cave had been a way for visitors to remember their journey. Often, those included the theft of stalactites and stalagmites, “thus destroying in a moment the work of centuries,” as the 1844 guidebook lamented.¹⁹⁰ John Croghan saw those who took a piece of the cave home with them as destroying God’s own handiwork. Croghan actively sought to prevent visitors from touching those formations: “there they are, all lovely and beautiful, and there they ought to remain, *untouched* by the hands of man, for the admiration and wonder of all future ages.”¹⁹¹ To that end, Croghan implemented rules against gathering specimens from the walls and ceilings, which his trusted guides only sometimes enforced.

Despite the rules against the practice, parties gathered all sorts of growths from Mammoth Cave. Fairy Grotto, with numerous speleothems near the Cataracts along the Main Cave, was a target of those looking to add to their geology collections. In 1840, Dr. Frederick Hall waxed poetic about the

superb pillars, fluted and plain, wearing rich entablatures, with elegant cornices and pedestals, . . . alabaster fire places of every fashion: urns and vases, and sarcophagi of snowy delicacy; a range of white, translucent curtains, thrown gracefully around a magnificent pulpit; little images resembling pigmies [*sic*], sitting in marble chairs or reclining on lily settees, and whatever imitative forms, the most vivid imagination can drum up.¹⁹²

¹⁹⁰ [Bullitt], *Rambles in the Mammoth Cave*, 97.

¹⁹¹ *Ibid.* Emphasis in original.

¹⁹² Frederick Hall, *Letters from the East and from the West*, 116.

As he declared to future visitors that they must see it to enjoy it, Hall stole part of that privilege as he loaded his satchel and guide with formations.¹⁹³ Nearly ten years later, John Wilson admired the Fairy Grotto, but expressed remorse at the “barbarous” visitors who “spoil[ed] the beauty” of it by “their destructive deeds.”¹⁹⁴

If visitors were impressed with Fairy Grotto, those who were able to make the Long Route to Cleaveland Avenue were rewarded with stunning gypsum roses, lilies, crusts, and other shapes. Here, Wilson found many gypsum formations on the ground, some naturally pushed down by a new layer of calcium sulfate, but many “by the ruthless hand of some visitor.”¹⁹⁵ Those pieces that were on the ground were fair game for anyone to take, if they did not mind to carry the extra weight on their nine mile hike back through the cave. Most of Stump Forwood’s party left their collected rocks behind rather than use their waning energy on the rocks.¹⁹⁶

There were some formations that guides took special efforts to preserve some places from the wanton desire of “vandal visitors.”¹⁹⁷ Horace Carter Hovey, in one of his many paeans to Mammoth Cave, revealed how the guides were able to protect “Charlotte’s Grotto,” which Stephen Bishop named in honor of his wife (after Stephen’s death, she married Nick Bransford, giving him a reason to protect it as well). The guides

¹⁹³ Ibid., 146.

¹⁹⁴ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 12.

¹⁹⁵ Ibid., 17.

¹⁹⁶ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 142-143.

¹⁹⁷ Abbott, *The Wonders of the World*, 155.

had the advantage of knowledge of the cave that the visitors did not. Guides could choose to reveal certain features to certain visitors, or they could opt against it. In the case of Charlotte's Grotto, the guides' "convenient forgetfulness" spared the "snowy plumes" of this special set of formations, keeping it "forever safe."¹⁹⁸ Guides could only do so much in terms of protection, though. The author of *Rambles in the Mammoth Cave* noted lack of preservation at Mammoth in comparison to the protection of the "comparatively small cave of Adelburg, which belongs to the Emperor of Austria," and wondered "what ought not to be done to preserve the mineralogical treasures" of Mammoth Cave.¹⁹⁹

Preservation was at the front of Dr. Croghan's mind when he laid down the rules against taking specimens, and later managers took some strides to limit other forms of permanent alteration to the cave with limited success. Since at least 1811, and likely since the late archaic and early woodland period, visitors to the cave have left their mark. Charcoal drawings of snake-like animals and stick figures, attributed to the pre-Columbian inhabitants who first walked the passages are the earliest forms of writing in the cave. In 1857, Nathaniel Parker Willis lamented that visitors liked to leave evidence of their having visited the cave. Some visitors left calling cards, while "others more barbarous, or thoughtless, have hoisted candles upon sticks and smoked their names on the otherwise unblemished ceilings and walls...in a very few years the Mammoth Cave will have lost all its beauty..."²⁰⁰ Stephen Bishop, Willis's guide, seemed to agree with

¹⁹⁸ Horace C. Hovey, "Mammoth Cave, Kentucky," *Journal of the American Geographical Society of New York* 23, (1891): 77.

¹⁹⁹ [Bullitt], *Rambles in the Mammoth Cave*, 97-98.

²⁰⁰ Willis, *Health Trip to the Tropics*, 182-183.

this assessment, but the cave tells a different story. For instance, Gothic Avenue's white, flat ceiling was an open canvas that attracted most of the smoke signatures from the 1820s through the 1860s, including those of the guides.

Guides left their literal mark on the cave's walls and ceilings through the dotted smoke of a candle, or by scratching their names. It was not illegal in Kentucky for enslaved people to learn how to read and write, and the signatures in Mammoth Cave show the development of the guides' handwriting over the course of time. In his early signatures, Stephen Bishop used large block lettering; if he ran out of room on a particular surface, he made the letters smaller or put them below what he had previously written. By the 1850s, Stephen signed his name in a more confident script. These cursive signatures occasionally included his wife's name, which he always wrote above his own as "Mrs. Charlotte Bishop," indicating she visited the cave as well.²⁰¹

Stephen Bishop's signatures reveal not only a change in his handwriting, but also agency in crafting his identity. Stephen had once been the property of Lowry Bishop, who lived in nearby Glasgow, Kentucky. Lowry used Stephen as part of his payment to his divorce attorney, Franklin Gorin.²⁰² Stephen first signed his name in the cave as Stephen Gorin, perhaps the name imposed upon him once he legally became Gorin's property. In

²⁰¹ Brucker, "Stephen Bishop at Mammoth Cave," 9-10.

²⁰² Ibid., 10.

1838, Franklin Gorin purchased Mammoth Cave and placed Stephen as a guide.²⁰³ The next year, however, Gorin sold the cave and Stephen to Dr. John Croghan.²⁰⁴

Rather than becoming “Stephen Croghan,” cave signatures reveal that Stephen chose his identity. Stephen crossed out “Stephen Gorin” signatures and wrote “Bishop” instead. Franklin Gorin indicated to Dr. Stump Forwood that Stephen was the product of a mixed union and that Gorin “knew his reputed father, who was a white man.”²⁰⁵

Choosing the name Bishop could have been both Stephen’s claim on a white paternity, or a protest against Franklin Gorin. Nathaniel Parker Willis indicated that Gorin once took Stephen to Louisiana to sell him, but when Gorin could not find a buyer willing to pay \$1100, Gorin returned Stephen to Kentucky.²⁰⁶ It is unclear if this is before or during Gorin’s cave ownership, or if this actually happened. Stephen could have been making a plea to the northern writer for sympathy. Willis employed former slave Harriet Jacobs as a domestic servant, although Jacobs believed Willis to be sympathetic towards the institution of slavery.²⁰⁷

²⁰³ Franklin Gorin to W. Stump Forwood, February 9, 1868; W. Stump Forwood Papers #260, Southern Historical Collection, The Wilson Library, University of North Carolina at Chapel Hill.

²⁰⁴ Inventory of Property Left at Mammoth Cave, December 3, 1839, Janin Family Papers, The Huntington Library, San Marino, California.

²⁰⁵ Franklin Gorin to W. Stump Forwood, February 9, 1868; W. Stump Forwood Papers #260, Southern Historical Collection, The Wilson Library, University of North Carolina at Chapel Hill. Southern History Collection, University of North Carolina

²⁰⁶ Willis, *Health Trip to the Tropics*, 164.

²⁰⁷ Thomas N. Baker, *Sentiment and Celebrity: Nathaniel Parker Willis and the Trials of Literary Fame* (New York: Oxford University Press, 1999), 4.

Mat Bransford left signatures in Mammoth Cave as well, although usually just his first name. “Mat 1850,” scratched into a wall along Main Cave, is typical of the marks he left behind. While Stephen Bishop claimed the last name of his likely father, Mat generally did not do this in his cave signatures. Mat Bransford was born to an enslaved mother and his white owner, Thomas Bransford.²⁰⁸ Though fellow guide Nick Bransford shared Mat's last name, he did not share blood relations. Nick, who was illiterate, did not leave any signatures in the cave, but one touring party left a dedicatory inscription at the Snowball Room along the Long Route: "To, Nick, the Guide, 1857 August 17th." The guide Alfred, known only in accounts by his first name, usually signed only his first name, but in at least one place signed the limestone as Alfred Croghan. Dr. Croghan's sister had owned Alfred as a young man, and according to one account, he had "been a great pet, as he learned to read when very small."²⁰⁹ The signatures that both visitors and guides left behind was a way to stake a claim to their existence, their decisions, and their accomplishments. By etching or smoking names on the walls and ceilings, people were able to touch not just the cave, but also the future. Guides' signatures especially made the least powerful people on Kentucky's surface "immortal—in the Cave."²¹⁰

Most visits to Mammoth Cave were fleeting. The environment was and is not well suited for humans to live in permanently; before the Wilderness Act defined legal wilderness, Mammoth Cave was a place “where man is a visitor who does not remain.”²¹¹

²⁰⁸ Lyons, *Making Their Mark*, 49.

²⁰⁹ Quoted in Abbott, *The Wonders of the World*, 147.

²¹⁰ [Bullitt], *Rambles in the Mammoth Cave*, vii.

²¹¹ Wilderness Act of 1964, Pub. L. No. 88-577, 78 Stat. 890 (1964).

If visitors wanted to take a souvenir rock or formation, they broke the rules; near the turn of the century they risked breaking a state law.²¹² While they might not be allowed to take a souvenir in their pocket, visitors could take an unusual, temporary souvenir in their body. Their tours consisted of seeing, hearing, and touching the cave, and no tour was complete without tasting it as well.

Most of Mammoth Cave's passages are dry, meaning that there is no water flowing through them, or dripping in from above. The layers of sandstone and shale above the limestone act as a roof over the cave. Where there is a crack in the roof, though, water can seep in. If the water moves in slowly, drip by drip, it might create stalactites or other speleothems. If it moves faster, the water dissolves away the limestone but leaves little or no minerals behind. That water pooled in various places in the cave, making oases along the tour routes. Nahum Ward described one such pool below Gothic Avenue, named "'Pool of Clitorius,' after the 'Fono Clitorius' of the classicks [*sic*], which was so pure and delightful to the taste, that after drinking of it, a person had no longer a taste for wine."²¹³ As guides' knowledge of the extent of the cave lengthened the tours, the need for more breaks and sustenance became apparent.

The Cataracts, a waterfall in Main Cave approximately one-and-a-half miles from the entrance, was one of the earliest dining rooms inside the cave. In 1851 the Reverend Horace Martin explained that by the time they reached this point they had worked up a

²¹² "An Act for the Protection of the Mammoth Cave and Mammoth Cave Estate, in Edmonson County," *Acts of the General Assembly of the Commonwealth of Kentucky*, vol. 3 (Frankfort: E. Polk Johnson, 1890), 899.

²¹³ Ward, "Mammoth Cave: Description of the Great Cave in Warren County, Kentucky," 11.

“keen appetite,” and were ready for a meal.²¹⁴ The Mammoth Cave Hotel provided the food, plates, and wine for visitors to partake while in the cave. John Wilson and his party ate at Richardson’s Spring, just a level below Main Cave near the Giant’s Coffin. A flat rock nearby provided a natural dining table, and the spring of “clear, delicious water,” refreshed those who did not care to partake of alcoholic beverages.²¹⁵ Those visitors taking the Long Route usually ate in Washington Hall, more than a mile past Echo River, after five hours of touring through the cave. Bayard Taylor recalled the heaping helpings of ham, venison, and biscuits from the hotel.²¹⁶

Eating in the cave was one time in the tour when social customs from the surface made their way underground. Nathaniel Parker Willis mentioned that at their lunch break Stephen Bishop “remembered that he was a slave,” and distanced himself from the all-white group.²¹⁷ Willis and company, who “remember[ed] his merits” and what they had learned about the cave, invited Stephen to eat with them.²¹⁸ Breaking bread together was a small, but significant way for visitors to show appreciation for their guides. Much of the cave tour was a theatrical performance of inverted race relations.²¹⁹ White visitors who invited Stephen or any of the other guides to dine with them were playing their part in

²¹⁴ Martin, *Pictorial Guide to the Mammoth Cave*, 44.

²¹⁵ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 9.

²¹⁶ Taylor, *At Home and Abroad*, 214.

²¹⁷ Willis, *Health Trip to the Tropics*, 178.

²¹⁸ Ibid.

²¹⁹ Peter West, “Trying the Dark: Mammoth Cave and the Racial Imagination, 1839-1869,” *Southern Spaces* (February 2010), <http://southernspaces.org/2010/trying-dark-mammoth-cave-and-racial-imagination-1839-1869>.

engaging in a social taboo. Underground, surrounded by waterfalls or gypsum-encrusted walls, visitors and guides were at once protected from traditional racial constraints, but also trapped in them. Stephen, who held some position of authority in the cave, could not dine with white visitors without an invitation. Guides could not depend on visitors to extend this hospitality to them the way that the hotel extended hospitality to the guests.

During their meal breaks, visitors on the Long Route also rested up for the remainder of the journey they still had left to go: a little over a mile to the end of the cave, and then a nine mile return trip to the entrance. Mealtimes gave visitors a chance to seek "reliefs" of a different sort if they had too much water or wine.²²⁰ Visitors taking the Short Route did not always dine in the cave, but could still taste it in a more literal sense.

Naturally-occurring salts in the cave had attracted the attention of the earliest visitors to Mammoth Cave, the people in the late Archaic, early Woodland period.²²¹ In the nineteenth century, the salts and the ancient people who mined them remained a curiosity to many visitors. Scottish singer John Wilson recounted entering the "Salts Room," just past the Star Chamber, where multiple layers of salts lined the passageway or dangled from the ceiling in crystalline shapes. "They taste very pure," he asserted, "and not at all unpleasant."²²² Wilson also indicated that neighbors in the Mammoth Cave area used the salts for medicinal purposes. Epsom salts and mirabilite, also known as Glauber's salts (hydrous sodium sulfate) can both be used as a remedy for intestinal

²²⁰ Leams, "A Visit to the Mammoth Cave," 3.

²²¹ Crothers, "Early Woodland Ritual Use of Caves in Eastern North America," 524.

²²² Wilson, *A Visit to the Mammoth Cave of Kentucky*, 10.

problems.²²³ The "high fat, high starch" diet consumed by rural people in the early nineteenth century blocked bowels.²²⁴ Cave salts could ease their constipation, but the remedy came at a price.

Locals' use of the salts depended on the guides to extract them from the cave. This might have been an additional way for the enslaved guides to earn money. On plantations, it was not unusual for enslaved workers to grow and sell produce.²²⁵ If their white neighbors could not afford the time or money to take a tour, they could possibly pay Mat, Nick, or Stephen to bring the cave to them. The cave guides must have been able to engage in some sort of local economy. If not selling the salts, guides may have traded them for food, timber, or other household items.

The ties the enslaved guides created through these local networks helped their transitions into freedom. Wilson visited Mammoth Cave just two months prior to the death of cave owner John Croghan. In his will, Croghan provided for a gradual emancipation of Stephen and Alfred over the course of seven years. Once Stephen became a free man in 1856, he purchased seventy-five acres near the cave for \$140.²²⁶ Bishop lived as a free man for less than a year until his death from unknown causes in

²²³ Ibid., 10; Crothers, "Early Woodland Ritual Use of Caves in Eastern North America," 525.

²²⁴ David B. Danbom, *Born in the Country: A History of Rural America* (Baltimore: The Johns Hopkins University Press, 1995), 99.

²²⁵ Sam Bowers Hilliard, *Hog Meat and Hoe Cake: Food Supply in the Old South, 1840-1860* (Athens: University of Georgia Press, 2014), 183.

²²⁶ Lyons, *Making Their Mark*, 21.

1857.²²⁷ His wife, Charlotte, also free by this time, later married Nicholas Bransford.²²⁸ Nick and Mat, who Croghan had leased, did not become free until after the Civil War. Mat Bransford purchased land less than three miles from Mammoth Cave and continued guiding into old age. Guiding cave tours became a family tradition for both Bransfords as they passed the skills they had honed as slaves to their free sons and sons-in-law. Mat Bransford's descendants guided tours until the eve of Mammoth Cave's establishment as a national park.²²⁹

When visitors entered Mammoth Cave, they entered a very different world than the one they left on the surface. Away from the sunshine and plant life, the dark, seemingly lifeless underworld looked, sounded, and smelled unusual, and at times seemed without odor at all.

The saltpeter mining operation at the Rotunda, the first major room in Mammoth Cave, left mounds and mounds of dirt all around the chamber. In the relative dry atmosphere, as water did not penetrate into the Rotunda, the smell of dirt was one of the first to enter visitors' nostrils. As visitors continued along the paths, they kicked up more and more loose dirt left from the saltpeter mining operation and from the ancient rivers that formed the passages, rendering it a constant smell that lingered through the tour. Visitors got used to the smell, as they were more focused on the quality and purity of the air. In his survey notes to the cave, Edmund F. Lee wrote in 1835 that "respiration is

²²⁷ Stephen Bishop's death was notable enough to be mentioned in the pages of the *Louisville Journal*, and was reprinted in William Lloyd Garrison's newspaper, *The Liberator*, July 31, 1857.

²²⁸ Lyons, *Making their Mark*, 21.

²²⁹ *Ibid.*, 61.

performed with pleasure. The blood flows with freedom. The pulse is slow and full.”²³⁰
The smell of dirt lurked as a background scent that was hardly noticed at all.

Smells surrounded the visitors, although they might have escaped notice. Guides struck matches and lit magnesium flares or Bengal lights. The lanterns used lard oil for fuel, which tempted visitors like Nathaniel Parker Willis to hope for an early lunch.²³¹ Guides carried extra fuel and lunch baskets on the long trips, which emanated smells of wild meats or bread. The subterranean rivers like Echo River or River Styx smelled differently than the dry passages, but these smells seemed to exist without comment. It was only when visitors imagined smells that they seemed to pay attention to their olfactory surroundings.

When Nathaniel Parker Willis came upon the tuberculosis huts, he described not only the “intense silence and darkness,” but also the smell having a “grave-like” quality, “barren of the pervading vitality” of surface vegetation. Willis equated the dark, quiet, and scentless environment of the cave to a “horror” should one die there.²³² The cave was, to him, “destitute of the cheerful vitality” of that above ground.²³³ Despite the awe and feeling of sublime in the cave, Willis’s cave tour gave him a better appreciation for the surface.

Once parties reached the natural entrance to leave, they noticed an immediate change in all of their senses. Having been underground for eight to twelve hours, on the

²³⁰ Edmund F. Lee, *Notes on the Mammoth Cave, to Accompany a Map*, 6.

²³¹ Willis, *Health Trip to the Tropics*, 161.

²³² *Ibid.*, 156.

²³³ *Ibid.*, 163.

surface “the green is greener, and the bright is brighter.”²³⁴ John Wilson felt that the sky had never been more beautiful, nor the heat more oppressive.²³⁵ Artist George Brewer, who captured scenes from Mammoth Cave in panoramic paintings, found the outside vegetation around the entrance to be “rank...and dripping with moisture” that was not present in the cave.²³⁶ But for Willis, the strongest sensation reawakened in exiting the cave was “the luxury of once more being in the world of things to smell.”²³⁷ Whereas most visitors seemed to comment on the heat outside or the verdant forest, the poet Willis found the “deathliness” of the cave to be truly oppressive. As he hiked up the trail to the hotel, Willis took advantage of the “perfume of the pines” and various other trees and moist soils.²³⁸ By contrast, Bayard Taylor thought there were too many smells as he left the cave, which he credited with heightening his olfactory senses.²³⁹ Dr. Forwood concurred, “the romance of a ‘pure country air’ is forever dissipated.”²⁴⁰ Visiting Mammoth Cave thus gave them a greater knowledge of the underground, and the surface.

Once the tour was finished and they were free to continue with their travels or return home, visitors had time to reflect on all they now knew about Mammoth Cave.

²³⁴ Examiner Correspondence, *The Louisville Examiner*, August 21, 1847, 3.

²³⁵ Wilson, *A Visit to the Mammoth Cave of Kentucky*, 10.

²³⁶ Arrington, “George Brewer’s Moving Panoramas of the Mammoth Cave and Other Natural Wonders of America,” 34.

²³⁷ Willis, *Health Trip to the Tropics*, 204.

²³⁸ Ibid.

²³⁹ Taylor, *At Home and Abroad*, 203.

²⁴⁰ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 46.

Visitors might not have remembered the various geological processes involved in the cave's formation, or the names of various features, but they carried their experiences with them. For Dr. W. Stump Forwood, writing two years after Appomattox, the subterranean visit and features had no comparison. Underground, "we not only leave hope, but we leave care and sorrow and all the feelings that make up the sum of our mundane existence in the world behind us."²⁴¹ It was a feeling like never before, and he suggested that all who could to visit and "experience these new and extraordinary sensations."²⁴²

In less than fifty years, Mammoth Cave went from relative obscurity as a saltpeter operation to a world-famous attraction. Size mattered. The geologic processes that created it over millennia did not grace the cave with an abundance of stalagmites, stalactites, columns, or flowstone, the traditional decorations that other caves offered. Those could be found in Mammoth Cave, but only in certain sections. What Mammoth lacked in ornamentation, it made up in a complete sensory experience.

Caves are not hospitable places for human beings, but cave owners and managers created hospitality on the surface as a gateway to the world below. The guides, faced with oppression above ground, spent countless hours exploring and discovering new portions of the cave that could be added to tours. They in essence created the routes visitors took, and could also let guests take a chance on making new discoveries. Along the way, visitors immersed themselves in the cave environment as a way of knowing the cave and experiencing the natural world in ways they may not have considered doing before, and in times they might not have imagined. Despite the Civil War tearing the nation apart,

²⁴¹ Ibid., 58.

²⁴² Ibid., 59.

tours remained a possibility thanks to the Union-supporting manager in a Union-supporting area.

The war proved to be a pivoting point not just in American history but at Mammoth Cave, as well. In bringing the demise of slavery, the Civil War opened new opportunities for black guides, as well as some setbacks as white guides began to take on those jobs. The end of the Civil War also ushered in a new attitude towards the caves in south central Kentucky. During the antebellum years Mammoth Cave had been a commercial tourist operation, to be sure, but there was little regulation beyond routes and tour times. The Gilded Age and Progressive Era also saw cave managers, scientists, and local cave explorers reconstruct knowledge of caves, used technologies to advertise their caves, and begin an era of competing cave businesses.

CHAPTER III
RECONSTRUCTING KNOWLEDGE: TECHNOLOGY, EXPLORATION, AND THE
DAWN OF THE KENTUCKY CAVE WARS, 1865-1908

On May 15, 1907, Mammoth Cave guide Ed Hawkins took a leap of faith. Deep in Mammoth Cave, past Echo River, through a winding V-shaped canyon known as Boone Avenue, and through several more twists and turns, Hawkins, fellow guide William Bransford (grandson of Mat Bransford), photographer Harry Pinson, and New York attorney and Mammoth Cave enthusiast Benjamin F. Einbigler encountered an obstacle. The cave passage came to a wall and they were now standing in a pit, looking upward.²⁴³ Two miles from any previously known areas of the cave, the choice was simple: go back and wait another day, or press on and hope to find a way out. Hawkins scaled the wall, found a passage, and the party continued into a series of connected shafts. The walls and ceilings of the domes towered over one hundred feet above, and as water fell down the shafts collecting in puddles, the drops echoed around them.²⁴⁴ They had not found just any feature. This felt more like an underground cathedral. Soon Cathedral Domes attracted the attention of another Mammoth Cave researcher and writer, the Rev.

²⁴³ Horace Carter Hovey, "A Mammoth Cave Cathedral: Some New Discoveries of Interest," *Scientific American Supplement* 64, no. 1651 (August 24, 1907): 125.

²⁴⁴ Charles J. DeCroix, "Benjamin F. Einbigler: Pioneer Explorer of Mammoth Cave," *Journal of Spelean History* 32, no. 2 (April-June 1998): 35.

Horace Carter Hovey.²⁴⁵ Hovey's publicizing of the discovery was symbolic of a change in the way knowledge of Mammoth Cave was now being created and disseminated.

Hovey and Einbigler, professionals in their daily lives, exemplified a turn towards scientific exploration of Mammoth Cave. Cave guides like Hawkins and Bransford, who had more hands-on, practical folk knowledge of the caves, represented the traditional kind of explorers that had pushed the knowledge of Mammoth Cave to new lengths in the antebellum era. Explorations of Mammoth and the discoveries of nearby caves provoked questions about how far the subterranean avenues extended. Cave guide Mat Bransford might have known the passages of Mammoth underground, but in 1908 a visiting German engineer, Max Kämper, gave those passages context with a large-scale survey of the cave. Folk knowledge and professional knowledge reconstructed the overall understanding of the ways of Mammoth and other caves. Together, the combined energies of both scientific and folk explorers turned cave country into a contested site for control of the caves.

From the end of the Civil War and through the Gilded Age and Progressive Era, new technologies and ways of knowing Mammoth Cave ignited a fury for finding and exploiting caves in south central Kentucky. Boom and bust cycles of cave exploitation and a spirit of competition dawned among caves in south central Kentucky as landowners became more aware of the possibilities of the value of their land beyond agriculture, as a number of them opened caves for a growing tourist trade. The competition for tourist dollars became known as the Kentucky Cave Wars. The fight for revenue could be deadly, and the feuds were intensely local.

²⁴⁵ Hovey, "A Mammoth Cave Cathedral," 125.

This chapter weaves together several strands, including some pertinent background information. The first thread includes the immediate postbellum situation at Mammoth Cave. The next threads weave in the changing technologies and popular educational lecture circuits. The bulk of the tapestry illustrates the growth of knowledge of a number of caves near Mammoth. It is not comprehensive of all caves in the region, as that is a story that has already been expertly told.²⁴⁶ Similarly, it does not address all scientific research and revenue schemes taking place at Mammoth Cave, which is a story waiting to be told.²⁴⁷ Instead, this chapter looks to the epistemological, technological and economic roots of the Cave Wars.

During the Civil War, Kentucky remained officially loyal to the Union, but a large number of white citizens pledged their devotion to the Confederacy.²⁴⁸ At Mammoth Cave, manager and Union supporter (but also, slave holder) E. K. Owsley entertained crowds of Union soldiers amid dwindling groups of tourists.²⁴⁹ In December

²⁴⁶ See David Randolph Kem, *The Kentucky Cave Wars: The Century that Shaped Mammoth Cave National Park* (Cave City, KY: by the author, 2014). Kem's work is a very accessible primer on the Cave Wars and covers more minor caves that I could possibly try to include.

²⁴⁷ A scientific history of Mammoth Cave would be a great addition to the historiography of Mammoth Cave. Katie Algeo has been working on research on the Mammoth Cave Mushroom Company, which should be a fascinating chapter in Mammoth Cave history. See Algeo, "Underground Farming: The Historical Geography of Cave Mushroom Production," 2015 Annual Meeting of the Agricultural History Society, Lexington, Kentucky.

²⁴⁸ That number seemed to grow in the years after the war, despite larger amounts of men and women, black and white, who fought for the United States or served the army in other ways. See Anne E. Marshall, *Creating a Confederate Kentucky: The Lost Cause and Civil War Memory in a Border State* (Chapel Hill: University of North Carolina Press, 2010).

²⁴⁹ Lyons, *Making Their Mark*, 46.

1861, Confederates raided the Mammoth Cave Hotel of “everything they could use or that might be of any monetary value,” including “choice liquors, cutlery, bedding, cooking utensil, etc.”²⁵⁰ The Rebels raided, but did not burn the hotel or any of the surrounding houses.

The chaos of war also importantly led to the freedom of enslaved Kentuckians. English visitor F. J. Stevenson noted during his 1863 visit to Mammoth Cave that his guide, Nicholas Bransford, had purchased his freedom by selling eyeless fish that dwelled in the rivers of the cave, but that is the only extant evidence of his freedom prior to the Thirteenth Amendment.²⁵¹ The thirty-plus African Americans working for the hotel, of whom manager Owsley claimed ownership, would not have been able to make such a purchase of freedom and instead had to wait for nationwide emancipation.

At war's end, many thousands of African Americans in Kentucky moved from rural locations like Mammoth Cave into Louisville or Lexington, but those who worked at the cave tended to stay in the area.²⁵² On October 9, 1866, Mat Bransford used his

²⁵⁰ J. R. Underwood, “Report of the Affairs of the ‘Mammoth Cave’ for the Year 1861,” April 2, 1862. Janin Family Papers, Huntington Library Manuscript Collection, San Marino, California (Hereinafter referred to as JFC).

²⁵¹ F. J. Stevenson, “Adventures Underground: The Mammoth Cave of Kentucky in 1863,” *Blackwood’s Magazine* 231, no. 1400 (June 1863): 723. Incidentally, Kentucky did not choose to ratify the Thirteenth, Fourteenth, or Fifteenth Amendments during Reconstruction. See George C. Wright, “Afro-Americans,” and Ross A. Webb, “Readjustment,” in *The Kentucky Encyclopedia* ed. John E. Kleber (Lexington: University Press of Kentucky, 1992), 5, 757.

²⁵² Ross Webb, *Kentucky in the Reconstruction Era* (Lexington: University Press of Kentucky, 1979), 39. Ed Ayers noted that the Upper South states of Tennessee, Kentucky, North Carolina, and Virginia suffered the “greatest relative loss of black natives.” Edward L. Ayers, *Southern Crossing: A History of the American South, 1877-1908* (New York: Oxford University Press, 1995), 17.

wages as a free guide to put a down payment of \$150 on a piece of land east of Mammoth Cave on Flint Ridge.²⁵³ Some African Americans looked to Mammoth Cave as a place to discover the “treasures of freedom” they had fought for.²⁵⁴ William Garvin, who served in the 108th U. S. Colored Infantry, moved to the cave region, married Nicholas Bransford’s daughter, and became a guide at Mammoth Cave.²⁵⁵ By 1880, Edmonson County, where the Mammoth Cave estate was located, was the home of eighty black land owners, thirty of whom lived in the Mammoth Cave neighborhood.²⁵⁶ Nicholas Bransford donated land to create a schoolhouse for black children of the neighborhood, including his grandchildren. At Mammoth Cave, a number of black families created a community both alongside and separate from their white neighbors. Black residents founded their own institutions by custom, such as the Pleasant Union Baptist Church, or by law, such as the Mammoth Cave Colored School, but shared with white neighbors an "equal economic status." Black and white residents alike lived a subsistence lifestyle, and "depended on

²⁵³ Contract of land between Rebecca Robb and Mat Bransford, October 9, 1866, JFC.

²⁵⁴ Frederick Douglass, *My Bondage and My Freedom* (New York: Miller, Orton, & Mulligan, 1855), 432. The full context of the phrase refers to state laws prohibiting educating slaves, which would “make him discontented with slavery, and to invest him with a power which shall open to him the treasures of freedom; and since the object of the slaveholder is to maintain complete authority over his slave, his constant vigilance is exercised to prevent everything which militates against, or endangers, the stability of his authority.” Douglass noted, however, that Kentucky did not prohibit enslaved people from learning to read or write.

²⁵⁵ Lyons, *Making Their Mark*, 47.

²⁵⁶ *Ibid.*, 52.

each other's assistance during planting and harvest, child bearing, family illness, and for fellowship."²⁵⁷

The community was not immune from racial hatred, however. The Ku Klux Klan and other terrorist groups such as the “Regulators” forced African Americans on the surface to submit to white supremacy through campaigns of lynching and violence.²⁵⁸ These groups especially “preyed upon the blacks in rural areas and drove them from their agrarian pursuits.”²⁵⁹ Discrimination may have led the manager of Mammoth Cave to fire the black guides; visiting in 1867 Dr. W. Stump Forwood reported, “the present guides at the cave are white men.”²⁶⁰ If that were the case the policy did not last long. According to Mammoth Cave historian Harold Meloy, “the influential visitors who had been there before and who could not now have Stephen as their guide, selected either Mat or Nick; and the black guides were returned to the cave.”²⁶¹ Also in 1867, a correspondent to the *Pulaski Citizen* in Tennessee noted that Mat Bransford was his “indefatigable guide.”²⁶² The addition of white guides complicated relations, at least in the beginning.

²⁵⁷ Jeanne C. Schmitzer, “The Black Experience at Mammoth Cave, Edmonson County, Kentucky, 1818-1942,” 72.

²⁵⁸ Harold Meloy, “The Legend of Stephen Bishop,” *Journal of Spelean History* 10, no. 1 (January-March 1977), 7; Marshall, *Creating a Confederate Kentucky*, 58;

²⁵⁹ Victor B. Howard, *Black Liberation in Kentucky: Emancipation and Freedom, 1862-1884* (Lexington: University Press of Kentucky, 1983), 98.

²⁶⁰ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 56.

²⁶¹ Meloy, “The Legend of Stephen Bishop,” 6.

²⁶² “Mammoth Cave,” *The Pulaski (TN) Citizen*, October 4, 1867, 2.

Meloy contended that the white guides were disgusted to work with black guides like Mat and Nick Bransford. White guides "let it be known that only the white guides were knowledgeable and competent guides there."²⁶³ Mat's and Nick's experience of more than thirty years did not impress white guides with the same effect as it did white visitors. As time wore on however, the integrated guide force seemed to unite black and white men, at least underground. By the time Jim Crow segregation ordered race relations on the surface, in the dark recesses of the cave, "a close fellowship developed between guides, regardless of color."²⁶⁴ It was this integrated force that made new discoveries, pushed for more exploration, and expanded new ways of knowing Mammoth Cave.

No history of the nineteenth century is complete without a railroad. Mammoth Cave is no different. The Louisville & Nashville Railroad (L&N) connected those cities in 1859, making transportation to Mammoth Cave dramatically easier.²⁶⁵ At the towns of Glasgow Junction (today known as Park City) or Cave City, visitors still had to journey several hours by stage for the 8.7-mile trip. In 1886, a spur line from Glasgow Junction connected Mammoth Cave to the L&N.²⁶⁶ The Mammoth Cave Railroad revolutionized the trip, although visitor Walter Wellman found the ride "crooked...running up and down and around hills, with grades which make observing passengers dizzy and locomotives

²⁶³ Ibid.

²⁶⁴ Lyons, *Making Their Mark*, 59. Lyons notes that guides banded together and threatened a strike for better treatment from a cave manager, explored together, and respected the seniority of guides of color when they were selected as head guide. Individuals occasionally had problems with each other, and black guides may have felt discriminated against, but the historical record did not reflect their silent protests.

²⁶⁵ Olson, *Nine Miles to Mammoth Cave*, 7

²⁶⁶ Ibid., 9.

tired.”²⁶⁷ The railroad also became an important player in the rise of the Kentucky Cave Wars and the subsequent national park effort (which will be covered in later chapters). The railroad was an important technology to bring people into cave country, but it did not give a clue as to what was inside Mammoth Cave.

Photography emerged during the Civil War and came to define ways of knowing across time and space. Photographers like Alexander Gardner brought the destruction of Antietam and Gettysburg into the consciousness of the home front, and “helped define how viewers...came to know the Civil War.”²⁶⁸ Those who might be unable to take a trip could see Mammoth Cave in photographs. Many accounts of cave trips published in magazines or newspapers such as *Harper’s Weekly* or *Scribner’s* included drawings of people visiting features like Echo River. After 1866, however, visitors and curiosity seekers alike could get a three dimensional view of them through stereographs, as well as with two-dimensional photographs. As one historian of the medium has noted, “few inventions have so completely changed the course of civilization, let alone our whole way of knowing the world, as photography.”²⁶⁹ The proliferation of photographs as postcards or in published media granted those interested in Mammoth Cave a chance to own a piece of it. Furthermore, the use of photographs by a number of lecturers spread knowledge about Mammoth Cave.

²⁶⁷ Walter Wellman, “Under the Ground,” *Decatur (IL) Daily Republican*, August 11, 1887, 4.

²⁶⁸ Anthony W. Lee and Elizabeth Young, *On Alexander Gardner’s Photographic Sketch-Book of the Civil War* (Berkeley: University of California Press, 2007), 1.

²⁶⁹ Miles Orvell, *American Photography* (New York: Oxford University Press, 2003), 13.

Taking photographs in Mammoth Cave was a challenging process. Photography in studios could be difficult, requiring subjects to remain still for up to several minutes, and photographers needed adequate lighting.²⁷⁰ Caves, lacking any natural light beyond the entrance, might have seemed an impossible subject. The first photographer to photograph Mammoth Cave did not venture inside, but simply took a shot of the entrance. Aiden F. Styles, a landscape photographer from Vermont, visited Mammoth Cave in 1865. He included in his picture cave guides Mat Bransford and Nicholas Bransford, sitting as free men, in front of the entrance.²⁷¹ In 1866, the lease for the management of Mammoth Cave passed into the hands of attorney Larkin J. Procter, who had served in the Kentucky legislature during the war.²⁷² Procter and his brother, George, managed or owned three caves including Mammoth, Diamond Caverns (discovered in 1859), and Procter Cave (discovered in 1863) and sought to regenerate visitation following the war using a now-familiar technology.²⁷³

In 1866 Larkin Procter granted the exclusive right to photograph Mammoth Cave to his nephew, John R. Procter, a clerk in Cincinnati, and a partner, John H. O'Shaughnessy. There was only one problem: neither knew anything about photography. They sought out a Cincinnati "photographic chemist," Charles Waldack, to take on the

²⁷⁰ Ibid., 23.

²⁷¹ Thompson, *Photographers of the Mammoth Cave Region*, 11.

²⁷² Kem, *The Kentucky Cave Wars*, 14.

²⁷³ Ibid.

challenges of capturing Mammoth Cave with a camera.²⁷⁴ What started as a mission to publicize Mammoth Cave became a revelation in the potential for photography.

In mid-1866 Charles Waldack and his contractors made a test visit to Mammoth Cave to scout locations and test the capabilities of magnesium lights.²⁷⁵ The magnesium tapers, or flares, were a new (and expensive) light source developed in England but quickly gaining in popularity in the United States.²⁷⁶ Each one consisted of “two magnesium ribbons and a length of magnesium wire bound together with two twisted strands of iron wire.”²⁷⁷ Waldack had 200 of them on his experimental trip; the darkness of the cave proved it to be a wise decision. For instance, Waldack decided to photograph a stalactite in Gothic Avenue. He used eight tapers for his first take, which was “insufficient,” fifteen tapers for a second take, which gave “a fair negative,” and twenty-five tapers plus two reflectors which left him “quite satisfied” at the results.²⁷⁸ In larger trunk passages, however, darkness seemed to prevail. At Giant’s Coffin in Main Cave, Waldack took two exposures using thirty tapers for the first and fifty tapers for the second. The first negative gave “only an image of the highlights,” while the second left an “under-exposed positive.”²⁷⁹ Waldack was ready to quit, but Procter and

²⁷⁴ Chris Howes, *To Photograph Darkness: The History of Underground and Flash Photography* (Carbondale: Southern Illinois University Press, 1989), 51-52.

²⁷⁵ Charles Waldack, “Photography in the Mammoth Cave by Magnesium Light,” *Philadelphia Photographer* 3 (July 1866): 241-242.

²⁷⁶ Howes, *To Photograph Darkness*, 48.

²⁷⁷ *Ibid.*, 55.

²⁷⁸ Waldack, “Photography in the Mammoth Cave by Magnesium Light,” 242.

²⁷⁹ *Ibid.*

O'Shaughnessy prevailed upon him to take photos of other locations, where they used up the last of the magnesium.²⁸⁰

The scouting trip over, Waldack and company returned to the drawing board in Cincinnati. There, Waldack experimented with tapers and different developing solutions to no avail. The last variable he could tweak was the reflectors. Waldack redesigned them to concentrate the light "in more of a beam."²⁸¹ At the end of July, the three men determined to make "fifty to a hundred negatives of the principal objects of interest" at Mammoth Cave.²⁸²

Lighting scenes was just one complication in Waldack's photographic expedition. Equipment hauling, extensive voyages, and the environment of the cave itself made the job difficult. The photography party, which included a new cave guide, Abe Meredith, had to carry cameras, tripods, magnesium, solutions, and reflectors. The largest reflector was thirty by forty inches, shaped like the bucket of a wheelbarrow. The men hauled this equipment throughout the Long Route and the Short Route, on one excursion remaining in the cave for thirty-five hours. In the watery regions such as Echo River or Mammoth Dome, where water dripped down, it took "but a short time for the dampness to permeate everything."²⁸³

²⁸⁰ Ibid., 142-143.

²⁸¹ Howes, *To Photograph Darkness*, 60.

²⁸² Waldack, "Photography in the Mammoth Cave by Magnesium Light," 243.

²⁸³ Howes, *To Photograph Darkness*, 61-62; Charles Waldack, "Photographing in the Mammoth Cave," *The Photographic News* 10, (November 30, 1866): 568.

The moisture was especially a problem as it related to the technical side of photography. The glass plates for the camera had to be coated with a collodion solution, but if the plates were dusty or dirty the image would be ruined. Moisture turning the dirt into mud meant the plate had to be dried over a flame, but smoke from a fire would ruin the picture as well. They found that by burning strong enough whiskey they could dry, clean, and warm the plates appropriately.²⁸⁴

The trials of cave photography allowed Waldack and company to be able to produce just two or three pictures per day.²⁸⁵ The work was not for the faint of heart. Visitors may have felt some fatigue on the Long Route, but Waldack's experiences led him to declare working in a cave to be the worst possible place:

If to all the inconveniences mentioned above, you add the bodily discomfort to which one is exposed in the climbing, creeping, and squeezing through all kinds of uncomfortable places, the fatigue of the march over rocky and slippery roads, loaded as one is with the implements of the profession, and, in some cases, the danger to life incurred in placing instruments and reflectors in the most suitable spots, you will agree with me that photographing in a cave is photographing under the worst conditions.²⁸⁶

After three months of experimenting with light and shadows, reflectors and \$500 in magnesium tapers, Waldack produced eighty negatives from which he copyrighted forty-two stereographs of images in and around Mammoth Cave.²⁸⁷ John Procter and his partner John O'Shaughnessy sold these views and the first six taken during the scouting

²⁸⁴ Howes, *To Photograph Darkness*, 63.

²⁸⁵ Charles Waldack, "Photographing in the Mammoth Cave," 567.

²⁸⁶ *Ibid.*, 569.

²⁸⁷ Howes, *To Photograph Darkness*, 67.

trip.²⁸⁸ In 1867 a printing firm from New York took over production for the forty-two stereographs from the main sessions.

The photos received high praise from photography experts and newspapers alike, and spoke to the importance of the technology as a tool for knowing the subterranean marvel.²⁸⁹ *The Philadelphia Photographer* declared them to be “the *most wonderful* ones we have ever seen... Oh! Is not Photography a great power? What else could creep into the bowels of the earth, and bring forth such pictures therefrom [*sic*] as these?”²⁹⁰

Antebellum visitors often commented that they lacked a vocabulary to properly describe the cave; one simply had to see it for themselves. Waldack’s stereographs, according to one New York newspaper, were the next best thing to visiting:

If any nervously disposed person wants to become acquainted with the mysteries of the Mammoth Cave, without actually going underground, he should visit the photographic establishment of Messrs. E. & H. T. Anthony & Co. These pictures are in every respect wonderful...the photographer showed excellent taste in the selection of subjects that exhibit the romantic and gloomy character of the cavern, and at the same time suggest the grandeur that was beyond his power.²⁹¹

Not only were the Waldack stereographs the first photographs inside Mammoth Cave, they were the first photographs inside any cave.²⁹² When half-tone printing enabled

²⁸⁸ Ibid., 59, 68.

²⁸⁹ Ibid., 70.

²⁹⁰ Editor’s note following Charles Waldack, “Photography in the Mammoth Cave by Magnesium Light,” 243-244. Emphasis in original.

²⁹¹ Quoted in Howes, *To Photograph Darkness*, 70.

²⁹² According to Bob Thompson, Charles Waldack also made the images in the second cave to be photographed, Procter Cave (*Photographers of the Mammoth Cave Region*, 13).

reproduction of photos in books, authors began using Waldack's and later, other photographers' images in future guide books to the cave and to complement lectures, spreading knowledge about Mammoth Cave at a professional and popular level. The photographs were also available for the home stereograph market. Next to an account of a visit to Mammoth Cave, the *Pulaski (TN) Citizen* advertised the stereographs for sale.²⁹³ The use of stereographs to create a three-dimensional effect when viewed through a home stereograph viewer meant that visitors or potential visitors could see some of the landmark sights of Mammoth Cave at their leisure. Before "See America First" was a slogan embodying the national identity creation that American tourism fostered in the late nineteenth and early twentieth centuries, Belgian immigrant Charles Waldack's photography enabled Americans to see Mammoth Cave before they saw, heard, smelled, touched, or tasted Mammoth Cave in person.²⁹⁴ Although photographic technology improved and the images became sharper, Waldack's techniques and results set a standard for all who followed him.²⁹⁵

Organizations other than the Mammoth Cave Hotel used photography to pique interest in the cave. In August of 1886, the Louisville & Nashville Railroad hired William F. Sesser to photograph Mammoth Cave in order to draw tourists to ride the L&N to Glasgow Junction where they could take the brand-new Mammoth Cave Railroad to the hotel and cave. Sesser spent nine months divided in two-week sessions taking pictures

²⁹³ Advertisement, *The Pulaski (TN) Citizen*, October 4, 1867, 2.

²⁹⁴ Marguerite S. Shaffer, *See America First: Tourism and National Identity, 1880-1940* (Washington, DC: Smithsonian Books, 2001), 4.

²⁹⁵ Howes, *To Photograph Darkness*, 71.

with magnesium light (same as Waldack), but the L&N Railroad published just twenty-one of his forty-two pictures.²⁹⁶ Railroad publicity appeared in stations across the South, beckoning visitors to cave country.

From a technical side, cave photography became a sort of niche field. Between 1889 and 1901 Ben Hains from New Albany, Indiana, photographed Wyandotte and Marengo Caves in Indiana, and Mammoth Cave, White Cave, and Ganter Cave in Kentucky.²⁹⁷ Thirty-four of Hains's photographs of Mammoth Cave were exhibited at the 1893 World's Columbian Exposition in Chicago alongside stalactite and gypsum specimens taken from Mammoth.²⁹⁸ The manager at Mammoth Cave during this time sold copies of Hains's images from Mammoth Cave to visitors, allowing them to send a note sharing their experiences of the cave routes, the hotel, the journey, or simply their well-wishes. Postcards gave visitors an opportunity "to document and preserve a visual record of their journey."²⁹⁹ Postcards democratized knowledge of Mammoth Cave and also helped standardize visitors' expectations about what they might see and experience underground.

Photographers pushed the boundaries of knowledge at Mammoth Cave. In addition to working with preeminent Mammoth Cave researcher Horace Carter Hovey and Richard Ellsworth Call platting cave passages for a map, Hains also assisted in

²⁹⁶ Thompson, *Photographers of the Mammoth Cave Region*, 20-21.

²⁹⁷ Shaw, *History of Cave Science*, 70; Thompson, *Photographers of the Mammoth Cave Region*, 32.

²⁹⁸ Thompson, *Photographers of the Mammoth Cave Region*, 34; Joy Medley Lyons, *Making Their Mark*, 54.

²⁹⁹ Shaffer, *See America First*, 267.

measuring rooms like Chief City and pits like the Maelstrom.³⁰⁰ Hovey and Call named two adjacent domes along Main Cave after photographers Charles Waldack and Ben Hains. They named Waldach's [sic] Dome for the first photographer's pioneering work in cave photography, and Hains' Dome for the man who they said "carried to perfection" Mammoth Cave photography and "whose explorations have also aided materially to our knowledge of the mazes of Mammoth Cave."³⁰¹

In 1888 with the advent of George Eastman's Kodak camera, tourists could document their travels on their own. Instead of trusting professional photographers, visitors armed with cameras decided where and what to photograph; their only limits were the cave environment.³⁰² Manager H. C. Ganter informed trustee Augustus S. Nicholson in 1899, "the only baggage most of the guests bring over is Kodaks and lunch boxes."³⁰³ Photography underground, however, presented a problem since the oil lamps alone did not produce enough light for a good photograph. Visitors took photos at the Mammoth Cave Hotel, on the grounds, and of each other on the surface, but cave photography remained out of reach for the average cave visitor.

In 1891 Washington, DC photographer and Progressive Frances Benjamin Johnston demonstrated a new kind of flash photography at Mammoth Cave; Johnston improved the photography when she used "a blend of magnesium and potash" to create a

³⁰⁰ Horace Carter Hovey and Richard Ellsworth Call, *The Mammoth Cave of Kentucky: An Illustrated Manual* (Louisville: John P. Morton & Co., 1897), 59, 66, 84.

³⁰¹ *Ibid.*, 62.

³⁰² Shaffer, *See America First*, 267.

³⁰³ H. C. Ganter to Augustus S. Nicholson, March 5, 1899, JFC.

flash powder.³⁰⁴ Johnston had previously photographed in Pennsylvania coal mines and experimented to devise her own flash powder for the Mammoth Cave images. In 1893 Johnston published twenty-five images of cave features, the hotel, William Garvin, and surroundings in *Mammoth Cave by Flash-Light*. While the photos were of primary interest, Johnston supplemented the photos with up-to-date descriptions of the tour routes, ticket prices, and features not photographed.³⁰⁵ Johnston's book was the closest thing to a virtual tour of Mammoth Cave that had yet been published.

Publishing their pictures was just one way for photographers to spread knowledge of the cave. In 1886 William Sesser's long duration and experience in the cave inspired him to go on the lecture circuit. In Chicago's Central Music Hall Sesser presented "100 Miles Underground," which featured images of landmarks like the Bottomless Pit, The Maelstrom, Echo River, and the explorer and guide, William Garvin.³⁰⁶ The inclusion of Garvin, who had served in the U. S. Colored Troops during the Civil War and began guiding at Mammoth Cave shortly after, in both Sesser and Johnston's works might have served to impress audiences and readers at the skills of the guides or to marvel at what an unusual job it was in an era of sharecropping and tenancy. Either way, the inclusion of an "other" was rare in the era of Chautauqua and Lyceum events.³⁰⁷

³⁰⁴ Thompson, *Photographers of the Mammoth Cave Region*, 45.

³⁰⁵ Frances Benjamin Johnston, *Mammoth Cave by Flash-Light* (Washington, DC: Gibson Bros., 1893).

³⁰⁶ Thompson, *Photographers of the Mammoth Cave Region*, 22.

³⁰⁷ Andrew Chamberlain Rieser, *The Chautauqua Moment: Protestants, Progressives, and the Culture of Modern Liberalism* (New York: Columbia University Press, 2003), 2.

Throughout the late nineteenth and early twentieth centuries a number of speakers gave public lectures about Mammoth Cave and the cave region. In August 1902 dentist and self-described “cave crank,” W. W. Ranshaw, placed a bid on the management of the place and listed among his qualifications plans for the following month to deliver two lectures on the subject, and claimed to have delivered many more.³⁰⁸ Five years later Manager Ranshaw bragged to trustee Albert C. Janin that he “had a crowded house at North Lewisbury, Ohio,” with another lecture booked for Maysville, Kentucky. Like Sasser, Ranshaw used photographs taken in the cave as lantern slides to illustrate his talks.³⁰⁹

Photographers and managers clearly had a goal in mind when delivering the lectures: show off their technical skills to the public and interest them enough to visit Mammoth Cave. Other lecturers were not driven by Mammoth Cave’s bottom line. The Reverend E. C. Pollard, of Wichita, Kansas, delivered more than 100 lectures on the topic and brought parties to the cave to experience it for themselves.³¹⁰ In 1908 B. J. Palmer, the father of chiropractic medicine, gave illustrated lectures that included “121 illustrations...covering twenty-five miles of this marvelous cave” on a tour of sixty-four dates.³¹¹ Men of science like Dr. W. S. Beekman and the foremost expert on Mammoth Cave at this time, Horace Carter Hovey, also took time to speak on the subject. Beekman

³⁰⁸ W. W. Ranshaw to Judge Settle, August 6, 1902, JFC.

³⁰⁹ W. W. Ranshaw to Albert C. Janin, May 16, 1907, JFC.

³¹⁰ Albert C. Janin to William E. Wyatt, April 6, 1910, JFC.

³¹¹ *Davenport (IA) Daily Times*, May 6, 1908; quoted in Thompson, *Photographers of the Mammoth Cave Region*, 132-133.

toured in New Orleans to the high schools in the city, while Hovey lectured primarily to other academics at conferences and meetings.³¹² These events across the country further spread the knowledge and wonders of Mammoth Cave to both popular and scholarly audiences who were also potential visitors.

Prospective tourists to Mammoth Cave had to make a choice. No longer were Mammoth Cave and Niagara Falls the chief tourist attractions in the United States as they had been during the antebellum age. Westward expansion and the advent of national parks, the rise of summer and winter resorts, and other leisure pursuits meant a strong competition for visitors' attention. The stereographs, photo books, and railroad brochures that beckoned Americans to Mammoth Cave did not prepare them for the sheer number of caves in the region. Mammoth might not be their only underground destination. As knowledge about Mammoth Cave spread throughout the country and people made "virtual" visits through the lectures, residents of cave country began to look for caves as a source of revenue. The folk knowledge of caves and their extents paved the way for the rise of the Kentucky Cave Wars and ultimately the creation of Mammoth Cave National Park.

While Mammoth Cave was the primary attraction in the area, it was not the only cave on display. It was not even the only cave on the Mammoth Cave estate. Dixon Cave, right by the entrance to Mammoth, White Cave, south of the entrance, and Salts Cave east of Mammoth on neighboring Flint Ridge, were all part of the Mammoth Cave estate. Salts Cave was harder to control access to because of its distance from the main estate,

³¹² *New Orleans Times-Democrat*, October 16, 1912, 3; "Transactions of the Society for 1890," *Journal of the American Geographic Society of New York*, 22 (1890): lxxiii.

and it became a favorite spot for locals to explore and steal formations and Native American artifacts to sell to tourists. Aside from the caves on the estate, during the nineteenth century several caves were known and exploited in some way by the locals who owned them or came to own them. After the saltpeter mining era of the War of 1812, for instance, the owner of Gatewood Saltpeter Cave near Glasgow Junction changed the name to Hundred Domes Cave and opened it for tours.³¹³ The 1859 arrival of the Louisville & Nashville Railroad made the cave easily accessible by railroad and enabled it to compete to some degree with Mammoth Cave.³¹⁴

Before the Civil War, slavery prevented African Americans from profiting from caves in ways that white landowners could.³¹⁵ Enslaved African Americans found a number of caves that were soon developed for tours by their white owners or neighbors. In 1859 an unnamed enslaved man discovered a cave on Jessie Coats' land that became known as Diamond Cave, or today as Diamond Caverns.³¹⁶ At the end of the year, managing trustee for Mammoth Cave, J. R. Underwood, purchased Diamond Caverns and hired George Procter to manage it. Procter's brother, Larkin Procter, was manager of Mammoth Cave until his election to the Kentucky legislature in 1861. After the Civil War, George Procter's son, John R. Procter, purchased the cave from J. R. Underwood

³¹³ Kem, *The Kentucky Cave Wars*, 16-17.

³¹⁴ Ibid.

³¹⁵ This continued to be the case after emancipation. African Americans who discovered caves on their property soon found white men of means attempting to purchase their lands, as will be demonstrated later.

³¹⁶ Charles M. Wright, *A Guide Manual to the Mammoth Cave of Kentucky* (Louisville: Bradley & Gilbert, 1860), 61; Kem, *The Kentucky Cave Wars*, 13.

and further developed it. Though Diamond changed hands several times, it is still open, privately owned, for tours today.³¹⁷

Jonathan Doyle, an enslaved African American, discovered a cave in 1863, possibly during an attempt at self-emancipation. According to a version of the discovery story, Doyle hid in a “secluded nook” among a rocky section of the woods between Glasgow Junction and Mammoth Cave.³¹⁸ There he felt a cool breeze and knew based on his experience in the area that he was likely sitting near a cave. Doyle cleared the rocks away from the opening and discovered the cave. It is unknown how long he stayed around or in the cave, but news of the new cave soon reached the ears of Larkin Procter, who purchased the cave and allegedly secured Doyle’s freedom.³¹⁹ When Larkin Procter returned to cave country from his stint in the Kentucky legislature he took over management of Mammoth Cave and began developing the new cave he called Procter Cave.³²⁰ Again, a white man in power took advantage of a slave’s knowledge of a cave.

³¹⁷ Stanley D. Sides, *Diamond Caverns: Jewel of Kentucky’s Underground* (Dayton, OH: Cave Books, 2007), 5.

³¹⁸ Willis T. Lee, “A Visit to the Mammoth Cave Region of Kentucky,” United States Geological Survey Reports, Open File Series, 35.

³¹⁹ Kem, *The Kentucky Cave Wars*, 20.

³²⁰ While Diamond Caverns had been named by one of the first explorers of the cave (possibly the enslaved man who discovered it) due to the sparkling effect of a lantern on the formations, the naming of Procter Cave after its owner robbed Doyle of his role in its discovery. The story handed down to reach United States Geological Survey geologist Willis T. Lee in his 1925 visit to the Mammoth Cave region emphasized Doyle’s cowardice at running away from battle, or his status as a “loyal slave” returning to his master. This interpretation was no doubt influenced by Lost Cause narratives that pervaded American culture from the 1890s well into the twentieth century.

Another cave in the area contained clues to the first cave visitors. W. Stump Forwood wrote about visiting Indian Cave in his 1870 guide to Mammoth Cave. During his 1867 visit to cave country Forwood toured Indian Cave, where the discoverer, B. R. Young, Jr., “an exceedingly loquacious young man,” served as guide. In addition to the “very handsome stalactites and stalagmites” were a number of Native American artifacts and, apparently, several skeletons that Young, believing it his Christian duty, threw them down a pit so as not to be “sacrilegiously handled.”³²¹

Hundred Domes Cave, Diamond Caverns, Procter Cave, and Indian Cave were among the first to compete with Mammoth Cave for visitors. Over the course of the Gilded Age and the Progressive Era an intense competition emerged in cave country as even more subterranean wonders opened for visitors. Mammoth Cave soon had more rivals, particularly in the wake of a decline in management there.³²² Some caves, including Grand Avenue Cave and Colossal Cavern, also offered a possibility that had been theorized by many visitors to Mammoth: a chance to connect with Mammoth and be a backdoor entrance to the world-famous marvel.

Larkin Procter owed a hefty debt to the trustees of Mammoth Cave, and hoped that finding a back way into Mammoth Cave would generate enough money to pay it

³²¹ Forwood, *An Historical and Descriptive Narrative of the Mammoth Cave of Kentucky*, 33-34.

³²² A string of ineffective and corrupt managers allowed Mammoth Cave and its facilities to fall into decline and disrepair while new ventures around them began offering new facilities and a more comfortable stay, if not more beautiful features underground. See Algeo, “The Puzzling Mr. Janin and Mammoth Cave Management, 1900-1910,” in *Proceedings of the Max Kaemper Centennial Symposium and Ninth Science Symposium, Mammoth Cave, Kentucky, October 9-10, 2008*, ed. Shannon Trimboli, 9-11 (Bowling Green, KY: Western Kentucky University, 2008).

down. Procter owned land adjacent to Mammoth Cave and was familiar enough with the cave to believe the passages extended past the boundaries of the Estate. In 1873, Procter's brother-in-law, J. J. Roberts, apparently found a place where a breeze came out of rocks and then "consulted a water witch who professes to tell...whether there is water or a cave" underneath.³²³ The "water witch" indicated a cave, but when Roberts dug down he found water. A disgruntled cave guide from Mammoth, John Lute Lee, helped Roberts to dig. Upon learning this, Mammoth Cave Hotel manager W. S. Miller informed managing trustee Augustus S. Nicholson that he did not think "there is the slightest danger of his getting in the Mammoth Cave."³²⁴ For starters, Roberts' use of a folk sage like a water witch made him appear in Miller's eyes as "an idiot or lunatic."³²⁵ Miller tried to assuage Nicholson's fears that current employees of the estate were aiding competing caves. Miller asserted that one family of guides, the Hunts, could not have helped Roberts "without Mat and Nicholas knowing it, so there can be no danger as long as they can be trusted."³²⁶ Mammoth Cave's entrance being the only entrance in part depended on managers like Miller and cave manager D. L. Graves, keeping good faith with their employees. Instead of continuing to dig a way into Mammoth Cave, Larkin Procter purchased a neighboring cave instead.

If he could not create a new entrance to Mammoth Cave, perhaps Procter could make a connection underground. A saltpeter cave, Wright's Cave, discovered in 1809

³²³ W. S. Miller to A. S. Nicholson, November 11, 1873, JFC.

³²⁴ Ibid.

³²⁵ W. S. Miller to A. S. Nicholson, November 19, 1873, JFC.

³²⁶ W. S. Miller to A. S. Nicholson, November 11, 1873, JFC.

became a show cave renamed Long Cave after the Civil War. A guidebook for the cave named E. H. Wolsey, an Edmonson Countian, as the primary owner until 1874, former Mammoth Cave manager Larkin Procter purchased it with his brother, George, and renamed it Grand Avenue Cave.³²⁷ When he informed trustee Augustus Nicholson of the purchase, hotel manager W. S. Miller predicted that, although Procter hoped to steer traffic away from Mammoth Cave and stop them from visiting the world wonder, Grand Avenue Cave “will only turn out another Procter and Diamond Cave affair. No one visits either now and never will as long as good accommodation is kept here.”³²⁸

The Procter brothers were ready to increase the competition against Mammoth Cave by promising to be something Mammoth was not: new. Although the cave had been known about for some time, the Procters devoted much time and energy and money into its exploration. They hired Thomas E. Lee, a Mammoth guide, to explore new passages and build touring infrastructure like stairs and ladders.³²⁹ Advertisements for the cave promised underground excursions up to eight miles long with “new explorations... being made daily.”³³⁰ Lee also built a special case for one of his discoveries.³³¹ On June 23, 1875, T. E. Lee, his brother John Lute Lee, and a friend, Bill Cutliff discovered a

³²⁷ T. O. Chisholm, *Grand Avenue Cave: A Description in Detail of One of America's Greatest Natural Wonders* (Nashville: Brandon Printing Co., 1892), 4; Kem, *The Kentucky Cave Wars*, 24; W. S. Miller to Augustus S. Nicholson, August 17, 1874, JFC.

³²⁸ W. S. Miller to Augustus S. Nicholson, August 17, 1874, JFC.

³²⁹ Kem, *The Kentucky Cave Wars*, 25.

³³⁰ “Summer Resorts—Grand Avenue Cave,” *Louisville Courier Journal*, August 27, 1875, 2.

³³¹ Kem, *The Kentucky Cave Wars*, 25.

desiccated body of an early Woodland period person inside Salts Cave.³³² The men removed the “mummy” and sold it to Larkin Procter, who placed it in Grand Avenue Cave as a showpiece.³³³

Grand Avenue Cave was also a site of technological innovation. Larkin Procter sold the rights to build a hotel to the Grand Avenue Hotel Company. The company hoped to give visitors an entirely new cave experience. They planned to install an elevator connecting the hotel and the cave below and install electric lighting in the cave.³³⁴ More than this, the Hotel Company wanted to give their guests the feeling of being in the cave from the comfort of their hotel room.

The secretary and general manager of the Grand Avenue Hotel Company, Bowling Green resident Malcolm H. Crump, experimented with creating a kind of air conditioning using Grand Avenue Cave. Starting in 1886, the same year the Mammoth Cave Railroad began operation with a special spur to Grand Avenue Cave, Col. M. H. Crump began a survey of the cave to determine where he could drill holes to insert pipes into the cave that would draw the cool cave air into a building built above the entrance.³³⁵ Crump consulted the readers of *Science* for their expertise on air exchanges and if a mechanical means of drawing the air would be necessary. Crump proposed to build a hotel and sanitarium over the cave as an air-conditioned summer resort, which would be

³³² “Summer Resorts—Grand Avenue Cave,” *Louisville Courier Journal*, August 27, 1875, 2.

³³³ Harold Meloy, *Mummies of Mammoth Cave* (Shelbyville, IN: printed by the author, 1968), 9.

³³⁴ “Dry Air on Tap,” *Louisville Courier-Journal*, October 9, 1889, 4.

³³⁵ *Semi-Weekly South Kentuckian* (Hopkinsville, KY), July 30, 1886, 2.

more than what the Mammoth Cave Hotel could offer.³³⁶ Crump and Procter excavated a narrow, 225-foot deep shaft 1500 feet from the entrance and built a small building around the shaft. Crump installed an exhaust fan to bring the cave air up into the building and successfully brought the temperature down from seventy-two degrees Fahrenheit to fifty-nine degrees Fahrenheit.³³⁷ Crump informed readers of *Science* that his new system of air conditioning received praise from doctors in Boston, with the Surgeon General's office, and from John Wesley Powell of the United States Geological Survey.³³⁸ With the railroad connection and possible air conditioning, plus the underground wonders and a mummy, Grand Avenue Cave was poised to make a serious dent in Mammoth Cave's business.

The Grand Avenue Hotel Company's ambitions proved too costly, and they never established a hotel, elevator, or any of their plans for the cave. Instead, in 1891 Larkin Procter, who still owned the land and cave, sold it to the Louisville & Nashville Railroad and moved into the hotel at Procter Cave. The L&N could not profit from the cave any more than Procter had, and operated the cave without the Salts Cave mummy on display as Procter sold it to Mammoth Cave manager H. C. Ganter. The Railroad closed Grand

³³⁶ M. H. Crump, "Air from a Cave for House-Cooling," *Science* 8, no. 196 (Nov. 5, 1886): 413.

³³⁷ M. H. Crump, "Experiments with Cave Air," *Science* 15, no. 379 (May 9, 1890): 290-291.

³³⁸ *Ibid.*

Avenue Cave after just three years, and the cave never opened for business as a show cave again.³³⁹ The Railroad instead cast its interest towards a newer cave.

In an 1887 visit to Mammoth Cave, Walter Wellman opined what many in cave country believed, but could not yet prove: that the caves displayed to the public were all “connected by hidden passages.”³⁴⁰ With so many caves underfoot in such close proximity, and so many people exploring them, the only thing preventing making a connection between them had to have been the competitive nature of the cave owners. Wellman reported rumors that the managers of Mammoth Cave had actually closed off passages that connected to other cave entrances to protect their “monopoly which they now hold upon this matchless natural curiosity.”³⁴¹ To the east of Mammoth Cave on Flint Ridge, the discovery of a cave at the turn of the century offered a chance to make such a connection safely away from the Mammoth Cave estate boundary and propelled the Cave Wars.

On November 17, 1895, Dr. L. W. Hazen announced to cave country of his nephew Pike Chapman’s discovery of an immense new cavern just a mile Mammoth Cave.³⁴² Hazen teased a potential link to Mammoth Cave when he asserted that, “a

³³⁹ Kem, *The Kentucky Cave Wars*, 35-36. In 1898 Mammoth Cave manager H. C. Ganter wrote to managing trustee Augustus Nicholson that the caretaker for the cave hoped to sell it “as a cold storage cave.” H. C. Ganter to Augustus S. Nicholson, August 29, 1898, JFC.

³⁴⁰ Walter Wellman, “Under the Ground,” *Decatur (IL) Daily Republican*, August 11, 1887, 4.

³⁴¹ *Ibid.*, 27. Rumors like these abounded well into the 1920s, but there is no evidence to confirm them.

³⁴² “Kentucky’s Latest Cave,” *Louisville Courier-Journal*, November 17, 1895, Section 2, Page 4.

stream, supposed to be the headwaters of Echo River, flows through the cave.”³⁴³ Like other cave developers, Hazen planned for a hotel to be “speedily erected,” and for the creation of a restaurant inside the cave, similar to the use of Audubon Avenue in Mammoth Cave as a banquet hall, or Washington Hall, the traditional dining spot on the Long Route at Mammoth.³⁴⁴

There is some debate as to who actually discovered the cave. Robert Murray and Roger Brucker credited Lute and Henry Lee with opening the cave from a sinkhole, while a 1910 newspaper article claimed Robert Woodson, a black farmer looking for a spring, made the discovery.³⁴⁵ Cave Wars scholar David Kem has added William Garvin as a possible discoverer, but declared Woodson to be most likely as the entrance was on land that he rented.³⁴⁶ The Lees began exploring it with Pike Chapman.³⁴⁷ Hazen purchased one-third of the cave interest from the landowners, Billy Adair and Adair’s daughter, Mary Isenberg.³⁴⁸ Mammoth Cave officials were immediately suspicious of Colossal, and hotel manager H. C. Ganter kept managing trustee Augustus Nicholson up to date with the latest information and gossip as to the situation across the ridge.

³⁴³ Ibid.

³⁴⁴ Ibid.

³⁴⁵ Murray and Brucker, *Trapped!*, 32; “Mammoth Cave,” *The (Lancaster, KY) Central Record*, June 10, 1910, 6.

³⁴⁶ Kem, *The Kentucky Cave Wars*, 50.

³⁴⁷ Ibid.

³⁴⁸ Ibid., 51. This left Robert Woodson and another renter, Gyp Brown, without places to live. It is unknown if they remained in the area and rented from another landowner, possibly William Garvin, who lived nearby.

In the Gilded Age, schemes and monopolies were not confined to cities. In the Mammoth Cave region any cave could potentially be a gold mine for tourism, and could siphon money and power away from the Mammoth Cave estate and the wealthy absentee heirs who benefited from its profits. If Mammoth Cave were to ward off a challenge, managers would need to show something new. Fortunately, new discoveries were never in short supply as Mammoth Cave guides had been progressively adding to the known sections of the cave.

On September 24, 1895, Ganter reported to Nicholson the opening of “Hazen’s Cave.”³⁴⁹ In response to the likelihood of new and very close competition, Ganter proposed to open up newly discovered areas around Gorin’s Dome and Mammoth Dome, and suggested, “the time has come when more of the Mammoth Cave should be exhibited” to “give the public all the cave they want.”³⁵⁰ That Mammoth Cave had so much in terms of cave passages but only exhibited the same two routes for over forty years meant to Ganter that the trustees were losing money that they could otherwise earn with new cave routes. Ganter was very suspicious of Hazen, whom Ganter had heard had been working with the Mammoth Cave Railroad and the Mentz Hotel in Glasgow Junction.³⁵¹ The Mentz had been a thorn in the side to the Mammoth Cave Hotel in stealing business away and insofar as agents of the Mentz had repeatedly said “false things” about Mammoth Cave’s routes and features.³⁵² Hazen’s associations with the

³⁴⁹ H. C. Ganter to Augustus S. Nicholson, September 24, 1895, JFC.

³⁵⁰ Ibid.

³⁵¹ H. C. Ganter to Augustus S. Nicholson, December 29, 1895, JFC.

³⁵² H. C. Ganter to Augustus S. Nicholson, September 24, 1895, JFC.

Mammoth Cave Railroad and the Mentz, plus his having solicited three men to visit Colossal instead of their planned trip to Mammoth, led Ganter to predict that he would prove to be a “troublesome” character.³⁵³

As exploration at Colossal continued and Ganter picked up more information around the Mammoth Cave neighborhood, he learned of a possible Louisville & Nashville Railroad connection to Dr. Hazen. Colossal Caverns’ close proximity to Mammoth Cave had in fact attracted the L&N Railroad to take an interest in the new cave, and they began making moves to acquire it. The rumor mill indicated to Ganter that the president of the L&N was funneling money to Hazen to purchase lands around Colossal and adjoining the Mammoth Cave Estate, and if the lands could not be secured then he was to buy “the cave right of any cave that may be under these lands.”³⁵⁴ In fact, railroad president Milton H. Smith bought out Hazen’s one-third interest and kept Hazen on as manager. As part of the \$550 purchase price Smith also included \$4,450 in stock for the Colossal Cavern Company.³⁵⁵

Ganter reported that the L&N kept three or four agents at Colossal to work on purchasing or leasing lands around Colossal Cavern.³⁵⁶ Mary Isenberg, who held one-third of the interest in the cave from her father’s contract, took the railroad to court for “trying to defraud them of their interests.”³⁵⁷ The protracted legal battle over Colossal did

³⁵³ H. C. Ganter to Augustus S. Nicholson, December 29, 1895, JFC.

³⁵⁴ H. C. Ganter to Augustus S. Nicholson, January 24, 1896, JFC.

³⁵⁵ Kem, *The Kentucky Cave Wars*, 54.

³⁵⁶ H. C. Ganter to Augustus S. Nicholson, March 6, 1896, JFC.

³⁵⁷ Kem, *The Kentucky Cave Wars*, 55.

not deter the L&N from surveying and purchasing additional land, the farm of Mammoth Cave guide William Garvin, to blast an artificial entrance to the cave.³⁵⁸

Dr. Hazen's goal of owning his own cave and possibly connecting it to Mammoth never faded, to the chagrin of Ganter. Hazen set his sights on opening a new entrance from an adjoining farm (which happened to be in Sophia Hazen's possession) into Salts Cave and hoped to gain ownership through adverse possession.³⁵⁹ The Mammoth Cave estate had largely left Salts Cave unprotected from intrusion. Hazen had tried once to open an entrance, but the discovery of Colossal Cavern caused him to abandon the Salts Cave project. When the railroad purchased his interest in Colossal in 1896, Hazen turned back towards reopening the artificial entrance to Salts Cave.

On September 30, 1896, Hazen, Pike Chapman, and a handful of workers blasted open the entrance once again. As workers lowered Chapman down the shaft unstable rocks at the blast site fell on him. The cave-in was probably not as detrimental to him as the rescue effort. The rope tied around his body to raise him up severely injured the young man; he was brought out of the cave "bleeding profusely."³⁶⁰ While workers carried him to Dr. Hazen's home a cave-curious young neighbor, Floyd Collins, was sent to Cave City for additional help and medicine, but it was too late: Chapman became the

³⁵⁸ Murray and Brucker, *Trapped!*, 32.

³⁵⁹ H. C. Ganter to Augustus S. Nicholson, December 20, 1896, JFC. Adverse possession law basically states that if Hazen used the cave for a certain amount of time without permission of the Mammoth Cave estate and without their knowledge, Hazen could claim it as his own. See "Adverse Possession," Wex Legal Dictionary/Encyclopedia, Legal Information Institute, https://www.law.cornell.edu/wex/adverse_possession. Accessed April 21, 2017.

³⁶⁰ Homer Collins and John L. Lehrberger, *The Life and Death of Floyd Collins* (Dayton: Cave Books, 2001), 18.

first casualty of the Kentucky Cave Wars. He would not be the last.³⁶¹ The next year Hazen lost the confidence of the L&N Railroad and was fired as the manager of Colossal. Hazen had set up souvenir shops where he sold photographs and cave formations from Colossal Cavern in large quantities, thus destroying the cave features meant to attract visitors from Mammoth.³⁶²

In 1897 the Louisville & Nashville Railroad secured possession of Colossal and started blasting. They sank a shaft into the recently acquired William Garvin farm. Ganter reported that the Colossal Caverns folks were “very close mouthed about their actions,” but he surmised they were attempting to get into Mammoth Cave as Larkin Procter and J. J. Roberts had tried to do twenty years prior.³⁶³ Ganter also claimed that Hazen, undeterred by his nephew’s death, kept digging and blasting in an attempt to get into Mammoth Cave.

Rumors that a reward of ten thousand dollars was being offered to anyone who could find a back entrance to Mammoth made their way to Ganter, who kept a careful watch of the comings and goings of people on and around the estate and could hear the daily blasting even in the spring storms.³⁶⁴ The railroad leased cave rights from neighbors of the Mammoth Cave estate to increase their holdings and likelihood of connecting to Mammoth underground. One tract belonged to a member of the Houchins family, who

³⁶¹ “Entombed in a Cavern,” *The Nashville Tennessean*, October 1, 1896, 2.

³⁶² Kem, *The Kentucky Cave Wars*, 60.

³⁶³ H. C. Ganter to Augustus S. Nicholson, February 24, 1897, JFC.

³⁶⁴ H. C. Ganter to Augustus S. Nicholson, April 17, 1897, JFC; H. C. Ganter to Augustus S. Nicholson, April 2, 1897, JFC.

“always contended that he could enter Mammoth Cave from his place” from a hole less than 200 feet from the Mammoth Cave estate boundary.³⁶⁵ While the Lees and others continued exploring to try to make a connection to Mammoth, the railroad’s Colossal Cavern Company was working on building an extension to the Mammoth Cave Railroad (which it had recently purchased) along with a \$25,000 hotel with the capacity of 1,000 visitors so that they could officially open to the public in 1898.³⁶⁶

In May 1898, Colossal Caverns opened to the public with T. E. and Lute Lee as guides.³⁶⁷ Later that summer, Ganter claimed that two engineers were exploring and surveying near Salts Cave in an attempt to challenge the title of the Mammoth Cave estate. He figured that if they took possession of Salts Cave they might be able to find a link to Mammoth.³⁶⁸ Colossal officials had been talking to old residents of the area, including W. S. Miller, who had managed Mammoth Cave from 1876 to 1881 and whose father had surveyed the Salts Cave tract.³⁶⁹ Ganter feared that “the day is not far distant when *cave* competition will be strong.”³⁷⁰

Competition was fierce, but mostly existed between Dr. L. W. Hazen and the L&N Railroad. Disgruntled from his firing as manager, Hazen created a new entrance

³⁶⁵ H. C. Ganter to Augustus S. Nicholson, January 8, 1898, and H. C. Ganter to Augustus S. Nicholson, January 25, 1898, JFC.

³⁶⁶ “A Colossal Cavern,” *Ohio County* (Hartford, KY) *News*, November 24, 1897, 1; H. C. Ganter to William E. Wyatt, March 8, 1898, JFC.

³⁶⁷ H. C. Ganter to Augustus S. Nicholson, May 20, 1898, JFC.

³⁶⁸ H. C. Ganter to Augustus S. Nicholson, August 8, 1898, JFC.

³⁶⁹ H. C. Ganter to Augustus S. Nicholson, August 29, 1898, JFC.

³⁷⁰ *Ibid.* Emphasis in original.

into Colossal and forced the L&N to purchase the land from him.³⁷¹ On July 21, 1898, an arsonist set Hazen's barn on fire in broad daylight, but no one ever identified the vandal.³⁷² Hazen continued to vex railroad president M. H. Smith, who requested a restraining order to prevent the doctor from interfering with the administration of the cave.³⁷³ The row probably meant more to Hazen than it did to the railroad, which had been busy building a road and railroad extension to Colossal, and continuing to acquire land and cave rights. The Colossal Cavern Company ultimately owned more than 1,000 acres of land and more than 2,000 acres of cave rights and would play a critical role in the national park effort.³⁷⁴ In the meantime, the Mammoth Cave estate managers and enthusiasts hoped to definitively lay out the known parts of Mammoth Cave. In the process, a new energetic visitor and an older, established guide pushed the known limits of discovery.

Horace Carter Hovey, who had been exploring and publishing about Mammoth Cave since 1878, must have felt a bittersweet twinge when he heard the news about a young German visitor in the dark passages of Kentucky. In 1907 Hovey, along with coauthor Richard Ellsworth Call, published a grand new book on the subterranean marvel complete with a map of known passages, including the Cathedral Domes: *Mammoth Cave: An Illustrated Manual*. In less than a year, it was out of date. That German visitor,

³⁷¹ Kem, *The Kentucky Cave Wars*, 60.

³⁷² H. C. Ganter to Augustus S. Nicholson, July 23, 1898, JFC.

³⁷³ "Receivers Appointed," *Louisville Courier-Journal*, September 4, 1898, 3.

³⁷⁴ Charles E. Whittle, "Map of Mammoth Cave National Park Area, Indicating Land Owners," 1926, Mammoth Cave National Park.

Max Kämper, was working on a new survey of the cave and made a spectacular discovery.

In April 1907 Max Kämper packed 155 pounds worth of luggage and 750 Marks in his wallet and left Berlin for Geneva. There, he paid 400 Marks for a ticket to New York, where he arrived on May 16.³⁷⁵ The young man was destined to take over management of his family's engine company, but his parents believed "first he should see the world and get a wider view of things...and [see] how they work over there."³⁷⁶ After a six-month stay in New York, Kämper traveled to Pittsburgh to see the steel plants; his uncle was a steel baron and may have been curious about the American ways of manufacturing.³⁷⁷ By February 1908 Kämper followed his own interests when he left Steel City for Cave City.

The twenty-three year-old Max Kämper had studied engineering but also had a passion for the arts, particularly music. A previous German visitor to Mammoth Cave, Max Eyth, shared those passions in his descriptions of the Star Chamber, Echo River, and the towering domes and deep pits published in 1905. Eyth might have been unknown to Kentuckians when he visited Mammoth Cave at Christmastime in 1866, but by the turn of the century Max Eyth was a noted engineer and had founded the German Agricultural

³⁷⁵ Bernd Kliebhan and Nina Thomas, "Searching for Max: The Engineer, the War, and the World's Longest Cave," *Proceedings of the Max Kaemper Centennial Symposium and Ninth Science Symposium, October 9-10, 2008*, ed. Shannon Trimboli, 27 (Bowling Green, KY: Western Kentucky University, 2008).

³⁷⁶ *Ibid.*, 25.

³⁷⁷ *Ibid.*, 27.

Society. His *Im Strom unserer Zeit* (“In the Current of Our Time”) was a fixture in the Kämper family library and may have inspired Max Kämper to seek the *Mammuthöhle*.³⁷⁸

Kämper arrived to the Mammoth Cave Hotel on Sunday, February 23, 1908, where he paid the two dollar fee for the Long Route, and quickly caught the “cave bug.”³⁷⁹ For the rest of the week he was consuming as much information about the cave as possible, including a guide book (most likely Hovey’s *Hand-Book*), twelve stereo views, four lantern slides, Hovey’s map of Mammoth Cave, and three more visits underground on the Short Route, the Long Route again, and to Chief City with guide Ed Bishop.³⁸⁰ Kämper visited other caves in the area as well, spending time at H. C. Ganter’s Cave, White Cave, Dixon Cave, and Colossal Cavern, but he kept coming back to Mammoth.³⁸¹ During his early visits, Max drew pictures of features such as one he named Gerta’s Grotto, after a friend’s sister back in Germany and a possible love interest.³⁸² He also made small maps of passages. Having studied engineering and surveying while in the military, and perhaps finding errors in Hovey’s map, in April Max Kaemper made an arrangement with trustee Albert Janin to make an accurate map of the passages in

³⁷⁸ Ibid., 32.

³⁷⁹ Journal of Max Kämper, February 1908, Mammoth Cave National Park Vertical Files. The “cave bug” is not in fact an insect, but instead refers to a love for exploring Mammoth Cave. It is contagious.

³⁸⁰ Ibid.

³⁸¹ Journal of Max Kämper, March-April 1908, Mammoth Cave National Park Vertical Files.

³⁸² Journal of Max Kämper, March 1908; Mammoth Cave National Park Vertical Files; Kliebhan and Thomas, “Searching for Max,” 31.

exchange for free meals and caving.³⁸³ Horace Hovey noted that H. C. Ganter had suggested the idea to Janin, who “gave permission for Mr. Kaemper, not only to explore to his heart’s content, but to go ahead and do what many have long felt should be done, namely, make a complete survey of the entire cavern.”³⁸⁴

Surveys and maps had long been a bone of contention when it came to Mammoth Cave owners and managers. Early accounts, like those of Nathaniel Parker Willis, noted that “great vigilance is exercised to prevent such subterranean surveys and measurements” to prevent an adjacent landowner from creating an entrance into the cave.³⁸⁵ The discoveries of Stephen Bishop and the fraternity of guides and explorers in the twentieth century such as John Nelson, Benjamin Einbigler, and Hovey pushed the known length and extent surely beyond the 2200 acres that made up the Mammoth Cave estate, which meant that tours to places like Hovey’s Cathedral Domes would trespass under neighboring lands. A survey such as the one Max Kämper undertook could prove trespass, but as Kämper researchers Bernd Kliebhan and Nina Thomas have pointed out, “without an exact measurement the legal risks in any controversy with the neighbours could not be estimated.”³⁸⁶ Besides, Albert Janin could trust the German not to talk about his survey. Even if he did, no one in Germany would care or could do anything about it.

³⁸³ Journal of Max Kämper, April 1908, Mammoth Cave National Park Vertical Files.

³⁸⁴ Horace C. Hovey, “Discoveries in the Mammoth Cave,” *The American Antiquarian* 31, no. 3 (June-August 1909): 146

³⁸⁵ Nathaniel Parker Willis, *Health Trip to the Tropics* (New York: Charles Scribner, 1854), 155.

³⁸⁶ Kliebhan and Thomas, “Searching for Max,” 30.

A map could be handy to have, and if Janin had the only copy, he could control the spread of that information.³⁸⁷ Thus began Max Kämper's foray into cave surveying and into Mammoth Cave history.

Armed with "a good surveyor's compass," a "string and stick," a notebook, and survey training from the German military, Max Kämper entered Mammoth Cave on April 14, 1908, wearing new boots and measured a pit in Ganter Avenue, the passage used to return to the entrance with Echo River flooded.³⁸⁸ He was not alone. Ed Bishop, said to be a great-nephew of the legendary Stephen Bishop, had been one of his first guides at Mammoth Cave.³⁸⁹ The German paid an extra tip to his guide that day, which was Bishop's birthday.³⁹⁰ Bishop went along with Kämper for the duration of the surveying and exploration.

Two weeks later on April 28, Kämper and Bishop visited Ultima Thule, the end of Main Cave past Chief City. They had been there at the beginning of April, but this trip was different. Perhaps sitting in the stillness of the cave, they heard a trickle of water through the rocks at the end of the passage. The men were able to find a way around the

³⁸⁷ Ibid.

³⁸⁸ "Geographical Record," *Bulletin of the American Geographical Society* 41, no. 12 (1909): 761; Journal of Max Kämper, Mammoth Cave National Park Vertical Files; Rick Olson, Bernd Kliebhan, and Rickard S. Toomey, III, "How Did Max Kämper and Ed Bishop Map Mammoth Cave?" *Proceedings of the Mammoth Cave National Park Tenth Research Symposium: Celebrating the Diversity of Research in the Mammoth Cave Region, February 14-15, 2013*, ed. Shannon Trimboli, 70 (Bowling Green, KY: Western Kentucky University, 2013).

³⁸⁹ Brucker and Watson, *The Longest Cave*, 274.

³⁹⁰ Journal of Max Kämper, April 1908, Mammoth Cave National Park Vertical Files.

breakdown and squeezed through a tight passage around Ultima Thule. They went from a barely-passable squeeze into an enormous chamber sixty feet tall, 120 feet wide, and 160 feet long; they named it “Kämper Hall.”³⁹¹ Working their way down a hill of fallen rocks, they found the source of the water: a ninety feet-deep pit to the left-hand side of the room, which Max called “Bishop’s Pit,” after his guide.³⁹² The tired but surely excited surveyors pressed forward to the sound of more water dripping. Fallen limestone piled up into a hill that rose through a tall archway. This Kämper christened “Elisabeth’s Dome” for his sister. Adrenaline pushed them to climb up the rockfall into yet another large room, this one seventy-five feet tall, 125 feet wide, and 250 feet long.³⁹³ As they shone their lights (possibly carbide lamps) around the space, the limestone changed from rough to smooth, wet, shapely formations.³⁹⁴ Stalactites hung down from the ceiling like long white carrots. Along the left-hand wall draperies clung like frozen curtains in the wind. Flowstones stood like sentinels guarding an entrance to a fantasy world. This room they named “Violet City,” for Violet Blair Janin, the Washington socialite who was daughter

³⁹¹ Brucker and Watson, *The Longest Cave*, 275.

³⁹² *Ibid.*

³⁹³ *Ibid.*

³⁹⁴ Albert Janin talked of using acetylene gas lamps as the “proper illuminant” of the large chamber in a July 1, 1908, letter to “The Owners and Trustees of the Mammoth Cave Estate,” (Blair-Janin Family Papers, Kiplinger Research Library, Historical Society of Washington, DC [hereinafter BJFP]); Olson, Klieber, and Toomey noted that carbide lamps would make surveying and mapping such large spaces “feasible, as this would be nearly impossible in the feeble glow of the traditional Mammoth Cave oil lamps.” (“How did Max Kämper and Ed Bishop Map Mammoth Cave?,” 72.)

of an heiress to the Mammoth Cave estate and had, along with her mother and aunt, made Albert Janin a trustee. Kämper simply recorded in his journal “Violet City discovered.”³⁹⁵

The next day, Bishop and Kämper took Judge Janin, cave manager Louis Charlet, and guide Pete Hanson to see Violet City. Getting Albert Janin through the narrow wormhole of a passage that the discoverers had been through was not an easy task. As he recalled that summer,

At one place I had to lie flat on my back and be dragged by the feet between two big slabs of rock. At other places I had to twist my body and crawl in every conceivable way, cautioned at all times by the guide not to touch the rocks on the right side. I felt that I could not be induced to repeat the experiment except on the return trip, and that I could not allow any visitor to attempt it.³⁹⁶

Obviously excited at the prospect of money that a newly discovered and beautiful section could bring to Mammoth Cave, Janin granted permission to begin work on an easier path to reach Violet City. For the next week, Max Kämper spent most days working on a path and mapping the new discovery.

Word began to spread among the fraternity of explorers. In mid-May B. F. Einigler met Max for a trip to Violet City. Kämper’s measurements indicated that Violet City was not far from the end of the Long Route, Sandstone Avenue. Together they visited Sandstone Avenue and Serena’s Arbor for further mapping and measurements.³⁹⁷

In the German tradition, underground surveys in mines “needed to be very accurate,

³⁹⁵ Journal of Max Kämper, April 1908, Mammoth Cave National Park Vertical Files.

³⁹⁶ Albert C. Janin to “The Owners and Trustees of the Mammoth Cave Estate,” July 1, 1908, BJFP.

³⁹⁷ Journal of Max Kämper, May 1908, Mammoth Cave National Park Vertical Files.

and...Max's training may have included such skills."³⁹⁸ In July Norman Parrish, who had been involved in exploring Hovey's Cathedral Domes, met with Kämper to see the new discovery and make an experiment to test the surveyor's theory. Kämper and Parrish stationed themselves at Violet City while Ed Bishop went to Sandstone Avenue. At a previously agreed-upon time, they would fire revolvers and then hammer on the rocks. If the passages were as close as Kämper believed, they would be able to hear it. As Hovey later reported, "The pistol shots were inaudible, but the blows on the walls were faintly heard."³⁹⁹ If the passages could be connected visitors at Mammoth Cave could walk one long circuitous loop with no retracing.

Not everyone at Mammoth Cave was thrilled with the German's work. Hotel manager W. W. Ranshaw frantically wrote to Albert Janin his fears that Kämper would blast his way off the Mammoth Cave estate property. Ranshaw's concerns were not entirely unfounded. Apparently while using some dynamite close to the surface, Kämper "lifted leaves and sent smoke up through the ground in H. C. Ganter's backyard."⁴⁰⁰ Even with the sound tests, Ranshaw believed that "if he works much in the direction he is going he is almost certain to enter Salts Cave or come to the surface on the Colossal tract," both of which were east of Mammoth Cave.⁴⁰¹ Ranshaw reasoned that "for

³⁹⁸ Olson, Klieber, and Toomey, "How Did Max Kämper and Ed Bishop Map Mammoth Cave?," 70.

³⁹⁹ Horace C. Hovey, "Kaemper's Discoveries in the Mammoth Cave," *Scientific American* 100, no. 21 (May 22, 1909): 390.

⁴⁰⁰ Brucker and Murray, *Trapped!*, 32.

⁴⁰¹ W. W. Ranshaw to Albert C. Janin, n.d., ca. July 1908, JFC.

geologic reasons, that part of the Cave and Salts Cave are identical.”⁴⁰² Ranshaw hoped his understanding of the qualities of cave passages would persuade Janin against supporting the work at Violet City.

Ranshaw also worried that Violet City and Kämper himself presented too much of a danger to the visitors, guides and estate workforce. The manager called the discovery “a very pretty place,” but “absolutely dangerous,” that needed “many hand rails” to protect visitors and the cave formations. That was only if Kämper did not kill himself or someone else in the process of building trails. Ranshaw slammed the engineer’s use of small explosives as liable to lead to “a simultaneous killing and burial under Violet City.”⁴⁰³ Kämper might be an engineer, Ranshaw admitted, but “his German arrogance and his hard headedness and his ignorance of cave matters” could get someone killed. Ranshaw noted that Ed Hawkins, who had made a daring leap and helped discover the Cathedral Domes, and Levi Woodson did not want to work with Kämper, and “when fellows like [them] balk it’s time to look around.”⁴⁰⁴ Not only might Kämper be trespassing, but also the bravest workers on the estate refused to work with him.

Janin must have communicated these fears to the young German because in an August letter Kämper answered the critiques leveled at him. Kämper chalked up any misunderstandings about rockfalls to his own lack of comprehension of English turns of phrase. “The only cave-in, which ‘occurred’ there—if I understand this expression right—occurred many thousand years ago,” he wrote, “so our escape from an accident

⁴⁰² Ibid.

⁴⁰³ Ibid.

⁴⁰⁴ Ibid.

seems to me not quite as narrow as it may appear.”⁴⁰⁵ Kämper shot back at his accuser as not being able to know what they were up against because the unnamed accuser (Ranshaw) was “two and a half miles from it” at the Hotel and not “face to face” with the cave like Kämper.⁴⁰⁶ Even if cave work could be dangerous workers should have no reason to fear, he reasoned, because “I never neglect any possible precaution for the sake of others as well as for my own sake.”⁴⁰⁷ Having assuaged any concerns for safety, Kämper then turned to accusations about possibly being off Mammoth Cave property.

W. W. Ranshaw was wrong about where the cave passages were. Similar geologic properties did not automatically mean that different passages were near one another. Kämper had been using a compass and taking measurements underground. He could say with some precision that Violet City and Sandstone Avenue were both less than one and a half miles from the Hotel “twenty-six degrees from South towards East, so being nearly South-South-East.”⁴⁰⁸ Kamper was not the only person to make this claim; in fact, Dr. C. R. Blackall’s map from 1871 pointed to Sandstone Avenue being that same direction.⁴⁰⁹ Having thoroughly discussed possible variations in measurements of the airline distance from the Hotel to Violet City due to “the degree of declension,” Kämper defended his

⁴⁰⁵ Max Kämper to Albert C. Janin, August 4, 1908, BJFP.

⁴⁰⁶ Ibid.

⁴⁰⁷ Ibid.

⁴⁰⁸ Ibid.

⁴⁰⁹ Horace C. Hovey, “Mapping the Mammoth Cave,” *Scientific American Supplement* 48, no. 1229 (July 22, 1899): 19707.

calculations, stating “every other statement is idle talk without any better proof than void guessing!”⁴¹⁰ He would not let Ranshaw’s meddling interfere with his work.

Max Kämper found ways to enjoy his time at Mammoth Cave in spite of the disapprovals from Ranshaw, doubts from former manager H. C. Ganter, and distrust of cave manager Louis Charlet. His “blunt German ways” may have made him unpopular with some in the Mammoth Cave upper echelon (Ranshaw indicated that Charlet thought the German visitor to be a spy) and perhaps with some of the Estate workers (“the boys are all afraid to go with him”).⁴¹¹ Other visitors throughout the summer of 1908 found him to be charming. During a mid-July “porch party” for the Glasgow residents visiting the cave, Max played violin while accompanied on piano by a “Miss Maymie Depp.”⁴¹² A few women accompanied the 23 year-old German underground. Due to the constraints of the tour season, Albert Janin would not let any guides assist the engineer after May 29, but Kämper was allowed essentially free reign to systematically finish his survey.⁴¹³ Max Kämper took Bowling Green teachers Becky Wilkins and Lida Flenniken to show off Violet City, and also took them along the Long Route and possibly over to Cathedral Domes.⁴¹⁴ On their way to the new cave features they signed their names on the

⁴¹⁰ Max Kämper to Albert C. Janin, August 4, 1908, BJFP.

⁴¹¹ W. W. Ranshaw to Albert C. Janin, n.d., ca. July 1908, JFC; W. W. Ranshaw to Albert C. Janin, July 28, 1908, JFC; W. W. Ranshaw to Albert C. Janin, September 1, 1908, JFC;

⁴¹² *Danville (KY) Advocate*, July 20, 1908, 4.

⁴¹³ Max Kämper to Albert C. Janin, June 5, 1908, BJFP.

⁴¹⁴ Journal of Max Kämper, June 1908, July 1908, Mammoth Cave National Park Vertical Files.

limestone walls. Even though Janin did not want to sacrifice guides to go with Kämper, the engineer recorded several instances of Edward Bishop accompanying him, and the cave walls record Bishop's signatures alongside those of Wilkins and Flenniken. Kämper went on to name specific locations on his map as "Mayme's Stoop," "Becky's Alley," and "Lida's Pass."⁴¹⁵

Max Kämper continued surveying and mapping while also working on opening up Violet City into a more accessible path. He gave up using explosives out of fear of damaging the formations or perhaps blasting out to the surface and destabilizing the cave.⁴¹⁶ In addition to surveying, Kämper made several photographs of Violet City.⁴¹⁷ His time at Mammoth Cave was drawing to a close, and he wanted to document as much as possible. Before he left, though, one more person had to meet the explorer. In November 1908 Horace Carter Hovey, who had seen almost as much of Mammoth Cave as anyone, came at the invitation of Albert Janin to see the new discoveries.⁴¹⁸ Hovey praised the "honest, young German" as "an admirable draftsman, a fearless and capable explorer, and one ready to answer any questions put to him."⁴¹⁹ Kämper departed Mammoth Cave shortly thereafter to finish his map and return home to Berlin.

⁴¹⁵ "Map of the Mammoth Cave Kentucky, Surveyed and Drawn by Max Kaemper, Berlin Germany (Guide: Ed. Bishop), 1908," Mammoth Cave National Park Curatorial Files.

⁴¹⁶ Hovey, "Kaemper's Discoveries in the Mammoth Cave," 390.

⁴¹⁷ Journal of Max Kämper, July 1908, Mammoth Cave National Park Vertical Files.

⁴¹⁸ Hovey, "Kaemper's Discoveries in the Mammoth Cave," 388.

⁴¹⁹ "Geographical Record," *Bulletin of the American Geographical Society* 41, no. 12 (1909): 761.

On December 3, 1908, the great task was finished. Max Kämper wrote to Albert Janin from Cincinnati that he had “finished the map, which I will bring you.”⁴²⁰ He had booked a ticket on a ship leaving New York, but planned a side trip to Washington, where he hoped to deliver the map and visit the nation’s capital. After ascending the stairs of the 555-1/2 feet tall Washington Monument the German engineer poked fun at the Mammoth Cave tourists who complained about the tortuousness climb of the Corkscrew.⁴²¹ Shortly thereafter, the engineer returned home. His map, however, remained safeguarded in the hands of Albert Janin.⁴²²

Horace Hovey, who had published maps of the cave in *Scientific American* and in his guidebooks, felt the map should be published.⁴²³ Hovey had an appreciation for cave cartography that few could understand. He understood why the Mammoth Cave estate trustees refused to publish it in full, to protect their property and knowledge of the cave’s extent especially in regard to property boundaries. Still, he wanted to share some portion of it with the public. Albert Janin allowed Hovey to publish “special sketches of the routes ordinarily taken by visitors,” and to get information from Kämper to update and

⁴²⁰ Max Kämper to Albert C. Janin, December 3, 1908, JFC.

⁴²¹ Max Kämper to Albert C. Janin, December 8, 1908, JFC.

⁴²² Maps, by their very object of putting the world onto a two-dimensional plane, are troublesome sources. Maps distort and allow creators to impress their own biases upon the viewers. See, for instance, Denis Wood and John Fels, *The Natures of Maps: Cartographic Constructions of the Natural World* (Chicago: University of Chicago Press, 2008), and Mark Monmonier, *How to Lie with Maps*, 2nd ed. (Chicago: University of Chicago Press, 1996). Maps can also be extremely useful in trying to identify cave passages. The Kämper map, because of its provenance, was considered to be indisputable fact. Its simplicity in design (different colors for the different levels of cave passages) makes it a handy reference even in a modern era of computer-drawn maps.

⁴²³ Hovey, “Kaemper’s Discoveries in the Mammoth Cave,” 388.

revise the map for his forthcoming guide to Mammoth Cave.⁴²⁴ Hovey lamented that the survey would be of interest only “to men of science” because visitors to the cave would see only ten percent of the passages found on the map, but predicted that the name Max Kämper “must be henceforth identified with Kentucky’s greatest cavern.”⁴²⁵ Indeed, Horace Carter Hovey may have been Max Kämper’s—and guide Ed Bishop’s—biggest cheerleader for their endeavors. These men’s discoveries led Mammoth Cave management to completely reconfigure tours for visitors. The following year managers retooled the old Long Route and Short Route into two new routes with “a comfortable path” were established to see Violet City at one end of the cave, and Cathedral Domes at another.⁴²⁶

The experience at Mammoth Cave seemed to have shaped Max Kämper, as well. In a letter expressing gratitude to Albert Janin for the many pleasantries and kindnesses from the trustee, Kämper waxed poetic about his adventures: “My long stay at the Mammoth Cave with its manifold new experience and impressions will certainly be an everlasting delightful recollection for me, and I hope that I shall be able one day to go back to this grand place.”⁴²⁷ Max Kämper eventually married and had a family, but never again saw the Grand Portal that opened into the dome he named for his sister. When the Great War broke out in Europe, Kämper fought for his homeland. At noon on November

⁴²⁴ Ibid.

⁴²⁵ Ibid., 388, 390.

⁴²⁶ Ibid., 390.

⁴²⁷ Max Kämper to Albert C. Janin, December 8, 1908, JFC.

10, 1916, a direct hit blew up the shelter he was in, killing him instantly.⁴²⁸ Kämper was one of some 500,000 German casualties at the Somme.⁴²⁹ His map survived and his signatures in the cave are silent witnesses of his pushing the boundaries of knowledge of Mammoth Cave.

The discoveries of men of science like Kämper and men with local knowledge, like Bishop, the coming of the railroad, and new technologies reconstructed knowledge of Mammoth Cave and propelled more visitors to south central Kentucky than ever before. Emancipated from slavery, African American guides at Mammoth explored freely, and sought to fully realize their freedom using the underground wonder. Photography brought Mammoth Cave to the masses, and the railroad brought the masses to Mammoth Cave. The Louisville & Nashville Railroad's foray into show caves at Colossal Cavern had potential to be something special. Upland farmers especially began to look to the caves they had used for utilitarian purposes such as storing vegetables, milk, or canned goods, as possible sources of a side income. The rocky soils of the Kentucky karst region that made the land ripe for caves also made the ridge tops difficult to farm.⁴³⁰ Finding and opening caves such as Hazen had opened Colossal Cavern could provide income during lean times, and knowledge of its existence near Salts Cave prompted several Flint Ridge landowners and fortune seekers into cave hunting and exploration. The Kentucky Cave Wars had officially started.

⁴²⁸ Kliebher and Thomas, "Searching for Max," 34.

⁴²⁹ William Philpott, *Bloody Victory: The Sacrifice on the Somme and the Making of the Twentieth Century* (London: Little, Brown, 2009), 602-603.

⁴³⁰ Murray and Brucker, *Trapped!*, 31.

CHAPTER IV
COMPETING KNOWLEDGE: COURTROOM CONFLICTS, CONTRACT
DISPUTES, CARS, CONSERVATION, AND THE KENTUCKY
CAVE WARS, 1900-1926

In August 1921, George Morrison was armed with explosives and a plan to take down the Mammoth Cave Estate. While many Kentucky farmers were tending to their corn and tobacco crops, the Ohio mining engineer, Morrison, planted twenty sticks of dynamite in the earth at a carefully chosen location. After blasting a hole in the ground and peering into the depths below, Morrison tied a rope around his nephew Earl's waist and sent him with a lantern down into the darkness. Soon the 100-foot-long section of rope was nearly exhausted, but Earl Morrison's explorations were only beginning. The men acquired more rope, more lanterns, and more help for exploring, including Earl's war buddy, Carl Nickerson. For two days they squeezed through tight passages, carefully worked their way down through a maze of pits and domes, until they reached the bottom of the chasm. Looking through a crevice, Carl found where the cave opened up into a larger room. Earl was able to work his way through the narrow opening into the much more spacious passage. With a bit more exploration, the young men soon fulfilled a dream of many who had come before them: a new entrance into Mammoth Cave.⁴³¹

⁴³¹ George D. Morrison, *New Entrance to Mammoth Cave: A History of the Cave, Together with Descriptive Guide to Routes and Illustrations of Points of Interest* (Glasgow, KY: privately printed, 1924), 15.

George Morrison's opening of the New Entrance to Mammoth Cave, sometimes referred to as New Entrance Cave, was not his first attempt, nor was it his last use of explosives in the Mammoth Cave area. More importantly, his actions took place within a context of competing knowledge about Mammoth Cave and the surrounding country. The Gilded Age witnessed the growth of cave discoveries and competition, but in the first quarter of the twentieth century the competitive spirit turned cutthroat. Local cave owners' competing knowledge of the underground avenues of Kentucky stoked fights on the surface between explorers and landowners. Rivalries between caves wound up in court, but could turn deadly. Competing land uses brought new participants to the Cave Wars, disrupting traditional power relationships. All of this competition took place as automobiles and the Good Roads movement democratized travel to the Mammoth Cave region and brought more visitors than ever.⁴³² Travelers found themselves bombarded by advertising and misleading information. The Cave Wars reached a fever pitch, resulting in calls to turn Mammoth Cave into a national park. The nascent national park movement, comprised mainly of conservation groups, faltered. Ironically, the 1916 creation of the National Park Service delayed a national park at Mammoth Cave, as did questions as to Mammoth Cave's suitability as a national park. Ultimately, a group of business-minded advocates for Kentucky tourism stepped in to push a pro-business Congress to act.

In 1899, a young civil engineer from Buffalo, New York, Edmund Turner, arrived at Mammoth Cave where he met a twelve-year-old boy selling Native American artifacts

⁴³² See Howard Lawrence Preston, *Dirt Roads to Dixie: Accessibility and Modernization in the South, 1885-1935* (Knoxville: University of Tennessee Press, 1991); and Tammy Ingram, *Dixie Highway: Road Building and the Making of the Modern South, 1900-1930* (Chapel Hill: University of North Carolina Press, 2014).

at a souvenir stand. Floyd Collins, the child entrepreneur, struck a bargain with Turner to enter Salts Cave to find more artifacts to send to Turner in Buffalo.⁴³³ Homer Collins, Floyd's youngest brother, called this arrangement "the biggest factor in launching [Floyd] into cave exploration."⁴³⁴ By 1910 Floyd Collins had gained a local reputation for his underground exploits. Harry B. Thomas, a dentist in nearby Horse Cave, Kentucky, hired Collins to explore Thomas' recent acquisition in downtown Horse Cave, Hidden River Cave.⁴³⁵ Two years later, Turner returned to cave country and sought a local to acquaint him with the area and its caves. The twenty-five year-old Floyd Collins reunited with a thirty-six year-old Turner. They first ventured into Salts Cave, after which "Turner caught the same fever that gripped Floyd..." he was "a confirmed cave addict."⁴³⁶ Thus began "the most unique partnership...the scientific and the practical man working together, each learning from each other."⁴³⁷ It helped that Turner paid Collins two dollars per day, but the work kept Collins out of the fields and timber hauling working for his father, work he despised.⁴³⁸

Their first project was opening a cave on the north side of Green River across from Mammoth Cave. Dossey Domes Cavern, named for storeowner L. P. Dossey, was a

⁴³³ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 25.

⁴³⁴ Ibid.

⁴³⁵ Ibid., 40.

⁴³⁶ Ibid., 57.

⁴³⁷ Murray and Brucker, *Trapped!*, 32; Collins and Lehrberger, *The Life and Death of Floyd Collins*, 57.

⁴³⁸ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 57.

short cave but rich with formations and beautiful surface surroundings. Turner and Collins constructed stairs and a boardwalk for visitors to keep their feet clean as they toured Dossey Domes. They officially opened the cave for business in 1912, but the venture did not last long. Floyd Collins' mother contracted tuberculosis and he returned home to help his family. Additionally, easy access to the cave from Mammoth was dependent on ferries for crossing Green River, and Turner kept unusual business hours, closing for most of the daylight hours.⁴³⁹ Turner had his sights on developing a cave on Flint Ridge near Colossal Cavern and Salts Cave.

Like so many others who spent much time in cave country, Turner became convinced that the passages underground in Flint Ridge all connected. Flint Ridge was larger than the Mammoth Cave Ridge, so it followed that the Flint Ridge caves were more extensive than the world famous Mammoth Cave.⁴⁴⁰ It was simply a matter of finding the right cave.

When Floyd Collins' mother got sick, Turner moved out of the house and stayed with various families on Flint Ridge while continuing his explorations there.⁴⁴¹ In 1915 Turner struck a verbal bargain with one of his hosts, Rev. L. P. Edwards, that if he found a cave under Edwards' land that they split profits half-and-half.⁴⁴² By the end of the year,

⁴³⁹ Kem, *The Kentucky Cave Wars*, 80-82.

⁴⁴⁰ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 57.

⁴⁴¹ Murray and Brucker, *Trapped!*, 33.

⁴⁴² Ibid.

Turner opened up Great Onyx Cave and began working on paths and handrails for visitors.⁴⁴³

It is likely that Turner knew that a cave already existed there. According to Homer Collins, Turner had surveyed a branch of Salts Cave that ran under Edwards' property.⁴⁴⁴ Shorty Coats, a guide at Mammoth Cave, agreed that Turner discovered what came to be known as Great Onyx Cave after traveling through Salts Cave passages.⁴⁴⁵ Floyd Collins signed his name on a wall of crusty gypsum inside Great Onyx, dated 1914. When Turner tried to collect his half of the tour fees from Preacher Edwards, however, Edwards balked. The engineer took the preacher to court, where Edwards testified that he found the cave entrance, a spring clogged with sawdust and peach pits from a nearby peach brandy distillery, by himself in June 1915.⁴⁴⁶ Since Turner did not have a written contract with Edwards, there was no way to prove the fifty-fifty agreement and Turner lost his suit. Neighbors on Flint Ridge rumored that Turner retaliated by returning to the passage of Salts Cave that connected to Great Onyx and blasted it shut.⁴⁴⁷

Turner also shared critical knowledge of Great Onyx Cave with one of Preacher Edwards' neighbors. In the fallout with Edwards, Edmund Turner boarded with Payton

⁴⁴³ Kem, *The Kentucky Cave Wars*, 94.

⁴⁴⁴ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 62.

⁴⁴⁵ Interview with Shorty Coats Regarding CCC, Manuscripts & Folklife Archives, Western Kentucky University.

⁴⁴⁶ Kem, *The Kentucky Cave Wars*, 96.

⁴⁴⁷ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 62-63. No connection has been found between Salts Cave and Great Onyx Cave despite extensive exploration and surveying by the Cave Research Foundation.

“Pate” Lee a couple of farms over. Having surveyed Great Onyx, Turner knew the passage crossed property boundaries underneath Pate Lee’s land. Turner hoped to create a new entrance into Great Onyx Cave, but in 1917 he caught pneumonia and died penniless. Turner left his meticulous survey notes for Great Onyx Cave to Pate Lee.⁴⁴⁸ Turner left his partner Floyd Collins with lessons in geology, a spirit of adventure, and the wisdom to always get bargains made in writing.

Floyd Collins’ father, Lee, was the definition of a hardscrabble farmer. The elder Collins owned an upland farm of 200 acres where he and his family grew a variety of grains like oats and corn, along with a vegetable patch from which extra produce could be sold at market.⁴⁴⁹ In the winter, Lee Collins and his sons Marshall, Andy Lee, Floyd, and little Homer cut ties for the L&N Railroad like most of their neighbors.⁴⁵⁰ The farm life was less interesting to Floyd than caves; by the time he was twenty-three in 1910 Floyd Collins purchased thirty acres from his father and found a cave under the land.⁴⁵¹ “Floyd’s Cave” was not very large and lacked many formations, but it taught him the work of opening a cave on his own. His work with Edmund Turner for the next seven years further specialized his skills at finding caves and opening them.

Taking his cue from Turner’s belief in the extensiveness of Flint Ridge caves, Floyd Collins had a goal to find a cave longer than Mammoth, and open it for display.⁴⁵²

⁴⁴⁸ Ibid., 63; Kem, *The Kentucky Cave Wars*, 98.

⁴⁴⁹ Murray and Brucker, *Trapped!*, 41.

⁴⁵⁰ Ibid.

⁴⁵¹ Ibid., 42.

⁴⁵² Collins and Lehrberger, *The Life and Death of Floyd Collins*, 34.

In September 1917 while cutting timber, Floyd felt the all-familiar breeze coming out of a hillside. He dug out the opening and found a broken down passage. Thinking it to be just a small cave, Floyd turned it into an apple storage room. Around Christmas that year, Floyd found that packrats had eaten the apples, leaving scraps throughout the breakdown. Collins decided to carefully remove the rocks to allow his entry until he arrived at a steep slope. Upon retrieving more light, Floyd realized “he was in a great underground canyon, larger than any he had ever seen or heard of.”⁴⁵³

Collins immediately began making plans to open his discovery to public display. The first order of business was to settle everything legally with his father, the landowner.⁴⁵⁴ The work of opening this new cave, Crystal Cave, was a family affair. His brothers worked on creating a larger entrance, exploring potential routes, and digging away layers of sediment in cave passages.⁴⁵⁵ One route that led to a beautiful section of helictites required excavating some 102,000 square feet worth of dirt and sediment to make it passable for about 1700 feet.⁴⁵⁶ After all, “tourists don’t like to get dirty.”⁴⁵⁷ All the work was finished in time to open for business in the spring of 1918 when tourism was at a virtual standstill due to the Great War.⁴⁵⁸

⁴⁵³ Ibid., 71-73.

⁴⁵⁴ Murray and Brucker, *Trapped!*, 44.

⁴⁵⁵ Collins and Lehrberger, *The Life and Death of Floyd Collins*, 81.

⁴⁵⁶ See introduction for a description of cave formations.

⁴⁵⁷ Ibid.

⁴⁵⁸ Murray and Brucker, *Trapped!*, 45.

The lack of business meant that Floyd could continue exploring the cave. In 1921 *The New York Times* reported that in addition to new passages Floyd Collins found a skeleton of a prehistoric person in Crystal Cave.⁴⁵⁹ Collins could use these remains like L. J. Procter and H. C. Ganter used the Salts Cave mummy to attract visitors. As travel increased in the postwar period, however, Crystal Cave attracted few tourists. For one, it was hard to get to. Although Collins purchased a five-passenger touring car to taxi visitors from the railroad station at Mammoth Cave the nine miles to Crystal Cave, the country road to Flint Ridge was less than ideal for the driving public.⁴⁶⁰ Going to Crystal or Great Onyx Cave on Flint Ridge from the Mammoth Cave Ridge required descending a winding valley and coming up a steep hill. Homer Collins estimated that Floyd's Crow-Elkhart car was "about the only car in the cave region that could get up the big hill."⁴⁶¹

The other problem was one of competition. By 1920 visitors to cave country had a host of options to visit. Mammoth Cave was the big draw, but Colossal Cavern, Great Onyx Cave, Crystal Cave, Mammoth Onyx Cave, Hidden River Cave all competed against each other. The Cave Wars were in full swing, but Mammoth had yet to face its biggest rival.

In the spring of 1916 Kentucky had oil fever. The *Louisville Courier-Journal* announced increased production from wells in multiple counties in northern Kentucky with new "wildcat" drilling beginning in Edmonson, Barren, and Warren Counties

⁴⁵⁹ "New Mammoth Cave Entered in Kentucky," *New York Times*, July 21, 1921, 7.

⁴⁶⁰ Collins and Lehrbarger, *The Life and Death of Floyd Collins*, 88-89.

⁴⁶¹ *Ibid.*, 89.

around Mammoth Cave.⁴⁶² The lure of oil riches brought George D. Morrison to cave country, but one visit to Mammoth Cave was all it took for mining engineer George Morrison to get bitten by the cave bug. Like Max Kämper before him, Morrison repeated tours until he was “more familiar with the long routes of the cave than were several of the guides.”⁴⁶³ Upon studying all available maps and written sources like Horace Carter Hovey’s and Richard Ellsworth Call’s *Illustrated Manual*, Morrison believed he could find a way to make a back entrance into Mammoth Cave.⁴⁶⁴

By 1916 the area was pockmarked from a number of excavations in hopes of finally breaking into Mammoth Cave. Morrison would add to them, but only after determining where he should blast. Morrison talked to locals like H. C. Ganter.⁴⁶⁵ Ganter shared with Morrison how he witnessed dust clouds rise up from the ground during

⁴⁶² “Increases Continue in Oil Fields of Kentucky,” *Louisville Courier-Journal*, May 15, 1916, 8.

⁴⁶³ George D. Morrison, *New Entrance to Mammoth Cave*, 7.

⁴⁶⁴ *Ibid.*

⁴⁶⁵ From 1888 to 1902 H. C. Ganter managed the Mammoth Cave Hotel on behalf of the Trustees and led to a significant improvement of facilities and tours, including the development of a trail on Welcome Avenue, which, although it allowed the Long Route to continue without rises in Echo River interfering with the cave experience, was a very difficult passage. Hovey named the passage Ganter Avenue in his honor. Two of the Trustees, Augustus S. Nicholson and William E. Wyatt, attempted to remove him and charged him with mismanagement. A third trustee, Jesup Blair, represented two-thirds interest in ownership, and backed Ganter. The case wound up in court until Blair died suddenly of a stroke. Without Blair’s support, the minority faction of Nicholson and Wyatt was able to overthrow Ganter and install a Louisville hotel manager, W. Scott Miller, Jr., whose family had a long history of managing the Mammoth Cave hotel. See “Mammoth Cave Decision,” *The New York Times*, May 5, 1902, 1; Katie Algeo, “The Puzzling Mr. Janin and Mammoth Cave Management, 1900-1910,” 18.

Kämper's detonations around Violet City.⁴⁶⁶ The only problem was how to survey underground without the Mammoth Cave managers knowing.

Mammoth Cave guide Bob Lively provided a solution. A bribe for a copy of the key was a small price to pay for a potential to make a fortune, as George Morrison believed he could.⁴⁶⁷ Morrison then ran illegal surveys of Mammoth Cave to see how far they extended beyond the property boundary, a task easier said than done. The team of surveyors, led by a sewer construction engineer, had to sneak into the entrance with all of their gear, plus haul it almost the entirety of the Long Route across Echo River to the far reaches of Boone Avenue. When they finished, they had to go back the same way; surveying was "tedious, exhaustive, and dangerous."⁴⁶⁸ Minor missteps could wreck the venture. A guide found some of Morrison's instruments near Echo River, which prompted managing trustee Albert C. Janin to order guides to serve as lookouts. At one point Mammoth Cave officials caught Morrison and took him to court, where he was fined for trespassing.⁴⁶⁹

Morrison tried other combinations of folk knowledge and his professional engineering abilities. Morrison asked around Mammoth Cave neighbors if they knew of any possible caves in the area. One mother said she did not, but that her children used to play in a deep ravine in the summer heat because there was cool air coming from the

⁴⁶⁶ Murray and Brucker, *Trapped!*, 35.

⁴⁶⁷ Kem, *The Kentucky Cave Wars*, 88. It is unclear if Bob Lively had a dispute with the cave managers or if he simply wanted to make money as a motivation for letting Morrison get a copy of his cave key.

⁴⁶⁸ *Ibid.*, 89.

⁴⁶⁹ Murray and Brucker, *Trapped!*, 277.

rocks. In the years since, however, the hole had filled in. Morrison was able to dig around in the ravine and determine that it was just about six hundred feet from a large passage known to be Mammoth Cave.⁴⁷⁰

Morrison blasted into the earth and sent his men down exploring. After sixty days of following crevices and finding the right path, “success crowned their efforts” as they found the name of a Mammoth Cave guide scratched into a wall.⁴⁷¹ To be sure it was Mammoth, Morrison had five employees from the Mammoth Cave Estate take the Long Route and meet Morrison’s people to take his new entrance out to the surface.⁴⁷² The dream had been achieved—George Morrison had a new entrance to Mammoth Cave. There was just one problem. He did not own the rights to the land he had blasted.

On June 16, 1916, the Colossal Cavern Company took action against Morrison. The Company sought an injunction against Morrison and Joseph Cox, upon whose land Morrison had blasted, “from digging, drilling, or boring upon said tract of lands...for the purposes of effecting an entrance into the caves or caverns underneath...and from entering in or upon said caves or caverns or passages.”⁴⁷³ Even though Colossal Cavern Company was not as aggressive in the Cave Wars as Great Onyx or Morrison, they were not going to allow trespassers to profit at their loss. George Morrison left cave country

⁴⁷⁰ Morrison, *New Entrance to Mammoth Cave*, 11.

⁴⁷¹ Ibid.

⁴⁷² Ibid.

⁴⁷³ Injunction against George D. Morrison, Morrison Development Company and Joseph Cox, June 16, 1916; Mammoth Cave National Park Vertical Files.

dejected, but knew what he had to do: get more money, buy land and cave rights of his own, and once again open a new entrance.

Five years later in the spring of 1921, Morrison triumphantly returned, to the chagrin of Mammoth Cave officials. In April of that year, Morrison began purchasing tracts of land that had been previously unavailable perhaps due to the agricultural boom of the Great War years.⁴⁷⁴ Mammoth Cave Hotel manager Donna Bullock informed Janin of Morrison's return and predicted, "we are in for a fight *on all sides*."⁴⁷⁵ Bullock sent cave guide John "Mutch" Hunter to inspect the surface above Violet City to make sure Morrison had not tried to enter through there, and had guides William Bransford and Louis Bransford to listen for blasting from inside the cave along the Long Route.⁴⁷⁶ They heard and found nothing, but knew what Morrison was going to attempt. It was only a matter of time.

In August 1921, Morrison made his second successful blast, aided by his nephew Earl Morrison and Earl's war buddy Carl Nickerson. Their explorations in what was mostly an entirely newly-discovered section of Mammoth Cave connected Hovey's Cathedral Domes, discovered in 1907; Robertson Avenue, discovered in September 1921 from the Mammoth Cave estate entrance by a newspaperman, Carl Robertson, and guide Schuyler Hunt; and the New Entrance. A trip to Cathedral Domes that would take ten hours from the natural entrance on the Mammoth Cave estate now only took ninety

⁴⁷⁴ David Danbom, *Born in the Country: A History of Rural America* (Baltimore: The Johns Hopkins University Press), 180.

⁴⁷⁵ M. D. Bullock to Albert C. Janin, April 18, 1921, JFC. Emphasis in original.

⁴⁷⁶ *Ibid.*; M. D. Bullock to Albert C. Janin, undated letter ca. April 1921, JFC.

minutes.⁴⁷⁷ Morrison set his sights on creating another entrance to make the trip even faster.

In March 1922, Donna Bullock received word from Mutch Hunter and two other guides of some of Morrison's activities. At Hovey's Cathedral Domes the guides found the Morrison group had constructed a ladder that reached to the top of one of the domes, and the domes were "wired to...[a] battery at the bottom."⁴⁷⁸ The guides surmised correctly that Morrison was attempting to create an entrance into Cathedral Domes, and thought they might be able to hear drilling or blasting at the location. Instead, they visited a neighboring dome called Edna's Dome, where they "still could hear the 'chug' of the drill."⁴⁷⁹ From the way it sounded, though, Hunter did not believe that they would actually drill into open air of either dome.

In the summer and fall of 1922 Morrison finally announced his venture that he called "The New Entrance to Mammoth Cave." Located just 300 yards from the road to Cave City, the New Entrance would be the first cave motorists would meet if they drove down the Dixie Highway to Cave City.⁴⁸⁰ Morrison's company, the Mammoth Cave Development Company, promised to build a three-story, 400-room hotel that would include an elevator into Mammoth Cave.⁴⁸¹ To complete the experience, Morrison had

⁴⁷⁷ Morrison, *The New Entrance to Mammoth Cave*, 47.

⁴⁷⁸ M. D. Bullock to Albert C. Janin, March 30, 1922, JFC.

⁴⁷⁹ Ibid.

⁴⁸⁰ "Another Door Cut to Mammoth Cave," *Richmond (KY) Daily Register*, May 30, 1922, 4; "Notice to Cave Tourists," *Louisville Courier-Journal*, April 27, 1924, 1.

⁴⁸¹ "Big Hotel to be Built at Cavern," *Louisville Courier-Journal*, October 10, 1922, 8.

purchased the Salts Cave mummy from H. C. Ganter's heirs to put on display in the New Entrance.⁴⁸²

The way Mammoth Cave employees saw it, their lives and livelihoods were under attack. Cave management could not restrain Morrison from drilling or blasting on his own land, but they wanted to find a solution. The trustees of the Mammoth Cave estate saw three ways to attack Morrison: charge him with fraud, "wall him in" by purchasing all the land and cave rights around his, or seek an injunction to claim adverse possession since the Mammoth Cave estate had used the passages under Morrison's land for more than ten years.⁴⁸³ Helen Fitz Randolph, a publicity-driver for Mammoth Cave, met with the U. S. Postal Service Chief Inspector about Morrison's advertisements, which "come within the scope of 'using the mails to defraud' through the dissemination of false statements to secure patronage."⁴⁸⁴

In 1923 the trustees sued Morrison for the use of the name "New Entrance to Mammoth Cave," which they claimed to be false advertisement. Janin's reasoning was that most of the paths shown on the "so-called" New Entrance tours had been known since Max Kämper's survey of the cave.⁴⁸⁵ He also argued that the use of the name "Mammoth Cave" carried with it certain expectations to see those landmarks like Giant's Coffin, Echo River, Mammoth Dome, and Star Chamber. The court rejected the first part

⁴⁸² Kem, *The Kentucky Cave Wars*, 126.

⁴⁸³ Helen Fitz Randolph to Albert C. Janin, July 20, 1923, JFC.

⁴⁸⁴ Helen Fitz Randolph to Albert C. Janin, July 20, 1923, JFC.

⁴⁸⁵ Kem, *The Kentucky Cave Wars*, 135; W. M. Bullitt to George E. Zubrod, September 18, 1929, Mammoth Cave National Park Association Collection, MSS 296, Manuscripts & Folklife Archives, Western Kentucky University [hereinafter MSS 296].

of the estate's argument. Morrison had signed affidavits from visitors on July 23, 1923, who had traveled from the natural entrance on the Estate and exited through the New Entrance, thus proving that the section Morrison's Mammoth Cave Development Company owned was, indeed, part of Mammoth Cave.⁴⁸⁶ The court agreed with the estate's second claim, however, and required all future New Entrance advertisements and circulars to include a disclaimer to potential visitors: "We do not show any part of the cave which prior to 1907 was generally known as Mammoth Cave, that portion of the cave can be seen only through the old entrance."⁴⁸⁷

The fine print on the New Entrance's publicity mattered little when Morrison's workers discovered a quarter-mile section of beautiful cave formations, domes, and the highlight feature, a giant flowstone, alleged to be "seventy-five feet all, fifty feet wide, and four feet thick," which Morrison named "Frozen Niagara,"⁴⁸⁸ Now the New Entrance to Mammoth Cave had something that the "old entrance" did not. When Morrison created a second entrance, the Frozen Niagara entrance, the New Entrance to Mammoth Cave bragged that it had a route that had no retracing, and one route accessible to "the feeble, the invalid, the cripple and the aged."⁴⁸⁹ Unlike the Mammoth Cave estate, the New Entrance could offer tours to all ages and abilities, instead of prohibitive trips of four to nine miles.

⁴⁸⁶ Morrison, *New Entrance to Mammoth Cave*, 40.

⁴⁸⁷ Ibid.

⁴⁸⁸ Kem, *The Kentucky Cave Wars*, 140.

⁴⁸⁹ Morrison, *New Entrance to Mammoth Cave*, 54, 60.

What had started as a region with a few caves for saltpeter mining had transformed into a landscape of cutthroat competition for tourist dollars. The solicitors for the competing caves, especially Great Onyx, New Entrance, and Crystal, were the most visible symbols of the Cave Wars. These salespeople hounded visitors, particularly as the automobile age dawned.

Automobiles vastly democratized travel in America and revolutionized the economy. Cars also, in the words of historian Marguerite Shaffer, “completely transformed the tourist experience.”⁴⁹⁰ In 1904 an Indianapolis judge drove the first automobile to Mammoth Cave.⁴⁹¹ At this time, cars were relatively rare; by the end of the 1920s one out of every five Americans owned an automobile.⁴⁹² The road network grew in that time, pushed by the Good Roads Movement. The South was no exception.⁴⁹³ In 1912 the Mammoth Cave estate hosted a “Good Roads Barbecue” in support of the Tri-State Good Roads Committee meeting of officials from Kentucky, Indiana, and Tennessee.⁴⁹⁴ Building new roads for automobiles was a way for the nation “to shed its nineteenth century past...road building propelled the country, and especially the South, into the modern age.”⁴⁹⁵ By 1917 the spirit of “See America First” propelled wealthy

⁴⁹⁰ Shaffer, *See America First*, 132.

⁴⁹¹ Elmer G. Sulzer, “Gay Nineties Rendezvous: The Mammoth Cave Railroad,” *The Register of the Kentucky Historical Society* 57, no. 2 (April 1959): 136.

⁴⁹² Sutter, *Driven Wild*, 24.

⁴⁹³ See Ingram, *Dixie Highway*, and Preston, *Dirt Roads to Dixie*.

⁴⁹⁴ “Much Interest Manifested in Coming Good Roads Meeting,” *Louisville Courier-Journal*, August 27, 1912, 7.

⁴⁹⁵ Ingram, *Dixie Highway*, 2.

Americans to travel “on their own schedule in their own cars.”⁴⁹⁶ Paul Sutter describes this era as “crucial to...the idealization of nature as a space for leisure” and for urban residents to escape the pressures of the cities. In the consumerist mindset of this time, “Americans start seeing recreational nature as an experiential commodity.”⁴⁹⁷ These modern, “suddenly motorized Americans” may have expected to find romantic scenery to consume, but instead encountered a confusing scene as they ventured into the commercialized world of competitive cave businesses in south central Kentucky.⁴⁹⁸

The first solicitors were actually working for Mammoth Cave. In 1889, H. C. Ganter hailed “drummers” (for drumming up business) as “great hands to talk up the place.”⁴⁹⁹ Newspaper editors and reporters were the ideal solicitors because they could lend an air of authority in their columns rather than in the traditional advertising sections.

When the solicitors worked for rival caves, however, the Mammoth Cave estate felt the threat of competition. In 1897, Dr. Hazen solicited visitors for Colossal Cavern at the entrance to Mammoth Cave.⁵⁰⁰ As more and more caves opened for business, the situation got worse.

In July 1921, a worker at Great Onyx Cave got into a fight with the Mammoth Cave postmaster, and only one man survived. Clell Lee was a solicitor and souvenir

⁴⁹⁶ John P. Dodds to Albert C. Janin, October 3, 1917, JFC.

⁴⁹⁷ Sutter, *Driven Wild*, 23, 27.

⁴⁹⁸ Horace M. Albright and Marian Albright Schenck, *Creating the National Park Service: The Missing Years* (Norman: University of Oklahoma Press, 1999), 136;

⁴⁹⁹ H. C. Ganter to Augustus S. Nicholson, March 1, 1889, JFC.

⁵⁰⁰ H. C. Ganter to Augustus S. Nicholson, July 19, 1897, JFC.

salesman for Great Onyx Cave. He and other solicitors for the caves, stood at the railroad depot and tried to attract visitors to their caves. They drove taxis like Collins, and promised their cave to be the best experience in the region. Solicitors knew no bounds when it came to bringing in business, nor did they respect the boundaries of the Mammoth Cave estate. Hotel manager Mary Donna Bullock recorded many instances of Lee and other solicitors standing on the estate grounds peddling their wares and soliciting for business.⁵⁰¹

Even though he solicited for Great Onyx Cave, Clell Lee cut and delivered railroad ties for the Mammoth Cave estate and rented a house on the estate property. Managing trustee Albert C. Janin wanted Lee away from Mammoth Cave and ordered his eviction, but Lee and his family remained in the house.⁵⁰² Hot-headed and a heavy drinker, Lee had more than once shown up to the post office in an inebriated state. On the morning of July 8, 1921, Lee barged into the Mammoth Cave post office to pick up his mail, and was informed by Lem Ferguson, the postmaster, that there was none. Lee allegedly turned and called Ferguson a “son of a bitch” on his way outside to his car. As Lee drove away with his wife, Ferguson fired two shots at the car, striking Lee and killing him.⁵⁰³ Ferguson claimed he fired in self-defense, that Lee had drawn a pistol from his pocket and aimed it at the postmaster as he made his exit.⁵⁰⁴ The shooting of

⁵⁰¹ See, for instance, M. D. Bullock to Albert C. Janin, April 25, 1921, JFC.

⁵⁰² M. D. Bullock to Albert C. Janin, May 30, 1921, JFC.

⁵⁰³ M. D. Bullock to Albert C. Janin, July 8, 1921, JFC.

⁵⁰⁴ Ibid.

Clell Lee further split the Great Onyx and Mammoth Cave factions as the Cave Wars were officially violent.

Although a large number of solicitors sold souvenirs along the public roadsides near the Mammoth Cave Railroad depot and grounds, the most visible and irksome ones stalked the roads from Cave City and Glasgow Junction to Mammoth Cave, waiting for their prey. A critic described the perils of travel through cave country:

As the tourist nears the...area he is enjoined to buy a ticket to all manner of caves, he frequently misses authoritative advice, he is often intercepted and sold a trip through a hillside hoax located along the main highway leading to the cave area, and he arrives in the cave area, if at all, more or less confused as to what piece of conflicting literature or bombastic billboard to follow. Here, he is beset by rival solicitors of competing caves and told anything and everything ...If the tourist wanted to consult impartial advice or learn something about the leading caves and their routes before deciding which one to visit...he would learn that nothing of that kind is available.⁵⁰⁵

Cave trustee Albert Janin had collected a number of solicitors' lies reported to him by visitors, including "The old entrance has caved in" and "The cave is being sold to-day."⁵⁰⁶ Solicitors stopped at nothing to get visitors to their caves.

Part of the problem from the Estate end was that Mammoth Cave had no solicitors of its own. In 1922 guide Schuyler Hunt offered to "prove [his] loyalty" to Mammoth Cave by working as a solicitor "to tell the guests who and what to do," rather than be "stock full" of other caves' propaganda.⁵⁰⁷ Harry Pinson, a former photographer at

⁵⁰⁵ George E. Wood to Arno B. Cammerer, August 1, 1932; [Mammoth Cave National Park] File 601, Part 1; General Records; Central Classified Files, 1907-1949, Records of the National Park Service (RG 79); National Archives at College Park, College Park, MD [hereinafter RG 79], Box 364.

⁵⁰⁶ Kem, *The Kentucky Cave Wars*, 134.

⁵⁰⁷ Schuyler Hunt to Albert C. Janin, April 18, 1922, JFC.

Mammoth Cave, created an advertising car to spread the word of Mammoth Cave to cities and college campuses in Kentucky. The “car” was really a modified box truck. The outside was covered with photographs of Mammoth Cave features, while the inside included a booth and window to work from, and a motion picture projector to display newly captured movies from inside Mammoth.⁵⁰⁸ With Pinson’s advertising and movie truck outside the cave region, though, solicitors overran the hotels in Cave City and Glasgow Junction, and the roads everywhere in between. The competition annoyed and confused tourists and left them with a bad taste in their mouth. Courts had proved relatively ineffective and indifferent at solving issues unless they involved fraudulent advertising.⁵⁰⁹ A new group of concerned citizens arose to combat the scourge of soliciting and make the roads safe for travel while also conserving a world wonder.

Under the terms of Dr. John Croghan’s will, Mammoth Cave was to be held by his nieces and nephews until the last heir died, at which time the cave should be advertised for sale in leading cities’ newspapers.⁵¹⁰ As early as 1873, the trustees had considered selling the cave property.⁵¹¹ The question arose from time to time, but the heirs never authorized the trustees to actually sell the cave. Instead, they held on to it as absentee owners for an income stream and tried to protect it. The public also had ideas about how Mammoth Cave should be used.

⁵⁰⁸ Harry Pinson to Albert C. Janin, May 28, 1922, JFC; Harry Pinson to Albert C. Janin, July 23, 1922, JFC.

⁵⁰⁹ Helen Fitz Randolph to Albert C. Janin, June 29, 1922, JFC.

⁵¹⁰ Will of John Croghan, January 10, 1849; Mammoth Cave National Park Vertical Files.

⁵¹¹ W. S. Miller to Augustus S. Nicholson, January 2, 1873; JFC.

The first law protecting the cave was passed by the Kentucky state legislature in 1888. The law essentially outlawed graffiti and vandalism in the Mammoth Cave; the punishment for violating the law was a fine of fifty dollars.⁵¹² As early as 1897 the *Louisville Courier-Journal* argued that Kentuckians should “preserve these mighty monuments of nature’s primitive upheavals,” by setting aside Salts Cave and Mammoth Cave as state parks the way New York set aside part of Niagara Falls.⁵¹³ Kentucky drew the line of protection at the anti-graffiti law, but the question persisted what to do with Mammoth Cave once the heirs died.

On August 28, 1908, the *Hartford Republican* reported news of a petition from Horse Cave, Kentucky, requesting Congress to turn local attraction Mammoth Cave into a “national pleasure ground” for the American people to see free of charge. The upbeat report triumphantly declared, “it is not expected that there will be any serious opposition to the plan, and Mammoth Cave will no doubt retain its old prestige as one of the seven wonders of the modern world.”⁵¹⁴ A newly elected Congressman in Kentucky’s Third District, which included Edmonson County and thus, most of Mammoth Cave, agreed, and became a stalwart supporter of a national park at Mammoth Cave.

In April 1911, among bills to regulate tobacco sales and Civil War veterans’ pensions, Congressman R. Y. Thomas introduced the first of many bills intended to

⁵¹² Colleen O’Connor Olson, *Mammoth Cave by Lantern Light* (Dayton: Cave Books, 2010), 30.

⁵¹³ “Rival is the Mammoth in Grandeur,” *Louisville Courier-Journal*, August 15, 1897, section 3, page 1.

⁵¹⁴ “Mammoth Cave Made Free,” *Hartford (KY) Republican*, April 28, 1908, 5.

create a Mammoth Cave National Park.⁵¹⁵ In February 1912 Senator William O'Connell Bradley introduced a companion bill in the U. S. Senate. Since at the time national parks were largely under the War Department, the House bill went to the Committee on Military Affairs, but the Senate bill was eventually referred to the Committee on Public Lands.⁵¹⁶ The million-dollar price tag attached to the acquisition of Mammoth Cave seemed to be the biggest obstacle to the bill's passage, despite having the overwhelming support of the railroad, conservation groups, and Kentuckians.

The Mammoth Cave Railroad and Louisville & Nashville Railroad both supported the national park idea. In 1912 the Mammoth Cave Railroad refurbished its track and equipment for the meeting of the Women's Clubs at Mammoth Cave, which had as "one of its chief aims the creation of a Mammoth Cave National Park."⁵¹⁷ Milton H. Smith, Sr., president of the L&N, took credit for the national park idea as early as 1901.⁵¹⁸ For both of the railroads a national park could mean an increase in customers and revenue.

Civic groups also supported the national park idea. In addition to the Women's Clubs, the idea gained traction among the Benevolent and Protective Order of the Elks, the Southern Commercial Congress, the National Forestry Association, and the National Geographic Society.⁵¹⁹ Among the biggest supporters, perhaps not surprisingly, was the

⁵¹⁵ 62 Cong. Rec. 82 (daily ed. April 5, 1911).

⁵¹⁶ 62 Cong. Rec. 1614 (daily ed. February 1, 1912).

⁵¹⁷ "Trail's End! The Mammoth Cave Railroad, 1886-1931," *The L & N Employes' [sic] Magazine* (May 1937): 8.

⁵¹⁸ Goode, *World Wonder Saved*, 20.

⁵¹⁹ "Mammoth Cave May Become a National Park," *Louisville Post*, May 26, 1914, JFC.

Fourth National Conservation Congress, which had among its standing committees one on national parks, “including Mammoth Cave, Ky., and adjacent lands.”⁵²⁰

In 1912 the state of Kentucky authorized legislation granting jurisdiction over Mammoth Cave to the United States, in the event that the park bill passed. The bill also called for a survey from the United States government to include “all the caves in the immediate vicinity of Mammoth Cave may be included in such national park when established.”⁵²¹ The willingness of a southern state to grant a power to the federal government was quite a commitment to the national park idea, but did not translate into significant movement on the part of the bill. Even in 1920, when the Kentucky legislature passed a concurrent resolution “asking Congress to pass an act with necessary appropriation to make Mammoth Cave Estate a National Park,” Congress did nothing.⁵²²

Despite the movement for the national park at Mammoth Cave, one significant opponent emerged. It was almost a given that members of the national parks committee of the National Conservation Congress appeared before both the House and Senate committees to testify in favor of the bill.⁵²³ Cave trustee Albert Janin, who lived in Washington, DC, in between visits to the cave, was never invited to testify, but showed

⁵²⁰ *Proceedings of the Fourth National Conservation Congress* (Indianapolis: William B. Burford Press, 1912), 10.

⁵²¹ Mammoth Cave National Park History of Legislation through the 82nd. Congress, Mammoth Cave National Park Vertical Files.

⁵²² *Ibid.*

⁵²³ *Proceedings of the Fourth National Conservation Congress*, 182-183.

up to the House committee, “smarting under a sense of having been wronged.”⁵²⁴ Janin presaged park purists when he asked why Congress would want to acquire Mammoth when there were so many other caverns that were newer, “more beautiful and more attractive” right in the area.⁵²⁵ Janin testified that he and his fellow trustees “are all very patriotic” and presumed that “some day” Mammoth Cave could become a national park, but the present setup of private ownership best suited the traveling public. Congressman James Hay, chairman of the committee, asked him point-blank if the trustees wanted to sell the cave to the federal government. Janin answered just as bluntly, “We do not.”⁵²⁶

Three months later at another hearing, Janin questioned whether the conservationists really cared about saving the cave and the surrounding forests or if they intended to develop and exploit it in ways he denied doing. He predicted that a national park at Mammoth Cave would mean “trains will be run right up to the Mammoth Cave” and would stay in “one of the fine hotels” that would be built, taking away business from the Louisville and Nashville travel hosts.⁵²⁷ Janin suggested that if the Congress were really serious about the national park proposal, they should create an agency for national

⁵²⁴ *Hearing on H. R. 1666, Day 2, Before the House of Representatives Committee on Military Affairs*, 24 62nd. Cong. (1912) (Statement of Albert Janin, Trustee of Mammoth Cave estate).

⁵²⁵ *Ibid.*, 21.

⁵²⁶ *Ibid.*, 16.

⁵²⁷ *Hearing on H. R. 1666, Day 3, Before the House of Representatives Committee on Military Affairs*, 21 62nd. Cong. (1912) (Statement of Albert Janin, Trustee of Mammoth Cave estate).

parks so that the parties “can negotiate...like business men.”⁵²⁸ The committees did not report favorably on the bill and the legislation died. Thomas introduced and reintroduced the bill in nearly every session of Congress until 1923, with little or no traction.

Ironically, the bill also stalled in part because of the creation of the National Park Service (NPS) in 1916. The NPS was not opposed to administering caves in general. In its first annual report the NPS highlighted the four “marvelous caverns” that were national monuments under different jurisdictions. Two caves, Jewel Cave in South Dakota, and Oregon Caves in Oregon, were administered by the Department of Agriculture. One of NPS deputy director Horace Albright’s pet projects was to unite the national monuments under the direction of the NPS.⁵²⁹ Shoshone Cavern National Monument and Lewis & Clark Cavern National Monument were under the NPS along with Wind Cave National Park, near Jewel Cave.⁵³⁰ The issue for the NPS was, do proposed parks, largely in the Midwest and East, meet the standard of the national parks in the West like Yellowstone and Yosemite?

The 1919 NPS Director’s report indicated that the Service was open to eastern parks so long as they were “the best examples of its varying landscape and some of its most wonderful natural features.”⁵³¹ Director Stephen Mather seemed to agree with

⁵²⁸ Ibid., 22.

⁵²⁹ Albright, *Creating the National Park Service*, 51.

⁵³⁰ *Report of the Director of the National Park Service for the Fiscal Year 1917* (Washington, DC: Government Printing Office, 1917), 873-874.

⁵³¹ *Report of the Director of the National Park Service for the Fiscal Year 1919* (Washington, DC: Government Printing Office, 1919), 954.

Congressman Thomas that Mammoth Cave was “a worthy candidate for parkhood.”⁵³² Not everyone in the Service would agree with this declaration, however.

Acquiring Mammoth was a separate issue. The Thomas bill called for an appropriation of a million dollars and was up against Congressmen “suspicious of any new monetary proposal.”⁵³³ Congress had never had a policy precedent for purchasing lands for national park purposes, although the purchase of national forests under the Weeks Act of 1911 was close. The Mammoth Cave estate trustees’ unwillingness to sell could mean condemnation, but that would require a judicial solution beyond the scope of Congress, and would also cost money. Congress could accept lands as donations, which might provide another way for the Mammoth Cave National Park to be created.⁵³⁴

As the Cave Wars exploded into violence and cutthroat competition, the national park idea seemed like a solution to the problem. The *Louisville Times* opined that the Mammoth Cave versus New Entrance controversy highlighted the need to unite the caves for the benefit of Kentuckians and travelers. “If the Federal Government should acquire an adequate tract and settle the controversy,” they declared, “Kentucky would be benefited greatly by the purchase.”⁵³⁵

On May 19, 1924, L&N officials Milton H. Smith, Jr., and George E. Zubrod traveled to Bowling Green to organize an interest meeting for a group to lobby for the

⁵³² Ibid.

⁵³³ Albright, *Creating the National Park Service*, 43.

⁵³⁴ *Report of the Director of the National Park Service for the Fiscal Year 1919*, 955.

⁵³⁵ “Mr. Thomas Insists,” *Louisville Times*, December 4, 1923, JFC.

park across the state and in the halls of Congress.⁵³⁶ The group called themselves the Mammoth Cave National Park Association (MCNPA) and elected Judge Marvel Mills Logan, of Edmonson County, as their president, and a number of public-spirited citizens to its executive board.⁵³⁷ The MCNPA was an important step towards passing legislation, but it was a Kentucky caver that attracted the most attention to the Cave Wars and the national park as a solution.

For weeks in 1925, Floyd Collins had been working on opening a new cave. His cave, Crystal Cave, was the last cave anyone visited because it was so far from Mammoth. The new cave he had been exploring, Sand Cave, would be the first one visitors approached from Cave City, and Collins envisioned diverting traffic away from Morrison's New Entrance, Mammoth, and Great Onyx.⁵³⁸ On January 30, 1925, Floyd Collins entered Sand Cave to continue working his way down into what he predicted would lead to a large, beautiful cavern. The entrance was extremely narrow and required delicate movements to squeeze through safely. After working in the cave for a few hours, Collins headed back out of the cave. Crawling through the narrowest crevice of the passage, Collins kept his lantern ahead of him and placed it in an indentation in the cave wall. The lantern fell, extinguishing the light. Floyd reasoned that he could make it through the crevice and re-light the lantern in a larger area. On his way through the tight squeeze, Collins kicked a rock loose from the ceiling, which pinned his left leg at the

⁵³⁶ History of the Mammoth Cave National Park Association, MSS 296; Goode, *World Wonder Saved*, 22.

⁵³⁷ Goode, *World Wonder Saved*, 23

⁵³⁸ Murray and Brucker, *Trapped!*, 22-23.

ankle. He tried to kick the rock off of his leg, but dislodged more rocks. Stuck in the cave passage, “Floyd was in a coffinlike straitjacket.”⁵³⁹

When Floyd did not show up to breakfast on Saturday, his neighbors and partners in the Sand Cave venture, Edward Estes and Bee Doyle, immediately went to Sand Cave. Estes brought his son, Jewell, along and luckily so. The cave was too small for either man to get in very far, but the seventeen year-old Jewell Estes was able to contort his body through the passage and was the first to see Floyd Collins’ predicament.⁵⁴⁰

For three weeks, a drama unfolded at Sand Cave. Rescuers ranging from coal miners, doctors, cave guides, reporters, firemen, and friends of Floyd all tried to get him out. The advent of radio, motion pictures, and daily coverage on the front pages of newspapers put the name Floyd Collins into the national conscience.⁵⁴¹ Crowds swarmed the site as if attending a country fair.⁵⁴² In Washington, where Congress had a bill to create Mammoth Cave National Park in their committees, news updates of the rescue effort distracted from the work of governing as members left floor debates to hear the latest news.⁵⁴³ Supposedly President Calvin Coolidge and his Secretary of Commerce, mining engineer Herbert Hoover, paid close attention to the updates from Sand Cave.⁵⁴⁴

⁵³⁹ Ibid., 25.

⁵⁴⁰ Ibid., 53.

⁵⁴¹ Ibid., 156.

⁵⁴² Ibid., 169-170.

⁵⁴³ Ibid., 220.

⁵⁴⁴ Ibid., 220.

On February 16, 1925, rescuers were able to tunnel their way from a rescue shaft into the spot where Floyd was trapped. They were too late.⁵⁴⁵

Floyd Collins was yet another victim of the Cave Wars. His death, the MCNPA argued, could have been prevented if the national park legislation for Mammoth Cave had been passed. Congress and the Secretary of the Interior, Hubert Work, were still was not entirely willing to accept a cave that had been toured for over one hundred years and showing the scars of exploitation compared to the “untouched” western national parks. In May 1925 geologist Willis T. Lee and members of the Southern Appalachian National Park Commission (SANPC) visited the Mammoth Cave area to survey its potential as a national park.⁵⁴⁶ The MCNPA entertained the National Park Commission and accompanied them on visits to caves. Congressman Maurice H. Thatcher, who sponsored the most recent Mammoth Cave National Park bill, confided to L&N real estate agent George Zubrod that the Commission had been “unfriendly to the project” initially.⁵⁴⁷ The visit changed their minds.

In their report, which covered potential national parks of Great Smoky Mountains in North Carolina and Tennessee, and Shenandoah in Virginia, the Southern Appalachian National Park Commission agreed that Mammoth Cave should become a national park.

The SANPC declared that in addition to the score of show caves opened for touring,

There is good evidence that many more caverns yet to be discovered exist in this immediate territory and it seems likely that most if not all of this entire group of

⁵⁴⁵ Ibid., 210.

⁵⁴⁶ Bob Thompson, “Willis T. Lee’s 1925 Visit to the Mammoth Cave Region of Kentucky,” *Journal of Spelean History* 38, no. 2 (July-December 2004): 51.

⁵⁴⁷ Maurice H. Thatcher to George E. Zubrod, May 16, 1926, MSS 296.

caverns eventually will be found to be connected by passageways forming a great underground labyrinth of remarkable geological and recreational interest perhaps unparalleled elsewhere.⁵⁴⁸

Additionally, the SANPC felt that the approved park projects at Shenandoah, Great Smoky Mountains, and Mammoth Cave should begin purchasing options on land so that they could donate it in fee simple.⁵⁴⁹

Even with the SANPC giving the approval for a Mammoth Cave National Park, many others interested in the project expressed doubts. Hubert Work, Secretary of the Department of the Interior, did not make a favorable report on Mammoth Cave.⁵⁵⁰ Following his superior, influential National Park Service director Stephen T. Mather remained silent on the matter. Some members of Congress did not feel the park would be big enough.⁵⁵¹ A growing voice in nature preservation, Robert Sterling Yard of the National Parks Association, could not envision a cave as a park at all. Writing to John C. Merriam of the Carnegie Institution, Yard lamented, “I can’t get used to calling a cave a park, for it’s exactly what it isn’t.”⁵⁵² The dark underground passages contrasted with the soaring mountains, colorful canyons, and the giant sequoia and redwood trees found in

⁵⁴⁸ *Final Report of the Southern Appalachian National Park Commission to the Secretary of the Interior, June 30, 1931* (Washington: Government Printing Office, 1931), 18.

⁵⁴⁹ *Ibid.*, 19.

⁵⁵⁰ Report of Stanley G. Thompson on the Status of the Mammoth Cave National Park Bill, MSS 296.

⁵⁵¹ Maurice H. Thatcher to George E. Zubrod, May 15, 1926, MSS 296.

⁵⁵² Robert Sterling Yard to John C. Merriam, March 22, 1930, John C. Merriam Papers, Library of Congress, Washington, D.C., [hereinafter JCMP] Box 187. Originally quoted in Sutter, *Driven Wild*, 130, n. 98.

national parks in the West. To Yard, national parks must meet a certain standard; Mammoth Cave did not qualify. Yard argued that a national park at Mammoth Cave “invites tragic national loss” of high standards and could open the door to a plethora of unworthy projects.⁵⁵³

Congressman Thatcher had good news to report to the Mammoth Cave National Park Association. Although the bill had been through “most serious difficulties,” including “departmental and legislative hurdles,” Thatcher informed the Association that the bill finally passed the House and Senate.⁵⁵⁴ On May 25, 1926, President Calvin Coolidge signed the Mammoth Cave National Park into law. Robert Sterling Yard was livid. Sensing backroom deals in its passage, Yard used the park’s creation as a springboard to call for action on the part of the National Parks Association to protect national park standards and to keep politics out of parks.⁵⁵⁵ In Kentucky, the *Louisville Courier-Journal* cheered the victory for the national park, but reminded readers that the work was not yet complete: “Mr. Thatcher has done his part...Kentucky must do the rest.”⁵⁵⁶

In the first decades of the twentieth century, the Cave Wars reached a fever pitch as locals’ and outsiders’ competing knowledge of underground passages heated rivalries

⁵⁵³ Robert Sterling Yard, Memo to National Parks Association members, n. d., JCMP, Box 186.

⁵⁵⁴ Ibid.

⁵⁵⁵ “National Parks Enter Politics,” *National Parks Bulletin* 8, no. 50 (July 1926): 6.

⁵⁵⁶ “Now for Mammoth Cave National Park,” *Louisville Courier-Journal*, May 26, 1926, 6.

on the surface. Easier travel through automobiles brought thousands of visitors in hopes of consuming nature in cave country burdened and confused by solicitors working for different cave companies. The push for more caves along the established roads and highways resulted in the most notable death in the Cave Wars, which sparked the nascent movement and a reluctant Congress into action to pass legislation for Mammoth Cave National Park. Making Mammoth Cave National Park a reality would consume the next fifteen years, and would involve fights in courtrooms, newspapers, and on the environment as cave owners' knowledge and claim to their caves were contested.

CHAPTER V
CONTESTED KNOWLEDGE: KENTUCKIANS IN CONFLICT OVER THE
CREATION OF MAMMOTH CAVE NATIONAL PARK, 1926-1932

On March 18, 1929, Floyd Collins went missing. Again. Over night, someone sawed through the chain on the door of Crystal Cave, broke open the bronze, glass-topped casket containing his body, and disappeared into the night with the remains. The next morning at 9 a.m., workers discovered the burglary and corpse-napping. Dr. Harry Thomas alerted the Hart County authorities and organized a search party. Four hundred yards from the cave entrance on a slope facing Green River, the remains of “the greatest cave explorer ever known” lay wrapped in a sack.⁵⁵⁷ This was not the first attempt to steal Floyd’s body, but it was the closest anyone got to absconding with the corpse in tow.⁵⁵⁸ Thomas returned the remains, which were missing a leg, to the cavern grave in Crystal Cave. As an added deterrent to future would-be thieves, Thomas bound the casket with chains. Floyd Collins’s body remained mostly undisturbed in the Grand Canyon room of Crystal Cave for sixty years.⁵⁵⁹

⁵⁵⁷ “Thomas to Probe Theft of Collins’ Body,” *Louisville Courier-Journal*, March 20, 1929, 1.

⁵⁵⁸ “Attempt to Take Collins’ Body Fails,” *Louisville Courier-Journal*, September 25, 1927, 10.

⁵⁵⁹ The corpse was on display until 1948. In 1989, Floyd Collins’s body was removed from Crystal Cave and re-interred at the Mammoth Cave Baptist Church

Neighbors speculated who was behind the plot. Thomas suspected a rival cave owner, or perhaps the Collins family. Other, more cynical observers believed that Thomas himself staged the incident to increase publicity to Crystal Cave.⁵⁶⁰ More visitors might in turn boost the potential purchase price from the Mammoth Cave National Park Association (MCNPA). The MCNPA was scrambling to purchase the necessary caves and lands to hand over to the National Park Service and complete the national park effort. Their anticipated quick work turned into a long, slow, deliberate process. Residents in the proposed park area and cave owners resisted the park creation, and used their local knowledge of the caves in courtrooms to fight the state's efforts to create the national park, to varying degrees of success.

This chapter explores the first six years of the fifteen-year movement to turn the idea of Mammoth Cave National Park into a reality. The park's creation had many consequences for the Mammoth Cave community that left an impact on preservation and conservation of the cave and surrounding area. The battles of the Cave Wars spilled from the land into the courtrooms as rival cave owners used their natural resources and financial resources to get the most money possible for their lands, stymieing park advocates. Knowledge of caves' extensiveness and scenic attractions became an axis on which the values of lands turned for creating the national park. The Commonwealth of Kentucky and the private Mammoth Cave National Park Association vied for control of

cemetery in the national park. "Kentucky Explorer's Family Hopes No. 5 Stays Final Resting Place," *Louisville Courier-Journal*, March 25, 1989.

⁵⁶⁰ Murray and Brucker, *Trapped!*, 236.

the park making process, ultimately leading to the federal government's involvement to finish the park.

The first part of the chapter examines the purchases of the main caves involved in the national park legislation: Mammoth Cave, New Entrance to Mammoth Cave, Crystal Cave, and Great Onyx Cave. In this section the battles of the Cave Wars of the previous decades spilled from the land into the courtrooms as rival cave owners used their natural resources and financial resources to get the most money possible for their lands, stymieing park advocates. Knowledge of caves' extensiveness and scenic attractions became an axis on which the values of lands turned for creating the national park. Old rivalries did not disappear under an umbrella of common ownership, and some battles became more entrenched than they had been prior to the park legislation. Those landowners who lacked caves protested the loss of their lands to the park through the press, the environment, and through extralegal, sometimes violent means.⁵⁶¹

Creating a public park from private lands required dealing with hundreds of landowners in cave country. The federal government was to have no part in land buying. The enabling legislation for Mammoth Cave National Park required that the State of Kentucky or other entities turn over 70,618 acres of land within a prescribed boundary around the Mammoth Cave estate, including lands on the north and south side of the Green River, "including all of the caves."⁵⁶² Once the group or state acquired at least

⁵⁶¹ By "environment," I am referring mainly to the surface: trees, land, shrubs, and the like.

⁵⁶² Pub. L. No. 69-283, 44 Stat. 635 (1926); Cecil E. Goode, *World Wonder Saved: How Mammoth Cave Became a National Park* (Mammoth Cave, Kentucky: Mammoth Cave National Park Association, 1986), 25.

45,310 acres the National Park Service (NPS) could begin development on the land as a national park.⁵⁶³ Before the ink dried on President Coolidge's signature authorizing Mammoth Cave National Park, the Mammoth Cave National Park Association was collecting options to purchase land.

The most important tract of land to acquire was obviously Mammoth Cave itself. The challenge would be finding a way to acquire the cave within the restrictions of Dr. John Croghan's will. Recall that the 1849 will passed possession of the cave to his nieces and nephews and upon the passing of their heirs, that Mammoth Cave be advertised for sale.⁵⁶⁴ When the legislation passed through Congress the final heiress, Serena Livingston Croghan Rodgers, was ninety-two years old. Her much younger cousins, Mary Jesup Sitgreaves, Violet Blair Janin, and William E. Wyatt, served as trustees of the Mammoth Cave estate. On August 28, 1926, Rodgers died, leaving Sitgreaves, Janin, and Wyatt in control of Mammoth Cave's future.⁵⁶⁵

Rodgers' death opened the possibility for a quick sale to the Mammoth Cave National Park Association and would be a significant step forward in making the park a reality. It could also mean a rival or competitor like George Morrison of the New Entrance would swoop in and buy the cave from underneath the Association and prevent the park from happening. The trustees had opposed earlier efforts to make Mammoth Cave a national park, and there was little evidence to suggest they would willingly sell to

⁵⁶³ Goode, *World Wonder Saved*, 27.

⁵⁶⁴ *Ibid.*, 32.

⁵⁶⁵ "Last Heir to Mammoth Cave Estate Dead, Tract Sale Under Will Seen," *The (Nashville) Tennessean*, August 29, 1926, 1.

the Association. Max B. Nahm, one of the chief park promoters, was doubtful of a sale and believed “the only thing that will eventually be down [*sic*] with [Violet Blair Janin] will be to condemn the Cave.”⁵⁶⁶ As a private fundraising and purchasing entity, however, the Mammoth Cave National Park Association did not have the power to condemn property. Besides, they still needed to raise money to purchase properties for which they had options.

A public fundraising crusade kick-started major land buying efforts. Early in 1928, Republican Governor Flem Sampson declared “Mammoth Cave National Park Week in all Kentucky,” to push for fundraising. Churches, schools, civic organizations, and businesses contributed or pledged money to the subscription fund for the MCNPA.⁵⁶⁷ The *Louisville Courier-Journal*, the largest newspaper in the state, published donors’ names in the paper for all to see as an incentive to donate. Governor Sampson made a tour throughout the state and addressed citizens from Louisville on WHAS radio. For Sampson, one of the biggest appeals of the national park was that it would “eventually and automatically bring about the construction of a veritable network of improved highways in Kentucky,” linking them together with the “outside world.”⁵⁶⁸ The campaign proved somewhat successful, bringing in approximately \$800,000 from nearly 17,000

⁵⁶⁶ Max B. Nahm to George E. Zubrod, November 30, 1926, Mammoth Cave National Park Association Collection, MSS 296, Manuscripts & Folklife Archives, Western Kentucky University (hereinafter MSS 296), Box 1, Folder 8.

⁵⁶⁷ “Sampson Makes Cave Appeal,” *Louisville Courier-Journal*, February 28, 1928, 2.

⁵⁶⁸ *Ibid.*

donors of all ages.⁵⁶⁹ Others merely pledged money; collecting those pledges grew increasingly difficult when after two years of fundraising the Mammoth Cave estate was still in private hands and the national park seemed no closer to existence.

Acquiring Mammoth Cave was the chief concern. In January 1928, Mammoth Cave trustee Violet Blair Janin indicated to the cave manager that if the Association took an option for \$500,000 “she would probably give it.”⁵⁷⁰ Real estate agent for the Louisville & Nashville (L&N) Railroad, George Zubrod, doubted that the cave and lands were worth that much. He felt confident that “with the right to condemn,” the key piece of property could be purchased for less than \$350,000 as they had originally offered.⁵⁷¹

The Association wanted powers of eminent domain for its own use in the park creation. The articles of incorporation for the MCNPA did not include the power of condemnation; that power could only be granted by the state.⁵⁷² While the Association asked the legislature for this power the following session, the state general assembly held back.⁵⁷³ Instead, Louisville attorney and MCNPA leader Blakey Helm began drafting a bill that would provide for a state organization to acquire land for the park using eminent domain.⁵⁷⁴ Introduced in the Democratic-controlled state legislature, the Bartlett-Strange

⁵⁶⁹ Goode, *World Wonder Saved*, 32.

⁵⁷⁰ George E. Zubrod Speech for Mayor’s Meeting, January 7, 1928, MSS 296, Box 3, Folder 1.

⁵⁷¹ *Ibid.*

⁵⁷² Sidney Smith to George E. Zubrod, June 18, 1926, MSS 296, Box 1, Folder 6.

⁵⁷³ Max B. Nahm to George E. Zubrod, June 16, 1926, MSS 296, Box 1, Folder 6.

⁵⁷⁴ Sidney Smith to Edward S. Jouett, January 5, 1928, MSS 296, Box 3, Folder 1.

bill appropriated \$30,000 over two years to a six-member bipartisan commission.⁵⁷⁵ The Kentucky National Park Commission (KNPC), as it would be known, had the power to purchase and “condemn land, caves, and cave rights.”⁵⁷⁶ Mammoth Cave-area representative Beverly M. Vincent hoped to amend the bill so that the commission would not be able to condemn “personal property,” but his amendment failed.⁵⁷⁷ Without any changes, the bill passed unanimously and Governor Sampson signed it into law on February 28, 1928.⁵⁷⁸ Now, two organizations would be in charge of acquiring lands and caves: the publicly-controlled Commission and the privately-run Association. As some leaders in the park movement saw it, the Association and Commission would be a carrot-and-stick model to get the lands and caves for the park, regardless of possible hurt feelings from losing lands or investments in cave development.

If they worked well together, the Mammoth Cave National Park would be the first of the three eastern parks authorized in 1926, ahead of Great Smoky Mountains and Shenandoah. That looked to be the case when in April 1928 the Commission offered \$300,000 to the Mammoth Cave estate trustees with the threat of condemnation should they reject the offer.⁵⁷⁹ These kinds of intimidation tactics occasionally worked on small

⁵⁷⁵ “Senate OKs Bill for Cave Park Board,” *Louisville Courier-Journal*, February 21, 1928, 2.

⁵⁷⁶ *Ibid.*, 1.

⁵⁷⁷ *Ibid.*

⁵⁷⁸ *Final Report of the Southern Appalachian National Park Commission to the Secretary of the Interior* (Washington, DC: Government Printing Office, 1931), 35.

⁵⁷⁹ George E. Zubrod to John B. Rodes, April 16, 1928, MSS 296, Box 3, Folder 2.

landowners, but cave owners had exactly the resources the MCNPA wanted, and they were willing to take a chance with their county neighbors on condemnation juries. Cave purchases followed a similar pattern. The park promoters offered what they believed was a fair amount, and cave owners countered with a much higher price. When negotiations failed, the MCNPA turned to the KNPC to condemn the land. Despite what agent George Zubrod had predicted, the trustees turned down their offer and demanded no less than one million dollars for the world wonder.⁵⁸⁰ The next month, the KNPC, with the help of the state Attorney General, filed suit in Edmonson County to condemn 1,800 acres of their land and the cave.⁵⁸¹

It was important to the state entities that the park project appeared as a local concern. In addition to the state Attorney General's office bringing suit on behalf of the KNPC, the Edmonson County Attorney also participated in the proceedings, as well as another local attorney, John B. Rodes, hired especially for the condemnation trial.⁵⁸² This gave the whole affair the look of a local interest against the outsider trustees who had been managing cave affairs from afar. The notion disregarded the fact that the husband of Violet Blair Janin, Albert C. Janin, had been at Mammoth Cave since the turn of the

⁵⁸⁰ "Mammoth Cave Worth \$496,000," *Louisville Courier-Journal*, August 8, 1928, 1.

⁵⁸¹ "Suit Ordered to Condemn Land At Cave," *Louisville Courier-Journal*, May 8, 1928, 1.

⁵⁸² Eugene Stuart to Huston Quin, George E. Zubrod, and Blakey Helm, May 5, 1928, MSS 296, Box 3, Folder 3.

century.⁵⁸³ By the end of the summer of 1928, however, Albert Janin would be dead, leaving the trustees with no immediate handle on the local situation.

In the immediate future the beneficiaries were not interested in giving up their inheritance. As non-residents of Kentucky, the trustees had a longer time for their attorneys to answer the condemnation suit, which meant more time to plan their opposition to the state and local attorneys' case.⁵⁸⁴ While they plotted their defense, the Commission moved along on the case.

Edmonson County Court-appointed commissioners began fixing the value of the Mammoth Cave estate for the proceedings. Taking into account the worth of standing timber, the land, and the cave with all the improvements, the commissioners valued the property at \$496,000.⁵⁸⁵ This was more than the MCNPA had offered, but also significantly less than what the heirs had demanded.

Neither the trustees nor the MCNPA and KNPC members were satisfied with the result. The Kentucky National Park Commission filed a "bill of exceptions" to the valuation claiming it to be too high. The most valuable part of the property was the cave, they argued, and that it was only worth about \$250,000.⁵⁸⁶ The trustees countered by rejecting the Court's authority altogether, and filed a motion to transfer the condemnation

⁵⁸³ See Algeo, "The Puzzling Mr. Janin and Mammoth Cave Management, 1900-1910."

⁵⁸⁴ George Newman to Kentucky National Park Commission members, June 21, 1928, MSS 296, Box 3, Folder 3.

⁵⁸⁵ "Mammoth Cave Worth \$496,000," *Louisville Courier-Journal*, August 8, 1928, 1.

⁵⁸⁶ "Park Board Objects to Cave Valuation," *Edmonson County News*, August 23, 1928, 1.

suit to federal court. They argued that since the issue was a disagreement between residents and officials of several states, federal court was the proper jurisdiction.⁵⁸⁷ When the county judge overruled their motion, they decided to appeal, further delaying the national park effort.⁵⁸⁸

After Albert Janin died in June 1928, Violet Janin and her cousin Mary Jessup Sitgreaves had less enthusiasm in the cave affairs. Aging and finding travel more difficult, and with the potential for a negative result in the condemnation suit, they decided to sell their interest in Mammoth Cave to the MCNPA. On December 31, 1928, the Association purchased the women's two-thirds interest in the Mammoth Cave property, which included the cave and more than 2200 acres, for \$50,000 less than the county valuation.⁵⁸⁹

Entering 1929 with the near-assurance of Mammoth Cave signaled an important turning point in the park effort. Once the Association had two-thirds control, surely the remaining third could be condemned at a much more reasonable rate to their budget. More importantly, the purchase all but guaranteed the park project's success. Now all they needed was the money to buy the rest of the land and caves. Promoter Max B. Nahm congratulated real estate agent and MCNPA Secretary George Zubrod on the deal and encouraged using the sale as leverage: "With [Mammoth Cave] in hand, we can go to the people and win. We can secure a million I trust from the State Legislature—for they can

⁵⁸⁷ "Exceptions Filed in Cave Suit," *Edmonson County News*, August 30, 1928, 1.

⁵⁸⁸ "Cave Appraisal Exception Suit Filed," *Louisville Courier-Journal*, September 4, 1928, 1.

⁵⁸⁹ Goode, *World Wonder Saved*, 32-33.

all see now that we have crossed over with the realm of success.”⁵⁹⁰ After two years of businessmen and state officials talking about a national park, the giving public could envision it as a reality.

Their supposition proved correct. The knowledge that Mammoth Cave would soon be in federal control helped to increase fundraising and acquisitions. In February 1929, Edmonson County attorney and judge for the Kentucky Court of Appeals, M. M. Logan, pledged to sell to the MCNPA some 8,000 acres of property north of the Green River within the park boundary.⁵⁹¹ The following year, Governor Flem Sampson pushed for an ad valorem tax predicted to raise more than one and a half million dollars in revenue for the Kentucky National Park Commission’s land purchases.⁵⁹² The purchase of Mammoth Cave brought a windfall of successes, so much that the Association announced their control of more than half of the land necessary for the National Park Service to begin development of the park area. In the local newspaper, the MCNPA claimed to have “possession or control of more than 13,000 acres, including Mammoth Cave, New Entrance Cave, and Colossal Cavern. We are negotiating for the purchase of the other important caves and of more land.”⁵⁹³ The Association projected confidence and surety, even at the expense of honesty.

⁵⁹⁰ Max B. Nahm to George E. Zubrod, January 4, 1929, MSS 296, Box 2, Folder 1.

⁵⁹¹ Goode, *World Wonder Saved*, 33.

⁵⁹² *Ibid.*, 34.

⁵⁹³ “Park Body Controls 13,000 Acres Now,” *Edmonson County News*, February 28, 1929, 1.

To be sure, the Association was making progress through its partnerships. If the KNPC could condemn the remaining one-third of the old Mammoth Cave property, and if the Louisville & Nashville Railroad donated their Colossal Cavern lands to the MCNPA, the Association would have an even better case to make for money and purchases. But the New Entrance to Mammoth Cave, opened by George Morrison just over ten years prior, was still under private control and operation. Morrison's organization, the Mammoth Cave Development Company (MCDC), also operated the New Entrance Hotel, a competitor to the Mammoth Cave Hotel, which the MCNPA took over.

Morrison did not own all the cave passages, however. Due to the avenues crossing property boundaries underground, the Development Company paid a quarter of its profits to the Colossal Cavern Company for going through Colossal's land, adjacent to Morrison's own.⁵⁹⁴ It was this arrangement that gave the MCNPA the impression that they had control over the New Entrance. If Morrison's men found new passages within his own property holdings, or if Morrison could create new openings, he could operate without paying Colossal's managers, and remain in business to command a higher price for his section of the cave. Under the present arrangements in 1928, one stockholder believed that if the company sold out, stockholders "will be compelled to take a considerable loss" on their investments.⁵⁹⁵

The Association cared little about the financial stakes of the shareholders as the MCNPA hoped to secure their goal. Complete control of the old Mammoth Cave made

⁵⁹⁴ George E. Zubrod to Mr. Michael, February 14, 1928, MSS 296, Box 3, Folder 1.

⁵⁹⁵ George E. Zubrod to A. A. Demunbrun, February 28, 1928, MSS 296, Box 3, Folder 1.

the Association members anxious to purchase rival caves. In September 1929 the Mammoth Cave National Park Association took control of their two-thirds share of the Mammoth Cave estate. The following year the KNPC condemned the remaining one-third.⁵⁹⁶ The Association set out on a course to purchase New Entrance one way or another. Along the way, the promoters would also try to buy the remaining competing caves, Great Onyx Cave and the Floyd Collins' Crystal Cave, east of the Mammoth Cave property. At their monthly meeting, park advocates stressed the urgent need to purchase New Entrance. First, gaining control of the rival cave "would place the association in a very strong position in its efforts to purchase the other one-third of Mammoth Cave, as well as all other required caves and lands," and the MCDC was ready to make a deal.⁵⁹⁷

The struggle to purchase the New Entrance highlighted a common problem when purchasing land for the park: subsurface rights. When Morrison created the New Entrance he had purchased cave rights from various landowners who would not sell their surface lands. The Colossal Cavern Company also laid claim to some of the same tracts of subsurface rights. Both companies could not own the same cave rights. Colossal Cavern Company's ownership of cave rights had been established in a 1925 court case, *Cox v. Colossal Cavern Company*.⁵⁹⁸ The L&N Railroad owned the Colossal Cavern Company, and an employee on the L&N's payroll worked for the MCNPA. When

⁵⁹⁶ Goode, *World Wonder Saved*, 37. The two-thirds/one-third ownership arrangement by the Association and Commission eventually led to the creation of an operating committee consisting of members from both organizations and the National Park Service to manage and run the hotel and cave tours.

⁵⁹⁷ Mammoth Cave National Park Association Meeting Minutes, September 5, 1929, MSS 296, Box 4, Folder 3.

⁵⁹⁸ *Cox, et. al. v. Colossal Cavern Company*, 210 Ky. 612 (1925).

Morrison's Mammoth Cave Development Company prepared a prospectus for the Association to purchase the land that included all of the property claimed by the Company, as well as the land and surface rights the company allegedly controlled, it met serious opposition from a park promoter acutely aware of land and surface dealings in cave country.

Real estate agent for the Louisville & Nashville Railroad, George Zubrod, had this insider knowledge and was thus skeptical of Morrison's claims. If Morrison's surface claims were true, Zubrod informed Association president Huston Quin, "then the Mammoth Cave estate, the Colossal Cavern Company, and the rest of the caves in that territory have been deceiving the public for many years."⁵⁹⁹ The prospectus lacked information regarding cave rights for the surface tracts Morrison claimed; Zubrod believed that either the Mammoth Cave estate or the Colossal Cavern Company surely owned the cave rights for those pieces of land. When Morrison *did* detail cave rights there seemed to be no limit to what Morrison claimed. Zubrod charged that he had even claimed interests in cave rights that were already owned by the Colossal Cavern. Furthermore, the prospectus failed to disclose what agreements or leases, if any, Morrison made regarding cave rights to land he did not already own. Zubrod feared that Morrison would craft language into the deal granting himself the right to operate in his own name rather than in the name of the Development Company, and still legally hold up

⁵⁹⁹ George E. Zubrod to Huston Quin, January 1, 1930, MSS 296, Box 5, Folder 1.

his end of the sale.⁶⁰⁰ In short, Morrison was not to be trusted by anyone connected with the Association or the Kentucky National Park Commission.

The only way to verify all contracts and claims was to survey the caves and compare them to land surveys, written contracts and deeds. Local attorney John Rodes, who had been involved in the effort to condemn the Mammoth Cave estate, informed Zubrod of a lawsuit on the horizon regarding surveys. One of Rodes's cave-owning clients, Porter Edwards, informed him that his daughter and son-in-law, who operated Great Onyx Cave and owned land adjacent to Morrison, were suing for a survey of the New Entrance Cave.⁶⁰¹ Sensing a sale was imminent, Lucy and Perry Cox wanted to protect their interests and investments in land. If the New Entrance toured passages went through their land, they should be compensated. Surveys began in the caves that summer. Another landowner in the area, J. D. Hackett, believed that the highlight feature of the New Entrance, the Frozen Niagara formation, was at least partially under his land. Rodes suggested that the surveying crews already at work pay careful attention to this section of the New Entrance as well: Frozen Niagara, a flowstone formation some fifty feet tall, four feet thick, and fifty feet wide, would be an important addition to the Mammoth Cave National Park project.⁶⁰² State officials were skeptical that Congress would accept the

⁶⁰⁰ Ibid.

⁶⁰¹ John B. Rodes to George E. Zubrod, March 31, 1930, MSS 296, Box 5, Folder 2.

⁶⁰² John B. Rodes to Huston Quin, July 28, 1930, MSS 296, Box 6, Folder 1.

lands for the park without the New Entrance, given that it was connected to the old Mammoth Cave.⁶⁰³

The Commission and the Association began working closely to get the New Entrance. Their cooperation was made much easier when the state legislature passed a bill changing the way the Governor appointed members to the KNPC. Originally the Governor could appoint anyone. In the 1930 bill, the Governor was limited in his appointments in that they could only come from a list provided by the Association. The Association could provide up to eighteen names; the Governor would then choose nine.⁶⁰⁴ Five of those chosen were also members of the MCNPA, giving the Association control of the Commission. The legislature also significantly increased funding to the KNPC, appropriating the group \$1,500,000 for land purchases.⁶⁰⁵ The newly emboldened Association, with full powers of condemnation and a budget through the Commission, was ready to buy land and complete the park.

The Association offered Morrison \$70,000 for the New Entrance. The Commission threatened condemnation. Spurning the Association's offer, George Morrison took the KNPC to court. In April 1930, Morrison's Mammoth Cave Development Company sued the Park Commission in federal court, questioning the constitutionality of the KNPC's power of eminent domain. The Mammoth Cave estate trustees had made a similar claim, but it was after the condemnation proceedings had

⁶⁰³ Kentucky National Park Commission Meeting Minutes, October 20, 1931; MACA 35455.

⁶⁰⁴ "Sampson Names Park Body," *Louisville Times*, April 2, 1930, 1.

⁶⁰⁵ *Ibid.*

already begun. Morrison was making a preemptive strike on the Commission. The court granted a restraining order against the KNPC while considering the suit, so the state organization could not immediately implement condemnation charges.⁶⁰⁶ Morrison thus had more time to develop and strategize his fight against the park effort.

Sensing the threat to his use of the New Entrance, Morrison began working on new entrances into cave passages under his land. Morrison planned on creating the entrance that led down through the Cathedral Domes section of Mammoth Cave that had been discovered and shown by guides from the Mammoth Cave estate in 1907.⁶⁰⁷ He also began an entrance to Morrison Avenue, part of an established tour route. Shortly after he began the entrance shaft there, the crew encountered “bad air” and was forced to quit.⁶⁰⁸ As the courts upheld the condemnation powers of the Kentucky National Park Commission and his own money began to run out, Morrison gave up the attempt to create the entrance at the Cathedral Domes.⁶⁰⁹

⁶⁰⁶ “Cave Company Sues in United States Court,” *Edmonson County News*, April 17, 1930, 1.

⁶⁰⁷ Horace Carter Hovey, *Hovey’s Hand-Book of the Mammoth Cave of Kentucky* (Louisville: John P. Morton & Co., Inc., 1909), 62; William Bullitt to George E. Zubrod, September 18, 1929, MSS 296, Box 4, Folder 3; John B. Rodes to Huston Quin, July 28, 1930, MSS 296, Box 6, Folder 1. For Morrison to do so would enable him to truly call his cave “Mammoth Cave.” Prior to their sale, the Mammoth Cave estate trustees had sued Morrison for using the name “Mammoth Cave,” claiming that it was false advertisement. Although Morrison proved that he was indeed in Mammoth Cave, the court ruled that he had to clarify in his brochures and advertisements that he was not showing parts of the original Mammoth Cave shown before 1907. (John B. Rodes to Huston Quin, July 28, 1930, MSS 296, Box 6, Folder 1.)

⁶⁰⁸ An Interview with Lincoln Wells, July 29, 1976, Mammoth Cave National Park Vertical Files.

⁶⁰⁹ Kem, *The Kentucky Cave Wars*, 197.

Courts clearing the way for condemnation meant the state was ready to use any means necessary to acquire the New Entrance. The state Attorney General believed the Commission should start “at once” to get the New Entrance under state control, but an outright purchase might not be possible.⁶¹⁰ In a December 1931 meeting of the Kentucky National Park Commission, an attorney for the New Entrance explained that the investors in the cave had no interest in the national park effort and were unwilling to make a deal for less than \$290,000.⁶¹¹ Complicating any purchase, however, were the disputes over Frozen Niagara, claimed in part by neighboring owner J. D. Hackett. The New Entrance owners felt that the Commission should just condemn Hackett’s property, but the Commission feared that the condemnation could prove costlier than an outright sale.

The New Entrance deal hinged in many ways on the man who owned some of those cave rights. J. D. Hackett had been a cave speculator, although relatively unsuccessful in terms of opening caves. His claims to cave rights, however, put the park boosters in a serious bind. Officers with the KNPC believed that the arrangements made with Hackett would set a precedent for all future cave rights which could seriously handicap the movement.⁶¹² Landowners near New Entrance and around cave country, having experienced the Cave Wars firsthand, knew the importance of cave rights, which would be put to the test in court in other purchases.

⁶¹⁰ Ibid.

⁶¹¹ Kentucky National Park Commission Meeting Minutes, December 10, 1931, MACA 35455.

⁶¹² Kentucky National Park Commission Meeting Minutes, December 23, 1931, MACA 35455.

A tragedy gave the Commission a break when it came to Hackett. On December 31, 1931, J. D. Hackett and his workers attempted to open a cave entrance. In the process of drilling in to a cave a boulder fell, crushing Hackett's assistant, Harrison Logsdon.⁶¹³ With local scrutiny aimed at the unorthodox Texan cave digger, Hackett was ready to sell. As the Great Depression decreased tourist travel and sapped Morrison's ability to spend money in developing the cave, he felt forced to sell his life's work.

On December 28, 1931, the KNPC voted to purchase everything covered in the New Entrance deed, including the New Entrance Hotel, furnishings, exhibits, the Salts Cave mummy known as "Little Alice," plus J. D. Hackett's piece of land and cave rights.⁶¹⁴ When Morrison accepted the offer on January 4, 1932, new state treasurer Elam Huddleston's first official act was to sign the check for payment.⁶¹⁵ The Mammoth Cave National Park Association held the Mammoth Cave estate and the state Commission now owned the New Entrance. Park promoters looked forward to the national park as a certainty. Attorney General James Cammack thought this would "eliminate most of the opposition in the park area."⁶¹⁶ Together, the groups claimed to own more than 21,000 acres and had been promised 1,000 more from the Colossal Cavern Company. With high optimism, MCNPA Chairman Huston Quin predicted the National Park Service would

⁶¹³ Murray and Brucker, *Trapped!*, 34. Kem, *The Kentucky Cave Wars*, 113.

⁶¹⁴ Kentucky National Park Commission Meeting Minutes, December 28, 1931, MACA 35455.

⁶¹⁵ "Huddleston Signs Check for Cave," *Louisville Courier-Journal*, January 5, 1932, 2.

⁶¹⁶ *Ibid.*

take over the area by the end of the summer.⁶¹⁷ Only two of the major caves remained in private control: Great Onyx Cave and Crystal Cave on neighboring Flint Ridge, just east of the Mammoth Cave estate.

In 1926 when the Mammoth Cave National Park Association began its program of buying land, they believed they would encounter little opposition. Before the park legislation even passed, land agents had been taking options for purchases. Once the funds began rolling in through the subscription fund to the Association and the ad valorem tax for the KNPC, a blank map of park lands slowly began coloring in with purchases. The onset of the Great Depression gave the park promoters pause, but in some ways they used it to their advantage. Alongside a news report of farmers in England, Arkansas, raiding the local mercantile to feed their families and real estate listings for farms, the KNPC advertised that they were “in position to pay cash for land” within the established park boundary.⁶¹⁸ The juxtaposition to landowners could not be clearer: sell your land or risk starvation.

Cave owners were in a different position; they had a bargaining chip. The Mammoth Cave estate trustees and George Morrison were outsiders to cave country. Local cave owners Dr. Harry Thomas of Crystal Cave, and Porter Edwards, Lucy Cox, and her husband, Perry Cox, of Great Onyx, had long-established ties and influence in the area. Although they were rival cave owners, Thomas and the Edwards-Cox family found themselves on the same side of the park issue. The attempts to purchase Crystal Cave and

⁶¹⁷ “The Deadly Parallel,” *Edmonson County News*, January 21, 1932, 1.

⁶¹⁸ *Edmonson County News*, January 6, 1931, 3.

Great Onyx Cave demonstrate the fierce local opposition that the state commission and Louisville-based Association ran up against.

The acquisition of Crystal Cave for the Mammoth Cave National Park initially looked to be an easy task. In April 1926, the Collins family still held the title to their late Floyd's cave, Crystal Cave, as well as the Collins farm. Speaking on behalf of his father, Lee, Homer Collins informed real estate agent and MCNPA Executive Secretary George Zubrod that "for enough money" Lee Collins would give an option for the cave and lands.⁶¹⁹ The youngest of the Collins family cautioned Zubrod that while the family did not wish to "do anything against the national park plans," the Collinses would not extend an option for purchase beyond six months.⁶²⁰ The Association at that time was most focused on fundraising and acquiring the Mammoth Cave estate, however, and not worried about losing a chance at Crystal.

Unbeknownst to them, a rival cave owner had set his sights on Floyd's cave. In August, Marshall Collins informed Zubrod that another party was "ready to buy" and that if the MCNPA wanted the cave, the deal would "haft [sic] to be all cash...we had rather sell to you and keep the middle man out."⁶²¹ Zubrod turned down the chance to purchase Crystal Cave from the Collins family, but could not understand why other parties would buy the land within the proposed park boundaries for speculative purposes. After all, to reach their goal of a national park the Association would buy lands "either from the

⁶¹⁹ Homer Collins to George E. Zubrod, April 30, 1926, MSS 296, Box 1, Folder 4.

⁶²⁰ Ibid.

⁶²¹ Marshall Collins to George E. Zubrod, August 31, 1926, MSS 296, Box 1, Folder 5.

present owners at a fair price or,” he threatened, “[we] will ask the Federal Court to tell us what a fair and reasonable price [is], later on.”⁶²² The missed opportunity to purchase Crystal Cave would prove costly to the park movement, but important for cave exploration in the long run.

The “middle man” was Harry B. Thomas, a Horse Cave, Kentucky, dentist and owner of the Mammoth Onyx Cave and Hidden River Cave in that town. Thomas hoped to use Crystal Cave as leverage to make his hometown a gateway community to the park, and thus bring more traffic by his caves.⁶²³ Thomas appeared before a meeting of the MCNPA to offer his option on Crystal Cave for \$10,000 at the same price to the Association, but only if they also purchased an extra 676.5 acres of his land along Dixie Highway in Horse Cave.⁶²⁴ If that plan failed, however, Thomas could exploit Crystal. On November 12, 1926, Thomas purchased Crystal Cave from Lee Collins for \$10,000.⁶²⁵ As late as 1927, Zubrod believed Dr. Thomas to be “a friend of our National Park movement,” and would sell “if the national park proposition went through,” but

⁶²² George E. Zubrod to Marshall Collins, September 1, 1926, MSS 296, Box 1, Folder 7.

⁶²³ Max B. Nahm to George E. Zubrod, October 28, 1926, MSS 296, Box 1, Folder 7.

⁶²⁴ Mammoth Cave National Park Association Meeting Minutes, October 29, 1926, MSS 296, Box 3, Folder 4.

⁶²⁵ George E. Zubrod to Dr. Harry B. Thomas, June 27, 1928, MSS 296, Box 3, Folder 3.

Thomas was already exploiting the cave for his own financial ends with seemingly no hint of giving it up.⁶²⁶

In June 1927 Dr. Thomas exhumed Floyd Collins' body from the cave grounds near the ticket office and placed the casket inside Crystal Cave's main room, the Grand Canyon, along with a tombstone declaring the late caver to be the "Greatest Cave Explorer Ever Known."⁶²⁷ Visitors to the subterranean chamber could peek at the body, "if anybody wants to look at it," according to Carrie Thomas, the dentist's wife.⁶²⁸ Floyd Collins's brothers sued Dr. Thomas for disturbing the burial, and although a county clerk found nothing in the deed related to the status of the body, a court found in 1929 that Dr. Thomas had legally obtained clear title to both the cave and Floyd's corpse.⁶²⁹ Later that year, Floyd's corpse made headlines again when it went missing from Crystal Cave.

Placing Collins' remains on display in Crystal Cave might have signaled to the park promoters that Thomas never intended to give up his growing cave empire. Evidently it did not, as the Kentucky National Park Commission hoped for the "immediate purchase" of the cave in June 1928, even before the Association had acquired any part of the Mammoth Cave estate.⁶³⁰ In addition to producing revenue (with

⁶²⁶ George E. Zubrod to Adrian Wychgel, December 13, 1927, MSS 296, Box 2, Folder 6.

⁶²⁷ "Collins' Body is Moved to Cave," *Louisville Courier-Journal*, June 17, 1927, 5; Murray and Brucker, *Trapped!*, 235.

⁶²⁸ "Collins' Body is Moved to Cave," *Louisville Courier-Journal*, June 17, 1927, 5.

⁶²⁹ *Ibid*; Murray and Brucker, *Trapped!*, 235.

⁶³⁰ George Newman to Kentucky National Park Commission members, June 21, 1928, MSS 296, Box 3, Folder 3.

apparently the chance of extra money from corpse viewing), purchasing the cave for the “very, very reasonable” price of \$10,000 might drive down the values of caves and lands where owners asked between \$100,000 and \$150,000. A purchase could also increase subscriptions for the MCNPA by demonstrating progress in the movement.⁶³¹ Dr. Thomas dangled a purchase agreement to the Mammoth Cave National Park Association, going so far as sending deed information to Association secretary and real estate agent George Zubrod so he could make property abstracts.⁶³²

In July 1928, the purchase of Crystal Cave seemed imminent. Zubrod waited for the state Attorney General to approve the abstract and for a sum of \$10,000 and money to pay the abstractors.⁶³³ The Association, however “[had] no funds for this purpose,” and hoped the KNPC would undertake the expense of paying the abstractors and Thomas.⁶³⁴ Using the impending purchase and the condemnation work of the state Commission as proof of progress, the Association implored its subscribers to send in money to meet their pledges so that the Association could “be prepared for opportune purchases and court judgments.”⁶³⁵ Looming in the background was Thomas’s demand that the park

⁶³¹ Ibid; George E. Zubrod to Adrian Wychgel, December 13, 1927, MSS 296, Box 2, Folder 6.

⁶³² George E. Zubrod to A. A. Demunbrun, July 13, 1928, MSS 296, Box 3, Folder 4.

⁶³³ “Park Commission Buying Property,” *Edmonson County News*, July 27, 1928, 1.

⁶³⁴ George E. Zubrod to Assistant Attorney General S. H. Brown, July 21, 1928, MSS 296, Box 3, Folder 4.

⁶³⁵ Mammoth Cave National Park Association bulletin, July 30, 1928, MSS 296, Box 3, Folder 4.

promoters also take the Dixie Highway acreage, which was well outside the proposed park boundary. Internal memos suggest that Zubrod believed that the Association should not accept such land, and if they were to do so they “would have to get Congress to change the boundaries for the land for the gateway to the park.”⁶³⁶ Furthermore, Thomas also wanted “an impossible thing”: to operate Mammoth Cave ostensibly on behalf of the National Park Association, who had never managed a cave (and as of the summer of 1928, did not own any part of Mammoth Cave).⁶³⁷

The Attorney General’s office approved the abstracts for purchase, but the extra obligations in Thomas’s offer were too much for the Association to undertake.⁶³⁸ Some members of the Commission believed that Thomas was anxious to close the deal for Crystal Cave, and would be willing to relinquish his demands.⁶³⁹ On August 13, 1928, Association president Huston Quin informed Thomas that they would take the \$10,000 option on Crystal Cave, but that they could not “bind” themselves to buying property not in the proposed park boundary.⁶⁴⁰ The Association was open to Thomas continuing to manage and profit from Crystal Cave through 1929, “provided the property is not to be

⁶³⁶ George E. Zubrod to Huston Quin, August 2, 1928, MSS Box 3, Folder 4;

⁶³⁷ Ibid; Max B. Nahm to George E. Zubrod and Huston Quin, July 29, 1928, MSS 296, Box 3, Folder 4.

⁶³⁸ Mammoth Cave National Park Association Minutes, August 2, 1928, MSS 296, Box 3, Folder 4.

⁶³⁹ George Newman to George E. Zubrod, August 6, 1928, MSS 296, Box 3, Folder 4.

⁶⁴⁰ Huston Quin to H. B. Thomas, August 13, 1928, MSS 296, Box 3, Folder 4.

deeded to the United States Government.”⁶⁴¹ The final decision was up to Thomas, but problems between the Association and the Commission may have pushed his hand.

Executive Secretary for the Kentucky National Park Commission, George Newman, had been in contact with Association Secretary George Zubrod regarding the touch-and-go nature of the deal. Five days after the Association’s offer, Commissioner Newman informed his Association counterpart that Thomas turned down the offer, so the Commission “will be forced to condemn.”⁶⁴² Zubrod countered that immediate implementation of condemnation proceedings was too “hasty.”⁶⁴³ The dentist had not responded to President Quin’s letter and even if Thomas had doubts, Zubrod felt confident he and the other MCNPA executives, (i.e., fellow businessmen) could persuade Thomas to sell; sending cave country land agents to Thomas’s office to put on the pressure would only backfire. “Dr. Thomas is just as fair and square a man as you can find in that neighborhood,” Secretary Zubrod assured Newman, “but when he has so many people jumping on him, it naturally riles him.”⁶⁴⁴ Zubrod was adamant that the KNPC stay out of the entire negotiations as he zeroed in on Crystal Cave.

Just as Crystal may have been in reach, the Executive Committee of the Mammoth Cave National Park Association had to focus elsewhere. The Edmonson County commissioners valued the Mammoth Cave estate, putting the most important

⁶⁴¹ Ibid.

⁶⁴² George Newman to George E. Zubrod, August 17, 1928, MSS 296, Box 3, Folder 4.

⁶⁴³ George E. Zubrod to George Newman, August 18, 1928, MSS 296, Box 3, Folder 4.

⁶⁴⁴ Ibid.

piece of the national park puzzle in flux.⁶⁴⁵ At their August 23, 1928 meeting the MCNPA executives expressed their concerns that no condemnation proceedings be filed against Crystal Cave by the Commission and that George Zubrod give up the deal to concentrate on fighting the prices quoted for the Mammoth Cave estate that they felt were inflated by local commissioners.⁶⁴⁶ The offer to Thomas was essentially abandoned, but a glimmer of hope remained when Zubrod visited with him that October. Thomas indicated that he and his wife would sign the deed to Crystal Cave when the Association produced an agreement for him to manage the Mammoth Cave when it came into the Association's control.⁶⁴⁷ Thomas thought he had the park promoters exactly where he wanted them—in control of his caves in Horse Cave, plus three of the four caves in the national park boundary, essentially complete control of the major caves in the area with the likelihood for more.

Land purchases were the talk of the Mammoth Cave community, and like in many small communities, news and rumors spread in equal measure. Thomas's loose lips proved to be the undoing of the deal. Matt Bransford, grandson of the enslaved guide Mat Bransford, guide in his own right at Mammoth Cave, and owner of a hotel on Flint Ridge for black visitors to cave country, wrote anonymously to the Association to inform them

⁶⁴⁵ "Park Board Objects to Cave Valuation," *Edmonson County News*, August 23, 1928, 1.

⁶⁴⁶ Mammoth Cave National Park Association Executive Committee Meeting Minutes, August 23, 1928, MSS 296, Box 3, Folder 4.

⁶⁴⁷ George E. Zubrod to Huston Quin, October 13, 1928, MSS 296, Box 3, Folder 5.

of some of Thomas's plans.⁶⁴⁸ He claimed that Thomas was bragging to everyone in "this Territory" about his arrangement with the Park Association and that "there won't be a Negro left in this District."⁶⁴⁹ Imploring the Louisville businessmen to act, Bransford passionately argued for the rights of the black community that had worked for and supported the cave businesses over the years and for the time being, still called the Mammoth Cave region home:

[We] have paid for our homes & we love them. We don't feel like being drove out by one man & we feel that there is enough Red Blooded Kentuckians left yet to defend and we are going to advertise and ask the people of [Kentucky] not to support a thing of this kind. We having gave liberally to the National Park and are in favor of it, but if there is going to be a National Park made out of Mammoth Cave, Ky. it Should be Run by a gentleman. [*sic*]⁶⁵⁰

Zubrod, now the Association's official communications link with Thomas, informed the aspiring cave magnate that he did not believe the rumors, but "if you intend 'to run all the Negroes away' when you get 'control of the caves,' please do not start doing it now."⁶⁵¹ The park promoters still had to acquire land from the black families

⁶⁴⁸ For more on Matt Bransford's hotel and African American tourism to the Mammoth Cave area, see Algeo, "Underground Tourists/Tourists Underground," Lyons, *Making Their Mark*, and Schmitzer, "The Black Experience at Mammoth Cave, Edmonson County, Kentucky, 1838-1942."

⁶⁴⁹ Anonymous to Mammoth Cave National Park Association, October 16, 1928, MSS 296, Box 3, Folder 5.

⁶⁵⁰ Ibid.

⁶⁵¹ George E. Zubrod to Harry B. Thomas, October 19, 1928, MSS 296, Box 3, Folder 5.

who lived and worked at Mammoth Cave and preferred to maintain good relations with them, at least for the time being.⁶⁵²

Displacement narratives are common in national park and conservation histories, and historians have focused on the plight of Native Americans facing the federal government.⁶⁵³ The African American community and economically disadvantaged white residents in the Mammoth Cave region found themselves at the mercy of their state government for a national project. In essence, the Mammoth Cave National Park Association was not out to preserve the caves and the land from use so much as they wanted to make the area “safe” for white middle-class tourism. These residents, many of whom worked in the cave economy in south central Kentucky as solicitors and guides, were part of the problem, and had to go.

The purchase never happened, thwarting Thomas’s plans. Extant records are silent as to whether the Association withdrew the offer to focus on the purchase of the two-thirds interest or if Thomas gave up the pursuit of managing Mammoth Cave and cancelled the arrangement. Regardless of what happened, the Mammoth Cave National Park Association was never going to gain control of the Floyd Collins Crystal Cave

⁶⁵² Even though the Mammoth Cave National Park Association could essentially steamroll park residents (and often did), when it came to landowners who did not make “trouble” for the Association they were willing to make a deal. Matt Bransford was a significant figure in the African American community on Flint Ridge and owned approximately 75 acres of land (Goode, *World Wonder Saved*, 88). From a business standpoint, it was in Zubrod’s and the MCNPA’s best interest to address the concerns of the black residents.

⁶⁵³ See Spence, *Dispossessing the Wilderness*; Keller and Turek, *American Indians & National Parks*. Recent scholarship has turned an eye toward disadvantaged communities facing state and national conservation efforts. See Jacoby, *Crimes against Nature*; Warren, *The Hunter’s Game*; Gregg, *Managing the Mountains*; Brown, *The Wild East*; or Pierce, *The Great Smokies*.

without a fight. The Park Association could only turn complete attention to Flint Ridge, however, when they had control over both the Mammoth Cave estate and the New Entrance to Mammoth Cave. This lack of attention created a new sense of competition from Thomas that would remain a thorn in the side of the park promoters and officials even beyond his death in 1948.

The park promoters' effort to purchase Great Onyx Cave followed a similar pattern. Just before President Coolidge signed the bill authorizing Mammoth Cave National Park, a land agent collecting options met with Great Onyx owner, L. P. Edwards. The agent informed Zubrod that Preacher Edwards "was anxious to sell and get out of the cave business" following the death of his wife.⁶⁵⁴ That same week a Cave City banker met with Edwards as well; by the end of the week the cave owner changed his mind about selling.⁶⁵⁵ With the momentary setback, the MCNPA turned their attention to the Mammoth Cave estate. In 1929 when the Association could look at other caves, a local attorney representing Edwards in a contentious lawsuit confidentially informed them that Edwards might ask \$250,000 for Great Onyx.⁶⁵⁶ That was far above what the Association was willing to pay, especially considering what was at stake.

The national park movement was supposed to end the Cave Wars, but in some ways it exacerbated them. Local attorney John B. Rodes cautioned Commission president Huston Quin that Flint Ridge especially was "a territory, where...the people might

⁶⁵⁴ J. B. Yates to George E. Zubrod, May 22, 1926, MSS 296, Box 1, Folder 6.

⁶⁵⁵ George E. Zubrod to Max B. Nahm, May 27, 1926, MSS 296, Box 1, Folder 6.

⁶⁵⁶ Max B. Harlin to Blakey Helm, January 25, 1929, MSS 296, Box 4, Folder 1.

become ‘cave conscious.’”⁶⁵⁷ When people knew what they had under their land, they could use that knowledge to their advantage in bargaining with the Association or Commission. A lawsuit over cave passages in that section had great significance for the park project and beyond, and as it turned out, Edwards was at the center of it.⁶⁵⁸

In April 1928, Edwards was sued by his neighbor, Fielding Payton “Pate” Lee, who sought from Edwards \$60,000 in damages for withholding possession of Great Onyx Cave from him. Lee also sued for damages for “rent, profit, and admittance fees” from Edwards’ exhibiting parts of Great Onyx Cave which ran under Lee’s land.⁶⁵⁹ The suit was an official grievance between the neighbors, who had in the past disputed property boundaries on the surface. This underground fight that played out in court had consequences beyond Flint Ridge.⁶⁶⁰ Lee’s suit was based on information from cave explorer and disputed discoverer of Great Onyx, Edmund Turner. Lee knew that Edwards had purchased cave rights from another neighbor, Frank Davis, and that his own property lay between Edwards’s and Davis’s. But apart from Turner’s information, Lee had no official confirmation of passages under his farm.⁶⁶¹ This, of course, made it difficult for

⁶⁵⁷ John B. Rodes to Huston Quin, July 30, 1930, MSS 296, Box 6, Folder 1.

⁶⁵⁸ The best in-depth examination of the cases involving ownership of Great Onyx Cave is Bruce Ziff, “The Great Onyx Cave Cases: A Micro-History,” *Northern Kentucky Law Review* 40, no. 1 (2013): 1-48. Goode, *World Wonder Saved*, Kem, *The Kentucky Cave Wars*, and Murray and Brucker, *Trapped! The Story of Floyd Collins*, include limited information regarding these important cases.

⁶⁵⁹ “Farmer Sues Trio for Accounting in Operation of Cave,” *Park City* (Bowling Green, Ky.) *Daily News*, April 19, 1928, 4.

⁶⁶⁰ Ziff, “The Great Onyx Cave Cases,” 15.

⁶⁶¹ *Ibid.*, 15, 17.

the court to resolve and so in December 1928, Edmonson County Judge Porter Sims ordered a survey of the cave at Lee's expense. To protect Edwards' business interests Judge Sims instructed that the survey be disclosed to no one outside the court.⁶⁶² Sensing the possibility that Edwards would eventually have to settle with Lee, Edwards' attorney secretly contacted an MCNPA official regarding what it might take to purchase Great Onyx Cave, while publicly fighting for his client.⁶⁶³

Edwards appealed the order for the survey. Claiming it would damage the cave formations and could end up being leaked to other landowners, Edwards' attorneys, Max Harlin and park promoter John B. Rodes, even suggested that the survey was essentially an unconstitutional search and seizure of Edwards' property.⁶⁶⁴ In 1929 *Edwards v. Sims* validated the court's authority to order the survey and, more importantly, validated the *cujus est solum, ejus est usque ad coelum et ad inferos* maxim: a landowner owns everything above and below the surface of one's property to the core of the earth.⁶⁶⁵

Before the survey became fact in court, Association leader Blakey Helm's father had spoken with both Preacher Edwards and Pate Lee about potentially purchasing both

⁶⁶² Ibid., 16.

⁶⁶³ Max B. Harlin to Blakey Helm, January 25, 1929, MSS 296, Box 4, Folder 1.

⁶⁶⁴ Ibid., 18.

⁶⁶⁵ Ibid., 19. This principle does not apply to resources like oil and gas, where the "rule of capture," whereby an owner of land who drills oil or gas owns whatever he can drill, even if it is under another person's land (this is perhaps best explained in the oil prospecting film *There Will Be Blood* (directed by Paul Thomas Anderson [2007; Hollywood, CA: Paramount Home Entertainment, 2008]: "Here, if you have a milkshake, and I have a milkshake, and I have a straw...Now, my straw reaches across the room and starts to drink your milkshake. I drink your milkshake!"). See John S. Lowe, *Oil and Gas Law in a Nutshell* 2nd. ed. (St. Paul: West Publishing Co., 1988), 8-9.

pieces of land. Though for taxation purposes Edwards had listed Great Onyx as being worth \$125,000, he would require “a considerable amount” of money for his 350 acres of land and Great Onyx Cave.⁶⁶⁶ Pate Lee on the other hand, was facing the possibility that the survey might prove his allegations incorrect. Dr. Helm believed that Lee was considering settling with Edwards for \$5000, which would bring in cash to the struggling farmer and would negate the need for a survey of the cave.⁶⁶⁷ On the other hand, if Lee was correct, he could stand to gain “an exorbitant price” not only from Edwards, but from the park promoters as well.⁶⁶⁸ Neither party settled, and the Association did not make any offers. By May 1930 the survey results showed that approximately one-third of Great Onyx Cave passages exhibited to the public were under Lee’s land.⁶⁶⁹ Surveyors marked the boundary line on a cave wall; after the survey, tours of Great Onyx turned around at that spot.⁶⁷⁰

In June 1930 the Kentucky National Park Commission filed its second condemnation suit, this time against the owner and managers of Great Onyx Cave, L. P.

⁶⁶⁶ Executive Committee of the Mammoth Cave National Park Association Minutes, October 28, 1929, MSS 296, Box 4, Folder 1.

⁶⁶⁷ Ibid.

⁶⁶⁸ Ziff, “The Great Onyx Cave Cases,” 26.

⁶⁶⁹ Ibid., 28.

⁶⁷⁰ Ibid. The line is still visible today. Law professors will occasionally bring groups of students enrolled in property law classes to National Park Service tours of Great Onyx Cave just to see this marking.

Edwards, and his daughter and son-in-law, Lucy and Perry Cox.⁶⁷¹ In these suits, local relations mattered. Association secretary George Zubrod was confident that the court would be friendly to the park cause, asserting to Commission president Huston Quin that “I don’t think Preacher Edwards and his crowd are any more popular in Edmonson County than a rattlesnake.”⁶⁷² Before the trial began, three commissioners assessed the value for the cave at \$295,000, significantly higher than either its taxation value or what the park boosters were willing to pay.⁶⁷³ The back-and-forth of the condemnation suit lent further credence to the contention of one journalist who declared park progress was “moving along with the celerity of a string-halted snail.”⁶⁷⁴

John B. Rodes, who had represented Porter Edwards in the Lee case, now worked for the KNPC against his former client. Rodes argued that because of the outcome of *Edwards v. Sims*, Edwards could no longer show a significant part of the cave and thus it was not worth as much as previously, perhaps only as much as \$50,000.⁶⁷⁵ John A. Logan, who had sold 1,000 acres of land at a discounted price for the park project, represented Great Onyx. Finding Rodes’ valuation “so funny as to be ridiculous,” Logan argued that the cave was worth a million dollars so that the Edwards and Cox family

⁶⁷¹ “Suit to Obtain Onyx Cave Filed,” *Louisville Courier-Journal*, June 28, 1930, 1. The first condemnation suit had been for the remaining one-third of the Mammoth Cave estate, held by trustee William Wyatt.

⁶⁷² George E. Zubrod to Huston Quin, July 8, 1930, MSS 296, Box 6, Folder 1.

⁶⁷³ “Onyx Cave Suit Trial Monday,” *Edmonson County News*, April 16, 1931, 3.

⁶⁷⁴ “Slow Progress in Onyx Cave Suit,” *Edmonson County News*, April 23, 1931, 1.

⁶⁷⁵ *Ibid.*

could maintain their income from the cave, plus that which they could receive from the sale of cave onyx, souvenir cave rocks.⁶⁷⁶ Logan even prevailed upon a surveyor from the Lee case to testify as to the beautiful parts of the cave exhibited in the undisputed Edwards lands.⁶⁷⁷ The court increased the commissioners' valuation from \$295,000 to \$398,000, dealing the park promoters a giant setback. Anti-park editor of the *Edmonson County News*, Perry Meloan, hailed the verdict as a victory for "fair-thinking people."⁶⁷⁸ Though neither party was satisfied with the outcome and appealed the decision, higher courts affirmed the jury's decision.⁶⁷⁹ Park advocates faced a serious dilemma regarding the future of their pursuit.

In May 1931 the MCNPA Executive Committee met to discuss the outcome of the Great Onyx case and the plan moving forward regarding the New Entrance case. Senator M. M. Logan, who, as a judge on the Court of Appeals had written a stirring dissent in the *Edwards v. Sims* case favoring Edwards, asserted that the jury's price was "too high," but believed they could somehow be able to finish purchasing the land and caves necessary to meet the 45,000-acre minimum requirement for park development.⁶⁸⁰ National Park Service officials, who had been following developments in cave country,

⁶⁷⁶ *Ibid.*, 4.

⁶⁷⁷ *Ibid.*

⁶⁷⁸ "Stunning Blow Dealt Park Boomers," *Edmonson County News*, April 30, 1931, 1.

⁶⁷⁹ "'Ignorant' Jury's Verdict is Upheld," *Edmonson County News*, July 23, 1931, 7.

⁶⁸⁰ Mammoth Cave National Park Association Executive Committee Meeting Minutes, May 5, 1931, MSS 296, Box 7, Folder 3.

had earlier requested clarification regarding the park enabling legislation's requirement that "all the caves" be included.⁶⁸¹ Mammoth Cave, New Entrance, Great Onyx, Crystal, and Colossal Cavern seemed the most essential, but with the onset of the Great Depression and stalling fundraising efforts, park boosters could not afford judgments like that in the Great Onyx case. Perhaps the newly-elected, park-friendly Senator Logan could amend the legislation to exclude Great Onyx Cave and any others asking too high of a price.⁶⁸² In the meantime, they focused their efforts on the purchase of New Entrance.

The Great Onyx condemnation case proved to be a pivotal moment in the struggle to create Mammoth Cave National Park. First, the jury's large award, though far short of what Great Onyx owners hoped for, was too excessive for the land buyers. The cave, which was a small fraction of the length of Mammoth Cave albeit one uncommonly rich in limestone formations, was valued almost as much as Mammoth. To the Great Onyx jury, the size of the cave was not as important as what was inside. This set the tone for future condemnation decisions. Second, the condemnation case was the first involving a local landowner against the Louisville-based promoters. Even if Preacher Edwards and his family were unpopular as Secretary Zubrod believed, the county jury sided with the family they knew; if the park advocates wanted the park badly enough, they should be willing to pay a fair price for lands and caves—fair meaning what a jury of an Edmonson Countian's peers deemed just. Third, the case highlighted the rising opposition to the

⁶⁸¹ W. W. Thompson to Huston Quin, undated letter ca. 1930, MSS 296, Box 6, Folder 1.

⁶⁸² Max B. Nahm to Arno B. Cammerer, November 19, 1932, RG79, Box 1326.

park movement, led by editor of the *Edmonson County News*, Perry Meloan. Over the coming years, Perry Meloan focused his scrutiny on the park organizations, the Louisville & Nashville Railroad, the state government, and the federal government in the Mammoth Cave National Park project. Meloan also gave a voice to the landowners who did not wield the influence of a show cave under their lands.

In the early years of the park project, the *Edmonson County News* was mostly an impartial source, reporting on land deals and fundraising efforts. The 1928 creation of the Kentucky National Park Commission brought the *News*'s first caution to readers of the park area. The Commission's broad powers, especially the power of eminent domain, set off alarm bells to the editor. Meloan took comfort in the fact that former state senator A. A. Demunbrun, an Edmonson Countian "well informed on cave area conditions," was on the board for assessing land values.⁶⁸³ Demunbrun, whose family roots ran deep in cave country, had over the years been a teacher, a timber agent, and a merchant with extensive local knowledge as to the cave and land situation.⁶⁸⁴ Louisville & Nashville Railroad real estate agent and Mammoth Cave National Park Association Executive Secretary George E. Zubrod was also on the board. Zubrod's Louisville connections with the railroad and MCNPA made him suspect to Meloan. Indeed, with almost every step of progress towards making a park Perry Meloan found corruption.

Meloan's target was the outside influences in cave country. The 1928 Bartlett-Strange Act, which created the KNPC, only funded the project for two years. When the

⁶⁸³ "State Commission to Have Broad Power in Carrying National Park Program," *Edmonson County News*, February 17, 1928, 1.

⁶⁸⁴ Warnell, *Mammoth Cave: Forgotten Stories of Its People*, 70, 92, 100.

legislature renewed the KNPC in 1930, they made a critical change in matters of gubernatorial appointments that had a significant impact on the relationship between the park groups, and between those groups and locals in the Mammoth Cave area. Under the new system, the Association would nominate eighteen people for the governor to choose nine members.⁶⁸⁵ When the Association unsurprisingly controlled the KNPC during its busiest period of purchasing and condemnation (1930-1932) without a single member from Edmonson County, which had the largest amount of land involved in the park project, Meloan railed against the too-close relationship between the privately-run Association and the publicly-created Commission.⁶⁸⁶

Meloan made a personal mission to oppose the national park “projeckers,” as he called them, on behalf of the impoverished residents.⁶⁸⁷ As Meloan saw it, those who did not own caves and depended primarily on subsistence farming and timber hauling, (i.e., the majority of Edmonson Countians in the park area) were being taken advantage of by powerful interests. The L&N Railroad, which he referred to as “Miss Ellen N.,” the mother of the Park Association and grandmother of the Commission, had the state’s authority to condemn land and “harass” the owners.⁶⁸⁸ Meloan also raised questions as to the fiscal responsibility and forthrightness of the Association. Accusing the officials of

⁶⁸⁵ “Sampson Names Park Body,” *Louisville Times*, April 2, 1930, 1.

⁶⁸⁶ “Taxation without Representation in 1776; Condemnation Without Representation in 1930,” *Edmonson County News*, April 3, 1930.

⁶⁸⁷ “Park Promoters Go Into Railroad Business,” *Edmonson County News*, April 9, 1931, 1.

⁶⁸⁸ “A Little Study in Genealogy,” *Edmonson County News*, March 13, 1931, 1; “Park Land Reaches \$33 An Acre,” *Edmonson County News*, March 26, 1931, 1.

“great secrecy” as to the group’s expenses, the paper may have echoed resentment of local readers living in the proposed boundary.⁶⁸⁹ Meloan contrasted the Association’s alleged wastefulness with hardscrabble farmers in the Dickey’s Mill neighborhood making a two-day trip to Munfordville to sell railroad ties “to buy a little food for their starving families.”⁶⁹⁰ Given that Meloan’s newspaper regularly gave notice of Red Cross relief drives “for the poor,” government programs for drought and flood relief, the editor was probably not exaggerating.⁶⁹¹

Meloan’s editorials against the incestuous relationship between the Commission and Association seemed to work. In 1932 state senator Tom Ferguson, an Edmonson Countian, shepherded a bill through the legislature giving the governor “unqualified power” to appoint a new seven-member commission to four-year terms, rather than two years as previously.⁶⁹² The *Edmonson County News* noted that the “only opposition to the bill” came from Louisville, where members were close with the L&N executives on the Association and Commission.⁶⁹³ While the *Edmonson County News* cheered the new

⁶⁸⁹ “For Each Dollar Paid for Park Lands, \$8 Has Been Expended for Something Else—What Was It?” *Edmonson County News*, August 14, 1930, 1.

⁶⁹⁰ Ibid; “Drouth [*sic*] Presents Chance For Higher Ups to Retrieve Respect,” *Edmonson County News*, August 14, 1930, 1.

⁶⁹¹ Several issues of the *Edmonson County News* in 1931 alone testify to relief efforts. Take, for instance, two issues at the end of January and beginning of February in 1931: “Red Cross Will Feed the Hungry,” “Blanks for Crop Loans Received” (*Edmonson County News*, February 6, 1931); “Drought Loan Rules Announced,” (*Edmonson County News*, January 29, 1931) all on the front pages.

⁶⁹² “Ferguson’s Bill Would Give Opportunity for Change in National Park Commission,” *Edmonson County News*, January 14, 1932, 1.

⁶⁹³ “New Park Board is Now Assured,” *Edmonson County News*, February 4, 1932, 1.

commission and the subsequent appointment of A. A. Demunbrun to that body, the park-supporting *Louisville Courier-Journal* looked skeptically at the change. The state's largest newspaper hoped the new Commission would not "swing to the extreme of satisfying land owners in price, to the dissatisfaction of the other Kentuckians who are putting up the money," and that the new KNPC would get along with the Association "on the same basis of friendly cooperation" that together acquired Mammoth Cave, New Entrance, and around 21,000 acres in land.⁶⁹⁴ For the time being, the newspaper was optimistic about the Commission.

Meloan still held the Association under fire. He criticized the Association for using Mammoth Cave as "A PRIVATE CLUB where fifty 'high-brows,' nine-tenths of them residents of Louisville," had a free, personal playground, paid for by church congregations, school children, and the State, at the same time that "thousands of Kentuckians are hungry."⁶⁹⁵ Meloan charged them with using their public project as a "smoke screen" to "give the L&N Railroad Company complete control of the Hotel and Cave."⁶⁹⁶ As he saw it, "a National Park will never be established as long as the Club-Associationers are in control," because the MCNPA operated Mammoth Cave and kept the proceeds.⁶⁹⁷ Meanwhile, the public who had given money to create the park

⁶⁹⁴ "Mammoth Cave Commission," *Louisville Courier-Journal*, May 29, 1932, 4; "The Deadly Parallel," *Edmonson County News*, January 21, 1932, 1.

⁶⁹⁵ "Mammoth Cave a Private Club Maintained at a Public Expense!" *Edmonson County News*, June 16, 1932, 1.

⁶⁹⁶ *Ibid.*

⁶⁹⁷ "Yes, Joe, the New Park Board Does Have 'Connection' With the Club-Association," *Edmonson County News*, July 14, 1932, 1.

seemingly was left behind. When the Association picked former Commission president Huston Quin as the new MCNPA president to replace Max Nahm, who had been named the new Commission president, Meloan saw the move as proof-positive of the problems still ahead.⁶⁹⁸

If Perry Meloan did not necessarily get all the facts straight in his editorials, he nevertheless gave voice to the opposition. Other Edmonson Countians fought the park promoters as well. Landowners and tenants expressed their opposition in many ways beyond the pages of the *Edmonson County News*. Meloan reported on and criticized the park progress while also highlighting the work of locals who opposed the effort. They lacked the banner of Progress claimed by proponents, and may have represented only a minority of those who lived within the park boundary.⁶⁹⁹ What they lacked in traditional forms of economic and political power, opponents on the local level turned to their natural and built environments to stake claims to power. Opponents in Edmonson County took their frustration out on the very environment the park promoters hoped to protect. Traditional land uses and emerging possibilities from new knowledge about the land in cave country became one way of fighting the park effort.

Timber was an important source of income for many hardscrabble farmers. From 1859 when the Louisville & Nashville Railroad laid tracks through nearby Glasgow Junction, and 1886 when a spur line, the Mammoth Cave Railroad, connected the wonder to the world, cutting railroad ties became a way for hardscrabble farmers to make

⁶⁹⁸ “Club Stockholders Revive Dead One,” *Edmonson County News*, July 21, 1932, 1.

⁶⁹⁹ Lacking public opinion polls, it is hard to say exactly if they were a minority or a majority.

money.⁷⁰⁰ A number of tie yards and agents throughout Edmonson County attested to the impact of the local timber industry.⁷⁰¹ River bottoms around Green River and Nolin River provided rich agricultural possibilities, but for those on the hilltops and ridges cutting ties could mean the difference between having food on the table or starving through the winter.⁷⁰² When the park promoters began purchasing land they issued a notice to area land owners not to cut and sell their timber, asserting that “standing timber...will be as valuable to you or more so, than you can realize out of it at this time.”⁷⁰³ Land agents counted timber in valuating land prices, so those who cut their trees only hurt themselves in the long run. In the short run, families needed food and shelter. The Depression hurt, and money from the timber meant more than the possibility of more money later. Timber in the hand was worth more than two trees on the land. Park advocates feared that even timber at the Mammoth Cave estate was being clear-cut for the profits of individual workers, or else, timber thieves.⁷⁰⁴

After gaining control of Mammoth Cave, the Association banned the cutting of trees on the estate. They made an exception for official purposes, such as to repair boats for the Echo River cave trip, or for minor repairs around the Mammoth Cave Hotel.⁷⁰⁵

⁷⁰⁰ Olson, *Nine Miles to Mammoth Cave*, 9.

⁷⁰¹ Warnell, *Mammoth Cave: Forgotten Stories of Its People*, 69.

⁷⁰² Murray and Brucker, *Trapped!*, 40-41.

⁷⁰³ “Park Commission Buying Property,” *Edmonson County News*, July 27, 1928, 1.

⁷⁰⁴ Mark A. Theissen to Mammoth Cave National Park Association, October 26, 1929, MSS 296, Box 4, Folder 3.

⁷⁰⁵ *Ibid.*

Dead timber could not be harvested for rail ties, either, leading to increased devastation from a forest fire in April 1930.⁷⁰⁶ Suspecting that the fire was intentionally set by a local timberman, the Association took out an ad in the always-critical *Edmonson County News* instructing readers that “any person cutting timber on these lands will be prosecuted.”⁷⁰⁷ Rumors about timber cutting at the estate circulated to Louisville, where Association secretary George E. Zubrod flatly denied any authorized cutting, charging only “spasmodic raids by unauthorized persons” as the source of tree felling.⁷⁰⁸

The appeals to land owners in the area and the threat of prosecution did not deter people of cave country from cutting their timber. An attorney working for the Association informed Zubrod that landowners were “murdering” the trees on their land. Those who could not cut their own timber sold it to those who could. “We were around part of the Doyle sisters’ property,” the attorney related, “and it is being simply stripped.”⁷⁰⁹ A drought in the summer of 1930 increased the willingness for residents to cut their timber. With their crops dying, and a population “suffering,” Edmonson Countians gathered at a mass meeting where they elected a committee whose intention was to meet with members of the Association and Commission for a break on the “timber embargo.” In a resolution, the citizens grieved they were “facing dire distress,” were hungry, and “without work as a

⁷⁰⁶ Milton Smith, Jr., to George E. Zubrod, April 2, 1930, MSS 296, Box 5, Folder 3.

⁷⁰⁷ *Edmonson County News*, April 10, 1930, 1.

⁷⁰⁸ “Deny Trees Cut on Cave Estate,” *Louisville Times*, May 4, 1930, clipping in MSS 296 Box 5, Folder 4.

⁷⁰⁹ Robert M. Coleman to George E. Zubrod, July 2, 1930, MSS 296, Box 6, Folder 1.

result of the embargo and the drought.”⁷¹⁰ The Association did not relent, but residents continued cutting trees to the extent that by 1934 when the first landscape architect of the National Park Service came to cave country he found a land almost devoid of first-growth forest, with “the remainder...going rapidly as some railroad ties are being cut from every tree large enough to make a single tie.”⁷¹¹ Cutting their trees gave owners a chance to get the most from their land, they felt, before a corrupt Association cheated them out of it.

Purchasing land from long-established families presented a problem. Members of the Southern Appalachian National Park Commission outlined the issue in a June 1926 letter to the Mammoth Cave National Park supporters before major land-buying programs started:

The problem of acquiring lands within the proposed park areas will necessarily have to do occasionally with the handling of isolated settlers who have homes surrounded by small tracts of land and who may resist any action on the part of the Government to remove them from such property. It is the opinion of the Commission that a few such old homesteads well within the park area may be acquired from the owners with the provision that the owners be allowed to reside thereon during their lifetime or until satisfactory arrangements can be mutually agreed upon their removal from the park area.⁷¹²

In 1927 A. A. Demunbrun, the former timber buyer, teacher, and merchant local to Edmonson County, campaigned for the state senate in part on a program that, after getting “a good price for their land,” park area landowners should be able to remain on

⁷¹⁰ “Group Objects to Timber Ban,” *Louisville Courier-Journal*, August 19, 1930, 3.

⁷¹¹ Thomas H. Jones to Charles Peterson, September 18, 1934, RG79, Box 1326.

⁷¹² George E. Zubrod to John B. Rodes, June 4, 1926, MSS 296, Box 1, Folder 6.

the park land until the park's establishment.⁷¹³ Demunbrun lost the election, but not before some owners were able to make arrangements with the Mammoth Cave National Park Association buyers that permitted them to retain possession “and cultivate it” through 1929.⁷¹⁴ This became an incentive for both the MCNPA and landowners; the Association had a promise for land, and the owners were able to use the land as they previously had until the park promoters needed to turn the land over to the federal government. Park Association president Huston Quin even instructed land agent Gillis Vincent that he could tell landowners that they could remain on the land “rent-free,” paying only the property taxes and thereby saving the Association money.⁷¹⁵

The issue split Association executives. Real estate agent and MCNPA secretary George E. Zubrod was flatly against these incentives. The National Park Service would only accept lands “free of all encumbrances as possible.” Those kinds of exceptions Quin supported should be used exclusively in the “exceptional” instances of elderly owners to live out the remainder of their days on their homesteads.⁷¹⁶ Since Zubrod was the main person directing sales and interacting with land agents on a regular basis, he began to direct agents in a sort of compromise. In certain cases, if there was no other way to acquire the land, Zubrod was willing to let owners remain for one year after purchase

⁷¹³ Advertisement, *Edmonson County News*, September 3, 1927.

⁷¹⁴ “Park Association to Buy Land,” *Edmonson County News*, December 20, 1928, 1.

⁷¹⁵ Huston Quin to Gillis Vincent, May 9, 1929, MSS 296, Box 4, Folder 2.

⁷¹⁶ George E. Zubrod to Blakey Helm, June 17, 1929, MSS 296, Box 4, Folder 2.

with the opportunity to extend the lease if the park had still not been established.⁷¹⁷

However, with a number of deals arranged through handshake “gentlemen’s agreements,” the park promoters found themselves with a number of squatters.⁷¹⁸

Squatters remained on the land for many reasons. Some squatters were tenants, rather than the landowners, and had their homes sold out from underneath of them. Others simply felt that they had nowhere else to go. Certain squatters hoped to reap the benefits of the land while the park promoters were busy with their cave condemnation suits. In 1927, oil fever swept Edmonson County. Bowling Green, Kentucky, oil speculator Margaret Hobson’s workers successfully drilled a well north of the Green River near Mammoth Cave.⁷¹⁹ In an *Edmonson County News* column “Nimrod” wrote against the inclusion of Flint Ridge into a park because the land—and people—would be better served with oil wells. “To H--- with the National Park, some are planning to give free leases in order to start rigs to work.”⁷²⁰

The MCNPA saw a threat to their project: if oil proved more successful they would have to pay either exorbitant prices for the land, or possibly fail to purchase it and

⁷¹⁷ George E. Zubrod to Charles Hunt, September 5, 1930, MSS 296, Box 6, Folder 3.

⁷¹⁸ Oral History of Vernon Wells, SC122, Special Collections, Western Kentucky University.

⁷¹⁹ “Oil Struck in Edmonson County,” *Louisville Courier-Journal*, March 27, 1927, 8. Margaret Hobson’s life and business in the oil industry are worthy of their own examination. Jonathan Jeffrey’s “Bowling Green Lady Left Her Mark on Kentucky’s Oil Industry,” *Kentucky Explorer* 7, no. 7 (January 1993): 18-21, is a good start.

⁷²⁰ “Nimrod,” “Flint Ridge,” *Edmonson County News*, February 26, 1931; Mammoth Cave National Park Vertical Files.

have to adjust park boundaries through an impatient Congress.⁷²¹ Even on the promoters' own land, however, squatters claimed to have leased property at the Mammoth Cave estate's Great Salts Cave on Flint Ridge for oil drilling. The KNPC then sought to stop drilling and use the local courts to move squatters off the land in question.⁷²² Exploiting valuable minerals from the land was a greater danger to the project than farming or grazing. If oil was under land, drillers could bankrupt the Association for high land values, or hold out a sale and leave the park with patches of privately owned land.

The closer the promoters felt the park was to fruition, the more willing they were to allow sellers to remain on the land. The Commission even sought to rent vacant property to people other than the original landowners.⁷²³ As long as the renters stayed away from the operations of Mammoth Cave and New Entrance and did not interfere with land sales, promoters like Quin eased their ire against people on the land. When souvenir salesmen remained near the Mammoth Cave entrance despite a court injunction against them, George Zubrod was livid, calling it "unsightly" and "a disgrace to the management" of Mammoth Cave.⁷²⁴ Zubrod was in the minority by opposing people living on the land, but found company in the opposition to the souvenir sales squatters at

⁷²¹ Charlie Hunt to George E. Zubrod, January 3, 1927, MSS 296, Box 2, Folder 1; John B. Rodes to George E. Zubrod, April 6, 1926, MSS 296, Box 1, Folder 4.

⁷²² Kentucky National Park Commission Meeting Minutes, March 19, 1931, MACA 37227.

⁷²³ Kentucky National Park Commission Meeting Minutes, December 28, 1931, MACA 35455.

⁷²⁴ George E. Zubrod to John B. Rodes, March 26, 1932, MSS 296, Box 9, Folder 2.

the cave entrance. The local court injunction was rarely enforced by local law enforcement, which was increasingly a problem for park advocates.

For the first six years of park creation, the opposition to the park was local, concentrated, and personal. Most of Perry Meloan's *Edmonson County News* editorials were not against the national park idea, per se, as much as they were against the Louisville-based (and L&N Railroad-backed) Mammoth Cave National Park Association. The collusion between them and the public organization, the Kentucky National Park Commission, was corruption of the worst kind. Meloan found cronyism and graft instead of progress and economic development of cave country. Park advocates continued to believe support for the park to be widespread, even in cave country, and that any opposition was due to selfish concerns about prices for land instead of a public concern for the state's economic health.⁷²⁵ The likelihood of a national park at Mammoth Cave was dimming. By the end of 1932, the park movement stalled momentarily amid the changes in the Commission, unfriendly local condemnation juries, and owners' refusals to sell their land in the deepening Depression. The same spirit of reform that brought changes to the KNPC swept Franklin Roosevelt into the White House, and breathed new life—and a new line of local opposition—to the national park project.

⁷²⁵ "Mammoth Cave Commission," *Louisville Courier-Journal*, May 29, 1932, 4.

CHAPTER VI
FEDERALIZING KNOWLEDGE: THE COMPLETION OF MAMMOTH CAVE
NATIONAL PARK, 1933-1946

On October 10, 1938, Mammoth Cave guide Pete Hanson laid on his back exhausted, but excited at the prospect of seeing something new in a cave he had come to know so well. Hanson, along with his father, Carl, and colleagues Leo Hunt and Claude Hunt, had been crawling hundreds of feet through muddy and rocky passages until they reached a more open space where they could rest. Pete noticed that the ceiling going forward was taller than what the team had been squeezing their way through. The adrenaline pulsing through his body pushed Pete forward, and his heart raced when the light of the lantern he carried reflected back to his pupils off of the sparkling white walls. He shouted encouragement to his fellow explorers, “Come on boys, we’re in another world!”⁷²⁶ Snowy white gypsum the shape of cotton candy protruded from the walls and ceiling, while down another short hall was a garden of gypsum flowers, some with “petals” more than a foot long. As they were the first to ever put their footprints upon the dirt of this section, they had naming rights. They called the gypsum section “Paradise,” and the entirety of their find simply “New Discovery.”

⁷²⁶ Henry W. Lix, “Mammoth Cave’s Underground Wilderness,” *The Living Wilderness* (Dec. 1946), 4.

The New Discovery came at a critical juncture in the fight to make Mammoth Cave and the surrounding lands into a national park. From the time the park was authorized on May 25, 1926, advocates for the public ownership of the caves faced local opposition, violent reactions, criticism from state officials, and impatience from the federal government. The knowledge of the New Discovery put the proposal one step closer to certainty. The success of the park movement also meant that it would be the final significant discovery at Mammoth Cave made entirely by the guide force.⁷²⁷

The park's creation also affected the general and technical knowledge of the caves. This chapter examines the federal government's transformation of the land and caves in the process of becoming a national park. Federal workers who altered both the surface and subsurface landscapes of Mammoth Cave country standardized the ways visitors would come to know the passages and features that previous guests experienced. Exploration of Mammoth Cave changed the map of the cave as well as the map of the national park. Overall, the park movement created conditions for important cultural and scientific discoveries that advanced the knowledge and appreciation of Mammoth Cave; however, the movement's failures and contentious dealings with local landowners proved more critical for the future conservation and protection of Mammoth Cave National Park.

In the first hundred days of President Roosevelt's administration, the creation of the Civilian Conservation Corps (CCC) began transforming the landscape of the nation

⁷²⁷ The National Park Service takeover of the Mammoth Cave area led to a temporary discontinuance of cave exploration. Instead, private caving groups would eventually make arrangements to explore and survey caves in the park.

and its politics.⁷²⁸ One of the first camps established was at the proposed Mammoth Cave National Park area. There was enough work that CCC officials added three more camps in short time, including one camp of black CCC recruits.⁷²⁹ The CCC's role at Mammoth Cave was vital to its conversion to a national park. They literally transformed the surface and subsurface landscapes, planting trees and building roads and trails, and proved an important partner for the National Park Service. In some ways the conservation camps were a boon to the surrounding community, but anti-park locals found the groups intrusive and a threat. The CCC also paved the way for important discoveries in Mammoth Cave itself, discoveries that they in turn worked for the public to enjoy.

In May 1933 officials announced the selection of Mammoth Cave as the site of one of four CCC camps statewide.⁷³⁰ Since the National Park Service was restricted from taking any possession of land until 45,000 acres of land were acquired for the project, the Corps became the first federal presence in the park area. The Corps's goals of fire prevention, erosion control, planting trees and eliminating wildfire-fueling underbrush in forests matched well with the surface environment of cave country. A naturalist dispatched to the Mammoth Cave area found scars from forest fires and cleared river bottom lands eroded away, and on the hilltops the all-too-familiar effects of timber

⁷²⁸ See Maher, *Nature's New Deal*.

⁷²⁹ Jeanne Schmitzer, "CCC Camp 510: Black Participation in the Creation of Mammoth Cave National Park," *The Register of the Kentucky Historical Society* 93, no. 4 (Autumn 1995): 446-464.

⁷³⁰ "Four Forest Camps are Picked," *Louisville Courier-Journal*, May 14, 1933, 1. The other camps were added in 1934.

harvesting: bare, steep slopes cut by deep erosion gullies.⁷³¹ Park area residents seemed welcoming to the reforestation goals, enough for the first superintendent of the camp to express to the Kentucky National Park Commission his “appreciation for the cooperation which had been shown him by local people.”⁷³² The warm introduction to a federal agency seemed to portend good things for the future national park by creating a mutually beneficial situation on the ground for locals and park officials alike.

The CCC earned praise because they provided assistance to the local communities. In their efforts clearing brush and getting rid of dead trees, the CCC donated surplus wood to the Red Cross and county relief agencies.⁷³³ The Park Commission even used firewood as a bargaining chip in the creation of roads through privately held land. An elderly African American resident allowed the Corps to use a corner of her property to build a road in return for a winter’s supply of wood.⁷³⁴ The Commission found the Corps’s presence extremely helpful for making amends with a community bristling with opposition to their management of the park situation. The KNPC thus passed resolutions granting the CCC allowance to either use or tear down and

⁷³¹ Diary of Civilian Conservation Corps Naturalist, 1934-1935, Mammoth Cave National Park Vertical Files.

⁷³² Kentucky National Park Commission Meeting Minutes, July 14, 1933, MACA 35455.

⁷³³ Kentucky National Park Commission Meeting Minutes, September 8, 1933, MACA 35455.

⁷³⁴ Kentucky National Park Commission Meeting Minutes, October 20, 1933, MACA 35455.

salvage any vacant buildings on Commission lands.⁷³⁵ Like their counterparts working in Shenandoah National Park and Great Smoky Mountains National Park, as the Corpsmen built a “natural” environment in part by destroying the lived-in, human landscape of homes and barns left behind by former residents.⁷³⁶

More importantly for park boosters concerned with getting more land for the project, the Corps opened the door for federal funding for the land buying process. In November 1933, rumors from Senator M. M. Logan in Washington reached the Kentucky National Park Commission that up to \$300,000 might become available to purchase emergency conservation work lands to reforest.⁷³⁷ The following month, President Roosevelt ordered \$2,325,000 divided among the three eastern national parks, along with Colonial National Monument in Yorktown, Virginia, for that purpose.⁷³⁸ Although the enabling legislation for the parks passed by a Republican Congress forbade the federal government from purchasing lands for park purposes, Executive Order 6542 provided a

⁷³⁵ Kentucky National Park Commission Meeting Minutes, September 29, 1933, MACA 35455.

⁷³⁶ Neil Maher describes the process of turning “private land into public landscapes” as the Corps built infrastructure to “bring visitors closer to what they believed was untouched nature” at Great Smoky Mountains National Park in *Nature’s New Deal*, 141. See also Daniel S. Pierce, *The Great Smokies: From Natural Habitat to National Park* (Knoxville: University of Tennessee Press, 2000), 177; Margaret Lynn Brown, *Wild East: A Biography of the Great Smoky Mountains* (Gainesville: University Press of Florida, 2000); Sara M. Gregg, *Managing the Mountains: Land Use Planning, the New Deal, and the Creation of A Federal Landscape in Appalachia* (New Haven: Yale University Press, 2010).

⁷³⁷ Kentucky National Park Commission Meeting Minutes, November 9, 1933, MACA 35455.

⁷³⁸ Executive Order 6542, December 28, 1933, Franklin D. Roosevelt Library and Museum Website, accessed April 12, 2016, http://fdrlibrary.marist.edu/_resources/images/eo/eo0015.pdf.

backdoor solution to that problem. The following year, the project gained enough land to add two more camps for a total of 900 enrollees building infrastructure and conserving lands for the national park.⁷³⁹

The CCC work pushed Senator Logan and Congressman Glover Cary to draft a bill for the National Park Service to begin the takeover of lands near Mammoth Cave. The National Park Service had been growing more and more impatient at the lack of progress from cave country. Great Smoky Mountains National Park, which required the purchase of much more land than Mammoth Cave, was ready for establishment in 1934.⁷⁴⁰ If Mammoth Cave were to become a full-fledged national park, the federal government should take possession and control from the ineffective state and private park proponents. NPS Director Arno Cammerer testified in favor of the bill before the House Committee on Public Lands that the takeover was necessary for conservation and law enforcement purposes:

[S]ome of those people down in that section are setting fire to the woods as a matter of spite, with local politics interfering, that the people ought to get off the ground and have their houses razed as soon as they have got the money, and the local commission cannot get them off.⁷⁴¹

The House Committee, especially Representative Dennis Chavez of New Mexico, expressed some doubts regarding a provision in the bill granting the Department of the

⁷³⁹ Kentucky National Park Commission Meeting Minutes, March 9, 1934, MACA 35455; Mammoth Cave National Park Association and Kentucky National Park Commission Joint Meeting Minutes May 28, 1934, MACA 35455.

⁷⁴⁰ Maher, *Nature's New Deal*, 138.

⁷⁴¹ *Logan-Cary Act: Hearings on H. R. 4935, Day 2, Before the House of Representatives Committee on the Public Lands, 73d. Cong. 29 (1934)* (Statement of Arno B. Cammerer, Director, National Park Service).

Interior to use powers of eminent domain to acquire lands. Cammerer stressed to the Committee that the state's efforts to condemn lands often resulted in local juries providing for an "outrageous price" for the landowners.⁷⁴² Still, the image of struggling farmers and poverty-stricken families being kicked off of land they owned struck a particular resonance with Chavez. Federal condemnation of lands for a national park seemed an unusual solution. The Park Service Director noted, "it is also very unusual in our experience for any State government to come to the Federal Government and say, 'Please enact a law to take our land.'"⁷⁴³ The Kentucky General Assembly had more than just said it—they passed an appropriation granting \$250,000 and the power of eminent domain to the federal government to obtain lands, caves, and cave rights.⁷⁴⁴

Representative George Durgan, a Democrat from Indiana, agreed with the Director, because he "knew a little bit about the people in there. They are all second cousins or third cousins, most of them, and connected in some way with the landowners."⁷⁴⁵ The slight against the rural folk of south central Kentucky was insulting, but it was hard for park boosters to ignore the condemnation jury members' surnames being among those of many of the larger and long-established families in Edmonson County in particular. On May 15, 1934, President Roosevelt signed the Logan-Cary Act to accept 30,000 acres of lands for national park purposes at Mammoth Cave and to empower the federal

⁷⁴² Ibid., 23.

⁷⁴³ Ibid., 24.

⁷⁴⁴ Legislation Pertaining to Mammoth Cave National Park, RG79, Box 1326.

⁷⁴⁵ *Logan-Cary Act: Hearings on H. R. 4935, Day 2, Before the House of Representatives Committee on the Public Lands*, 73d. Cong. 30 (1934) (Statement of Representative George Durgan of Indiana).

government with eminent domain to complete the national park project.⁷⁴⁶ They were just 16,000 acres away from Park Service development, but local opposition to the park was about to become more intense.

The main opposition came from those losing their land and the only homes they had known. When in early April 1934 NPS Director Arno Cammerer instructed that homes in the park area be “immediately vacated” and razed, he included the opportunity for owners themselves to take the lumber and salvage it, which would also save the park the effort of disposing of it.⁷⁴⁷ Some residents took advantage of keeping the boards and timbers that had been their homes. Many, however, refused to leave. The MCNPA and KNPC had continuously had problems with residents refusing to obey notices of eviction. Officials on the ground noted more than twenty tracts of land already purchased for the park that remained occupied, adding, “strenuous efforts will be made to have those tracts evacuated.”⁷⁴⁸ The Logan-Cary Act gave national park officials a method of executing those orders in federal court, as opposed to the local-friendly county courts.⁷⁴⁹

Enter Robert P. Holland, the first National Park Service superintendent at Mammoth Cave. Holland, a bespectacled, jodhper wearing West Point graduate, had one mission: to turn the land around Mammoth Cave into a national park, and do it as quickly as possible. Any obstacle to that goal would be dealt with by any and all means

⁷⁴⁶ “U. S. To Start Park Purchase,” *Louisville Courier-Journal*, May 16, 1934, 16.

⁷⁴⁷ Mammoth Cave National Park Association and Kentucky National Park Commission Joint Meeting Minutes, April 5, 1934, MACA 35455.

⁷⁴⁸ W. W. Thompson to Mammoth Cave National Park Association and Kentucky National Park Commission, January 28, 1935, MSS 296, Box 12, Folder 2.

⁷⁴⁹ *Ibid.*

necessary; one of his assistants recalled that this included methods “outside the law.”⁷⁵⁰ Holland recruited two CCC workers, Vernon Wells and Joseph Ridge, to be deputies to work with the park ranger for law enforcement and to assist him in his mission. Wells and Ridge, along with Holland, became targets of opposition due to their jobs in the park. Holland’s take-no-prisoners attitude ran through almost everything he did at Mammoth Cave, which stoked more opposition to the park, and to the National Park Service.

In the summer of 1934 Holland, armed with his service weapon, along with axe- and crowbar-wielding Wells and Ridge, went to enforce an eviction notice. The tenant, identified in the records only as “Mr. Richards,” did not own the home he and his family were living in, refused their demands to leave the property. Holland ordered his deputies to tear down the structure with the family still inside. Once the family realized these men meant business, they complied with the notice. Forcible removal of a struggling family from a home “was a hard thing to do,” Wells recalled, “but we were forced into it.”⁷⁵¹ Word quickly got around about the NPS enforcement tactics.

While some people left willingly after the Richards’ incident, other residents stood ready to confront the officials. An elderly widower threatened “there would be a gunfight” if park officials tried to move him. His daughter, who lived in nearby Horse Cave, hoped he would move in with her. While he was visiting his daughter, the NPS trio swooped in with “a crew of 3C boys and a bulldozer.”⁷⁵² Wells recalled that after the man

⁷⁵⁰ Oral History of Vernon Wells, SC122, Special Collections, Western Kentucky University.

⁷⁵¹ Ibid.

⁷⁵² Ibid.

returned home to “a pile of rubble,” they stayed away from his land out of fear for their own safety in case he tried to retaliate.⁷⁵³

Holland and company did not just target tenants and the elderly. One of the most critical victories for the park group came at the expense of a fairly well-to-do landowner. Eldred Parsley had been a thorn in the side to both the MCNPA and the KNPC for a number of reasons. Although he had moved to Brownsville and sold his land in the park boundary, Parsley kept a tenant on the property. Knowing that Parsley went to court on Mondays, Holland ordered sixty CCC enrollees with Wells and Ridge to tear down the structures on Parsley’s former farm. A neighbor heard the commotion and went to Brownsville to alert Parsley. When he returned and encountered Robert Holland, the superintendent informed the former resident that if Parsley went back to Brownsville and got a restraining order from the friendly local courts against tearing down the house and barn, Holland and his men would obey it. While the farmer did just that, Holland ordered the CCC boys to finish the job.⁷⁵⁴ The message to any other owners was clear. Robert Holland did not care how influential a landowner might be on the local level. He was determined to make the national park a reality.

Tearing down homes was part of the process to make a park, but Holland sometimes overstepped his authority. In the spring of 1935, for instance, Holland and Ridge discovered that two farmers in the Green River valley were continuing to plant and

⁷⁵³ Ibid.

⁷⁵⁴ Ibid.

harvest crops. The park men dumped the plows into the Green River.⁷⁵⁵ Dellard Parsley filed a lawsuit to claim damages from the loss of “the only plow he owned.”⁷⁵⁶

Opponents of the park seized on the incident. In reporting the warrants for Holland and Ridge in his *Edmonson County News*, Meloan compared them to “White Caps, Kluxers, night riders, and other outlaw organizations,” except that those groups operated “under cover of darkness,” not “on Sunday when the Christian people of the community were worshipping God in the simple edifices attended by them and their ancestors for a century or more.”⁷⁵⁷ Nothing, Meloan suggested, was sacred to these “plowdrowners.”

The response was swift. Holland and Ridge found themselves hauled into an unfriendly court. Since the park superintendent was technically on the payroll of the KNPC, and the attorney general’s office was the chief counsel for the Commission, the *Edmonson County News* noted, it placed the AG’s office in the unusual position of “defend[ing] parties charged with violating the laws of the State.”⁷⁵⁸ In November Holland and Ridge each paid a \$25 fine, along with the cost of reimbursing Dellard Parsley for his plow.⁷⁵⁹ Still, the men’s actions stunned even some of the park promoters. State Senator Bev Vincent sent a petition to NPS Director Cammerer requesting Holland

⁷⁵⁵ Kentucky National Park Commission Meeting Minutes, May 2, 1935, MACA 35455.

⁷⁵⁶ “Park Area ‘Foresters’ Break Up Plows, Sink Them In River, Warrant Charges,” *Edmonson County News*, May 2, 1935, 1.

⁷⁵⁷ *Ibid.*

⁷⁵⁸ “Holland and Ridge Waive Trials to the Circuit Court,” *Edmonson County News*, May 9, 1935, 1.

⁷⁵⁹ “Plow Drowners Square Selves With the Law,” *Edmonson County News*, November 21, 1935, 1.

be removed from the Mammoth Cave area “because of his temperment [*sic*] and lack of understanding of the people of Edmonson County.”⁷⁶⁰ The Park Service kept Holland at Mammoth Cave—for the time being.

In the fall of 1935, opposition hit a boiling point. Uniformed park personnel like Holland, Wells, and Ridge had been shot at prior. Wells, for instance, recalled that they had a car “riddled with bullets” while they did some investigations north of the Green River, but assumed these attacks were “to try to intimidate us rather than to really hurt us.”⁷⁶¹ On Monday, October 28, however, Wells and Ridge encountered three men hunting squirrels on park lands. Hunting had been outlawed since 1933 on Commission-owned lands, but enforcement had been a problem.⁷⁶² When the unarmed park rangers approached the men “with the intention of asking them not to hunt,” one of the men fired at Vernon Wells, striking him in the left shoulder and arm.⁷⁶³ According to Perry Meloan’s *Edmonson County News*, Joseph Ridge jumped into the Green River until the men left, and then returned to get Wells to safety.⁷⁶⁴ Ridge had actually jumped in to get a rowboat to get his partner across the river to the nearest CCC camp.⁷⁶⁵ When Ranger

⁷⁶⁰ Ibid.

⁷⁶¹ Oral History of Vernon Wells, SC122, Special Collections, Western Kentucky University.

⁷⁶² Kentucky National Park Commission Meeting Minutes, October 20, 1933, MACA 35455.

⁷⁶³ W. W. Thompson to Kentucky National Park Commission, November 1, 1935, MSS 296, Box 12, Folder 2.

⁷⁶⁴ “Plow Drowners’ Pal Receives Portion of Buckshot Charge,” *Edmonson County News*, October 31, 1935, 1.

Wells was taken to the hospital at Glasgow, Kentucky, doctors removed “seven buckshot [from] his shoulder and upper arm.”⁷⁶⁶ By far this was the most serious incident for the rangers. Indeed, most protests against the park targeted the environment rather than people.

Among the skills taught by the Civilian Conservation Corps was firefighting, and they had ample opportunity to put them to good use at Mammoth Cave. Enrollee George Childress recalled that residents whose land had been condemned would sometimes be so upset “they’d set a fire on top of one hill...and that was one way they had of trying to get even with Uncle Sam for buying that and putting them out of there.”⁷⁶⁷ All three of the parks created in the 1926 legislation (Shenandoah, Great Smoky Mountains, and Mammoth Cave) experienced “dramatically higher arson rates” than the rest of the national park system; Mammoth Cave’s fires in 1934 almost equaled that of both Shenandoah’s and Great Smoky Mountains.⁷⁶⁸ In January 1935 Mammoth Cave Hotel manager W. W. Thompson reported that nearly 400 acres had been burned in the past

⁷⁶⁵ Oral History of Vernon Wells, SC122, Special Collections, Western Kentucky University.

⁷⁶⁶ W. W. Thompson to Kentucky National Park Commission, November 1, 1935, MSS 296, Box 12, Folder 2.

⁷⁶⁷ Oral History of George Childress, FA81, Special Collections, Western Kentucky University.

⁷⁶⁸ Gregg, *Managing the Mountains*, 136. In 1934, Shenandoah had seven cases of arson, Great Smoky Mountains had fifteen cases, and Mammoth Cave had twenty-three arson incidents. The most of any other national park that same year was two. Gregg notes that “‘firing the woods’ was a notable southern protest strategy” (135).

year, most of that coming in a single fire that had consumed 250 acres.⁷⁶⁹ The CCC built a series of fire towers and created a system for reporting locations of fires. Recruits cut underbrush and learned fire prevention techniques, including how to identify dead trees and cut them down, provided they were not a home for wildlife.⁷⁷⁰ Still, fighting the fires could be dangerous. Childress remembered fighting some fires several days until they were out.⁷⁷¹

Ever suspicious of CCC boys' character, editor Meloan, a Republican, gave the Corpsmen the appellation "peckerwoods" and charged them with deliberately setting fires to earn more money.⁷⁷² Fighting fires was just one of their "multiferous [*sic*] duties, including the destruction and 'drowning' of farm machinery."⁷⁷³ An enrollee from the only camp of African-American enrollees wrote the editor to correct him on both counts, that the corpsmen were not setting the fires and that they did not earn extra money for fighting more fires. This caused Meloan to double down in his attacks against the CCC for taking jobs from Edmonson Countians, and accused black corpsmen specifically for setting fires late at night to they could have the next day off.⁷⁷⁴ Meloan had no use for the

⁷⁶⁹ W. W. Thompson to Kentucky National Park Commission and Mammoth Cave National Park Association, January 28, 1935, MSS 296, Box 12, Folder 2.

⁷⁷⁰ Emergency Conservation Work Annual Report, 1935; MACA 45818.

⁷⁷¹ Oral History of George Childress, FA81, Special Collections, Western Kentucky University.

⁷⁷² "Forest Fires!" *Edmonson County News*, January 16, 1936, 1.

⁷⁷³ *Ibid.*

⁷⁷⁴ "We Stand Corrected! Or Do We?" *Edmonson County News*, January 23, 1936, 2.

Corpsmen, black or white, and neither did Edmonson County, he argued. “For more than one hundred years,” he claimed, “Edmonson County got along without the presences of Forest Rangers,” and did not have forest fires “of any consequence.”⁷⁷⁵ The problem was obviously the “full fledged and duly authorized contingent” of “plowdrowners.”⁷⁷⁶

Arson was a tool for those disaffected by management decisions beyond land condemnation. For some, it was symptomatic of the last straw against what they saw as an unfair system. In August 1936 Superintendent Holland reported that the house of the Mammoth Cave ferry operator had been destroyed in a fire. The house was burned the night before a new ferry operator was to move in; the recently discharged operator, L. P. Dossey, was the obvious suspect.⁷⁷⁷

L. P. Dossey had had a long history with the park proponents and demonstrated some of the dire straits in which many park residents found themselves. As early as 1927 Dossey had sought help from real estate agent George E. Zubrod. The MCNPA land agents had taken an option on his land along Green River, but Dossey had to borrow significant sums that were now due just in time for planting season. If Zubrod would not buy his farm and Dossey lost possession to his creditor, “I have nowhere to go, nor no money with which to buy a home for myself and motherless children.”⁷⁷⁸ Of course, Zubrod had no money with which to purchase Dossey’s farm even if he wanted to assist

⁷⁷⁵ “Forest Fires!” *Edmonson County News*, January 16, 1936, 1.

⁷⁷⁶ *Ibid.*

⁷⁷⁷ Superintendent’s Monthly Reports, August-December 1936, MACA 45818.

⁷⁷⁸ L. P. Dossey to George E. Zubrod, October 6, 1927, MSS 296, Box 2, Folder 5.

the struggling farmer. In 1928 when the Association was purchasing lands, Dossey offered his farm “at an attractive price,” on account of his being “a great park enthusiast,” and pleaded for privileges of farming on the land until it was turned over to the federal government.⁷⁷⁹ Not long after the Association finally purchased his land at auction in February 1929 they hired him to operate the Mammoth Cave ferry on the Green River.⁷⁸⁰ After a number of “small infractions of park regulations,” park officials fired him. Even if he had been charged, an Edmonson County jury may have had mercy on the local man.⁷⁸¹

Holland’s assistants had proven their worth. On September 1, 1936, Vernon Wells and Joseph Ridge were commissioned National Park Service rangers, which Holland later claimed helped bring about an “immediate reduction of forest fires and vandalism.”⁷⁸² The park antagonists Holland referred to as the “do as we damn well please” residents, who faced the potential of federal courts that might be less friendly than their neighbors in Brownsville, mostly gave up their “abuse to the park.”⁷⁸³ By 1937 Superintendent Holland believed the fires to be under control. Five years later, the park superintendent reported that, in terms of fire protection, the relationship between the park and local

⁷⁷⁹ L. P. Dossey to George E. Zubrod, March 15, 1928, MSS 296, Box 3, Folder 2.

⁷⁸⁰ “Park Association buys Dossey Tract,” *Edmonson County News*, March 7, 1929, 1.

⁷⁸¹ Superintendent’s Monthly Reports, August-December 1936, MACA 45818.

⁷⁸² Superintendent’s Annual Report for Fiscal Year 1937; RG79, Box 1328.

⁷⁸³ Superintendent’s Monthly Report, September 1936, MACA 45818; Superintendent’s Annual Report for Fiscal Year 1937; RG 79, Box 1328.

people had completely changed due the ranger force working with the locals to make them “fire conscious.”⁷⁸⁴

The Civilian Conservation Corps’s impact on the surface environment was dramatic. The four camps of corpsmen removed more than two hundred miles worth of fence wire, removed and salvaged more than 3000 “undesirable structures,” built more than 600 temporary check dams to control erosion, planted nearly a million trees, and built park infrastructure like tourist cabins, park residences, roads, hiking trails, pumphouses, campgrounds, and picnic areas.⁷⁸⁵ W. W. Thompson, the hotel manager at Mammoth Cave, praised the work as “restoring the area to its natural beauty.”⁷⁸⁶ Like their counterparts at Great Smoky Mountains, Shenandoah, and across the country, the CCC built the park essentially from the ground up.⁷⁸⁷ Except in the case of Mammoth Cave, it was from below the ground up.

Perhaps some of the CCC’s most unusual work was that inside the cave itself. In 1931 the Mammoth Cave National Park Association drilled two new entrances into the farthest reaches of toured sections at Mammoth Cave, Violet City at the end of Main Cave and Dismal Hollow at the end of the Long Route. There was still much to do for the

⁷⁸⁴ Superintendent’s Annual Report for Fiscal Year 1942; RG79, Box 1328.

⁷⁸⁵ Superintendent’s Annual Report for Fiscal Year 1937; RG79, Box 1328; Max B. Nahm, Fiscal Report for Kentucky National Park Commission Ending June 30, 1938, MSS 296, Box 12, Folder 5; Schmitzer, “CCC Camp 510: Black Participation in the Creation of Mammoth Cave National Park,” 462.

⁷⁸⁶ W. W. Thompson to Kentucky National Park Commission and Mammoth Cave National Park Association, January 28, 1935, MSS296, Box 12, Folder 2.

⁷⁸⁷ See Maher, *Nature’s New Deal*; Pierce, *The Great Smokies*; Brown, *Wild East*; Gregg, *Managing the Mountains*.

cave infrastructure to be ready for national park visitors. Corpsmen built bridges near the Echo River in the cave, cleaned the boats for the river trip, and cleaned the boardwalks after spring floods.⁷⁸⁸ The main job of corpsmen in the subterranean pathways involved destroying and altering parts of a place that was ideally meant to be preserved, in the National Park Service mandate, “unimpaired.” The CCC did not hold to that mandate. Building dirt trails on the established cave routes to replace the rock-strewn paths required the men to use sledgehammers, shovels, picks, and wheelbarrows to bust large boulders into smaller chunks of stone, harvest cave dirt from the cave passages and place fresh dirt on top of the broken stones. When packed down and coated with a chemical, the combination of dirt and stone hardened into a dedicated trail that supervisors felt “look[ed] natural.”⁷⁸⁹ The work was difficult, but effective. Corpsmen completed approximately twelve miles worth of trails inside Mammoth Cave that remained in place until 2015.⁷⁹⁰

Some mischievous enrollees used their tools to vandalize the cave walls like so many people had done before them. Geologist E. R. Pohl informed Superintendent Holland that many of the small caves in the park boundary had been smoked onto walls and ceilings with the names of boys “from one or several of the CCC camps within the

⁷⁸⁸ Oral History of Shorty Coats, FA81, Special Collections, Western Kentucky University.

⁷⁸⁹ Emergency Conservation Work Annual Report, 1935, MACA 45818.

⁷⁹⁰ In preparation for the 2016 National Park Service Centennial, officials at Mammoth Cave National Park announced the first major change to the cave trails since the CCC era. The first part of the new paving stone trail on the two-mile route through the historic sections of the cave, including the Rotunda, Giant’s Coffin, Fat Man’s Misery, River Hall, and Mammoth Dome opened in the summer of 2016.

area.”⁷⁹¹ Additionally, when they were in Mammoth Cave the CCC boys occasionally went exploring off the beaten path and scratched their names into the walls.⁷⁹² When they were working to build the trails, however, supervisors noted that the enrollees took “special care...not to disturb the walls or ceiling” of the cave.⁷⁹³

The Civilian Conservation Corps was doing work inside the cave that had traditionally been up to the guides in the off-season. The CCC crews worked in larger numbers than the Mammoth Cave estate could have hired under private ownership during the slow winter season. Since the corpsmen were doing the trail labor, guides could further knowledge of cave passage, and advance discoveries inside Mammoth Cave. These discoveries proved to be some of the most significant finds in generations, and maybe in the entire history of Mammoth Cave.

There was never any question that a national park at Mammoth Cave could support significant cultural and scientific discoveries. The Mammoth Cave National Park Association was interested in bringing tourists to the cave region, and noteworthy scientific stories had already succeeded at getting nationwide attention. In the nineteenth century visitors flocked to see Fawn Hoof, the buried “mummy” on display at the cave, and “Little Alice” (who turned out to be “Little Al”) discovered at Salt’s Cave and displayed at Grand Avenue and later, New Entrance to Mammoth Cave.⁷⁹⁴

⁷⁹¹ E. R. Pohl to Robert P. Holland, November 27, 1935, RG79, Box 1332.

⁷⁹² Robert P. Holland to A. E. Demaray, December 19, 1935, RG79, Box 1332.

⁷⁹³ Emergency Conservation Work Annual Report, 1935, MACA 45818.

⁷⁹⁴ Louise M. Robbins, “A Woodland ‘Mummy’ from Salts Cave, Kentucky,” *American Antiquity*, 36, no. 2 (April 1971), 201.

The MCNPA made headlines in 1927 when they announced an international search for the body of Fawn Hoof. Mailing letters of inquiry to natural history museums around the world, including the Smithsonian Institution and the American Museum of Natural History in the United States, the Association hoped to return the mummy “as part of the curious exhibitions which will attract the eyes of the world” at the cavern.⁷⁹⁵ The Association believed that the visitors of the past who had purchased Fawn Hoof had not truly appreciated the “ethnological importance” of the find, but the range of other sciences had added to the knowledge of prehistoric civilizations.⁷⁹⁶ An assistant secretary of the Smithsonian Natural History Museum, which held the remains of Fawn Hoof, noted that the mummy had been dissected sometime in the years the Institution had possession of it, and that she “was considered more scientific value as a [determinant] of race than as a mummy.”⁷⁹⁷ The search was over.

Mammoth Cave still held secrets, but guides had always needed time to find them. As a remedy for the CCC vandalism inside Mammoth and other caves, the guides had to supervise the Corpsmen. It could be tedious watching them shovel dirt, so occasionally guides would look for mummified bats or other curiosities to sell at souvenir stands. Former guide John M. Nelson had collected thousands of artifacts from the cave

⁷⁹⁵ “World-Wide Search Started for Mammoth Cave’s Lost Mummy,” *Louisville Courier-Journal*, November 7, 1927, 1.

⁷⁹⁶ Ibid.

⁷⁹⁷ “Fawn Hoof, Just Old Bones Now, is Found in National Museum,” *Louisville Courier-Journal*, February 10, 1928, 1. See Kertesz, “Skeletons in the Attic,” for more on the significance of “Fawn Hoof” in the construction of race and science. See also Curtis M. Hinsley, *The Smithsonian and the American Indian: Making a Moral Anthropology in Victorian America* (Washington, DC: Smithsonian Institution Press, 1981).

and the surrounding area for private and public consumption.⁷⁹⁸ On June 7, 1935, guides Grover Campbell and Lyman Cutliff accidentally made one of the most significant finds in Mammoth Cave history.

While Corpsmen worked on the trails in the main passage of Mammoth Cave about half a mile from the Violet City entrance, Campbell and Cutliff lurked and climbed around a tall ledge. Campbell went first around a corner. Since there was no beaten path, and they were twenty feet from the ground, sure footing was of the essence. To steady himself Campbell placed his hand on what he thought was a rock. It was not a rock. The guide recalled: "I felt the hair and wrinkled skin and hollered to Lyman, 'Gosh, this feels like somebody's head.' And sure enough, it was."⁷⁹⁹ Upon examining the body with their lanterns and flashlights, the guides kept quiet about the find until they could reach the cave manager, Marty Charlet. Charlet went with them into the cave and summoned the acting superintendent for the National Park Service, Robert Holland. Holland then telegraphed his superiors in Washington, DC, which brought NPS archaeologists Alonzo Pond and Louis Shellbach to central Kentucky.⁸⁰⁰

Since the removal of Fawn Hoof in 1816 the only artifacts that archaeologists had to study inside the cave were cane reed torches, woven fiber slippers, and gourd bowls. After Mammoth Cave guides Tom Lee, John Lee, and Bill Cutliff (Lyman Cutliff's uncle) discovered Little Alice/Al in Salts Cave in 1875, cave owners mainly used the

⁷⁹⁸ Joseph H. Mader, "John M. Nelson of Glasgow, a Natural-Born Cave Man," *The Kentucky Explorer* 29, no. 8 (February 2015), 40.

⁷⁹⁹ "Desiccated Body in Mammoth Cave Viewed as Possible Epochal Discovery," *Louisville Courier-Journal*, June 23, 1935, 8.

⁸⁰⁰ *Ibid*, 6.

body for marketing purposes rather than offering it to scientists to study.⁸⁰¹ The discovery of the ancient desiccated corpse in a soon-to-be national park meant that experts would get the first chance to study it in depth.

Alonzo Pond invited Georg Neumann from the University of Michigan and William Webb from the University of Kentucky to assist in the examination. They found the body beneath a six-ton boulder, with only the head, neck, right arm and shoulder exposed. The fractured gypsum around the body led them to surmise the person had been mining gypsum beneath the boulder, and perhaps struck too far, causing the boulder to fall down and crush the miner. Nearby the team found a satchel made of woven materials, and a pendant made of mussel shells rested around the neck.⁸⁰² The three men hailed the guides' find as "the most important discovery from an archaeological standpoint ever made in Mammoth Cave."⁸⁰³ Still, the team needed to do more work.

The archaeologists partnered with the park officials and the CCC to devise a system to lift the boulder and remove the body for further study. It was then they were able to determine it was that of a male, possibly five feet three inches tall in life, and perhaps around age forty-five.⁸⁰⁴ Determining a more precise figure for how long ago the man lived was a question that a geologist helped to answer. Dr. Pond, Grover Campbell, and a CCC enrollee had taken a measurement of selenite crystals growing from dated

⁸⁰¹ Robbins, "A Woodland 'Mummy' from Salts Cave, Kentucky," 201.

⁸⁰² Georg K. Neumann, "The Human Remains from Mammoth Cave, Kentucky," *American Antiquity* 3, No. 4 (April 1938), 346-347.

⁸⁰³ "Desiccated Body in Mammoth Cave Viewed as Possible Epochal Discovery," *Louisville Courier-Journal*, June 23, 1935, 6.

⁸⁰⁴ Neumann, "The Human Remains from Mammoth Cave Kentucky," 349.

graffiti scratched into a wall of a nearby passage. They passed the information to NPS geologist Dr. E. R. Pohl, who then compared the rate of growth of the crystals from the known date of the graffiti and the rate of crystals at the death site. This placed the date of the body between 450 to 500 years old, but given the variations in growth rates that was just a starting point.⁸⁰⁵ Removing the boulder from the body was just the first step in the miner's journey from being an artifact to a showpiece.

Almost as soon as he was discovered, the National Park Service began planning ways to display the body in the cave. Early plans of the NPS to display the prehistoric miner's body called for a museum in the cave centered on models of the boulder and the miner alongside the body mounted in an airtight case.⁸⁰⁶ The CCC made a case made of plate glass with pipe guardrails around it to protect the body from the public.⁸⁰⁷ First, park officials placed the body in a case nearby the discovery site where it was "one of the most prominent features on the Star Chamber-mummy combination route," but eventually moved it to a more popular location close to the Giant's Coffin.⁸⁰⁸ People who might have been revolted at the thought of seeing Floyd Collins's body on display in Crystal Cave stared in wonder at the desiccated body of the gypsum miner. At some point

⁸⁰⁵ Ibid.; NPS Press Release, September 10, 1935; RG79, Box 1334. Radiocarbon dating after World War II placed the body at around 2300 years old, quite older than the date Pohl and Pond calculated.

⁸⁰⁶ "Desiccated Body in Mammoth Cave Viewed as Possible Epochal Discovery," *Louisville Courier-Journal*, June 23, 1935, 8.

⁸⁰⁷ Mammoth Cave Emergency Conservation Work Annual Report, 1935, MACA 45818.

⁸⁰⁸ W. W. Thompson to Mammoth Cave Operating Committee, January 23, 1936; MSS 296, Box 12, Folder 3.

the miner became known as “Lost John” as he became the grisly face of Mammoth Cave promotional books, brochures, and postcards. Crass commercialism aside, Lost John was an important archaeological discovery.

The guides’ secrecy and handling of the discovery earned the praise from the professional, Pond. Too often, he lamented, prehistoric sites he was called in to study had been looted and destroyed. Pond believed the guides’ finding was “the greatest archaeological discovery in Eastern North America,” and it was to the credit of the guides and Charlet for keeping it a tightly held secret.⁸⁰⁹ One of the CCC members involved in carrying timbers to create the scaffolding for the archaeologists to study Lost John believed it was the best thing he did in the Corps.⁸¹⁰ Once the secret was out and the body on display, visitors came to Mammoth Cave in record numbers.⁸¹¹ It was another discovery, however, that advanced the progress of the national park project.

As late as 1937 two of the chief rivals to Mammoth Cave, Great Onyx and Crystal Cave, had successfully fought being condemned or purchased. In 1932 shortly after a jury fixed Great Onyx’s value at \$398,000, park advocate Max Nahm and Senator M. M. Logan discussed the possibility of excluding those caves and Sand Cave, where Floyd Collins had died, from the park boundaries. Nahm wrote to NPS Associate Director Arno Cammerer to justify the plan, noting that with New Entrance, Colossal, and Mammoth

⁸⁰⁹ “Desiccated Body in Mammoth Cave Viewed as Possible Epochal Discovery,” *Louisville Courier-Journal*, June 23, 1935, 8.

⁸¹⁰ Interview with Elmer Britt Regarding CCC, July 26, 1987, FA81, Manuscripts & Folklife Archives,, Western Kentucky University.

⁸¹¹ “Mummy Found in Mammoth Cave in 1935 Shown to Belong to Pre-Columbian Indian,” *Washington Post* November 14, 1937, T13.

Cave, “we now have all the caves that we could ever show and more.”⁸¹² Even if the park promoters owned Great Onyx, Nahm added, it “would not add a cent to our revenue.”⁸¹³ Plus Sand Cave, whose owners asked \$50,000, “isn’t worth anything.”⁸¹⁴ NPS Director Horace Albright believed Sand Cave, being on the entry road to the national park lands, gave it an “annoying nuisance status” as a hotbed of “obnoxious solicitation of guests” who were driving to Mammoth.⁸¹⁵ The Service needed Sand Cave, but that it might be possible to exclude Crystal and Great Onyx.

In 1934 when the Logan-Cary Act gave the Department of the Interior (DOI) powers of eminent domain for park purposes, questions arose about the caves’ future. By the time the National Park Service had enough acreage for the park in 1936 to actually begin developing it as a federal entity, the Interior department had taken up a number of condemnation cases for the acquisition of lands.⁸¹⁶ Federal officials were unsure whether or not to pursue condemnation charges against Crystal or Great Onyx, however. In August 1937 Senator M. M. Logan instead pushed a bill through Congress that authorized the Secretary of the Interior to exclude those specific properties at his discretion.⁸¹⁷ The bill did not require the caves to be excluded, so if the DOI condemned

⁸¹² Max B. Nahm to Arno B. Cammerer, November 19, 1932; RG79, Box 1326.

⁸¹³ Ibid.

⁸¹⁴ Ibid.

⁸¹⁵ Horace Albright to Max B. Nahm, December 2, 1932; RG79, Box 1326.

⁸¹⁶ Executive Committee of the Mammoth Cave National Park Association Meeting Minutes, December 21, 1936, MSS 296, Box 12, Folder 3.

⁸¹⁷ “State Caves Bill Signed,” *Louisville Times*, August 30, 1937, MSS 296, Box 12, Folder 5.

the caves it would still be legal to accept them. In mid-September, NPS Director Arno Cammerer instructed attorneys for the Service to dismiss any condemnation proceedings. The fact that a previous jury had fixed a price on Great Onyx worked against them, he believed. Even though Crystal Cave was never condemned or valued by an official body, Cammerer wanted to dismiss condemnation until they had funds available for purchase.⁸¹⁸

Senator Logan's role in the cave park effort was, like so many others, imbued with complications. As a friend of the park, M. M. Logan had been the first president of the Mammoth Cave National Park Association. As Senator he sponsored the legislation for the NPS to accept lands and later to begin development of the park. Eight years prior to his bill allowing the exclusion of Great Onyx and Crystal Caves, Senator Logan had been a judge on the Court of Appeals. In 1929, he heard the *Edwards v. Sims* case regarding the survey of cave passages in the dispute over the extent of Great Onyx's avenues in relation to property boundaries. M. M. Logan wrote a stirring dissent, remarkable not for its legal arguments, but for its emotional paean to the explorers who discovered and developed cave passages:

Men fought their way through the eternal darkness, into the mysterious and abysmal depths of the bowels of a groaning world to discover the theretofore unseen splendors of unknown natural scenic wonders. They were conquerors of fear...adventuring into the regions where Charon with his boat had never before seen any but the spirits of the departed. They let themselves down by flimsy ropes into pits that seemed bottomless; they clung to scanty handholds as they skirted the brinks of precipices while the flickering flare of their flaming flambeaux disclosed no bottom to the yawning gulf beneath them; they waded through rushing torrents, not knowing what awaited them on the farther side; they climbed slippery steps to find other levels; they wounded their bodies on stalagmites and

⁸¹⁸ Arno B. Cammerer to G. A. Moskey, September 16, 1937, RG79, Box 1326.

stalactites and other curious and weird formations; they found chambers, star-studded and filled with scintillating light reflected by a phantasmagoria revealing fancied phantoms, and tapestry woven by the toiling gods in the dominion of Erebus; hunger and thirst, danger and deprivation could not stop them. Through days, weeks, months, and years—ever linking chamber with chamber, disclosing an underground land of enchantment, they continued their explorations; through the years they toiled connecting these wonders with the outside world... They created an underground kingdom where Gulliver's people may have lived of where Ayesha may have found the revolving column of fire in which to bath meant eternal youth... They know nothing, and cared less, of who owned the surface above.⁸¹⁹

Logan's prose hailing the bravery of discoverers was ultimately in defense of their right to show and profit from the wonders beneath the ground regardless of property boundaries. It was also a reminder of the very difficult work involved in cave exploration. The spirit of cave exploration and exploitation that had started the Cave Wars and catapulted a national park movement also proved to be an important part of cementing Mammoth Cave National Park's establishment.

The belief that many of the caves connected underground stirred cave explorers and park proponents. In 1927, a Mammoth Cave National Park Association press release noted that the large show caves were separate units, with the exception of Mammoth and New Entrance, but many "students of geology and...other scientists" believed that "all the caverns" were all part of one large system of passages "which ultimately will be opened so the visitor may enter and visit them all before emerging into the open air."⁸²⁰ Dye tracing had demonstrated water connections between Salts Cave, Colossal Cave, and

⁸¹⁹ Quoted in Ziff, "The Great Onyx Cave Cases," 22-23.

⁸²⁰ Mammoth Cave National Park Association Press Release, ca. November 1927, MSS 296, Box 2, Folder 5.

Mammoth Cave, indicating that it might be possible for people to make such connections as well.⁸²¹

If Mammoth Cave were made a national park, the Association argued, “government engineers” would map and “clear out the passageways” to find the possible connections.⁸²² The only federal officials on the ground in the proposed national park area at Mammoth Cave were still busy removing “squatters, poachers, and thieves” who lived on the park land, hunted the wildlife, and stole stalagmites and other cave rocks for sale at souvenir stands.⁸²³ For the time being, cave guides continued to be the main explorers at Mammoth Cave.

For the fraternity of guides, exploration had become a point of pride and a chance to show off to their fellow guides and the public. National Park Service geologist Donald Hazlett recalled hearing the men talking after their shifts had ended about the knowledge they had of a particular place and believed that, “in effect they were jealous of each other. Jealous of what they knew in their area of the cave, as opposed to somebody else in their area of the cave.”⁸²⁴ Guides exchanged subterranean secrets by taking each other on after-

⁸²¹ Ibid.; See also R. B. Anderson, *An Investigation into a Proposed Dam Site in the Vicinity of Mammoth Cave, Kentucky* (Louisville: Louisville Gas & Electric Co., 1925); Joe Meiman, Chris Groves, and Shannon Herstein, “In-Cave Dye Tracing and Drainage Basin Divides in the Mammoth Cave Karst Aquifer, Kentucky,” in Eve L. Kuniansky, ed. *U. S. Geological Survey Karst Interest Group Proceedings Investigations Report 01-4011* (Washington, DC: Government Printing Office, 2001): 179-185.

⁸²² Mammoth Cave National Park Association Press Release, ca. November 1927, MSS 296, Box 2, Folder 5; Boyden Sparks, “Cave Business Man,” *Saturday Evening Post*, October 12, 1929, 66.

⁸²³ See Jacoby, *Crimes against Nature*.

⁸²⁴ Interview with Donald Hazellett [sic] Regarding the CCC, August 20, 1987, FA81, Manuscripts & Folklife Archives, Western Kentucky University.

hours trips through the cave.⁸²⁵ Hazlett, a trained geologist, occasionally accompanied them on these journeys and passed on technical knowledge to them in a ritual of knowledge transfer not unlike the scientists who went with Stephen Bishop, Mat Bransford, and Nick Bransford into Mammoth Cave.⁸²⁶ Cave guides also brought the cave to visitors, through the collection of cave fish and other fauna for display or sale. The combination of curiosity of the cave and providing for a new museum to be built for the national park resulted in the final impetus for completing the national park.

In October 1938 Mammoth Cave manager Marty Charlet asked guides Leo Hunt and Rowe Estes to collect some eyeless cavefish from an underground river in Mammoth Cave to be placed in an aquarium for visitors. Estes was not feeling well, so Carl Hanson, another guide, stepped in.⁸²⁷ After catching a supply at Roaring River, a branch of Echo River, from their flat-bottomed boat, the men decided to boat their way upriver. It was not as simple as just paddling upstream. As guide Claude Hunt recalled, “they had to pull along and carry over places where the water wasn’t deep enough for the boat to float. Some places the water was so high you had to push the boat down in the water to get down under the low arch.”⁸²⁸ Eventually Hanson and Hunt found a crawlway. Ever curious, the guides followed the sandy passage approximately 300 feet until a large rock

⁸²⁵ Ibid.

⁸²⁶ Ibid.

⁸²⁷ Claude Hunt Recalls the New Discovery, 1976, Mammoth Cave National Park Vertical Files; Robert C. Whitaker, “Twenty Hours Underground,” *Embry’s Magazine* (August 1940), 12.

⁸²⁸ Claude Hunt Recalls the New Discovery, 1976, Mammoth Cave National Park Vertical Files.

blocked the passage.⁸²⁹ When they returned to the surface, the men asked Charlet, for additional help to explore past the rock. Pete Hanson, Carl's son, and Claude Hunt, Leo's cousin, volunteered for the job.

In addition to the physical difficulty of getting upriver and into the passages were the risks involved. Roaring River had been known to rise five feet in an hour.⁸³⁰ If a flooding event happened the men could be trapped or worse, killed. If they had to remain in the water for very long, they risked hypothermia, and even if they did not get too cold, their wet boots would make for a slippery walk. Should an accident befall them, they were hours from even reaching the surface and reaching park officials. Fortunately the river was low on October 10, the day the four guides entered Roaring River with the goal of getting past the rock.⁸³¹

After crawling into the wet passage for a few hundred feet and then squirming for about a mile through what they called the Valley of Shadows, the four men reached the big rock. There was a hole of a few inches just below it that the men might be able to squeeze through to the other side. One by one, the men flattened themselves as much as they could and scooted their lanterns through, until it was Claude Hunt's turn:

I had the experience...of getting halfway through and there was a loose stone under me in the sand, and it was kinda lopsided. When I tried to go forward, it pushed up and pushed me up agin' the top, tight. So I thought

⁸²⁹ Robert C. Whitaker, "Twenty Hours Underground," *Embry's Magazine* (August 1940), 12.

⁸³⁰ Claude Hunt Recalls the New Discovery, 1976, Mammoth Cave National Park Vertical Files.

⁸³¹ Lix, "Mammoth Cave's Underground Wilderness," 3.

I'd better go back, so I tried to go back and it did the same. Well you know who I thought about then—Floyd Collins.⁸³²

Hunt was able to dig out the sand and rock below him to make it out unlike the doomed explorer of Sand Cave. The men continued crawling until they reached a stoopway that traveled approximately half a mile. The cave began to open up into a larger, dry passage. Judging from the dry gypsum formations around them, they surmised they were on the second or third level of Mammoth Cave, a similar elevation to the passages in the historic section of Mammoth Cave.⁸³³ After going a little farther, the men decided to rest. They had been going through passages for more than twelve hours, and most of that was crawling. Moving forward, Pete Hanson's lantern shone up at some sparkling white formations and he shouted, "Come on boys, we're in another world!"⁸³⁴

The men viewed places never before seen by human eyes. Recalling the discovery thirty-eight years later, Claude Hunt later asserted that

I have a pretty good idea how the astronauts felt when they first stepped on the moon...if you're walking alone, you're making the first tracks. You look back, there's one set of tracks, but no tracks out in front of you.⁸³⁵

The excitement of seeing something completely new in Mammoth Cave propelled the men into action. They found nearly five miles worth of gypsum-lined crevices, a

⁸³² Claude Hunt Recalls the New Discovery, 1976, Mammoth Cave National Park Vertical Files.

⁸³³ Ibid.

⁸³⁴ Lix, "Mammoth Cave's Underground Wilderness," 4.

⁸³⁵ Claude Hunt Recalls the New Discovery, 1976, Mammoth Cave National Park Vertical Files.

limestone dam four feet tall and forty-two feet long across a passage, a dripstone formation that looked like a giant mushroom, and coral fossils in the limestone.⁸³⁶

The gypsum was the real highlight. Most of the gypsum in the toured parts of Mammoth Cave had been severely damaged. Smoke from lanterns, torches, and fires from ancient times and the nineteenth century had blackened the gypsum in the historic section. Gypsum-rich Cleaveland Avenue discovered by Stephen Bishop had been robbed of its decorations by souvenir hunters and specimen collectors, and smoked up by those leaving their names behind. Here was truly pristine gypsum along the walls, ceilings, and floors. Some gypsum flowers grew “petals” up to fifteen inches long. Other gypsum clung to the rock to look like sheep’s fleece. Needles of gypsum over a foot long seemed pinned into limestone as if in a pincushion.⁸³⁷ The only word that seemed to accurately describe the calcium sulfate-rich parts of the New Discovery was simply, “Paradise.”⁸³⁸

The pure joy of what they had found carried the Hansons and Hunts back through all the crawling and squeezing and paddling. “No longer the quiet reserved cave guides,” a magazine reported, “they were returning conquerors.”⁸³⁹ Somewhere in a mud bank on Echo River, Leo Hunt and Pete Hanson drew their initials to mark the way back. Two days later the new acting superintendent at Mammoth Cave, Taylor Hoskins,

⁸³⁶ Lix, 3-5.

⁸³⁷ Ibid., 4-5.

⁸³⁸ Ibid., 5. Geologist J. Harlen Bretz of the University of Chicago, visiting in 1940, “exhausted his supply of adjectives” for describing the avenue, and admitted that the guides’ name for it was “the final word on things beautiful, and its use in referring to this avenue will not be questioned.” Whitaker, “Twenty Hours Underground,” 11.

⁸³⁹ Lix, “Mammoth Cave’s Underground Wilderness,” 5.

accompanied the guides to inspect the new section of cave.⁸⁴⁰ He declared it “more outstanding in beauty and delicacy of formation than any caves in the area.”⁸⁴¹ The New Discovery, as it came to be known, was the most outstanding discovery since Lost John, and the biggest discovery of cave passages at Mammoth Cave since Stephen Bishop crossed over the Bottomless Pit. Charlet praised his guides for having undertaken “the hardest, the most difficult and the grandest cave adventure ever taken by anyone.”⁸⁴²

The New Discovery simply had to be seen to be believed. New superintendent R. Taylor Hoskins sent survey parties into the new section to try to connect them more easily to the main cave passages for the public to be able to see the new section.⁸⁴³ Hoskins was prepared to change the entire setup of cave routes to get the public in New Discovery, over the protests of NPS geologist Donald Hazlett, who wanted to preserve the delicate formations in their near-pristine state.⁸⁴⁴ In time, the survey crews were able to map a passage leading towards a section not toured much since the early nineteenth

⁸⁴⁰ In June 1938 Superintendent Robert Holland was transferred to Fort McHenry National Historic Site in Baltimore, where he presumably did not continue a life of plow drowning.

⁸⁴¹ Superintendent’s Monthly Narrative Report, October 1938, RG79, Box 1329.

⁸⁴² “‘Heaven’ Seen Underground,” *Louisville Times*, November 10, 1938, MSS 296, Box 12, Folder 5.

⁸⁴³ Ibid. Hoskins replaced Holland earlier in 1938. Hoskins had been a ranger at Yorktown National Historical Park and Shenandoah National Park, where he dealt with some of the same issues that Mammoth Cave experienced. A Virginia native who, in the words of Perry Meloan, “looks, acts, and talks like ‘our kind of folks,’” Hoskins received a warmer welcome than Holland. However, Hoskins took a different approach to management. “Gimlet Dust,” and “Hoskins Put in Charge of Mammoth Cave Park,” *Edmonson County News*, May 5, 1938, 1, 4.

⁸⁴⁴ Ibid.; Interview with Donald Hazlett Regarding the CCC, FA81, Manuscripts & Folklife Archives, Western Kentucky University.

century, Fairy Grotto. Teams went in to try to dig their way to connect the passages but had to give up due to “bad air.”⁸⁴⁵ Surveys over the next year demonstrated the New Discovery passages to be under Lee Ridge, and thus not far from the Carmichael and Violet City Entrances the MCNPA had created in 1931.⁸⁴⁶

In June 1940 the CCC began work on drilling an entrance shaft into the new section, and completed the shaft that December.⁸⁴⁷ Superintendent Hoskins predicted it would be at least two years before the public would have access to the cave, but he was determined to have it shown. NPS officials planned technical studies for trails, exhibits, lighting, and the preservation of the delicate formations.⁸⁴⁸

New Discovery was the last turning point towards Mammoth Cave becoming a National Park. In July 1940 the NPS officially announced the discovery. Newspapers and magazines hailed Carl Hanson, Leo Hunt, Pete Hanson, and Claude Hunt, for their perseverance and toughness, and published the first images of the gypsum and formations.⁸⁴⁹ Not only could the gypsum be described as more beautiful and plentiful and pristine than that in Great Onyx or Crystal Caves, it was part of Mammoth Cave and

⁸⁴⁵ Interview with Shorty Coats Regarding the CCC, FA81, Manuscripts & Folklife Archives, Western Kentucky University; Chuck DeCroix, New Discovery Trip, August 7, 2012.

⁸⁴⁶ Lix, “Mammoth Cave’s Underground Wilderness,” 6.

⁸⁴⁷ National Park Service Master Plan, Mammoth Cave National Park, MACA 45056.

⁸⁴⁸ Whitaker, “Twenty Hours Underground,” 12; Superintendent’s Annual Report for Fiscal Year 1940, Mammoth Cave National Park Collections.

⁸⁴⁹ “Crawfish Hell Passageway to White Paradise,” *Louisville Courier-Journal*, Sunday Magazine, July 7, 1940, 1-2, 13; See also Whitaker, “Twenty Hours Underground,” 1-2, 11-12; Lix, “Mammoth Cave’s Underground Wilderness,” 1-6.

within the park boundaries, having been acquired when the MCNPA took control of the Mammoth Cave Estate. With the entrance shaft completed and the Civilian Conservation Corps continuing to work on building stairs down to the passages, Mammoth Cave would be able to welcome visitors looking for traditional cave beauty in the most pristine section of the cave. Great Onyx Cave and Crystal Cave were unnecessary for the park project. On December 3, 1940, Secretary of the Interior Harold Ickes signed the order excluding those caves from the park boundary.⁸⁵⁰

As NPS technicians began to study the possibilities for trails and infrastructure while protecting the cave's most precious assets, local officials started planning for a park. The NPS had mostly wrapped up condemnation cases and had finally gotten rid of all the squatters. Competition remained high with Great Onyx Cave, especially, whose solicitors were in full force along the roads from Cave City to Mammoth Cave. The solicitors, who had been a thorn in the side of visitors since before the national park legislation, stepped up their competitive spirit in the wake of the National Park Service control of the area.

Cave owners used uniforms to increase visibility and to lend an official air to the solicitors. The khaki uniforms, similar to law enforcement officers or (to those who had not experienced a national park) park rangers, lent credibility to the local men engaged in the pursuit of customers. Great Onyx Cave even embroidered "State Commission" on their solicitors' caps. Diamond Caverns solicitor Joe Duvall had on his grey uniform cap a badge that said "Official Cave Information."

⁸⁵⁰ Harold Ickes to Keen Johnson, December 3, 1940, MACA 35459.

Some solicitors stood on the roads at booths marked “Official Information” and watch for traffic to stop. According to Joe Duvall, it was easy to spot “tourist” cars because many states required license plates on the front and back of an automobile, but Kentucky did not.⁸⁵¹ When an out-of-state car drove near, solicitors would wave their caps to flag them down, earning them the nickname “cappers.” If cars did not stop, some solicitors pulled out notepads that looked like ticket-writing pads when viewed from a driver’s rearview mirror, which encouraged them to stop out of fear of running afoul of the law. A souvenir shop erected a sign informing drivers “no one has the right to stop you on this road,” much to the consternation of the NPS rangers attempting to enforce traffic laws.⁸⁵²

Park officials were also concerned about the guide force moving forward in the transition to national park status. For over a century, cave guides had been exploring Mammoth Cave and taking visitors through. As a way of garnering support for the park project, the Mammoth Cave National Park Association praised their bravery and love for the caves, but “they are not trained scientists, engineers, or geologists.”⁸⁵³ Only educated guides and explorers would be able to properly explore, map, and survey the caves. Park Service officials doubted the guides’ abilities, with one judging that the guides he met “were of the mountaineer type, of limited education, and lacking entirely in training for

⁸⁵¹ “An Interview with Joe Duvall,” 1998, Mammoth Cave National Park Vertical Files.

⁸⁵² Kem, *The Kentucky Cave Wars*, 237.

⁸⁵³ MCNPA Press Release, ca. November 1927, MSS 296, Box 2, Folder 5.

the *business* of handling tourists.”⁸⁵⁴ Local park officials informed the staff they would probably have to pass a civil service exam in order to be retained when the national park was created, but the superintendent reported to the director that “none of the guides think it possible or advisable to try to obtain this education as a means of qualifying for either this or future examinations.”⁸⁵⁵ In 1937 Mammoth Cave Hotel manager W. W. Thompson noted that “not many” of the guides would be able to qualify as guides with the Park Service, so they began training college students to serve as guides.⁸⁵⁶ Visitors had expectations of a professional, educated squad of guides when they visited national parks, and Mammoth Cave should be no different, it seemed.

On July 1, 1941, the National Park Service officially declared Mammoth Cave as the twenty-sixth national park. Two months later, the NPS “formally assumed complete administration” of the park by taking over the guide service. Superintendent Hoskins noted it was likely the first time the NPS had ever taken over a site “which was already a going concern, and without any changes in personnel.”⁸⁵⁷ The guides employed at Mammoth Cave had a combined service record of nearly 365 years.⁸⁵⁸ It would have been more, however, if not for some key retirements a few years prior. When Matt

⁸⁵⁴ Chief Auditor to Arno B. Cammerer, May 25, 1934, RG79, Box 1327. Emphasis in original.

⁸⁵⁵ Superintendent’s Monthly Report, October 1936, RG79, Box 1329.

⁸⁵⁶ W. W. Thompson to Mammoth Cave National Park Association Executive Committee, August 25, 1937, MSS 296, Box 12, Folder 4.

⁸⁵⁷ Superintendent’s Annual Report for Fiscal Year 1942, RG 79, Box 1328.

⁸⁵⁸ Joseph H. Mader, “It’s America’s Cave Now,”

Bransford, grandson of Mat Bransford, retired in 1937 after thirty-two years of guiding, he proclaimed:

All of my life my ambition has been centered around two things. One is my church and the other is Mammoth Cave. I have studied the cave. I have lived with it. It has been my life's work and I am proud of it.⁸⁵⁹

Although a celebratory newspaper article about the Bransfords predicted, “there will always be a Bransford in the cave,” Louis Bransford, also a grandson of Mat Bransford, was the last black guide at Mammoth Cave National Park for a generation when he retired in 1938.⁸⁶⁰ When Jerry Bransford became a guide at Mammoth Cave National Park in 2004, he was the first Bransford to guide since Louis retired. The guide force who first wore the National Park Service uniform at Mammoth Cave National Park, then, were the first all-white force since perhaps the Gatewood family in the immediate post-War of 1812 period.⁸⁶¹ Federal control of Mammoth Cave meant white control of

⁸⁵⁹ “Colored Man Starts His 32nd Year as Cave Guide,” *Park City* (Bowling Green, Ky.) *Daily News*, September 13, 1937, Western Kentucky University Special Collections Vertical Files.

⁸⁶⁰ “Bransford Family Has Century of Years in Cave Grinding,” [sic] *Kentucky Advocate* (Danville, Ky.), December 28, 1937, 1; Joy Medley Lyons, *Making their Mark: The Signature of Slavery at Mammoth Cave* (Fort Washington, PA: Eastern National, 2006), 61. According to Lyons, it was not until the 1970s that an African American guide led visitors as a seasonal guide at Mammoth Cave National Park (5).

⁸⁶¹ There is some debate as to whether the black guides at Mammoth Cave retired on their own volition, or if they were forced out by an unfriendly Park Service. Murray and Brucker in *Trapped!* assert that “When the government took full control in 1941, all of the blacks were ‘furloughed.’ Black natives, many of whom had already been removed from their own community and lands by the government takeover, hated the national park all the more for this discriminatory action,” (239). Joy Medley Lyons simply states that Louis Bransford “retired,” but gives no implication that he was forced out (*Making Their Mark*, 61). Louis Bransford had guided for more than twenty years by that time and may have been ready to retire. He had nephews who could have theoretically carried on the tradition, but it is unclear if that is because they were not allowed to or if they lacked interest in the guiding profession.

the cave at all levels—ownership, knowledge, and land use decisions of the entire national park area.

In the fifteen years it took to create Mammoth Cave National Park, cave country underwent a dramatic environmental transformation. Saplings planted by the Civilian Conservation Corps were sprouting where fields had stood. Homes, barns, and buildings of more than 500 families had been torn down, leaving only a few lonely chimneys as reminders of what had been. The small but significant African American community on Flint Ridge that was erased from guiding was also erased from the landscape. Three white churches and more than 75 cemeteries also attested to the communities that once called the Mammoth Cave area home. Almost all the caves were now united under the control of the NPS to be preserved for the enjoyment of future generations, and the main routes inside Mammoth Cave and New Entrance now had fresh, sturdy trails courtesy of the CCC.

The national park also standardized the ways visitors came to know the cave. The paths, although much safer, removed some of the adventure and strenuousness that had been one of the hallmarks of the Mammoth Cave experience of years past. Visitors no longer saw the cave based only on their guide's torches or lanterns, but soon viewed the cave using electric lights fixed on the same points of interest. The fixed routes meant that everyone visited the same places; there was no chance to explore or tip the guide to see something off the established route.

The national park also meant changes in exploration. Henry Lix, writing about the New Discovery, predicted that the guides “will continue the exploration of this underground wilderness...they will look for a new crawlway that will perhaps lead into

an even bigger 'New Discovery'...” because “caving is in their blood.”⁸⁶² Under the NPS control, exploration of Mammoth Cave was now off limits.⁸⁶³ Cave exploration presented a lot of risks, but also there was so much of Mammoth Cave to show to visitors that it seemed to National Park Service officials to be unnecessary. New Discovery, then, was last major find of the cave guides. The excluded caves in the post-park era would ironically become more important sites of exploration than the national park in the wake of this decision.

World War II intervened in Mammoth Cave National Park’s continued development. Shortly after the attack on Pearl Harbor, the Civilian Conservation Corps closed all four camps at Mammoth Cave. In July 1942 the final enrollees left, many of them exchanging their shovels for rifles to fight overseas.⁸⁶⁴ The destruction of war helped the preservation of the New Discovery, however. With the CCC gone and a nation sacrificing for the war, work on the trails in New Discovery ended with the hope of opening it at war’s end. Several miles in from the manmade entrance to New Discovery, the CCC’s dirt trail ends and the cave passage continues in a semi-natural state. Pete Hanson, one of the discoverers of the pristine area, died in the Aleutian Islands in June 1943. Co-discoverer Claude Hunt was fired due to budget restrictions in the wartime economy.⁸⁶⁵ The war also postponed a dedication ceremony for the park.

⁸⁶² Lix, “Mammoth Cave’s Underground Wilderness,” 6.

⁸⁶³ Murray and Brucker, *Trapped!*, 241.

⁸⁶⁴ Jeanne Schmitzer, “Camp 510,” 463.

⁸⁶⁵ Superintendent’s Annual Report for Fiscal Year 1943, RG79, Box 1328.

Twenty years after President Calvin Coolidge signed the legislation to create it, Mammoth Cave National Park was finally a reality. On September 18, 1946, officials from the Mammoth Cave National Park Association, Kentucky National Park Commission, National Park Service, and from around the state officially dedicated Mammoth Cave National Park to the nation. By that time many of the key figures in the park creation were not there to see it. M. M. Logan, L. P. Edwards, George Morrison, Huston Quin, and Arno Cammerer all died before the park's dedication.

The creation of the national park was spurred by the competing knowledge of caves during the Cave Wars, and the process of converting private lands into a national park depended in many ways on the local knowledge of both the land and the people. The lack of knowledge about the cave area residents, particularly in Edmonson County, on behalf of Louisville- and Bowling Green-based park proponents stirred local opposition to the park project and served as a major obstacle for the conservation effort. The incoming of federal agencies such as the Civilian Conservation Corps and the National Park Service sped up the transfer of land and transformation of the land and marked a watershed moment in the use of land and knowledge in cave country. They also created new opportunities for discovery and exploration that proved vital to the park-making process. The creation of the national park at Mammoth Cave was a step towards conservation, but as cave lovers challenged the rules of exploration in pursuit of knowledge of Mammoth Cave, new questions arose as to how Mammoth Cave National Park would try to meet the conflicting demands of the NPS mandate for preservation and use.

CHAPTER VII.
EXPANDING KNOWLEDGE: MAMMOTH CAVE NATIONAL PARK,
UNDERGROUND WILDERNESS, AND THE LIMITS OF
PRESERVATION, 1946-1974

On September 9, 1972, a team of cave explorers, five men and one woman, entered a man-made entrance into the Flint Ridge Cave System within Mammoth Cave National Park. They carried with them food, extra light sources, cave surveying equipment, and the weight of thousands of hours that had been dedicated to the task of linking the world's longest cave, the 86.5-mile Flint Ridge Cave System, to perhaps the world's most famous cave, Mammoth Cave. They passed somewhat swiftly through obstacles that had bruised and abused their predecessors – Agony Avenue, the Chest Compressor, and the Tight Spot – on their way to an underground waterway discovered a week earlier by another caving party.

The team's optimism that the freshly dubbed Hanson's Lost River (after Pete Hanson, co-discoverer of New Discovery, and whose initials still appeared in dried mud near the passage) would furnish the long-sought connection between the cave systems briefly faded when expedition leader John Wilcox found himself chest-deep in fifty-four-degree-Fahrenheit water down a passage with only twelve inches of breathing room between the downward-angled ceiling and the water level. This kind of caving could be dangerous; cavers who went to into such water could drown if a flash flood raised the

rivers or if they stayed in too long and hypothermia set in. Despite the risks, Wilcox forged on. The rocky ceiling began to rise up until Wilcox could no longer see it in his carbide light. The walls of the cave passage opened into a room. Across the chamber Wilcox set eyes on a horizontal formation—a handrail to an old tourist trail in Mammoth Cave. Fourteen hours after they entered the Austin Entrance and crawled, climbed, and squeezed their way through the Flint Ridge Cave System, the caving team left through the freight elevator that serviced the underground Snowball Dining Room of Mammoth Cave—or as it would soon be known, the Flint-Mammoth Cave System.⁸⁶⁶

The connection came at a crucial moment in Mammoth Cave National Park history. In 1964 Congress passed the Wilderness Act to protect those “untrammeled” natural places “where man himself is a visitor who does not remain.”⁸⁶⁷ According to the law, national parks had to study their lands and determine within ten years if they had areas that could be further protected in the newly created National Wilderness Preservation System. While most wilderness advocates across the nation looked merely at the surface, this Kentucky battle for wilderness was unique in that proponents like the Cave Research Foundation (CRF) wanted to create *underground* wilderness in addition to surface wilderness. Cavers and environmentalists hoped the connection would aid their endeavor in that pursuit.

At the same time, Mammoth Cave National Park officials were struggling with preserving park resources while also supporting massive visitation. Limited development

⁸⁶⁶ Brucker and Watson, *The Longest Cave*, 230-248.

⁸⁶⁷ Wilderness Act of 1964, Pub. L. No. 88-577, 78 Stat. 890 (1964) [Hereinafter Wilderness Act of 1964].

in the 1930s of visitor facilities such as campgrounds and restrooms were out of date in the postwar era. Vocal local communities spoke out against the perceived “neglect” of Mammoth Cave’s development, particularly as they became involved in park planning in the 1960s and 1970s. South central Kentuckians in the orbit of Mammoth Cave, with the support of their Congressman, William Natcher, fought against anything the National Park Service might do to limit their use of the park and its amenities. Also in 1964 Congress passed the Economic Opportunity Act, which created the Job Corps program as part of President Lyndon Johnson’s War on Poverty. One such Job Corps camp was located at Mammoth Cave. The wilderness debate that ensued at Mammoth Cave National Park pitted a group of mostly white environmentalists and cave advocates against a program designed to help disadvantaged youths, a significant number of whom were African American.

The three-way debate between environmental advocates, government officials with the National Park Service, and local people in south central Kentucky over wilderness at Mammoth Cave raises new lines of inquiry in environmental history about the meaning of wilderness in a distinctive historical context. Questions of wilderness designation at each national park site invited more discussion in the half-century debates about preservation and development at national park sites, but those at Mammoth Cave were unique because of the specific applications of the Wilderness Act to include subsurface wilderness.⁸⁶⁸ The attempt to apply the protections of the Wilderness Act at

⁸⁶⁸ The origins of this debate date to the 1916 creation of the National Park Service. The Organic Act, as it is known in the NPS, charges the agency to “conserve the scenery and the natural historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired

the park, whether on the surface or underground, and the ensuing fight also brought to the fore the question of what having a national park meant to the Kentuckians who lived nearby and those who had helped bring it into existence.

Historians have been unafraid to tackle questions about wilderness and what it has meant over time. Roderick Nash's pioneering work, *Wilderness and the American Mind*, posited wilderness as an intellectual and cultural construct ranging from something abundant to fear to something scarce to be appreciated.⁸⁶⁹ William Cronon found a troubling connotation in the concept of wilderness, because it "embodies a dualistic vision in which the human is entirely outside the natural."⁸⁷⁰ Paul Sutter argued that the rise of automobiles in parks in the early twentieth century launched the 1935 creation of The Wilderness Society, which advocated for special governmental preserves of "large expanses of roadless and otherwise undeveloped nature."⁸⁷¹

Official recognition of the Park Service's mission of preservation changed as the New Deal brought unprecedented development in national parks, soon overrun by hordes

for the enjoyment of future generations" (Pub. L. No. 64-235, 39 Stat. 535 [1916]). The Park Service's attempts at (sometimes) balancing the amount of development within those parks that is necessary for the enjoyment of the people, with the necessary preservation of the natural, cultural, and historical features of the parks has been explored in a number of works, including Louter, *Windshield Wilderness*; Miles, *Wilderness in National Parks*; Ethan Carr, *Mission 66*; Carr, *Wilderness by Design*; Sutter, *Driven Wild*; Brown, *The Wild East*; Robin W. Winks, "The National Park Service Act of 1916: 'A Contradictory Mandate?'" *Denver University Law Review* 74 (1997): 575-623.

⁸⁶⁹ Roderick Frazier Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1967).

⁸⁷⁰ William Cronon, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W. W. Norton & Co., 1995), 80.

⁸⁷¹ Sutter, *Driven Wild*, 6.

of postwar families.⁸⁷² Free of “the barriers of privilege and discomfort” that had discouraged potential visitors in the early twentieth century, families came to the parks “in a flurry of automobile and highway promotion.”⁸⁷³ When the Park Service began planning its response to the flood of visitors, a new construction program, “Mission 66” (so named for the 50th anniversary of the NPS in 1966), the Wilderness Society, National Parks Association (now known as the National Parks and Conservation Association), and the Sierra Club ramped up their campaigns for wilderness preservation in the midst of massive building projects such as dams, roads, and bridges in wild places by the Park Service, the Bureau of Reclamation, the Army Corps of Engineers, and the Forest Service. Mark Harvey’s biography of Howard Zahniser, who tirelessly advocated for such a bill directing the federal government to establish a national wilderness preservation system, culminating in the Wilderness Act of 1964, shows how even a wilderness supporter’s ideas about wilderness could change over time. For Zahniser, wilderness went from being “lands deemed valuable for their primitive condition,” into places that “might heal” with better land management that “foster[ed] a green land, clear water, and biological diversity.”⁸⁷⁴ Translating ideas of wilderness into national legislation protecting it requires specificity. Section 2(c) of the Wilderness Act of 1964 defines wilderness as

an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of

⁸⁷² See Maher, *Nature’s New Deal*; Gregg, *Managing the Mountains*; Brown, *The Wild East*; or Carr, *Mission 66*.

⁸⁷³ Runte, *The National Parks*, 172.

⁸⁷⁴ Harvey, *Wilderness Forever*, 4-5.

wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.⁸⁷⁵

Wilderness historians and historians of national parks and the National Park Service, have focused on the surface.⁸⁷⁶ The most significant work to analyze the concept of underground wilderness, is in fact the work of a forest resources science Ph.D., Patricia E. Seiser.⁸⁷⁷ Their insights are valuable, but none fit the story of Mammoth Cave within the broader context of national park history and the environmental movement, and few mention the wilderness struggle at the park. Examining how knowledge of Mammoth Cave's extent and the ecological relation between the surface and the subsurface affected the movement for cave wilderness will probe the meanings of the Wilderness Act and the limits of park preservation.

On September 19, 1946, a collection of high-profile Kentucky officials and average citizens gathered to dedicate the twenty-sixth national park, Mammoth Cave. The dedication ceremony capped a fifteen-year battle to create the park that began in 1926

⁸⁷⁵ Wilderness Act of 1964.

⁸⁷⁶ See Runte, *National Parks*; Carr, *Wilderness by Design*; Carr, *Mission 66*; Richard West Sellars, *Preserving Nature in the National Parks: A History* (New Haven: Yale University Press, 1997); Brown, *The Wild East*; Louter, *Windshield Wilderness*; McNally, *The Everglades*, Davis, *An Everglades Providence*.

⁸⁷⁷ Patricia E. Seiser, "Dark Wilderness: A Phenomenological Exploration of the Idea of Cave Wilderness," (Ph.D. diss., West Virginia University, 2003).

and ended with the federal government's official acceptance of the park lands five years earlier.⁸⁷⁸ The dedication, however, was less an end than a beginning. Congressman Earle C. Clements predicted the start of a new stream of tourist dollars that would flow into Kentucky "when on these grounds will be found hotel, cottage, and cabin accommodations to care for our ever-increasing stream of visitors...and also adequate recreational facilities to entertain, to amuse, and encourage return visits."⁸⁷⁹ The celebratory remarks from each official, including Senator Alben Barkley and the Secretary of the Interior, hailed a turning point in Kentucky's economic and natural future. The ceremonies also signaled Mammoth Cave's transformation from private attraction to a federal property, and not only that, but into a bureaucracy that emphasized development of recreational and natural resources.

Not all development projects in national parks were welcome, however. During the 1950s, the federal government engaged in a building spree of interstate highways, dams, and bridges, in addition to the visitor centers, restrooms, and roads in national parks. The Eisenhower interstates connected the nation and spurred the suburbanization of postwar America, but the construction of the Tioga Road in Yosemite National Park signaled a divide between older generations of conservationist Sierra Club members and younger, "purist" advocates.⁸⁸⁰ Army Corps of Engineers and Bureau of Reclamation

⁸⁷⁸ The Secretary of the Interior officially accepted the land that made up Mammoth Cave National Park in 1941, and park officials began planning dedication ceremonies for later that year; after the attack on Pearl Harbor and the United States' entry into World War II, officials delayed dedication ceremonies.

⁸⁷⁹ Earle C. Clements, "Dedication of Mammoth Cave National Park," September 18, 1946; RG 79.

⁸⁸⁰ Carr, *Mission 66*, 277-288, 281.

dams promised flood control, hydroelectric power, and irrigation. The proposal for a dam at Echo Park in Dinosaur National Monument ignited a backlash against the Corps of Engineers and other dam builders who threatened the sanctity of national parks.⁸⁸¹

These threats were not isolated to the western parks. One of the first tests for the preservation of Mammoth Cave occurred just as the park was beginning the transformation into federal control. A proposed Army Corps of Engineers flood control dam authorized in 1937 to be built on the Green River at Mining City, Kentucky, and which would have backed up the underground rivers of Mammoth Cave, met with a vocal opposition of national park groups such as the National Parks Association, as well as local Kentuckians.⁸⁸² In the late 1940s Congress began to appropriate funds to build the system of flood control dams in the Ohio River basin, including the Green River. Quick action on behalf of these national preservation organizations, the National Park Service, Department of the Interior, a local development organization, the Green River Valley Citizens League, and concerned individuals persuaded Congress to exempt the Mining City Dam from construction funds “if such construction would have any adverse effect on Mammoth Cave National Park.”⁸⁸³ This early battle to protect Mammoth Cave

⁸⁸¹ The best treatment of the Echo Park controversy is Harvey, *A Symbol of Wilderness*.

⁸⁸² Even though the National Parks Association (NPA) had opposed the way Mammoth Cave entered the national park system and feared that it set a dangerous precedent for park creation, once Mammoth Cave *was* a national park, the NPA was going to fight for its protection just as it would for one of the larger parks like Yosemite or Yellowstone.

⁸⁸³ River and Harbor Act of 1950, Pub. L. No. 81-516, 64 Stat. 163 (1950); Helen Barter Crocker, *The Green River of Kentucky* (Lexington: The University Press of Kentucky, 1976), 74.

demonstrated that even pro-development groups could show restraint in the name of protecting another economic asset, tourist dollars from a new national park.

Tourist dollars to local communities around Mammoth Cave, as promised by the MCNPA, arrived in a deluge. Indeed, the new national park would inaugurate a boom in postwar travel as returning veterans and their growing families packed national and state parks. As American families flooded the highways and vacation spots, questions of resource protection emerged from conservation groups new and old, such as the Wilderness Society, the Sierra Club, and the National Speleological Society (NSS).⁸⁸⁴ What were parks supposed to protect: visitor experiences, or the natural and cultural resources? And how were they to balance these concerns?

In preparation for the National Park Service's fiftieth anniversary, the agency adopted a ten-year plan in 1956 dubbed "Mission 66" that was intended to better the visitor experience by upgrading and updating park infrastructures and facilities, such as new roads, visitor centers, and restrooms.⁸⁸⁵ At Mammoth Cave, Mission 66 meant the construction of a new entrance road, a new hotel facility, a new \$600,000 visitor center, a new 400-car parking lot, new campsites, hiking trails, and the possibility of new cave tours.⁸⁸⁶

⁸⁸⁴ The National Speleological Society grew out of the Speleological Society of the District of Columbia, established in 1939. The national organization, created in 1941, sought to unite people interested in caves and spelunking (later termed caving to distinguish those who were trained in techniques and safety against those who do not. (Bulletin of the Speleological Society of the District of Columbia, 1 (June 1940): 2; Seiser, "Dark Wilderness," 30.).

⁸⁸⁵ Sellars, *Preserving Nature in the National Parks*, 183.

⁸⁸⁶ "Cave Purchases, Improvements Herald Bright Future for Mammoth Cave Park," *Park City Daily News* (Bowling Green, KY), March 12, 1961.

Wirth and other Park Service officials saw development as a form of preservation. Budding groups of concerned citizens began to believe more and more that the National Park Service could not truly preserve its natural resources without knowing as much about those features as possible. Preservation of Mammoth Cave ultimately rested upon knowledge of the cave's extent and its relationship to the surface where most of this development was taking place. Up to the 1950s, cave exploration in Kentucky had been limited to those who owned land over caves, and the stiff competition between show caves encouraged a culture of secrecy as to a cave's extent. If a cave passage extended under property lines, the operator of the cave had to purchase or lease cave rights from the neighboring landowner. Two landmark property law cases that emerged from Great Onyx Cave on Flint Ridge, enshrined these principles.⁸⁸⁷ That could spell trouble for Mammoth's privately-owned neighbor, the Floyd Collins Crystal Cave: the Park Service might prevent exploration if the subterranean passage extended below the national park boundary. Alternatively, it could mean an increased purchase price should the National Park Service ever seek to buy the property and be free of private inholdings.⁸⁸⁸

The managers of Crystal Cave anticipated a public takeover of their cave after the owner, Dr. Harry Thomas, died in 1948. In February 1954 the managers hosted a systematic mapping expedition sponsored by the National Speleological Society. The C-3 Expedition, as it came to be known (Collins' Crystal Cave), brought sixty-four cavers to Flint Ridge for a week of surveying and exploration, resulting in the documentation of

⁸⁸⁷ Ziff, "The Great Onyx Cases."

⁸⁸⁸ Brucker and Watson, *The Longest Cave*, 37.

nearly three miles of passages.⁸⁸⁹ At the end of the week, the expedition leaders learned less about the cave but more about the dos and don'ts of exploration and surveying. From the C-3 Expedition and others on Flint Ridge emerged a new research organization dedicated not to "the sportsman who wished to explore caves purely for the sport of it," or "the layman who wishes to make cave study a hobby," as the NSS had been founded, but to the systematic exploration and protection of the Flint Ridge Cave System.⁸⁹⁰ To be sure, the Cave Research Foundation (CRF), incorporated in 1957, was interested in cave biology, hydrology, and geology, but its primary function was cartography. As former CRF presidents Roger Brucker and Richard "Red" Watson, explained, "maps are the necessary base of all other cave research."⁸⁹¹ While they did not find a connection under the national park land in time to raise Crystal Cave's purchase price by March 1961, the CRF succeeded in arranging an agreement with the Park Service to continue exploration and mapping of the Flint Ridge System and share that knowledge with the park officials to make best management decisions.⁸⁹²

The CRF also shared their opinion as to what to do with the newly acquired caves to ensure their protection. In a May 1961 report Cave Research Foundation president Philip M. Smith addressed several issues facing the National Park Service going forward with the new acquisitions. Smith suggested the National Park Service had a "unique

⁸⁸⁹ Brucker and Watson, *The Longest Cave*, 37.

⁸⁹⁰ Bulletin of the Speleological Society of the District of Columbia, 1 (June 1940): 2; Brucker and Watson, *The Longest Cave*, 83-84.

⁸⁹¹ Watson and Brucker, *The Longest Cave*, 83.

⁸⁹² Lawrence and Brucker, *The Caves Beyond*, xvi.

opportunity” with the new caves of Flint Ridge, built on the exploration by the National Speleological Society and CRF in the previous decade, but the “still unknown limits of the caverns” of Flint Ridge had “special value as a subterranean wilderness.”⁸⁹³

Howard Zahniser and The Wilderness Society were fighting in Washington to persuade Congress to create a special designation for wild lands “untrammelled by man.”⁸⁹⁴ *Underground* wilderness, however, seemed to be an entirely new concept. According to Smith, though, caves in the national park system—especially the Flint Ridge system—represented the last and “only...cavern wilderness areas.”⁸⁹⁵ He cautioned against the rising visitation from amateur spelunkers loving cave resources to death, as had happened in other outdoor pursuits along seashores, forests, mountains, and rivers. Smith and the CRF did not specify how to preserve the wilderness of Flint Ridge’s subsurface labyrinth, except to suggest that “the surface...must be treated as a part of the wilderness environment.”⁸⁹⁶

More than that, though, Smith and the CRF urged that the Flint Ridge caves be treated as wilderness areas, with severe restrictions on visitation. Consequently, Smith argued that the Great Onyx Cave and Floyd Collins’ Crystal Cave should not be opened to ease congestion from overeager crowds at Mammoth Cave. Park officials at Mammoth Cave did not open the caves for tours, but neither did they implement any special

⁸⁹³ Philip M. Smith, “The Flint Ridge Cave System: A Wilderness Opportunity,” (May 1961): 1, 3; Cave Research Foundation Archives (hereinafter CRF Archives), Hamilton Valley Research Center, Mammoth Cave, Kentucky.

⁸⁹⁴ See Harvey, *Wilderness Forever*.

⁸⁹⁵ Smith, “The Flint Ridge Cave System: A Wilderness Opportunity,” 4.

⁸⁹⁶ *Ibid.*, 13.

wilderness preservation, either. In the coming years, however, Flint Ridge became a battleground for wilderness designation against a plan of socioeconomic and park development.

In 1964 Congress passed two pieces of legislation that brought the battle to bear: the Economic Opportunity Act and the Wilderness Act. On August 20, 1964, President Lyndon Johnson signed the Economic Opportunity Act, which created the Job Corps program. As part of the War on Poverty, the law created job centers in both rural and urban areas to train young men and women in a variety of skills and trades. Carrying out the program with high expectations encouraged administrators to work quickly to identify potential locations and establish centers. Even before the bill's signing, the National Park Service Job Corps Coordinator admitted that the setup was "moving extremely fast," and encouraged regional directors to "be prepared to take the necessary actions to get the show on the road on schedule."⁸⁹⁷ Two weeks later Johnson signed the Wilderness Act into law. Unlike the rushed pace of the Economic Opportunity Act, national parks and forests had ten years to study their holdings for areas that qualified for special protection in the National Wilderness Preservation System.

In January 1965 the Department of the Interior recommended Mammoth Cave National Park to be the home of the Great Onyx Job Corps Conservation Center, one of the first fourteen camps to be administered by the National Park Service.⁸⁹⁸ Civilians and administrators alike held high hopes for the conservation centers. Recalling the halcyon

⁸⁹⁷ L. F. Cook, Job Corps Coordinator of the National Park Service, to Regional Directors, August 14, 1964; D22 Great Onyx, 1964-1965 (Mammoth Cave National Park); Administrative Records of the Job Corps Program, 1962-1969 (ARJCP), RG 79.

⁸⁹⁸ Meeting with Messers O. Coyote & Hoft, January 19, 1965; ARJCP; RG 79.

days of the Civilian Conservation Corps, a Georgia woman wrote to her Senator, Richard Russell, extolling the virtues of outdoor work:

In the national forest land are thousands of beautiful waterfalls, rivers, streams, mountains, that only need hiking trails, campsites, for thousands of city boys to develop [sic] muscles, appetites, to help build leaders of tomorrow, a chance to escape for a few days from the shadows of detention homes and [crowded] streets and city apartments—tenements of today’s cities...⁸⁹⁹

Wilson was not alone. Secretary of the Interior Stewart Udall echoed the beliefs of many bureaucrats who believed that the Job Corps camps in the parks “could do again, maybe more successfully, what Roosevelt did with the CCC camps.”⁹⁰⁰ Bringing “these urban kids and ghetto kids and deprived kids” into nature work, as Udall and others suggested, would be “one of the most successful parts of the program” because they could work with their hands and build something.⁹⁰¹

At Mammoth Cave National Park, the Great Onyx Job Corps Conservation Center further mimicked the New Deal program when they took up residence on one of the CCC camps on Flint Ridge.⁹⁰² Park officials extolled possible projects that would continue on a different scale those improvements from the Mission 66 program, which would be ending the following year. The Great Onyx Job Corps could improve hiking, boating, camping,

⁸⁹⁹ Mrs. Ezra Wilson to Richard B. Russell, undated; ARJCP; RG 79.

⁹⁰⁰ Transcript, Stewart Udall Oral History Interview I, April 18, 1969, by Joe B. Frantz, 22, LBJ Library, accessed October 11, 2015, <http://www.lbjlib.utexas.edu/johnson/archives.hom/oralhistory.hom/udall/udall01.pdf>.

⁹⁰¹ Ibid., 23.

⁹⁰² Tom Duncan, “New Job Camp Echoes of CCC,” *Louisville Courier-Journal*, June 17, 1965.

and sightseeing opportunities for visitors.⁹⁰³ Managers also planned for the camp to complete the park cleanup work left behind when the CCC boys put down their shovels and picked up rifles to fight in World War II. Part of the Civilian Conservation Corps' job in the 1930s was to tear down the signs that the park lands had been privately owned—homes, barns, and outbuildings—and replace cleared or eroded fields with forests. The work of the

obliteration of ruined buildings, old camps, fences, washed-out roads, and junk accumulated through 150 years of settlement...[was] necessary to restore the natural character of the park and remove eyesores to visitors and eliminate hazards to wildlife such as old barbed-wire fences and caved-in walks.⁹⁰⁴

By June 1965 the Great Onyx Job Corps Conservation Center was sufficiently developed to receive the first 100 enrollees; the camp doubled in size by October.⁹⁰⁵ Due to the hurried nature of getting everything set up, however, many buildings initially were not connected to utilities, including electricity, water lines, and a sewage system.⁹⁰⁶ The sewage disposal was to take place through a stabilization lagoon constructed over a karst landscape full of sinkholes and crevices leading to cave passages below the surface. This poor planning provoked cavers and conservationists to act on a passion for protection that had been simmering for some time.

⁹⁰³ *Park City Daily News* (Bowling Green, KY), June 16, 1965.

⁹⁰⁴ Profile of Great Onyx Job Corps Conservation Center, circa 1965; ARJCP; RG 79.

⁹⁰⁵ "Great Onyx Job Corps Dedication Set for Nov. 6," *Park City Daily News* (Bowling Green, KY), October 25, 1965.

⁹⁰⁶ Report of Sanitary Engineer Consultant, June 8, 1965; ARJCP; RG 79.

Since its inception in 1941, the National Speleological Society became increasingly concerned with cave protection. In 1960, concerns about amateur cavers (spelunkers) or vandals damaging cave resources spurred the National Speleological Society to outline a policy for cave conservation. The NSS placed the burden of cave conservation on the individual, encouraging preservation through the self-discipline of those entering and researching caves. The policy stressed that “all contents of a cave, including formations, life, and loose deposits are significant,” and that cavers should leave no trace as to their visit, removing any trash or waste, not damaging formations, and employing removable markers for surveys.⁹⁰⁷ Furthermore, the society took an active approach towards the protection of caves in supporting “cave preserves...entrance gates where appropriate; opposing the sale of speleothems...cleaning and restoring overused caves” and protecting caves from vandalism by keeping their locations unpublished until adequate protection could be put in place.⁹⁰⁸ Similar to the private owners of Mammoth Cave in the nineteenth and early twentieth centuries, the NSS sought to keep valuable information secret, although their intentions were remarkably different. While the private interests pursued secrecy as a protection of their investments in exploiting the caves for tourism, the NSS strove to protect the caves and cave life. The speleologists did not lay out many details as to who might establish cave preserves, or even how they might be established.

⁹⁰⁷ “NSS Policy for Cave Conservation, Approved December 28, 1960,” *National Speleological Society*, accessed October 18, 2015, <http://caves.org/section/ccms/conspol.htm>.

⁹⁰⁸ Ibid.

The Cave Research Foundation's 1961 report, "The Flint Ridge Cave System: A Wilderness Opportunity" likewise left few clues as to the establishment of underground wilderness, and largely fell on the deaf ears of Park Service officials. Similarly, the NPS looked upon the bill that would become the Wilderness Act "very cold," but by 1964 was "somewhat neutral," as an early member of the Mission 66 Committee recalled.⁹⁰⁹ The Wilderness Act's preservation requirements did not square with the Service's historic enthusiasm for park development pioneered by early directors Stephen T. Mather and Horace Albright.⁹¹⁰ As historian Richard West Sellars argued, the NPS was less concerned with its preservation mandate from its 1916 Organic Act than with its commitment "to another principle: to ensure public enjoyment of the parks."⁹¹¹

Still, the Wilderness Act required parks to at least study the possibilities within their boundaries. This prompted Mammoth Cave officials to revise the park's Master Plan, the document to guide park planning and management efforts for the foreseeable future. Although the Master Plan, the Wilderness Act provisions, and the Job Corps camp were three separate considerations, they blended together into a nearly ten-year fight over how to best preserve what would become known in 1969, as the world's longest cave system—the Flint Ridge Cave System—and the Mammoth Cave itself.

In December 1966 trouble first emerged below the surface when in just over a year of use, the Job Corps's sewage lagoon began to leak "sludge cakes, raw sewage, and

⁹⁰⁹ Sellars, *Preserving Nature in the National Parks*, 193.

⁹¹⁰ *Ibid.*, 194, 202.

⁹¹¹ *Ibid.*, 193.

undissolved solids" into the Flint Ridge Cave System.⁹¹² A November 25, 1966, inspection of the Great Onyx camp included an examination of the sewage lagoon. On the surface, everything appeared to be in order. Joe E. Moyers, the Deputy Director of Works, observed the fence to be in good repair and noted that vegetation in the lagoon was mowed or removed whenever warranted, and corpsmen broke up the debris that blew into the lagoon to make it sink to the bottom of the reservoir, in accord with standard maintenance procedures. The inspection did not, however, make note of any leaks, spill, or problems with the lagoon's functionality within the karst landscape on Flint Ridge.⁹¹³

Two weeks after the Job Corps's inspection the National Speleological Society and the Cave Research Foundation alerted park officials to the dangers the camp posed to the cave system. The NSS charged that the groundwater pollution was just the beginning. The Great Onyx Job Corps camp was "alter[ing] the balance of natural processes which constitute the total environment of Flint Ridge."⁹¹⁴ In short, the corpsmen's activities on the surface, including the use of bulldozers on the park land and the use of a water collection system that "changed the normal flow of ground water in the caves," were in violation of the preservation principles behind the 1916 National Park Service Organic

⁹¹² Philip M. Smith, "Some Problems and Opportunities at Mammoth Cave National Park," *National Parks Magazine* 41 (February 1967): 17; "Job Corps Camp Vexes Explorers," *New York Times*, December 11, 1966.

⁹¹³ Inspection Report of Great Onyx Job Corps Conservation Center, November 25, 1966; ARJCP; RG 79.

⁹¹⁴ *Ibid.*

Act and the act creating Mammoth Cave National Park. According to the NSS and CRF, the only solution was to move the camp from the boundaries of this protected area.⁹¹⁵

For their part, park officials seemed to take the pollution issue seriously. The park's chief of maintenance, Edwin Kenner, pledged that he was acting on "eliminating the sewage problem...we are right on that." That was about as far as a critical stance that the park would take on the Job Corps. The Great Onyx trainees were also providing critical development work at the park, clearing out underbrush for fire prevention, building hiking trails, and improving visitors' experiences with better cave trails, picnic areas, and campgrounds. In Kenner's view, there was "no need to move the camp."⁹¹⁶ To those unfamiliar with the cave system, it might have appeared that the speleo-enthusiasts were only concerned about their underground playgrounds and did not care about poor urban dropouts seeking to better themselves through the educational and vocational training available to them through a War on Poverty program. Problems with discipline at the Great Onyx camp and across the country began to paint the Job Corps in a more negative light, however.

In August 1965 four African-American enrollees from the Great Onyx Job Corps were accused of damaging cars in nearby, mostly-white Bowling Green, Kentucky. The young men involved had apparently been at a dance and attacked by white teenagers. To defend themselves, the Job Corps students threw rocks at a growing mob, which dented some metal and broke a rear window. The Bowling Green police were more suspicious of the damaged property than the threat to the health and safety of young black men who

⁹¹⁵ Ibid.

⁹¹⁶ Ibid.

had been drinking illegally. Local news media were quick to judge the Corpsmen until the Park officials came to their defense by telling a more complete story, forcing the media to add context to the incident.⁹¹⁷

That goodwill was drowned out by a riot at the Camp Breckinridge Job Corps center in Morganfield, Kentucky, a few weeks later. An apparent protest at the lack of hiring local African Americans as counselors at the camp, which included an appearance by comedian and activist Dick Gregory, attracted the interest of the Federal Bureau of Investigation. The FBI saw the civil rights activities of the counselors as being one cause to the riot, although many locals blamed the trainees alone.⁹¹⁸ The Camp Breckinridge and Great Onyx incidents were symptomatic of problems nationwide, which earned the scrutiny of Congress.

In September 1966 the national Job Corps program came under question when several congressmen accused the program of waste and corruption. In regards to extending funding to War on Poverty programs, Republican congressman Paul Fino of New York, who had initially supported the programs, charged that the Job Corps and the War on Poverty had “let America down,” especially the poor. Fino elaborated to his fellow congressmen a series of abuses of public funds (including financial support to an

⁹¹⁷ Memo from Great Onyx Job Corps Conservation Center to Director, Job Corps Conservation Center, Office of Economic Opportunity, August 12, 1965; ARJCP; RG 79.

⁹¹⁸ “Riot Probe Centers on Rights Activity of Staff,” *Chicago Tribune*, August 24, 1965.

organization that sponsored “a secret black nationalist arsenal full of rifles, shotguns, cross bows, and meat cleavers”) while “the poor have been neglected and ignored.”⁹¹⁹

Kentucky’s Carl Perkins, among others, stood up for the Job Corps specifically and the War on Poverty in general, for helping the impoverished sections of his state, especially the mountain country of eastern Kentucky. Perkins hailed the four Job Corps centers in Kentucky, which had had been responsible for fighting forest fires, clearing some land while planting trees in others, and constructing or restoring nearly 200 structures. Perkins saw the Job Corps and “special programs to combat poverty in rural areas” as solving problems of poverty and unemployment.⁹²⁰ A majority of Congressmen agreed with Perkins’ assessment, and President Lyndon Johnson signed the funding extension that November. Great Onyx Job Corps operated with less negative publicity than before the Bowling Green incident until the sewage leak in December 1966.

Entering 1967, pollution into Flint Ridge was just one challenge facing Mammoth Cave National Park. Increased visitation, crowded facilities, and the relationship between the park and the surrounding communities, and managing natural resources confronted officials, conservationists, and civic organizations.⁹²¹ Each had different ideas as to how to approach park management. Civic groups in nearby towns Cave City, Bowling Green, and Glasgow, pressed for increased development of park amenities and tours. Park managers were pressed to try to strike a balance between preservation and development.

⁹¹⁹ 89 Cong. Rec. 23975 (daily ed. September 27, 1966) (Remarks of Representative Paul Fino of New York).

⁹²⁰ Ibid., 23973-23974.

⁹²¹ Smith, “Some Problems and Opportunities at Mammoth Cave National Park,” 14.

The NSS and CRF believed a wilderness approach and taking environmental realities into consideration in terms of planning.

In February 1967 Cave Research Foundation cofounder Philip M. Smith declared in an editorial that "we know more about the park, its interesting surface features and vast system of caves," than could have been known when the park was first established.⁹²²

This knowledge came largely from the CRF's own work in the Flint Ridge Cave System.

Returning to the Job Corps issue, Smith noted a failure of managers to take environmental factors into planning. An adequate sewage settlement basin could have worked, had it not been used in "a wooded karst area of relatively high rainfall."⁹²³

Furthermore, hydrological studies conducted by CRF cofounder Roger Brucker demonstrated that the Flint Ridge area could not "supply the long term future water needs" for the park.⁹²⁴ Brucker sent this report to park officials three years before discussions for the Job Corps camp even began, but when the time came to build the center the park tapped into the Flint Ridge water supply. By the time of Smith's editorial, this poor planning had "slashed and scarred" the terrain and pushed the limited water network to the limits.⁹²⁵ Ironically, the wilderness approach to the trammeled land was the solution.

⁹²² Ibid.

⁹²³ Ibid., 17.

⁹²⁴ *Fourth Annual Report to the National Park Service, Cave Research Foundation, December 31, 1962*, 9.

⁹²⁵ Smith, "Some Problems and Opportunities at Mammoth Cave National Park," 17.

Later that year, Richard Watson, the new president of the Cave Research Foundation, organized a symposium relating to the application of the Wilderness Act at Mammoth Cave National Park. The goal was to seek input from interested organizations and individuals. Speaking for the CRF, Watson, by now an established advocate for cave wilderness, used his philosophy background to dissect the meanings of wilderness and how it might be applied to the underground resources at the park. Watson pointed out “an explicit contradiction” in the definition of “wilderness” under the 1964 act.⁹²⁶ Briefly, Watson charged that the idea that wilderness was considered to be “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain” was inherently contradictory, if taken literally. If man visited an area it was thus not untrammelled by man.⁹²⁷ To Watson, separating man apart from nature was problematic. Anticipating debates that would roil environmental history in the 1990s, Watson argued that “man is a part of nature. The earth is a wilderness, not least in the heart of the city.”⁹²⁸ It was simply up to mankind to declare areas as wilderness for them to be wilderness. So, Watson questioned, “what on earth *did* the framers of these statements have in mind?”⁹²⁹

⁹²⁶ Richard A. Watson, “The Preservation of Wilderness Karst in Central Kentucky, USA,” Statement before Symposium on the Application of the Wilderness Act as a means for preserving the surface and the underground features of Mammoth Cave National Park, Kentucky, USA, 22-26 May 1967, 2. Mammoth Cave National Park Vertical Files, Mammoth Cave, KY.

⁹²⁷ *Ibid.*, 3.

⁹²⁸ *Ibid.*, 4; Cronon, “The Trouble with Wilderness,” 80.

⁹²⁹ Watson, “The Preservation of Wilderness Karst in Central Kentucky, USA,” 3; Emphasis in original.

If the framers of the Wilderness Act wanted to preserve areas for scientific inquiry, lands that did not show a massive imprint of human land uses, places that were nearly untouched, Mammoth Cave National Park was an ideal place to find them. The Cave Research Foundation had conducted scientific research in de facto cave wilderness for nearly ten years when Watson made his statement before the planners. In terms of surface wilderness lands, it was hard for the land to rebound after 150 years of logging, grazing, and farming, but “to the average person” the park’s second-growth forests “appears to be as much a wilderness as would any pre-Columbian” forest.⁹³⁰ Harkening to the remote feelings in the darkness felt by the underground tourists in the 1840s, Watson declared that the caves contained “a blackness so intense that most human beings have never experienced, and a remoteness almost beyond imagination.”⁹³¹

Taking these points into consideration, and supporting the removal of man-made structures to the outer edges of the park lands, would make “a large proportion” of the park eligible for inclusion in the National Wilderness Preservation System, according to Watson. Perhaps more importantly, though, was the necessity of taking action sooner rather than later. “The glut of tourists” burdening park resources was the biggest problem encountering the park, and the CRF wanted the cave protected against both intentional and unintentional destruction.⁹³²

That same year, the National Speleological Society produced its own suggestion for a wilderness area at Mammoth Cave National Park. The NSS suggested setting aside

⁹³⁰ Ibid., 6.

⁹³¹ Ibid., 5.

⁹³² Ibid., 10.

over 49,000 acres (out of approximately 51,000 acres of the entire park) as either surface or underground wilderness.⁹³³ Mammoth Cave National Park officials were busy preparing for the future management of the park through the revised Master Plan, which would have to address the wilderness issue, as well as the challenges of increased visitation and stress on the toured portions of the park. At the national level, the NPS had begun to develop a reputation for creating a high standard of wilderness so as to limit recommendations to Congress.⁹³⁴ Still, as a public agency rather than a private organization, the Park Service was legally required to get public input on any significant plans.

On April 24, 1968, the National Park Service announced a public hearing related to the drafted Master Plan. In a press release, the NPS suggested possible comments might relate to various planning issues, such as what tours and cave routes should be open for visitation, and what role private businesses might play as concessionaires in the park. The strongest feedback, however, ultimately concerned whether or not to designate any part of the park as wilderness. Congressman William H. Natcher wasted little time preparing remarks to the planning team. Calling any wilderness proposal a “serious mistake,” Natcher argued that since Kentuckians had footed the bill for paying for a national park, they should be able to recreate in it as they wished, within the bounds of

⁹³³ Victor A. Schmidt, “A Wilderness Proposal for Mammoth Cave National Park,” *NSS News* 25, no. 3 (March 1967): 57-58.

⁹³⁴ “Park Wilderness Planning: An Editorial,” *National Parks Magazine* 41 (February 1967): 2.

the preservation rules already in place.⁹³⁵ Had they known their abilities to enjoy the park as they saw fit would be hindered by Wilderness declarations, they would not have made such sacrifices to set aside park lands and build tourist infrastructure at taxpayer expense. Furthermore, Natcher pointed out that Kentucky already had wilderness areas both in the western part of the state at the Land Between the Lakes and in parts of eastern Kentucky “which cannot be developed.”⁹³⁶

The Bowling Green newspaper agreed with Natcher's assessment, and declared the proposed master plan "unnneeded." If the public were to truly enjoy the parks, they would need roads, trails, campgrounds, and other amenities; proposals such as that of the National Speleological Society, to turn most of the park lands into untouchable wilderness "would make most of the park so inaccessible that it would never be seen by the general public."⁹³⁷ The *Park City Daily News* was not opposed to any wilderness declarations, but saw the NSS and CRF plans as "extreme and ridiculous."⁹³⁸

Mammoth Cave National Park officials inherited distrust from local communities after the displacement of approximately 500 families from their homes during the national park effort of the 1930s. When the park threatened the existence of competing caves, as they had done in the 1940s and 1950s by refusing to grade access roads to Great

⁹³⁵ Statement of Representative William H. Natcher, Second District of Kentucky, before a 6-Man Study Team Appointed by the National Park Service to Draw Up a New Park Master Plan and to Consider Wilderness Proposals, May 25, 1968, MSS 296, Box 17, Folder 4.

⁹³⁶ Ibid.

⁹³⁷ “Master Plan Unneeded,” *Park City (Bowling Green, KY) Daily News*, May 20, 1968.

⁹³⁸ Ibid.

Onyx Cave or Crystal Cave, officials did not help to persuade their community neighbors "that the park was beneficial to the central Kentucky region."⁹³⁹ Poaching wildlife, fish, and wild ginseng remained a problem as the creation of protection laws displaced previous patterns of land use.⁹⁴⁰ The new park hotel reflected a shift from pre-park management to an apparent bureaucratic disconnect. In 1965 neighbors criticized the "uninspired design" that was a cross between a boxy ranch-style home and a Cold War bunker, as opposed to a more "local architectural style" that emphasized Southern hospitality and long verandas.⁹⁴¹ If the officials did not take local insights seriously, they risked further alienation. If they did not take preservationists seriously, however, they risked losing a partner for scientific research and source for publicity as a result of further underground discoveries.

Entering the 1970s conservation organizations were not willing to back down. Richard Watson and Philip Smith of the Cave Research Foundation co-wrote an article in the *International Journal of Environmental Studies* introducing the concept of underground wilderness to a wider, non-caver audience. In it, they repeated many of their same arguments from the 1967 symposium at Mammoth Cave. In challenging the Wilderness Act's definition of wilderness, Watson and Smith argued that in a strict sense

⁹³⁹ Smith, "Some Problems and Opportunities at Mammoth Cave National Park," 15.

⁹⁴⁰ Correspondence between Superintendent Robert Hoskins and National Park Service Regional Director, May-June 1948; Mammoth Cave National Park Administration and Personnel: Fishing, Hunting, and Trapping; Central Classified Files, 1925-1949; RG 79.

⁹⁴¹ Smith, "Some Problems and Opportunities at Mammoth Cave National Park," 16.

“there is no such pure wilderness on earth today,” but that caves can “give every appearance of being absolutely unaffected by man,” even if the trained observer could find “the imprint of man’s work.”⁹⁴² Again, Watson and Smith stressed that caves could give a wilderness experience, which they argued to be the true essence of “wilderness,” for underground, a caver may be separated by only a few hundred feet from visitors and automobiles, but feel “as far from civilization and the works of man as we have felt on our expeditions in the heart of the Antarctic and in the remotest mountains of Persia.”⁹⁴³ To Watson and Smith and most of the CRF and National Speleological Society, underground wilderness was within the scope of the Wilderness Act, and the Flint Ridge Cave System should be designated as such for its protection.

Meanwhile, sewage was still spilling into the Flint Ridge Cave System. In 1970, the National Speleological Society announced that the cave walls contained a malodorous green slime, and water samples collected in the Flint Ridge system contained “as many as 2000 coliform colonies per 100 milliliters...indicative of sewage contamination.”⁹⁴⁴ In the summer of 1971 the activists from the National Parks & Conservation Association (NPCA) and NSS brought their concerns to Congress. Walter Boardman, a former NPCA official, criticized the expenditures on infrastructure to assist visitors getting to the parks

⁹⁴² Richard A. Watson and Philip M. Smith, “Underground Wilderness: A Point of View,” *International Journal of Environmental Studies*, 2 (1971): 217.

⁹⁴³ *Ibid.*, 218.

⁹⁴⁴ National Speleological Society Press Release, August 27, 1970; CRF Vertical Files, Hamilton Valley Research Center, Mammoth Cave, KY.

without increased expenditures for hiring rangers to protect park resources.⁹⁴⁵ Beyond that, Boardman argued that the Park Service did not plan for development with any consideration of the natural environments in which they were building. Boardman used the Great Onyx Job Corps camp as an example of “the worst of these unwise decisions,” due to the camp being hastily built over such a significant cave system.⁹⁴⁶

Robert Stitt, working for the Conservation Committee of the NSS, echoed Boardman’s testimony in regards to the preservation function of the National Park Service and applied it to the Wilderness Act. According to Stitt, parks had their priorities backwards when it came to building up facilities and infrastructure and declaring wilderness:

[I]t would appear that development plans are usually made before Wilderness decisions. Developments are planned, then Wilderness boundaries are drawn in a non-interfering way. It would seem more logical from a preservation standpoint to do it the other way around; that is, to determine Wilderness boundaries first, then to work out developments in such a way as to provide minimum interference with nature and wilderness.⁹⁴⁷

Furthermore, Stitt implored the Senators present keep in mind the fact that informal park decisions to treat some spaces as wilderness could be easily overturned

⁹⁴⁵ *Hearing Before the United States Senate Subcommittee on Parks and Recreation of the Committee on Interior and Insular Affairs* 92d. Cong. 39 (1971) (Statement of Walter S. Boardman, Chairman, Potomac Valley Conservation and Recreation Council).

⁹⁴⁶ *Ibid.*, 40.

⁹⁴⁷ *Hearing Before the United States Senate Subcommittee on Parks and Recreation of the Committee on Interior and Insular Affairs* 92d. Cong. 65 (1971) (Statement of Robert R. Stitt, Conservation Chairman, The National Speleological Society, Inc.).

when new superintendents take charge of a park. The only true protection for wilderness was a declaration under the Wilderness Act of 1964.⁹⁴⁸

The Job Corps camp sewage leak was a perfect example. Even if the Mammoth Cave National Park considered Flint Ridge caves a wilderness, that mindset did not protect it from spoliation. Maintenance staff's work to modify the sewage system (only after prodding from the NSS and CRF) had not completely solved the problem. Stitt suggested the best chance for saving the cave system was to remove the Job Corps camp entirely from the park and restore the land to a forest-like state.⁹⁴⁹ Stitt and the NSS were quick to point out, however, that their efforts to remove the Job Corps did not reflect an objection to the overall goals of the program. Critics of the Job Corps program, however, had the potential of helping the conservationists with their problem.

The Job Corps program continued to be a thorn in the side of many conservative critics of Johnson's Great Society. Disciplinary problems had been noted at several centers, including Great Onyx Job Corps Conservation Center, from the beginnings. Park Service officials required their centers to implement a clear discipline program to correct "a Corpsmen attitude of disrespect for staff."⁹⁵⁰ Shortly after President Richard Nixon took office, he targeted the troubled program by cutting the Job Corps budget by \$100 million and closing up to 60 percent of the conservation centers and 40 percent of those

⁹⁴⁸ Ibid.

⁹⁴⁹ Ibid., 66. Ironically, this had been one of the organization's goals in the beginning, but that had been replaced by vocational training that trended towards trades like carpentry, painting, and plastering as opposed to conservation work.

⁹⁵⁰ Office of Economic Opportunity Evaluation Report of Great Onyx Job Corps Conservation Center, October 31, 1967; ARJCP; RG 79.

in urban areas.⁹⁵¹ Great Onyx, however, was not among them. Instead of closing, the center added more vocational training in cement plastering and painting in addition to the already established programs for cooking, mechanics, and carpentry.⁹⁵² Conservation work such as planting trees and improving hiking trails seemed to be less of a focus in comparison to the skills training, which were arguably more in demand. For the time, the Great Onyx camp was staying put, to the dismay of cave conservationists. The park thus moved ahead with planning that included the camp on Flint Ridge.

In 1972 Mammoth Cave National Park announced official hearings for the master plan and wilderness recommendation for June 22 and 23, respectively. The master plan and wilderness recommendation were still considered separate, but related, issues. Shortly before the hearing, however, the park superintendent canceled the event “when it was suddenly discovered that the Environmental Impact Statement was not adequate.” Local community members were suspicious, as for the past year they had been bringing their concerns and protests against any attempts to declare wilderness, take more land out of the tax base, or limit access to the park in any way.⁹⁵³ Even the park's original booster organization, the Mammoth Cave National Park Association, opposed eliminating

⁹⁵¹ Larry Wilkerson, “Great Onyx Job Corps Center Not Among Those Slated to Close,” *Park City* (Bowling Green, KY) *Daily News*, April 10, 1969.

⁹⁵² *Hart County Herald* (Munfordville, KY), June 8, 1970.

⁹⁵³ “Edmonson Group Voices Opposition to Park Proposals,” *Park City* (Bowling Green, KY) *Daily News*, June 12, 1971; “Fiscal Court Okays County School Budget,” *Park City* (Bowling Green, KY) *Daily News*, July 16, 1971; Bowling Green-Warren County Chamber of Commerce Resolution, July 12, 1971, MCNPA, WKU.

camping and hotel services, closing roads, and restricting vehicular traffic.⁹⁵⁴ The *Edmonson News*, whose editors had been critical of the park from its inception, editorialized that "the National Park Service has utterly failed to maintain, develop or operate it for the benefit and enjoyment of the public, as was intended by Kentuckians who donated it," so Congress should return the land to the state to manage.⁹⁵⁵

While the National Park Service regrouped, the Cave Research Foundation's advocacy and explorations continued. Cavers had been responding to the park's plan to create a central parking area away from the largest natural entrance, the Historic Entrance, to Mammoth Cave. The plan for that staging area was to be on Joppa Ridge, "the third major karst ridge in the park."⁹⁵⁶ When the plan was revealed in 1968, no caves had been discovered that might suffer from the same problems facing the Historic Entrance, such as polluted runoff. In November 1968 the CRF re-re-discovered the Joppa Ridge Cave System. In 1876 local caver T. E. Lee had re-discovered with a lantern passages that prehistoric Native Americans had once explored using cane reed torches.⁹⁵⁷ When the CRF surveyed and found more than seven miles of nearly virgin cave, they believed they had an even better example of a "wilderness" cave system than perhaps

⁹⁵⁴ "Mammoth Cave Association Say 'No' to Park Service Master Plan," *Edmonson News* (Brownsville, KY), July 22, 1971.

⁹⁵⁵ "Return Mammoth Cave National Park to State," *Edmonson News* (Brownsville, KY), July 29, 1971.

⁹⁵⁶ Brucker and Watson, *The Longest Cave*, 154.

⁹⁵⁷ John P. Freeman, Gordon L. Smith, Thomas L. Poulson, Patty Jo Watson, and William B. White, "Lee Cave, Mammoth Cave National Park, Kentucky," *Bulletin of the National Speleological Society* 35, no. 4 (1973), 109. Lee scratched his name and the date on a wall in the cave, but evidently kept the discovery to himself.

even Flint Ridge or Mammoth Cave.⁹⁵⁸ Discussions among the CRF about attempting to connect the Flint Ridge Cave System and Mammoth Cave brought up discussions about the implications of what such a discovery might mean in terms of the wilderness fight.

One of the chief arguments the Park Service made against designating underground wilderness was due to the existence of obvious man-made developments. Trails, concrete stairs, metal handrails, telephones, and electric lighting throughout toured sections of Mammoth Cave could not be considered wilderness. Parts of the formerly toured Crystal Cave and Great Onyx Cave also contained some of these works. To park officials, if the caves were connected, "then it was not wilderness."⁹⁵⁹ Nevermind that most of the nearly seventy miles of passages mapped by 1970 lacked such features, bureaucrats in Washington, who had exhibited a "long apathy toward science" would more likely believe park managers' suggestions.⁹⁶⁰ After the 1972 delay of the master plan and wilderness hearing, however, CRF leaders began to believe that a connection between Mammoth and Flint Ridge would help the cause by bringing new publicity.⁹⁶¹ The environmental timing could not have been better, as the summer of 1972 proved to be "one of the driest summers on record."⁹⁶² The trouble lay in the difficulty of finding people with the dedication to put themselves in punishing circumstances for long hours

⁹⁵⁸ Brucker and Watson, *The Longest Cave*, 155.

⁹⁵⁹ *Ibid.*, 150-151.

⁹⁶⁰ *Tenth Annual Report of the Cave Research Foundation for the Year Ending December 31, 1968*, 3; Brucker and Watson, *The Longest Cave*, 151.

⁹⁶¹ Brucker and Watson, *The Longest Cave*, 166.

⁹⁶² *Ibid.*, 184.

underground—cavers—who also had the availability to travel to Kentucky semi-regularly.

John Wilcox, an Ohio mechanical engineer and head of the cartography program of the Cave Research Foundation, began to put together an expert team to connect the caverns. The group included Gary Eller, a chemistry Ph.D. Working at Georgia Tech, and Pat and Will Crowther, a couple who worked in the burgeoning field of computer science and programming.⁹⁶³ Wilcox's plan was to systematically check every potential lead from expeditions at a survey point known as Q-87. There was at Q-87 a pile of breakdown, or rocks piled up blocking the passage. Previous attempts to remove rocks to open a crawlway had failed, and due to that no one had been there since 1966.⁹⁶⁴ Maybe a new team would have better luck or find a way around it.⁹⁶⁵ One of the main problems was that just getting to Q-87 took seven-and-a-quarter hours one-way, which left little time to dig. Over Memorial Day weekend in 1972 Wilcox's expedition dug for four hours in an attempt to get through, before they dejectedly returned to the surface.⁹⁶⁶

The team was not going to give up. Wilcox and Pat Crowther returned in July, this time with a pair of newcomers. On the July 15, 1972, expedition, Crowther found "an awkward tight spot," later named The Tight Spot.⁹⁶⁷ She was the only person on the expedition small enough to fit through the fifteen-foot squeeze, which offered a new lead

⁹⁶³ Ibid., 170.

⁹⁶⁴ Ibid., 164, 172.

⁹⁶⁵ Ibid., 176.

⁹⁶⁶ Ibid., 176-177.

⁹⁶⁷ Ibid., 192.

towards making a connection. An expedition in August moved past the Tight Spot and into a river passage. The cavers' discovery of the initials "P. H.," carved into a mudbank, was proof they were heading in the right direction. They also found the initials "L. H." The initials stood for Pete Hanson and Leo Hunt, former Mammoth Cave guides. Since they had not officially gone into a Flint Ridge entrance and out a Mammoth Cave entrance, however, they could not technically claim to have made the connection.⁹⁶⁸ Less than two weeks later in September, however, that all changed when Wilcox pursued a lead in Hanson's Lost River and the team (which included members from the May Q-87 expedition Pat Crowther and Gary Eller along with National Park Service ranger, Cleve Pennix, carpenter Richard Zopf, and researcher Steve Wells) left the cave through the Snowball elevator.⁹⁶⁹ Overnight, the connection made Mammoth Cave the longest cave in the world, at over 144 miles. The discovery was kept confidential until December, when the Park Service had to confirm the rumors.

For its part, the National Park Service and the local community began to take the management plans more seriously than ever, and guiding development became of increasing importance. News of the discovery helped push park visitation to its highest levels in 1973, with over a million visitors to the park. The 400-car parking lot of Mission 66 proved insufficient. Park planners began to conceive of a traffic and pollution solution in their master plan: a staging area at the outer boundaries of the park, closer to the recently completed Interstate 65, that would take visitors wishing to go on a cave tour via bus to the appropriate entrance. The park would also support the development of a new

⁹⁶⁸ Ibid., 210, 229.

⁹⁶⁹ Ibid., 250.

sewage treatment center for the surrounding communities in the Mammoth Cave watershed, and the removal of the Job Corps camps from Flint Ridge to a more suitable location on the north side of the park, away from the extensive network of caves on the south side.⁹⁷⁰ In regard to wilderness designation, however, the park remained silent until after a public hearing, and the clock was ticking towards a September 1974 deadline.

On May 29, 1974, forty-six individuals representing themselves or an organization, attended the public wilderness hearing at Bowling Green, Kentucky. In addition to the 265 written responses from around the country, plus the 366 written responses to the announcement of the original 1972 hearing, the park received almost 650 responses. Around seventy percent of those spoke in favor of either surface wilderness or underground wilderness. Most of the anti-wilderness responses came from local community groups, such as the Cave City Chamber of Commerce, who echoed Representative Natcher's arguments from 1968 about wilderness being a misuse of the park.⁹⁷¹

Despite the public response in favor of wilderness, the Park Service concluded in August that "no areas within the national park are suitable at the present time for wilderness designation." This was due mostly to the land use and abuse before the park's existence; building foundations, wagon roads, fence rows, and erosion gullies indicated "the imprint of man's work," and canceling out the other qualifications for wilderness that cave lands met. The park also refused to accept the possibility of designating an

⁹⁷⁰ See 1974 Draft Master Plan, Mammoth Cave National Park; Mammoth Cave National Park Archives, Mammoth Cave, KY (MACA).

⁹⁷¹ Mammoth Cave National Park Wilderness Recommendation, August 1974, 10; MACA.

underground wilderness, since such a concept "was not identified in the Wilderness Act, nor have underground wildernesses been established."⁹⁷²

Cave advocates were livid in their critiques of the non-recommendation of neither surface nor underground wilderness. Robert Stitt, conservation chairman for the National Speleological Society, drafted a legal brief to force the issue of underground wilderness as a separate legal entity under the Wilderness Act. Stitt based his arguments on many cases that involved caves that were once privately owned in cave country, but now belonged to the American people at Mammoth Cave National Park. First, Stitt dismantled any ideas that the Wilderness Act excluded caves simply because caves were not explicitly mentioned in the text. Second, Stitt argued that underground management did not have to coincide with surface management; cave rights were distinct from surface rights, and each could be managed separately. Since the Park had the duty to protect the cave, and the Wilderness Act required evaluation of all federal lands, including the subsurface by legal definition of "land," and because "substantial" portions of the cave met the definition of wilderness under the Wilderness Act, the Park should review its non-recommendation and adjust it accordingly.⁹⁷³

The Park's recommendation to the President came just two weeks after Richard Nixon resigned in the wake of the Watergate scandal and Gerald Ford took over the office. In his December recommendations to Congress as to suitability of wilderness

⁹⁷² Environmental Statement for the Master Plan and Wilderness Study for Mammoth Cave National Park, April 24, 1974, 48; MACA.

⁹⁷³ Robert R. Stitt, "Law and Sound Policy Require the National Park Service and the Secretary of the Interior to Review the Underground Portions of Mammoth Cave National Park as to Their Suitability for Wilderness under the Wilderness Act of 1964," June 25, 1974; MACA.

lands, Mammoth Cave was not included; however, President Ford left open the possibility of a wilderness area should the surface land at some point lose the “imprint of man.”⁹⁷⁴

While the majority of local people disagreed with several items in the park’s proposed master plan, on the wilderness issue they agreed with the park. Wilderness advocates lost every attempt at creating underground wilderness as a separate category of protection under the Wilderness Act, except in places where caves are discovered under previously designated wilderness, and only when all entrances to the cave are under the surface wilderness.⁹⁷⁵

No part of Mammoth Cave National Park has been designated as wilderness under the 1964 Wilderness Act. Neither did the National Park Service implement some of the key components of their draft master plan, including the staging center for tours, building a bridge over the Green River, or limiting of cave tours. In fact, Mammoth Cave National Park opened Great Onyx Cave to tours on a limited basis beginning in 1975.⁹⁷⁶

Despite the lack of a wilderness designation at Mammoth Cave, Cave Research Foundation and National Speleological Society members won some victories. In 1981, the United Nations designated Mammoth Cave as a World Heritage Site, and the National Park Service and the Department of Labor moved the Great Onyx Job Corps

⁹⁷⁴ Gerald Ford, Presidential Wilderness Message, December 4, 1974; MACA.

⁹⁷⁵ Sarah G. Bishop and George N. Huppert, “Taking Wilderness Underground,” *Proceedings of Managing America’s Enduring Wilderness Resource: A Conference, University of Minnesota, Minneapolis, MN, September 11-14, 1989*, ed. David W. Lime (Minneapolis: University of Minnesota Press, 1990), 369.

⁹⁷⁶ Mammoth Cave Chronology, Mammoth Cave Vertical Files, Mammoth Cave, National Park, KY.

Conservation Camp from Flint Ridge to the northwest side of the park away from sensitive cave ecosystems.⁹⁷⁷ Sewage treatment became a priority, and throughout the 1980s Mammoth Cave, Cave City, and Park City, Kentucky, joined into a new wastewater treatment system.⁹⁷⁸ In 1988, Congress passed the Federal Cave Resources Protection Act, putting the protection of those underground places "on the national agenda." The act enshrined the "confidentiality of cave location information" of those caverns on federal properties by exempting them from Freedom of Information Act requests.⁹⁷⁹

The ten-year fight for recognition of underground wilderness set into motion a new line of environmental activism. The Cave Research Foundation's expanded knowledge of cave passages called attention to the need to protect fragile, unusual subsurface environments. Activist groups ranging from the Audubon Society to the Sierra Club, which had little at stake below the surface, joined in with cave conservationists to expand knowledge of a new kind of wilderness designation. The wilderness fight in Kentucky further exposed the innate contradictions within the National Park Service Organic Act of 1916 and the Wilderness Act of 1964.

⁹⁷⁷ Ibid.

⁹⁷⁸ Ibid.

⁹⁷⁹ Seiser, "Dark Wilderness," 56; Federal Cave Resources Protection Act of 1988, Pub. L. No. 100-691, 102 Stat. 4546 (1988).

CHAPTER VIII

CONCLUSION: THE QUEST FOR KNOWLEDGE AND CONTINUING CHALLENGES AND OPPORTUNITIES FOR MAMMOTH CAVE NATIONAL PARK IN THE TWENTY-FIRST CENTURY

On February 15, 2013, officials from the Cave Research Foundation and Mammoth Cave National Park formally announced a milestone in surveying the world's longest known cave: its length now extended to 400 miles. Charles Fox, CRF president, noted that it was through "incremental" measurements, rather than the sudden connection between cave systems such as the Flint-Mammoth connection of 1972.⁹⁸⁰ Today the official number is 412 miles "with no end in sight." This far exceeds surveyor Edmund F. Lee's declaration in 1835 that the cave, taking into account all branches, was "about eight miles."⁹⁸¹ Technology, time, ideas, and culture have changed significantly since the nineteenth century, but the desire to push the boundaries of knowledge of Mammoth Cave continue. Mammoth Cave has been an important, yet overlooked, site to examine the process of this knowledge creation, and how people have applied this knowledge to their land-use decisions has also changed over time.

The nineteenth century visitors who smelled, felt, listened, saw, and even tasted

⁹⁸⁰ "Mammoth Cave Hits 400 Miles," February 13, 2013, accessed July 19, 2017, <https://www.nps.gov/macn/learn/news/mammoth-cave-400-miles.htm>.

⁹⁸¹ Edmund F. Lee, *Notes on the Mammoth Cave, to Accompany a Map* (Cincinnati: James & Gazlay, 1835), 28.

their way through Mammoth Cave spread their knowledge in pamphlets, travel narratives, and newspaper columns and put Mammoth Cave on the map as a tourist destination. In rural south central Kentucky, but located between two growing cities, Louisville and Nashville, Mammoth Cave brought a host of outside travelers who might not have otherwise experienced this section of the country and its “peculiar institution.” Their writings worked essentially as advertisements, and helped drive a modest tourism business at the cave. Though disrupted by the Civil War, the tourism to Mammoth Cave demonstrated to other landowners that they, too, might benefit financially if they looked at the ground beneath their feet.

The post-Civil War era brought a new birth of freedom to Mammoth Cave, and the new birth of technologies in the Gilded Age reconstructed knowledge of the cave. Competing folk and scientific knowledges of caves engendered a spirit of competition, while photography, post cards, and easier travel via automobiles increased the rivalries exponentially, leading to the Kentucky Cave Wars. The cutthroat methods to get tourist dollars in turn compelled business-oriented urban boosters to push for the creation of Mammoth Cave National Park in 1926 to make the cave safe for middle class tourism.

The Mammoth Cave National Park fight raised questions about what a national park should and could be. Mammoth Cave, an unusual case for preservation on account of its long-toured history, broke the mold for the “pristine” image of national parks. Beyond the fight in the halls of Congress, the actual business of park making created rancor and distrust in cave country.

These Louisville and Bowling Green, Kentucky, businessmen’s status as outsiders making land use decisions did not help the cause to create the national park. Private cave

owners used their knowledge of cave passages and extents to fight for higher sale prices from state and federal officials. As knowledge spread about the extent of cave passages, however, individuals who lived above caves but not necessarily with entrances to them could benefit as well. The *Edwards v. Lee's Administrator* case, which used the legal doctrine that a property owner owns everything under his land to the core of the earth and above his land into the heavens, and that doctrine applies to cave passages, had significant effects on the park making effort as well. Cave guides' continued quest for knowledge within Mammoth Cave at the same time as private cave owners held out for the highest price possible led to the most significant finding of cave formations within Mammoth Cave in 1938 with the New Discovery section. The New Discovery propelled the completion of the national park project, but the failures of the park had perhaps greater significance.

The National Park Service's failure to acquire the Floyd Collins Crystal Cave meant that it remained in private hands, on private lands. The inholding, surrounded by park land, could still turn into park land eventually, and so the cave owners hoped to connect Crystal Cave to Mammoth Cave and get an even higher price than they had originally asked. The 1954 Floyd Collins Crystal Cave expedition did not find that connection before the cave's sale to the National Park Service, but it produced knowledge of how NOT to mount a cave surveying expedition, and demonstrated the need for systematic surveying from a dedicated organization. The Cave Research Foundation (CRF), organized in 1957, stepped in to meet this need. The CRF worked in secret in the passages of Mammoth Cave, but soon received recognition from park officials as the official surveyors of Mammoth Cave. Their continued exploration of the cave found

more than just miles of passages; they found serious problems with the management of the land of the park.

The Wilderness Act of 1964, the Economic Opportunity Act creating the Job Corps program, and the National Park Service's response to exploding visitation to national parks in the postwar era converged at Mammoth Cave. The CRF, joined by other environmental groups, pushed for the creation of wilderness designations at Mammoth Cave. Using their expanded knowledge of the extent of the underground passages, which by 1972 included a connection between Crystal Cave and Mammoth, making it the longest cave system in the world, the CRF proposed an entirely new concept of wilderness. Emergent environmentalist groups tried to make Mammoth Cave the first declared underground wilderness protection area under the Wilderness Act.

The advancement of knowledge of Mammoth Cave's extent and existence has continued to affect land use decisions in the Mammoth Cave area, and has similarly taken an incremental course since the 1974 decision against recommending any sections of the park be designated wilderness under the Wilderness Act of 1964. The National Park Service officials at the cave have also taken incremental steps in conserving relationships with pre-park residents. New challenges to Mammoth Cave's preservation and significance remain, however.

In 1982, Secretary of Labor Ray Donovan and U. S. Representative William Natcher broke ground on a new Great Onyx Job Corps camp at Mammoth Cave National Park.⁹⁸² Planned far from the sensitive Flint Ridge location to the north side of the Green

⁹⁸² "Job Corps Turns Disdain into Praise for New Center," *Louisville Courier-Journal*, September 18, 1982, 6.

River, the CRF celebrated their hand in the removal and relocation of the camp. In their annual report that year, foundation members noted that with the location change and an open dialogue towards establishing a regional wastewater treatment facility, the future was bright for the hydrological preservation of Mammoth Cave.⁹⁸³ The world was beginning to note Mammoth Cave as a place worthy of preservation, as well.

Two years prior, the United States Department of the Interior announced that they were preparing a nomination for Mammoth Cave to be designated a World Heritage Site under the United Nations. Such “natural and cultural properties of outstanding universal value to mankind” nominated that same year by the United States included Washington’s Olympic National Park and the Wright Brothers National Memorial in North Carolina.⁹⁸⁴ The work of scientists and cave enthusiasts alike advancing knowledge of Mammoth Cave’s geological significance “representing a major element of the earth’s evolutionary history...[an] outstanding example representing significant ongoing geological processes, and evidence of human interaction with the natural environment” helped propel Mammoth Cave to this designation in 1981.⁹⁸⁵ In 1990, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated 150,000 acres surrounding and including Mammoth Cave National Park as an International Biosphere Reserve. The International Biosphere Reserve program promotes “environmental, economic, and social...sustainability” through inter-governmental cooperation for ecological

⁹⁸³ “Highlights of 1982,” *1982 Annual Report of the Cave Research Foundation* (Washington, DC: The Foundation, 1983), vi.

⁹⁸⁴ *Federal Register* 45, no. 141 (July 21, 1980)

⁹⁸⁵ *Ibid.*; “Highlights of 1981,” *1981 Annual Report of the Cave Research Foundation* (Washington, DC: The Foundation, 1982).

conservation and “the development and integration of knowledge, including science, to advance our understanding of interactions between people and the rest of nature.”⁹⁸⁶ The Barren River Area Development District (BRADD), which had played a role in the wilderness/master plan debates, took on responsibility to oversee the reserve along with park officials, a step towards reconciliation from the bumpy relationship of the 1970s.

The park has also made efforts to repair its relationship with pre-park residents and their descendants by hosting programs recognizing their contributions to the Mammoth Cave area. Annual homecomings each summer bring families together to tell stories of where they lived and how life used to be. “Roots in the Cave” has become another annual park program that highlights the pre-park history of the region. Mammoth Cave National Park maintenance crews have restored a unique rock wall at a cemetery in the park. Volunteers have been cleaning and restoring the Bransford cemetery on Flint Ridge, the burial site of many guides of Mammoth including Henry Bransford, and most likely Mat and Nick Bransford. The upkeep of cemeteries has been a sensitive issue in the region since before the park was even dedicated, as the panicked headlines of Perry Meloan in the *Edmonson County News* attest.⁹⁸⁷ Restoration of the Bransford site is another recognition of African Americans families’ presence in the area as significant in advancing the knowledge of Mammoth Cave and ultimately its national park status.

⁹⁸⁶ “Mammoth Cave and Surrounding Area are Dedicated as Biosphere Reserve,” *Louisville Courier-Journal*, September 27, 1990, B7; “World Network of Biosphere Reserves: United Nations Educational, Scientific, and Cultural Organization,” <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/>.

⁹⁸⁷ “Graves in Park Area Will Be Desecrated Under the Guise of ‘Military Necessity,’” *Edmonson County News*, February 27, 1941, 1.

Mammoth's status as a national park presents a unique set of challenges for the present and future. The same group who have given Mammoth Cave meaning over time also present some of the greatest challenges to the park: people.

One of the reasons that the National Park Service did not take complete control over Mammoth Cave before 1941 was because the cave tours produced revenue that could be used to purchase additional lands; had the park been designated sooner that money would have gone into the general treasury of the United States, to be doled out by an often-parsimonious Congress. Park funding has rarely been a priority for the federal government, although periodic increases for special programs such as the Civilian Conservation Corps, Mission 66, and the 2016 National Park Service Centennial demonstrated continued financial commitments to the national park idea. Since January 20, 2017, national parks, monuments, and historic sites have been under new scrutiny by an administration unfriendly to natural preservation causes. The President's proposed budget for 2018 includes a thirteen percent budget cut for national parks, which the National Parks Conservation Association noted "would be the largest cut to the agency since World War II, if enacted."⁹⁸⁸ Aside from budget constraints and a small-government executive, Mammoth Cave faces other immediate threats for conservation.

The construction of roads has brought countless visitors to Mammoth Cave since 1816. The growth of the trucking economy, the use of fossil fuels, and the completion of Interstate 65 within the Mammoth Cave watershed presents a threat to the water

⁹⁸⁸ "President's Budget Threat to National Parks," <https://www.npca.org/articles/1553-president-s-budget-threat-to-national-parks>

resources and aquatic life in Mammoth Cave.⁹⁸⁹ If not properly contained, oil, gas, and diesel spills can follow water's path through sinkholes and into Mammoth Cave. Smaller threats to Mammoth Cave might have larger consequences beyond the region.

In the winter of 2006, observers in Howe Caverns, a show cave in New York State, noted dead bats with a white fungus on their nose.⁹⁹⁰ White-Nose Syndrome, as it is now known, has decimated bat populations as it has moved from east to west. In 2013, White-Nose Syndrome was detected in bats at Mammoth Cave, but the ultimate effect on the cave and its bats will not be known for some time. Scientists at Mammoth Cave have developed protocols to try to prevent the spread of the fungus from the cave to other caves and other bats by ordinary visitors, cavers, and explorers alike. Early research into the fungus that causes White-Nose Syndrome indicated that it might have been brought into the cave on gear that had been in European caves, where bats adapted to the fungus over time.⁹⁹¹ Bats can spread the fungus to other bats, but humans on planes with infected shoes, clothing, or cave gear can infect caves even faster. Scientists continue monitoring and studying bats across the continent, and Mammoth Cave researchers actively

⁹⁸⁹ See Shane Hamilton, *Trucking Country: The Road to America's Wal-Mart Economy* (Princeton, NJ: Princeton University Press, 2008); and Rickard A. Olson, "Environmental Issues Relevant to the Mammoth Cave Area," in *Mammoth Cave: A Human and Natural History*, ed. Horton Hobbs, Rickard A. Olson, Elizabeth G. Winkler, and David C. Culver (Cham, Switzerland: Springer International Publishing, 2017): 265-275.

⁹⁹⁰ Kevin T. Castle and Paul M. Cryan, "White-Nose Syndrome in Bats: A Primer for Resource Managers," *Park Science* 27, no. 1 (Spring 2010): 20, 22.

⁹⁹¹ Michael G. Campana, Naoko P. Kurata, Jeffrey T. Foster, Lauren E. Helgen, DeeAnn M. Reeder, Robert C. Fleischer, and Kristofer M. Helgen, "White-Nose Syndrome in a 1918 Bat Specimen from France," *Emerging Infectious Diseases* 23, no. 9 (Sept. 2017): 1611.

contribute to these studies.

Scientific research at Mammoth Cave deserves more attention from historians of science. Science is one way of knowing the cave, and the techniques, technologies, and ethics have changed since Constantine Rafinesque, Louis Agassiz, and E. A. Martel walked the passages of Mammoth Cave. Mammoth Cave has been a site of how scientific practices evolved and specialized, branching into archaeology, geology, mineralogy, biology, speleology, and other -ologies.

Another chapter in the history of preservation of Mammoth Cave as a national park also deserves more attention. The fight over the Mining City Dam along Green River, proposed in the 1940s and debated in the 1950s, is an overlooked milestone in the changing loyalties between park officials, other federal officials, local people in the Mammoth Cave region, and an emerging environmentalist movement. This pre-Wilderness Act debate affected the Wilderness Act coalitions that emerged in the 1960s.

Those who have studied Mammoth Cave history, either from an academic or “buff” standpoint all seem to agree that Mammoth Cave has been overlooked. I would argue that caves in general have been overlooked by historians. Historians should pay more attention to these underground spaces, and even move beyond the trope of caves as tourist attractions. Like mountains, canyons, forests and rivers, caves have affected land use patterns, culture, and everyday life for the people who have lived around them. Mammoth Cave, the longest cave in the world, has affected thousands of people for thousands of years. All it takes is one trip through the yawning entrance, feeling the cave exhale on a summer’s day, lighting the way, and going underground for one to get bit by the cave bug.

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