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By Degree: A History of Heat in the Subtropical American South

Jason Hauser

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By degree: A history of heat in the subtropical American south

By

Jason Hauser

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Mississippi State University
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By degree: A history of heat in the subtropical American south

By

Jason Hauser

Approved:

________________________
James C. Giesen
(Major Professor)

________________________
Mark D. Hersey
(Minor Professor)

________________________
Anne E. Marshall
(Committee Member)

________________________
Alan I Marcus
(Committee Member)

________________________
Alexandra E. Hui
(Committee Member)

________________________
Stephen C. Brain
(Graduate Coordinator)

________________________
Rick Travis
Dean
College of Arts and Sciences
Heat has a history, both because temperatures changed and the way humans understand and experience those temperatures changed. This dissertation excavates that history by examining how southern heat—heat considered distinct to the subtropical American South—affect the social, economic, and political development of the United States. This dissertation argues that southern heat proved consequential for the nation as both a physical force and human construct, and that only by keeping the materiality of relatively high temperatures in conversation with the idea of heat does a full history of southern heat emerge. By looking at how humans interacted with southern heat, both mentally and physically over the course of southern history, it becomes clear that arguments about the climate of the southeastern United States, and disagreements about the essential nature of southern heat, were less debates about actual climatic conditions and the effects of high temperatures on the human body than they were contestations of values, manifestations of competing politics, divergent economic ambitions, and different visions of American society. Thus, over the course of American history, heat possessed a unique ability to cleave the South apart from the nation and place physical and biological distance between racialized bodies. Beginning at the end of the last Ice Age and ending...
with the widespread acceptance of anthropogenic climate change via greenhouse gas emissions in the 1980s, this dissertation traces how southern heat partitioned the American South from the rest of the country while also separating southerners from each other and other Americans by matters of degree.
DEDICATION

To my mother, Kim Hauser, a generous patron of academia.
ACKNOWLEDGEMENTS

Never once over the course of writing this dissertation did I feel like I was involved in a solitary pursuit. Friends and family, both academic and otherwise, made this project possible. First and foremost, though, I need to thank my committee members for supervising the project. All y’all’s voices are in here, and I thank you for your invaluable additions to my education.

I would like to thank especially my primary advisor, Jim Giesen. Jim is a tireless champion of his students, and without his encouragement this study would have never come to fruition. Ever since I first walked into his office, he pushed me to aim higher. In the five years that he’s served as my mentor, his enthusiasm and dedication to my education have never waned. Never once in my academic career at Mississippi State did he decline to look over an early draft of a conference paper or fail to make time to offer advice and guidance. He always welcomed me into his office and his home to discuss teaching, research, or just life. His direction on this dissertation made it into the work that it is. Jim plodded through early drafts of sixty-page chapters loaded with half-baked ideas. He taught me not only how to communicate effectively but encouraged me to write well. He impressed upon the importance of narrative structure, signposting, and using clear and concise language. He made me drop the jargon. He taught me to show, not tell, and also how to reel that in when I took it too far. I often find myself muttering “Giesen rule” when I rearrange a sentence or delete a semicolon. Jim teaches his students that
writing is a craft, and he never lets them forget it. Because of his generous mentoring, Jim has been the single most important influence in my academic life. He is a selfless advisor and because of his dedication, I’m a better writer, thinker, and historian.

The other members were no less consequential for this project. As second reader, Mark Hersey offered adroit insight and helpful criticism. He not only taught me environmental history at Mississippi State, he also impressed upon me the importance of the project and the southern environmental history at large. He also made himself available for countless hours of conversation in his office, at conferences, and even at his home. I thank him for being a zealous advocate of the dissertation, the field, and my education. Anne Marshall guided me through my first year of coursework at State, and without her efforts I might not have made it through the program. She turned an over-eager master’s student into a disciplined doctoral candidate, and I thank her for her instruction. Alix Hui, too, always made herself available and provided help and encouragement whenever I sought it. The conversations we had in the various reading groups she put together strengthened the project—and my education—considerably. Her energy is a constant inspiration.

Alan Marcus also deserves special thanks. Conversations in his office shaped me into a sharper thinker, a more careful historian, and a more industrious (and creative) researcher. That he had such a tremendous impact despite never teaching me in a course is a testament to his investment in State’s students. He freely gave hours of not only conversation but instruction, never missing an opportunity to educate. His ideas about history have greatly influenced my own, and I carry his insights on the the discipline into every archive I enter.
I want to thank State’s fantastic graduate students as well, foremost among them Alyssa Warrick, Karen Senaga, and Nathan Drake. These wonderful people welcomed me into the graduate student culture at State and offered instrumental advice in navigating the program and academia more broadly. Whether driving across the country or discussing research at a happy hour, these three provided constant advice, entertainment, and friendship. Thanks so much, y’all. Let’s make some bad decisions together soon.

I also had the privilege of being a part of an amazing cohort. Owen Hyman, Nick Timmerman, Justin Whitney, Kelli Nelson, and LB Wilson were all fantastic classmates. I also thank other students who honed my communicative skills in classroom discussion, especially Nicholas Trzaskowski, Larson Plyler, Kasey Mosely, and Nancy Traylor-Heard. Michael Murphy was always down to grab a drink and talk research. Cameron Zinsou was an energetic supporter of “supper club.” Fraser Livingston and Eddie Rangel deserve special thanks. They encouraged me through the final phase of the project especially, and I thank them for their friendship.

I am grateful, too, for my extended academic family. Tim Silver never lost touch over the years, providing advice and general encouragement during my time at State. He’s the reason I’m here, not least of all because he suggested the program. Elaine LaFay and James Bergman have made, and will continue to make, fantastic co-panelists. Becky Howard showed me around Tontitown and gave me a treasure-trove of resources. Erin Mauldin and Neil Oatsvall both invited me into their classroom to give talks.

Finally, none of this would be possible without my family. My mother inspired in me a desire to never stop learning as well as a passion for education. From the earliest,
my father encouraged my nerdiness and was my biggest supporter. And enough can’t be said about Asha Pogge. She moved to Starkville the day before I begin writing and stood by me through even the most trying phases of the project. She reminded me that there is a world outside my work, and she made sure I spent some time there. Whether suggesting a long walk at North Farm, a hike around Lake Lurleen, or a simple trip to the coffee shop to clear my mind, Asha encouraged me to never lose sight of what is important. And she shaped the content of the dissertation as well. She listened to my ideas, reigned me in when I took a thought too far, and always asked me to only write what others would enjoy reading. For all these reasons, I thank her.
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CHAPTER I
INTRODUCTION: HISTORICIZING HEAT

“It is your human environment that makes climate.”
Mark Twain, Following the Equator, 1897

Mention the southern climate to most Americans and a sundry mix of stock images and kneejerk associations spring immediately to mind. Some might first think of the regions’ extensive coastline, as snapshots of white sand beaches swim into their heads. They see a landscape of palms interspersed with pastel houses and high-rise hotels, perhaps evoking memories of feet buried in warm sand and conjuring the oddly-comforting smell of sunscreen. Others will think instead of the southern interior. Some may see the restless haze that emanates from asphalt streets, or recall the feel of heat reflecting off a suburban lawn, a downtown sidewalk, or an expanse of tilled earth. Others might think of the suffocating sensation of settling into a car baked in the sun, or the shock of exiting an air-conditioned building as heat, seemingly radiating from all directions, swells over them. Asking someone to consider the southern climate might transport them to an oak, hickory, or longleaf forest, where the earthy smell of decaying leaves and needles flood their olfactory senses. Or maybe it takes them to a swampy lowland where, impossibly, cypress trees and rounded knees jut up awkwardly from the

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1 Mark Twain, Following the Equator: A Journey Around the World (Harper & Bros., 1899).
murky depths, and tangles of Spanish Moss dampen the rays of the sun overhead. What do they hear? Perhaps cicadas, their incessant buzz the most prominent trill in an orchestra of insects whose cacophony is as omnipresent as the moist heat. The climate of the South? Sweat. Humidity. Heat.

Of course, the South is not always hot. Nor does it possess a monopoly on moist, warm summers. Locations in the Midwest, for instance, have higher summer averages than cities and towns in the Appalachian or Ozark mountains. But these climatic realities do little to undo the widespread association between heat and the southern climate. They seem most like the exception that proves the rule. The South, wherever that may be, is hot. That constitutes an undeniable fact, one seemingly timeless in its indisputable veracity.

Today, many consider southern heat as relatively benign, if at times uncomfortable. Demographic shifts even indicate that many Americans appreciate the warmth. Each summer, the region hosts an ever-increasing population of snowbirds, that migratory species of human that seeks shelter from the frigid cold of the North in the winter. Some stay for longer. In 2011, Reuters reported that the South was the fastest growing census region in the nation. In the Forbes list of fastest growing metropolitan

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2 Take, for instance, the average July high of Boone, North Carolina (79°F) and Indianapolis, Indiana (85°F). Data from http://www.usclimatedata.com.

3 This dissertation is concerned less with enforcing rigid boundaries on the South than understanding it as a human construction whose borders have shifted over time. For more on the cultural boundaries of the South, see John Shelton Reed, My Tears Spoiled My Aim: And Other Reflections on Southern Culture, Edition Unstated edition (San Diego: Harvest Books, 1994).

locations for 2017, half of the top ten locations were in the Sunshine State. Many Americans, it seems, generally view the heat of the South in a positive light. For many southerners themselves, it constitutes a point of pride, a kind of environmental valence to their regional identity.

This benign, uncontested portrayal of the southern climate and the more-or-less uncritical appreciation of its heat is, however, a recent invention. For most of southern history, talking about the weather was hardly idle conversation, and considerable debate attended to considerations of the nature of the southern environment, most especially heat. This dissertation attempts to excavate that history, charting the ways in which heat changed, why it changed, and what the consequences of those transformations were. It examines how temperatures shifted as well as how people understood and experienced those temperatures at different points in time. Put simply, southern heat has a history. This dissertation attempts to uncover it.

Other historians, of course, have incorporated heat into their interpretations of the region’s past without historicizing it outright. U.B. Phillips, often considered the progenitor of professional, academic southern history, opened the lines of the seminal 1929 Life and Labor in the Old South by inviting readers to “begin with the weather, for that has been the chief agency in making the South distinctive.” For Phillips, the relatively warm environment of the South invited the plantation system, for which slavery offered the most efficient organization of labor. In the Old Southwest, especially,

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heat itself installed slavery on the landscape, and the ensuing tension between white and black Americans grew to constitute the “central theme” of southern history. Rather than generating academic interest in the South’s climate, though, Phillip’s monocausal determinism—rich with racist assumptions and designed, in part, to exonerate proslavery advocates—stymied historical examination into the southern environment. To this day, historians cite Phillips for making discussion of the southern weather a kind of taboo in academic circles, arguing that talking about heat and slavery threatens association with Phillips’ crude analysis.⁶

Philips was hardly alone, though, in arguing that climate drove the historical trajectory of the South. Indeed, his work evinces the simplistic environmental determinism that prevailed in the positivist intellectual climate of his time, strands of which continued to inform studies of the southern climate throughout the first half of the century. In 1935, journalist and public intellectual Clarence Cason made similar arguments about the effect of climate on the South’s social and political institutions. Unlike Philips, however, Cason abhorred the racial and economic oppression that characterized what he described as the undemocratic South. But very much in line with Philips, he ascribed the whole of southern culture to the decidedly hot climate, arguing that everything from southerners’ preference for spicy foods to their proclivity for fishing

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was due to heat. His work anticipated the arguments of Wilber J. Cash, who within five years would also argue that heat played a role in shaping southern culture and ideology. Cash posited that a “proto-dorian” mentality, which included a predisposition to violence and bigotry, was at least in part a product of environment. The southern “tendency toward unreality, toward romanticism…and hedonism” resulted from the “perpetual haze” of the hot and humid South. Heat uncoupled the southerner from sober pragmatism, and in so doing, prevented any intellectual or cultural development. Whereas Cason and Philips saw southerners as adapting to their hot climates, Cash saw a people intoxicated and subjugated by their environment.

Phillips, Cason, and Cash were part of a larger trend of environmental determinists who reduced human history to a result of the shifting environmental conditions. Other academics, such as geographer Ellsworth Huntington and political sociologist S.C. GilFillan also represented central figures in the conversation. They demonized the effects of high temperatures and argued that “civilization” floundered in the hot regions of the globe. Huntington found the climate of the American South decreased the energy of its inhabitants, predisposing them to indolence. Temperate and cold regions, on the hand, instilled a vitality that fostered intellectual and economic

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prosperity, a greater capacity for "civilization." GilFillan also pondered the effects of heat on "civilization." In his 1920 article "The Coldward Course of Progress," he argued that, though civilization developed in hot climates, as societies advanced high temperatures became increasingly detrimental to social and economic development. GilFillan and Huntington felt the heat made the American South a backward, barbarous place, the climate arresting its development.

In 1941, sociologist Edgar T. Thompson took exception to the blunt reasoning of environmental determinists. He focused his attention on the argument that climate created slavery to rebuke their reasoning, but rather than offering a historical interpretation, he brought the tools of his discipline to bear on his investigation of the relationship between environment and labor. In so doing, he found historians’ explanations wanting. A worldwide comparison of contemporary plantation regimes revealed that climate had little to do with the development or continuation of race-based slavery. Citing examples of cold weather plantations with slavery and monocrop enterprises in warm regions without bonded labor, he concluded that scholars in the vein of Phillips had crafted a justification for slavery that served political ends rather than offering any historical truth.

9 Ellsworth Huntington, Civilization and Climate (Yale University Press, 1915). This book offers the most comprehensive overview of his ideas about the relationship between climate and vitality, but any number of his works make the same case that hot climates depress a region’s ability to achieve attain higher levels of civilization.


In the following decades, scholars outside of southern history began historicizing climate with more subtlety. In 1967, Clarence Glacken, in his magisterial *Traces on the Rhodian Shore*, offered a comprehensive overview of environmental thought from classical societies through to the nineteenth century. Historical considerations of climate and their relations to health and race featured prominently in his work.¹² And in 1971, French historian Emmanuel Le Roy Ladurie examined “meteorological observations, phenological and glaciological texts, comments on climatological events, and so on” in his *Times of Feast, Times of Famine: A History of Climate since the Year 1000*. The book represented a landmark study of climate in history. Le Roy urged historians to search for proxy evidence of climatic shifts in then unconventional sources, looking for indications of annual weather patterns in everything from records of grape harvests to the work of dendrochronologists. An incredibly forward-thinking work, only recently have historians attempted to answer Le Roy’s call to reconstruct the climates of the past.¹³ While both Le Roy Ladurie and Glacken historicized climate, they did so in two different ways. Glacken found more utility in historicizing ideas about climate, while Le Roy Ladurie favored instead an examination of its materiality.

Scholarship might have developed along this bifurcated path had it not been for the development of environmental history as a self-conscious field in the 1970s. Indeed, by the 1980s, historian Karen Kupperman had united the methodologies of Glacken and


Le Roy Ladurie in a series of articles that examined the interplay between considerations of climate and its physical impact. In her 1982 article “The Puzzle of the American Climate in the Early Colonial Period,” she foregrounds the context of the Little Ice Age in her argument that the cool and erratic weather of the seventeenth and eighteenth centuries forced Europeans’ to confront and revise their faulty assumptions about how the global climate operated.\textsuperscript{14} In 1984, she touched on understandings of heat directly in her article “Fear of Hot Climates in the Anglo-American Colonial Experience.” Here, she showed the various ways in which concerns about human health in hot areas threatened to shape the pattern of English colonization.\textsuperscript{15} Her work illustrates the importance of understanding perceptions of the climate in concert with the materiality of daily weather.

At the same time Kupperman wrote, southern historians began to return to discussions of climate. As the consequences of postwar industrialization and the creation of the “Sunbelt” South threatened to dissolve features of southern culture long since thought to make the South unique, a new generation of scholars looked towards the environment, and specifically the climate, in searching for elements that continued to set the South apart. In his 1984 article “End of the Long Hot Summer: The Air Conditioner in Southern History,” Raymond Arsenault traced the development of air conditioning throughout the twentieth century. Arsenault called attention to the southern environment in order to argue that the postwar South would continue to be different than the nation at

\textsuperscript{14} Karen Ordahl Kupperman, “The Puzzle of the American Climate in the Early Colonial Period” \textit{American Historical Review} Vol. 87, no. 5 (December, 1982), 1262-1289.

large. Though air conditioning “affected nearly every aspect of southern life” and had done its best to “homogenize the nation and eliminate regional consciousness,” he stated, the “South remains a land apart – a land that still owes much of its distinctiveness to climatic forces.” Similarly, in 1988 A. Cash Koeniger argued in “Climate and Southern Distinctiveness” that the region’s hot summers and mild winters made the South unique.

He even went so far as to posit that heat accounted for the personality and disposition of southerners both contemporary and historical. In reasoning reminiscent of Cason and Cash, he ascribed a number of distinctive southern traits, including predispositions for violence and folk culture, to a warm climate. And Koeniger, like Arsenault, addressed the role of air conditioning in southern history, but in a way more historiographical than historical. Koeniger claimed the ultimate casualty of climate control was the very idea of climate itself. “One of the consequences,” he explained, of the “coming of air conditioning…is the decline of climate in interpreting southern history.”

He reasoned that scholars who “typically leave air-conditioned homes for air-conditioned automobiles, that in turn they abandon for climate-controlled offices, classrooms, and libraries” have ignored the very role of climate in shaping southern history.”

His worry was unfounded, however, as that same year Todd L. Savitt and James Harvey Young published an edited collection entitled Disease and Distinctiveness in the American South. In addition to the authors, historians James Breeden, John Duffy, Jo

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18 Ibid., 31.
Ann Carrigan, Alan I Marcus, and Elizabeth W. Etheridge all addressed climate, to some degree, in their studies of malaria, yellow fever, hookworm, pellagra, health, and medicine. In seeking to examine the ways in which poor health shaped perceptions of the South, they collectively argued that the heat of the South created an environment prone to disease. Indeed, the various authors found the South’s warm climate provided abundant vectors, contributed to the corn-based diet of southerners, and necessitated a distinctly southern form of medical care.19

Though these authors interrogated disease with a mind towards understanding southern exceptionalism, they built on an older body of literature that examined the “sickly” environs of the South. Historians of medicine had long since paid attention to illness in the region, connecting the poor health of southerners with the environmental, and thus the climatic, situation. The Lowcountry of South Carolina received particular scholarly attention. Studies in the 1950s and 1960s detailed both the prevalence of illness and how physicians responded to malaria and outbreaks of yellow fever.20 In the 1970s, Todd Savitt moved race to the center in his Medicine and Slavery: The Disease and Health Care of Blacks in Antebellum Virginia.21 By the 1990s, Margaret Humphries

19 Todd L. Savitt and James Harvey Young, eds., Disease and Distinctiveness in the American South (Univ. of Tennessee Press, 1991).

20 See, for instance, John Duffy, Epidemics in Colonial America (Baton Rouge: Louisiana State University, 1953); Joseph I. Waring, A History of Medicine in South Carolina, 1670-1825 (Charleston: Medical Society of South Carolina, 1964) and A History of Medicine in South Carolina, 1825-1900 (Charleston: Medical Society of South Carolina, 1967).

investigated the relationship between disease and southern identity alongside her discussions of race and class.\textsuperscript{22}

That decade also saw southern environmental historians bring more scrutiny and subtlety to the role of climate in southern history. This newer generation cared less for arguments for or against distinctiveness and used ecology and the history of medicine to examine the physical impact of heat in the South. But as they discussed the weather, the shadow of Phillips continued to loom. Historians of the southern environment employed a number of tactics to distance their works from the determinism of early twentieth-century scholarly investigations. Albert Cowdrey, for instance, avoided being painted with the same brush as Phillips and company in his path-breaking environmental history of the region by simply not discussing people at all outside of vague generalities. His enigmatic examination of the plantation South, as much of a history of southern medicine as an environmental history, recognized the consequences of warm summers and mild winters. But his distaste for Phillips caused him to avoid investigation of climate in its relation to southern culture, social institutions, or even southern peoples.\textsuperscript{23} Another approach southern environmental historians took was to simply to deride Phillips’ work. In his 1984 article, for instance, Arsenault quipped of Phillips’ argument, “so much for the complexity of history.”\textsuperscript{24} And still others tackled Phillips head-on. In 1997 Mart

\textsuperscript{22} Margaret Humphreys, \textit{Yellow Fever and the South} (Baltimore: Johns Hopkins University Press, 1992) and \textit{Malaria: Poverty, Race, and Public Health in the United States} (Baltimore: Johns Hopkins University Press, 2001).

\textsuperscript{23} Albert E. Cowdrey, \textit{This Land, This South: An Environmental History}, revised edition edition (Lexington, Ky: University Press of Kentucky, 1995).

\textsuperscript{24} Arsenault, “End of the Long Hot Summer,” 599.
Stewart used Phillips’ infamous first lines of *Life and Labor* as a springboard to discuss the role of climate in antebellum southern identity. Rather than interrogate the ecological effect of the climate, Stewart attempted to discern what antebellum Americans actually thought of the causal connections between culture, climate, and labor systems. From agricultural periodicals, pro-slavery literature, and addresses to historical societies, Stewart argued that “heat” took on a political valence in the growing sectionalism of mid-nineteenth century America. He charted the transitions of farmers’ climatic concerns from the local, which focused on the immediate needs of their farms and surrounding land, to the creation of a broad climatic sub-region, the South. Heat, he noted, combined the region’s decidedly diverse climatic zones under the common banner of “hot” to forge Southern unity in the face of the growing Northern opposition to slavery. For Stewart, then, by the “late antebellum period…most inquiries into the nature of the South were made to serve Southern nationalism.”

He concluded by arguing that planters and politicians of the Old South did not begin with the weather; rather, by using climate to justify a system of bonded labor *ex post facto*, they actually ended with it.

While southern historians confronted the specter of Phillips, the growing awareness of anthropocentric climate change in the late 1980s caused renewed academic interest in climate and climate science. In 1990, James Rodger Fleming published *Meteorology in America*, a survey of meteorological thought over the course of the

nineteenth century. Later that decade, he turned his attention to climate change explicitly. In his 1998 work, *Historical Perspectives on Climate Change*, he offered a comprehensive and expansive overview of climate change in Western thought in the service of illustrating that today’s denial of humans’ ability to alter the climate represented a recent development. This renewed interest carried over to the new millennium. In 2002, geographer David Livingstone asked academics to consider climate as a “moral category” and illustrated the role that climate science played in racial discourse. In four case studies, he examined the various ways in which people considered the relationship between race and space, demonstrating that examinations of climate science need not be purely meteorological or institutional.

In the past decade, climate history has developed into a bonafide subfield, one that exists at the nexus of the history of science and environmental history. In 2007, Jan Golinski revealed the intimate relationship between climate, Enlightenment science, and national identity in his *British Weather and the Climate of Enlightenment*. In 2011, Dagomar Degroot took advantage of the expanding historical and scientific literature and founded HistoricalClimatology.com, an interdisciplinary collection of articles,

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reconstructions, and a database of source material for those interested in interrogating the role of climate in shaping human history.\(^ {30}\) That same year, *Osiris* dedicated their annual volume to “Klima,” which included a variety of articles that bear on this dissertation. Brant Vogel, for instance, in “The Letter from Dublin: Climate Change, Colonialism, and the Royal Society in the Seventeenth Century,” historicized notions of climate change by examining a debate about the ways in which land-use shaped weather patterns, paying special attention to the ways in which colonial thought could shape elite discourse.\(^ {31}\) Gregory Cushman also attended to the political valences and the colonial context of climate science in his “Humboldtian Science, Creole Meteorology, and the Discovery of Human-Caused Climate Change in South America.”\(^ {32}\) And in the opening article, James Flemming and Vladimir Jankovic offered a detailed overview of historical conceptions of climate, and in line with Livingstone, they argued that historians of science should adopt an expansive definition of climate science. They charged the field with investigating “how, why, and when the ‘idea of climate,’ was invoked, and by whom.”\(^ {33}\)

\(^{30}\) The history of the website can be found at [http://www.historicalclimatology.com/about.html](http://www.historicalclimatology.com/about.html).


Over the next several years, more and more historians have given their attention exploring how climate shaped history, blurring the lines between climate history, the history of science, the history of medicine, and environmental history. In 2011, Peter McCandless interrogated the disparity between the “rhetoric and reality” regarding the quality of life in coastal South Carolina in his *Slavery, Disease, and Suffering in the Southern Lowcountry*. Because McCandless examined descriptions of the region’s environment and climate in conversation with the lived experience of planters, physicians, farmers, and slaves, his work reveals the extent to which histories of medicine can inform both environmental history and the history of climate science.³⁴ By 2014, J.R. McNeill, in a review of four recent works on the political consequences of climate change in Europe and Asia, could affirm that historians’ turn to examining “climate change as an explanatory variable” signaled a sizeable historiographical shift.³⁵ That same year, the *Journal of Environmental History* published a “Climate Forum,” in which the field’s foremost practitioners introduced a rich array of methodological approaches to historians, foremost among them the blending of ideas and material realities, positioning the historical records of weather patterns alongside understandings of the climate and how it operated.³⁶ In 2015, the *William and Mary Quarterly* published a forum on the

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role of climate in Early American history that sought to connect shifting climates to political, cultural, and agricultural developments. In the introductory essay, Joyce Chaplin celebrated historians’ attempts to use both human and environmental evidence in their reconstructions of the past. She remarked, too, on the remarkable growth of the field in recent years: “everyone is studying it, why not us [early American historians] too?”37

But for all the contemporary interest in climate and climate change, southern historians still discuss heat only tepidly and peripherally. Indeed, in 2000, Otis L. Graham could fairly place Phillips on the short list of academics who had taken seriously the role of the environment in southern history, though Graham himself avoided any substantial discussion of southern weather.38 Still others argued that Phillips and, indeed everyone since, never actually discussed the weather. In 2009, Christopher Morris stated that, for all the studies penned that mentioned climate in the South, none had been written with “attention to what climatologists have to say.” Morris, then, adroitly observed that the taboo of weather discussion prevented historians from applying the insights of climate scientists to southern history, all the while contending that Phillips’ argument lacked any scientific, and thus historical, credence.39

As such no comprehensive scholarship on heat in the American South exists, despite integral role it has played in the environmental, social, political, cultural, and intellectual history of the region. No historian has historicized heat rather than simply


38 Graham, “Again the Backward Region?”

invoking it or citing it as a causal agent in the service of studying another topic. No study yet understandings southern heat as both a concept and physical reality that changed over the course of American history. This dissertation attempts to do just that by positioning southern heat at the center of the narrative, making it the distinct object of inquiry and understanding it as at once a material and ideological force.

In telling the story of southern heat, which threatens to be an impossibly expansive topic, this dissertation makes some regrettable omissions out of sheer necessity. It is impossible, for instance, to trace every consequence of high temperatures to the region. The author has had to look the other way when stumbling across rich sources detailing, for instance, agricultural experiments investigating what kinds of grasses grow best in the sultry southern environment, or else the quixotic exploits of those who attempted to discern cotton’s ideal isothermal zone. Additionally, for the sake of creating a manageable project, this dissertation has not given as much attention as it could have to the creation of the climatological networks that developed in the region. And sadly, this dissertation does not interrogate the way heat influenced the southern diet. Instead, it tells another story, one of the most consequential narratives of heat for southern, and thus American, history. That story has to do with debates over the essential nature of southern heat and the ramifications of these considerations.

Climatologists today will say that most of the census South exists in a humid subtropical climatic zone. Though this designation—which emerged only in the final years of the nineteenth century—seems to imply a kind of fixed certainty, it belies the climatological middle ground that southeastern North America occupied for most of
American history.\textsuperscript{40} For early-modern thinkers through to twentieth-century academics, the boundary between the tropics and the temperate latitudes of the northern hemisphere were known quantities, even if the borders occasionally shifted. To the South’s south, the equatorial regions were prolific, supporting all manner of vegetable life, but deleterious to human health. To the South’s north, the region that existed below the arctic was a cool but invigorating place conducive to European wellness and mental and physical hardiness. The expanse that lay between those two, though, was often the subject of considerable debate. Even today, the designation “sub-tropical” reeks of compromise, neither wholly tropical nor far from it. Its position as sandwiched between the dangerous yet rich equatorial zone and the healthy but miserly environments of the North meant that those who described the region had the benefit of either emphasizing its proximity to or distancing it from either zone. And the terms mattered. Though they did nothing to shape the temperature of the region, they substantially molded its history. This dissertation is, in no small part, a historical examination of not just the temperature itself, but these contestations and their effects on American history.

Indeed, for much of American history, perceptions of climate mattered as much as, and sometimes more than, any material reality. Those looking for a close study of minute changes in temperature will be disappointed by this dissertation. For one, such data does not exist, and where it does it continues to be speculative and hotly debated.

\textsuperscript{40} This dissertation understands the concept of a middle ground as defined by Richard White in his \textit{The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-1815}, Anniversary edition edition (New York: Cambridge University Press, 2010) as a contested space, an arena for conflict and site of negotiation and renegotiation of power relationships.
Knowledge of temperature changes before the last decades of the eighteenth century, which saw the advent of systemized recording, comes from natural proxy evidence of questionable certainty and scattered, equally dubious, and often illegible recordings of amateur climatologists and weather hobbyists. While some areas have a rich array of climatological indicators—climatologists have confidence in their reconstructions of Chesapeake Bay conditions, for instance, because of years of dendrochronologists’ work and sedimentary analysis—honing in on the exact temperatures for much of the globe proves problematic.41 This dissertation does rely at times on large scale, hemispheric decadal (ten year) or multi-decadal (more than ten years) reconstructions that aggregate several studies of proxy indicators of past climates, but such works must be used carefully and only hesitantly. Climate fluctuates a great deal from place to place. Some locations can experience considerable cold and drought in what was otherwise a hot and wet decade in the rest of the western world. Additionally, relying on such large-scale reconstructions, despite their increasing sophistication, threatens to result in lazy climate history. One should not simply point to a warm period and then attribute historical events to the climate. Such an ex post facto application of causation resembles more the crude studies of environmental determinists than the careful and nuanced approach championed by modern historians.

This dissertation does take seriously the way that large-scale shifts in temperature shaped the historical narrative, but it argues that only when keeping these physical

changes in conversation with vacillating ideas about the subtropical climate of the North American Southeast does a true history of southern heat emerge. The chronological organization of this research project charts how the complex relationship between the two changed over time—over a very long period of time, in fact. Environmental historians and historians of climate have often eschewed confining temporal frameworks, recognizing that environmental change can occur at a protracted pace. And indeed, ideas about the climate often changed as slowly as the climate itself. For that reason, this dissertation begins with an overview of the climate that humans first encountered when they crossed *Beringia* into North America some 40,000 years ago during the Pleistocene. Theirs was an arid world of ice, one in which their livelihood depended on stalking big game across the continent. Humans arrived in the North American Southeast some 13,000 years ago, which nearly coincided with the end of the Pleistocene and the beginning of the current interglacial period known as the Holocene, which began around 12,700 years ago. For these paleosoutherners, heat proved beneficial, facilitating foraging and eventually supporting agriculture.

Chapter three examines European contact with the New World. Starting in the late fifteenth century, Spanish, and then French and English, colonizers brought their ideas of global climate into the North American Southeast. Their expectations of the conditions

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that would exist along the southern Atlantic seaboard and Gulf Coast, informed by classical climate science and their experiences in the Caribbean, shaped colonial ambitions and colonization schemes. For these explorers, what is today known as the hot South was the frigid North, a land of intense cold and unfriendly Native Americans. The Little Ice Age, a period of cool temperatures and erratic, rapidly shifting weather, contributed to this designation, but so too did their belief in latitudinal determinism, or the idea that location on the Earth’s north-south axis determined climate. Expecting the climates of southern Spain, northern Africa, and the Mediterranean caused them to inadequately provision expeditions and expect an agricultural bounty that the soils of the southeast simply would not provide. They considered it cold, in other words, because they expected it to be warm. By the beginning of the seventeenth century, though, English experience in the Chesapeake would transform the American southeast from a land of frigid temperatures to a place of terrifying extremes. While cold continue to threaten colonists’ lives, the summer diseases of Jamestown bred in them a new fear of heat, and Anglo experience elsewhere on the continent made them consider the heat of their more southerly holdings a distinct and potentially fatal element of the New World’s climate.

The geography of this dissertation shifts alongside the narrative. As chapter four demonstrates, increasing colonization of areas south of Virginia caused the locus of considerations about southern heat to move down the continent into what is now North Carolina, South Carolina, and Georgia. There, the surprisingly persistent belief in latitudinal determinism began to erode as increasing experience disabused Europeans of the idea that position relative to the equator predicted the agricultural staples a region
would produce. In these warmer environments, fear of disease increased, and southern heat emerged as a problem that demanded a solution. Over the course of colonial history, Americans began to increasingly find the answer to the problems that heat posed in African labor. Enlightenment considerations of the relationship between climate and race grew up in the American South, constantly informed by the economic and social context of the period. In part because of this conversation southern heat came to cleave the South apart from the nation by fueling a discourse of distinction that was rooted in the region’s uniquely warm climate.

Region itself was as much a function of political and economic history as environmental difference. Often, environmental historians ignore political boundaries, both spatial and temporal, in favor of ecological ones. This dissertation, though, argues that the history of southern heat was inextricably bound up in the political and economic history of the nation. Indeed, historicizing southern heat underscores how important political developments were in changing how people understood and experienced the climate. Chapter five examines the consequences of heat for the new nation. From the early national period through to the end of the antebellum era, heat continued to separate the South from the nation and white bodies from black, a discourse informed by experience, national ambitions, and American empire. As Americans expanded into the Old Southwest, considerations of heat responded to the political goals of the nation. Encountering a hot climate, one made increasingly warm by both anthropogenic alterations of the landscape and the gradual end of the Little Ice Age, fueled the growing belief that only African Americans could labor under the southern sun. For the first time, though, historians can discern pushback from those whom heat disproportionately
endangered. African Americans crafted an understanding of heat that existed at odds with the elite discourse espoused by those who invoked climate to justify bonded labor. In the end, though, the dominant understanding of the relationship between heat and race—the masters’ narrative—proved widespread enough to justify secession in the wake Abraham Lincoln’s election to the presidency. Confederates founded their new nation, in part, on the belief that only black skin could weather the southern sun.

Emancipation altered more than the social and economic landscape of the South; it also altered the relationship between heat and race. As chapter six argues, what had been an oppressive fact in antebellum America became a potentially empowering one after the abolition of slavery. Some white southerners responded by rethinking the relationship between climate and skin color, arguing for the first time that Europeans could safely labor in the region and that the prosperity of the South was not dependent on African Americans. At the same time, though, they began cultivating a corollary to earlier arguments about the relationship between heat and race. White southerners, in order to justify oppressive legislation and further ideas about the necessity of paternal relations, began to argue that African American fitness depended on southern heat. Likewise, many white northerners, in response to late-nineteenth and early-twentieth century black immigration to their region, began to argue that African American health would deteriorate in the cool North. Civil Rights advocates viciously attacked this oppressive line of reasoning, arguing in earnest that climate and race were not coeval. However, these debates only further fixed the association between heat and the South in the American mind, causing most Americans to continue to assume that southern heat constituted a pernicious force on the human frame.
Not only political developments shaped heat’s history. Technological innovations, too, altered the understanding and experience of heat. The increasing availability and affordability of the Fahrenheit thermometer in the early eighteenth-century, for instance, facilitated new, more quantitative, and systematic understanding of heat that fit neatly into Enlightenment inquiry into the natural world. And in the twentieth century, the advent of air conditioning fundamentally transformed the southern climate. Chapter seven looks at how this technology had the ironic consequence of emphasizing the region’s high temperatures, which against the backdrops of New South attempts at industrialization and western imperialism cast the South as backward in newly consequential ways. Here, as ever, heat came increasingly to separate the South from the nation while also widening the gulf between racial and economic castes. The technology also had a tremendous impact on the temperature record as well. Throughout the first half of the twentieth-century, the rest of nation warmed while the census South’s temperatures plateaued, a result of the large-scale reforestation that occurred as farmers abandoned exhausted fields and pine plantations moved into the region. That changed in the second-half of the century. The widespread proliferation of residential climate control remade the landscape by facilitating the growth of low-ceilinged, compact suburban homes that could be placed willy-nilly on any southern soil without care to the environmental situation. At the same time, the technology helped remake city centers, historically cooler than surrounding denuded agricultural lands, into heat islands that were much hotter than their suburban counterparts. By facilitating the twin forces of industrialization and urbanization, air conditioning raised the surface temperatures of inner cities substantially,
which in the wake of white flight exposed lower-income Americans disproportionately to climatic vulnerabilities.

Tracing how Americans understood, experienced, and debated these ever-changing temperatures reveals that arguments about the nature of the heat of the South were less disagreements about the weather than contestations of values, the manifestation of competing politics, divergent economic ambitions, and different visions of American society. Whomever defined the essential nature of the subtropical American South possessed tremendous social and political power. To argue against a characterization was to contest that power. This dissertation identifies the most consequential authors and episodes, environmental debates and descriptions, that created or challenged the meaning of heat in ways that had a measurable impact on the South and southerners’ lives. Climatology texts, casual mentions of the weather, and everything in between reveal period understandings of the effects of high temperatures, the social truths around which American organized their lives and society. As such, this dissertation relies heavily on varied evidence of how Americans conceived of the southern climate. The litany of observations and direct quotes included in this dissertation all shaped, reified, or contested the meaning of heat, sometimes all at once. Even at the risk of tedium, understanding how Americans conceptualized the climate, and the language they used to describe it, offers a fuller appreciation of the power that came with defining what it meant to be hot.

These considerations, though, had the effect of obfuscating (sometimes intentionally) the material realities of the climate that they described. The political valences to discussions of climate molded the conversation in ways that untethered it
from the actual environmental situation. The conclusion of this dissertation ponders what recognizing this important dimension of heat’s history means for an ever-warming globe and how historicizing heat might inform ongoing debates about anthropogenic climate change.

Historicizing southern heat illustrates how fundamental ideas about climate were to the political, economic, and social history of the American South. Time and time again, heat, as both a material force and a profoundly human construct, shaped the historical narrative of the region in tremendously consequential ways. Southern heat distinguished the South from the rest of the nation, created physical and biological difference between racialized bodies, and widened the gulf between social and economic classes. These stories of separation are all related. This dissertation examines how heat came to separate southerners—from the nation and from each other—by matters of degree.
CHAPTER II
HOLOCENE HEAT

Well before the first human beings arrived in Southeastern North America, climatological and geological processes transformed the landscape in ways that shaped the limits and opportunities of the region’s first inhabitants. The earliest humans in the area developed cultural systems in response to the conditions created by a set of climatological circumstances unique to region. And as surely as climatic conditions created societies distinct from that on the rest of the continent, temperature changes also shaped how paleosoutherners interacted with one another. Even before the southern climate resembled anything close to what it is today, shifts in temperature and precipitation created the material conditions around which Native Americans organized their cultural, social, and political institutions. From the very first, heat and changes in temperature mattered for southern history. It created a South.

The climate of the American South has never stood still. Tidy terms like “Ice Age” and “Holocene,” covering as they do massive sweeps of time, have a tendency to smooth over the sometimes tumultuous vacillations that create the peaks and plummets of climate data graphs. To excavate these climatic fluctuations is to uncover a confusing timeline of warming and cooling trends that the jargon-laden language of climatologists only further obfuscates. Even the roughest overview demands the introduction of a vexing set of interconnected global atmospheric and oceanic processes that
environmental scientists themselves do not fully understand (despite the confidence with which they write). And perhaps most frightening, attempting to uncover the paleoclimatological record requires traveling into the murky past where the relationship between climate and culture is speculative at best, where a paucity of evidence forces social scientists to employ correlation as causation. Writing as a historian bent on uncovering these climatic changes and what humans thought of them, but set against using this same jargon, makes historicizing climate before the advent of a written record difficult. But despite the tedium of such an exercise, reconstructing the climate of the South and pondering its effects on the earliest southerners is necessary to appreciate the complexity of the relationship between people and their climates over the long span of southern history.

The climatic record of the period since human beings wandered into North America reveals a messy and inconsistent relationship between heat and humanity. At times, relatively higher temperatures facilitated travel and movement. In other instances, though, cold offered opportunities for humanity to expand across the globe. All things considered, though, academics concur that warmth generally made life easier for people. Higher temperatures meant more vegetation and thus more food. Warm periods saw population density increase and often witnessed the emergence and expansion of distinct cultural patterns. Conversely, cold created food insecurities, dispersed populations, and at times pitted groups against one another in a competition for scarce resources. And the advent of agriculture in the American Southeast some 3,000 years ago only amplified natives’ sensitivity to climate fluctuations. As the welfare of large communities came to depend more on steady harvests, decreases in temperature could lessen the yield and
threaten starvation. In no uncertain terms, paleo-southerners’ climate had a measurable effect on their lives.

Beginning 40,000 years before present (−40,200 BC), Asiatic peoples took advantage of a general cooling trend to emigrate to North America. During this last glacial event of the Pleistocene, which began 117,000 and ended only 11,900 BC, the majority of the world’s water was concentrated in ice sheets at the Earth’s poles. As a result, land bridges like the Bering Strait emerged from the oceans and allowed passage between continents. Because of a dearth of ocean water, the atmosphere contained substantially less moisture than at present. With precipitation low and cold curtailing vegetative growth, these peoples relied on hunting, and they followed their prey, megafauna like mammoths and bison, onto the continent.\textsuperscript{43}

Some 18,000 years ago, the earth began to warm. The two massive ice sheets that blanketed most of the North American continent started to recede, initiating substantial environmental shifts that lured animals and those who hunted them southward. The moisture that had been locked in glaciers found its way to the air, and precipitation increased. Less aridity meant more tree cover, and spruce- and pine-dominated forests covered much of what is now Tennessee, South Carolina, and Oklahoma, while savanna grasslands and steppes covered areas closer to the tropics.\textsuperscript{44} These conditions offered people more opportunities for foraging, which supplemented hunting in their diets. The


animals on which humans preyed also preferred such environments, and they began the move southward in search of their own food supply. By some estimates, humans were in the North American southeast as early as 13,450 years ago.45

As the ice sheets retreated, though, the Pleistocene climate hardly saw linearly increasing temperatures. The spikes and plummets of the temperature record likely stymied paleosoutherners attempts to adjust to a changing climatic regime, though such arguments are purely speculative. There does exist, though, a general agreement that cooler periods would stress the food supply in regions with a high population density. Thus, it is not surprising that a period of intense cold (possibly 5°C cooler than twentieth-century averages) that occurred at the very end of the Pleistocene, beginning some 12,900 years before present (BP) (climate scientists have come to know this downturn in temperatures as the Younger Dryas) coincided with a time of wide-ranging dispersion of populations across the entire Southeast.46 Archaeologist David G. Anderson, one of the foremost experts on the pre-historic and early historic history of eastern North American natives, has spent a career in conversation with paleoecologists and paleoclimatologists piecing together a timeline that considers the relationship between climate and culture in the late Pleistocene and early Holocene. Anderson believes that while the climate at the end of the last Ice Age often warmed and cooled, this particular shift was particularly violent, with temperatures plummeting within only the course of a few decades. He also


explains that the Younger Dryas ended as suddenly as it began, with average annual temperatures rapidly rising as much as 7°C beginning around 11,500 years before present. Anderson speculates that as a result of this warming, Indian populations expanded and hunting technology improved substantially.\(^{47}\) It was this warming trend that caused the Pleistocene to give way to the most recent geological epoch, the Holocene (which climatologists date at \(\sim\)11,700 BP).

![Timeline of Pleistocene and Holocene Periods](image)

**Figure 1**  Timeline of Pleistocene and Holocene Periods  
Author’s own creation.

The initial warming of the early Holocene initiated terrestrial and climatic changes that altered the diets and organizational structures of archaic Indians. Increasing forest cover offered an even greater supply of potential food plants.\(^{48}\) At the same time, a combination of changing temperatures and human pressures led to the mass extinction of

\(^{47}\) Ibid., 157.

\(^{48}\) Roberts, *The Holocene*, 81-82.
the megafauna on which the first Southerners relied for protein.\textsuperscript{49} As a result of these extinctions, smaller game like deer and rabbit replaced these animals’ roles in humans’ diets. At the beginning of the Holocene, the Eastern Woodland cultures in the South relied extensively on foraging with small mammal hunting making up the balance of their diets. \textsuperscript{50}

The onset of the Holocene, though, did not mark the start of any climatic stability. Climatologists believe that in the earliest years of this Recent Epoch, recurrent heating and cooling cycles occurred about every 500 to 800 years.\textsuperscript{51} However, archaeologists and anthropologists can only speculate how these swings affected Indian societies. Pine forests came to replace oak while cypress colonized the swampy areas of adjacent to ever slowing rivers. Freshwater shellfish populations expanded, providing another stable food source. Concurrently, sea levels rose substantially and quickly; by some accounts, by up to a centimeter a year, fueled by melting glaciers. And around 9,000 years ago, Anderson explains, the Laurentide glacier that covered Northeastern North America began its final melt. Ironically, this last retreat likely depressed global temperatures, as the melting ice cooled the Atlantic Ocean, which in turn affected oceanic and atmospheric circulation patterns. As a result, global average temperatures may have dropped as much as 3°C


\textsuperscript{50} Anderson, “Climate and Culture Change in Prehistoric and Early Historic Eastern North America,” 155.

between 8,900 and 8,000 years ago. And indeed, an increase in pine forests during this time indicates extended aridity for the next couple millennia. Archaeological evidence reveals that tribes came into increasing, and often violent, contact.\textsuperscript{52}

Around 6,000 BP, the climatic regime became similar to what humans experience today. As Anderson explains, “during this interval, essentially modern climate, sea level, and vegetation emerged.”\textsuperscript{53} From about 6,000 to 5,000 BP, marine sediment analyses indicate a relatively warm and stable climate. Climatologists have termed this period the Mid-Holocene Warm Period, but what it meant was that populations increased, habituated areas grew, and distinct and discernable cultural systems emerged. After a thousand years of warmth, though, the Northern Hemisphere saw another period of cooling that lasted between 800-1,000 years. But even these changes represent cycles consistent with today’s vacillating global temperatures. A lack of archaeological sources though, as ever, impedes scholars from drawing all but the most general conclusions. How these native peoples actually experienced and understood their climates remains unknown.

The expansion of agriculture in North coincided with another period of mild and stable weather that began roughly 3,800 years ago. As crop domestication found its way to the Southeast, the climatic history of the region came to shape the agricultural opportunities of the region’s first farmers. Never blanketed by the ice sheet that covered much of the continent, the southern half of eastern North America failed to benefit from

\textsuperscript{52} Anderson, “Climate and Culture Change in Prehistoric and Early Historic Eastern North America,”158-161.

\textsuperscript{53} Ibid., 161.
the nutrient-rich deposits that the glacial retreat left in its wake. The loess that the glaciers left imparted fertility to the soils in the northern regions of the continent, which westerly winds would eventually carry eastward, showering the Midwest with rich topsoil. The South was left out. This lack of ice cover, combined with a relatively hot and moist climate at the beginning of the Holocene, offered a mixed bag of natural possibility to the region’s earliest peoples. The longer planting season did offer more agricultural opportunities than existed elsewhere.\textsuperscript{54} And though the regions’ soils lacked the fertility of those with loess, high temperatures decayed organic matter quickly, imparting nitrogen and phosphorous in the process.\textsuperscript{55} But the gains higher temperatures offered were matched, and perhaps outmatched, by the agricultural disadvantages of heat. The lack of glaciation meant the soil of the South was older than in other parts of North America. Increased age offered the potential for nutrients to drain out of the soil, and the heat and rain of the South only exacerbated the process. The lack of winter freezes during warmer periods impeded the opportunity to hold in place the nutrients associated with decomposition. Southerners capitalized on the longer growing season, compensating for the lack of fertility by practicing slash-and-burn agriculture that enriched the soil, at least in the short term.\textsuperscript{56} However, because of the prolific environment of the Southeast, foraged vegetation continued to constitute the primary diet of these natives.

\textsuperscript{54} Steinberg, \textit{Down to Earth}, 7; Cowdrey, \textit{This Land, This South}, 2-3.

\textsuperscript{55} Silver, \textit{A New Face on the Countryside}. 48; Steinberg, \textit{Down to Earth}, 18-20.

\textsuperscript{56} Cowdrey, \textit{This Land, This South}, 2.
All of this evidence from geology, climate science, and archaeology seems to boil down to a simple conclusion: cultural advancement followed heat. Historian William C. Foster summarizes that observation, saying that “even a casual reading of the social impact of climatic oscillations…clearly illustrates that human societies have consistently benefitted enormously during warm climatic episodes in contrast with colder periods.”

Others agree. Take, for instance, a localized warm period situated around the southern portion of the Mississippi River (known, commonsensically enough, as the Mississippi Basin Warm Period) that from around 3800 BP to 3000 BP. Archaeologist Tristam R. Kidder argues that this period saw the emergence of perhaps the largest and most complex late-Archaic cultures in the South. Kidder has written that archaeological excavations of Poverty Point in northern Louisiana offer the “complex site architecture…(including mound and earthwork construction), highly diverse artifact assemblage, evidence for extensive long-distance trade and exchange in a variety of lithic items, distinctive microlithic tool industries, lapidary art, and the use of clay cooking balls,” all of which he considers characteristics of sophisticated societies. Anderson agrees. “During this interval,” he offers, “essentially modern climate, sea level, and

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57 Foster, *Climate and Culture Change in North America AD 900–1600*, 52.

58 Tristram R. Kidder, “Climate Change and the Archaic to Woodland Transition (3000-2500 Cal B.P.) in the Mississippi River Basin,” *American Antiquity* 71, no. 2 (2006): 199. Kidder offers a full overview of the debate regarding gradual versus abrupt change in the introduction to the article, while Foster offers a survey of the literature that supports Kidder and Anderson’s arguments.
vegetation emerged. Mound construction, long-distance preside-good exchange, and warfare expanded, culminating in dramatic cultural expressions like Poverty Point.”

Just as a warm and stable climate proved conducive to cultural advancement, the lower and more erratic temperatures in the following period very likely initiated a significant decline in complexity and population. Thomas Kidder contrasts the society that developed during the Mississippi Basin Warm Period with the subsequent early woodland societies that developed 3000-2300 BP, another period of low, though constantly vacillating, temperatures that climatologists have termed the Sanibel 1 Low. He argues that an examination of the archaeological and climatic record together reveals that a drastic downturn in temperatures around 1,000 BC coincided with a collapse of Poverty Point culture in the American Southeast. Kidder hypothesizes the cooler and decidedly wetter conditions in the Mississippi River Basin resulted in more flooding, which in turn substantially altered regional land use patterns. Frequent inundations caused a significant population dispersal, and generally harsher conditions saw a population decline. Summarizing the work of Kidder and Anderson, William C. Foster states that “around 1000 BC in eastern North America, lower population densities are recorded along with a more limited range of settlements, reduced long-distance trade, and limited architecture and artifact diversity.”

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59 Quoted from Foster, Climate and Culture Change in North America AD 900–1600, 11.

60 Kidder, “Climate Change and the Archaic to Woodland Transition (3000-2500 Cal B.P.) in the Mississippi River Basin,” 220-221.

61 Foster, Climate and Culture Change in North America AD 900–1600, 12.
While much of North America’s pre-contact history continues to be the stuff of speculation, a greater body of written records across the Atlantic offers firmer evidence of the that warm temperatures fostered cultural advancement. From around 250 BC to 400 AD, what is known as the Roman Warm Period saw, in Europe, the birth of western civilization in the ancient Greek and Roman world. During this period, long-distance trade networks re-emerged and an intensification of plant domestication occurred.62 During the subsequent downturn in temperature from 400 to 900 AD, or the Early Medieval Cool Period, Europe saw the onset of the plague and a severe mortality rate that resulted in a substantial population decline. Scholars of North America use these findings to buttress their own assertions. Basing his contentions on Anderson’s archaeological research, Foster argues that analogous circumstances appeared in North America. “During the cool and mesic period” in the 500 years leading up to 900 AD, he states, “many parts of North American and Europe exhibited evidence of depopulation, changes in land use, large-scale population relocations, and a reduction in organization complexity.”63 Further evidence of local stress is found in increased violent interaction between tribes.64

With the onset of higher summer temperatures beginning about a century before the turn of the millennium, though, southern societies rebounded. The Medieval Warm P

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63 Foster, Climate and Culture Change in North America AD 900–1600.13.

64 Anderson, “Climate and Culture Change in Prehistoric and Early Historic Eastern North America,”163.
Period (MWP), lasting from about 900 to 1,300 AD, saw an increase in global temperatures. In the American Southeast, warmer weather allowed Indians to concentrate their population into larger horticultural communities, as mild and long summers extended the growing season and population was able to condense and grow without overstressing the environment. In addition to cultural developments, like new forms of pottery, Indians also increased their maize cultivation throughout the Mississippi River Valley. Presaging later developments, tenth-century Natives in Georgia began constructing massive mounds as ceremonial centers to anchor the urban population. Mound building, an indicator of both social complexity and population growth, found its way to the Mississippi River Basin the next century, most intensively just outside of modern day St. Louis, Missouri. In the coming centuries, Cahokia would grow to become one of the most important urban centers in the American South, from which the Mississippian culture expanded outward.

In no uncertain terms, The Medieval Warm Period facilitated an expansion of the agrarian economy of the Mississippian peoples. William Foster, in synthesizing the works of cultural anthropologists and archaeologists, argues that “the Cahokia cultural emergence was fueled by a robust agrarian economy that produced surpluses of tropical maize, beans, and other cultigens.” But it was not the heat alone, argues anthropologist Timothy Pauketat, that gave rise to the boom. The onset on the MWP, especially in the

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65 Foster, *Climate and Culture Change in North America AD 900–1600*, 31.

66 Ibid., 35.

67 Ibid., 46.
eleventh century, was not only warm but also wet. The MWP draped the Southeast in a moist heat that aped tropical conditions, allowing for the intensification of tropical maize production throughout the region. Surpluses of this cultigen paved the way for intense urbanization, and by century’s end, the city of Cahokia was home to some 30,000 peoples, making it the largest population center in North America.68 The sophistication of this and other Mississippian societies was unparalleled in North America. Archaeologist John F. Scary describes this collection of chiefdoms as “the most complex aboriginal societies north of Mexico.”69

Cahokia was not alone in rapidly expanding during the first years of the MWP. Mound building continued to spread across the Southeast. By the eleventh century, Black Warrior Valley Indians in Alabama were building mounds.70 By the twelfth century, natives near Etowah and Irene, both in Georgia, had begun building impressive urban structures.71 In both places, populations increased, architectural feats grew more impressive, craft production intensified, and local food was easier to come by. And, perhaps most importantly, during this warm period agriculture in the South grew


70 Foster, *Climate and Culture Change in North America AD 900–1600*. 48.

71 Ibid., 62.
drastically. By 1100 AD, maize cultivation supplanted gathering as the primary source of nutrition in most southeasterners’ diets.72

During the second half of the twelfth century, though, a change in precipitation in some parts of North America coincided with the deterioration of cultural developments. The moisture that created nearly tropical conditions for the Mississippi River Basin began to dry up starting around 1,150 AD. Tree ring analysis suggests that during this time Cahokia often witnessed extended periods of drought, which stressed the recently expanded population. Trade decreased, and Cahokia itself became less populous and important as a cultural center.73 These changes initiated a long period of decline for Mississippian culture that continued into the next century, even as horticultural communities elsewhere in the Southeast continued to enjoy both heat and humidity.74 Indeed, the Caddoan peoples of East Texas began to build mounds more aggressively and improve made increasingly sophisticated pottery, though they continued to rely on foraging except in hyper-local regions.75 Maize cultivation intensified during the thirteenth-century Alabama and Georgia as well. At Moundville, just outside of Tuscaloosa, Alabama, maize made up some sixty-five percent of the people’s diets.76

72 Ibid., 48.
73 Ibid., 60-61.
74 Ibid.63.
75 Ibid., 76.
76 Ibid., 83.
Archeologists cite the period from 1,250-1,300 AD as being a time of rapid population growth and mound construction for natives in Etowah, Georgia as well.⁷⁷

It was during the hottest period of the MWP, or what climatologists call the Climatic Optimum, that the histories of peoples on both sides of the Atlantic became increasingly intertwined. Indeed, the MWP in the New World had effects that redounded to the Old. American and European climates are incredibly interdependent because of their common Atlantic shorelines. Both are at the mercy of a set of ocean-air interactions that, if they do not actually cause global temperature trends, are still affected by them. More than any other process, the thermohaline circulation (THC) speaks to the complex relationship between the east and west coasts of the Atlantic Ocean. Often described as the oceanic conveyor belt, the THC is the aquatic equivalent of Gulf Stream winds. But rather moving air from west to east across the Atlantic, the THC moves warm, equatorial waters first northward along the east coast of North America and then easterly, bringing warm water and weather to the western coast of England before hitting the Arctic circle. On its journey, it becomes increasingly intermixed with denser, colder water that depresses the temperature, sending it southwesterly back towards northern North America. The effects of the THC are analogous with the Gulf Stream; New England is chilled, and England itself is spared from impossibly cold winters.⁷⁸

Climatologists speculate that the MWP accelerated this movement of water, increasing its speed and volume, which caused water moving northward to chill at a

⁷⁷ Ibid., 85.

⁷⁸ Cowie, Climate Change, 136.
slower pace. Warmer waters than typical pummeled the ice sheets of the Arctic, causing glacial retreat. Melting ice created a positive feedback loop, as the glacier-less seas cooled the water less effectively. Likely as a result, southeastern North America and western Europe experienced milder winters and an overall more stable climate.\textsuperscript{79} The longer growing season in Europe even nourished a population boom, which in turn stressed the regions’ resources. This was especially acute in northern Europe, where a longer growing season did little to improve miserly soils. As competition increased, some opportunistic Norsemen took to the recently thawed seas. The culmination of these voyages came with Viking landfall in Newfoundland a thousand years ago.\textsuperscript{80} And during this time, other European peoples began exploring the globe with both increased vigor and, thanks to considerably less ice in the North Atlantic, more opportunity. Concurrently with the Nordic expeditions, several other western European societies began learning the science of seafaring. Soon, Spanish, Italian, and Portuguese sailors learned how to cross massive expanses of ocean, setting the stage for the fifteenth-century Age of Exploration that would knit together North America and Europe for the first time in 40,000 years.\textsuperscript{81}

The fourteenth century, though, marked the beginning of the end of the MWP. While overall trends in both Europe and North America indicate a cool and wet hundred


\textsuperscript{81}Ibid.
years, decade-long droughts and occasional returns to warmer conditions dot the tree-ring record. Thus, the waning of MWP caused schizophrenic weather that placed considerable strain on the larger urban centers of the American southeast. During this century, Cahokia’s influence, already in decline because of drought, fell precipitously. In its place, regional chiefdoms in Alabama, Mississippi, and Georgia exerted more cultural influence over the region, and their social power that peaked in the fourteenth century. As the cold moved farther south, though, so too would these groups exhibit cultural deterioration. 82 Even before Europeans arrived in North America, bringing with them the biota that would decimate their populations, native populations in the Southeast were on the decline.

This global cooling trend destabilized societies on both sides of the Atlantic. By the fifteenth century, a set of still somewhat mysterious global processes, including ocean and atmospheric circulation and solar conditions, conspired to cause what appears to be a five and a half century decrease in global mean temperatures known as the Little Ice Age (LIA). 83 Overall, temperatures trends indicate averages means as low as 1°C less than the twentieth-century average. 84 Within a short time frame, the climatic stability of the MWP seemed to devolve into moody and unpredictable weather. 85 Already stressed by population booms, Europeans now also had to contend with erratic changes in planting

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82 Foster, *Climate and Culture Change in North America AD 900–1600*, 89-90.

83 For more on the Little Ice Age and its impact on history, Fagan, *The Little Ice Age*.


seasons. This anxiety renewed their interest in the seas, and in so doing inaugurated the most significant ecological episode in history.

The Columbian Exchange had a devastating effect on indigenous populations in the Caribbean, North America, and South America. Some climatologists hypothesize that the New World demographic collapse further contributed to climate change. For centuries, South American Indians cleared and cultivated vast swaths of forest land. During the MWP, their populations grew and the practice expanded as massive areas lost their cover. After the introduction of endemic disease, their incredible population decline led to a period of aggressive reforestation. Though a somewhat contentious idea, some climatologists have argued that the increased arboreal cover created a global carbon sink that effectively lowered mean temperatures across the globe.\textsuperscript{86} This was the context in which the first European encounters with the Indians of Southeastern North America took place. Theirs was a rapidly changing world, thrown into disarray by climatic forces that limited food. This stress, combined with erratic weather, created an anxious setting for which initial contact to occur.

Since their arrival in North America, humans existed at the mercy of their climates. Their daily weather never determined their actions, but it did alter their possibilities and thus, shape the ways in which they adapted to changing circumstances. And their actions, too, affected both their microclimates and the larger temperature record of the Northern Hemisphere and even the globe. Thus, no simple causal explanation is sufficient in describing the ways in which climate molds culture. A recognition of the

\textsuperscript{86} Fagan, \textit{The Little Ice Age}, xvi; 56-69.
interdependence of heat and humanity over time, though, increases an appreciation for the complexity that characterizes the relationship between people and their climatic circumstances. After Europeans set foot in the American Southeast, the history of heat shifted dramatically. Europeans brought more than their portmanteau biota.\textsuperscript{87} They also imported ideas about the nature of high temperatures and assumptions about how the climate of the North America should behave. Thus, it becomes possible to investigate not only the material relationship between climate and culture but the intellectual dimensions of the history of heat as well.

CHAPTER III

IMPERIAL HEAT

“It is impossible to succeed in matters and businesses like this that are so huge in themselves, particularly in those northern parts where the natives are very fierce and the land is very cold, and different arrangements and equipment are needed there from the ones suitable down here further south.”

Gonzalo Fernandez de Oviedo, Historio Genereal y natural de las Indias, 1535

“The sommer is hot as in Spaine; the winter colde as in Fraunce or England.”

John Smith, The History of Virginia, 1607

In 1535, Gonzalo Fernandez de Oviedo, whose Historio Genereal y natural de las Indias chronicled Spanish exploration in the New World up to that time, took his nation’s colonizers to task. When he wrote, Spanish success outside of Mexico and the Caribbean was scant, and efforts to create permanent, self-sustaining colonies on the Atlantic seaboard and the Florida peninsula had failed miserably. These disastrous attempts demanded explanation, and Oviedo searched for answers as to why their holy missions of Christianizing and colonizing the North American had ended so poorly. The confusing climate of southeastern North America, he thought, certainly played an important role. He described the “northern lands” of present day North Carolina and Florida as “very

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cold,” a characterization that ran counter to their expectations of heat and abundance.  

For Oviedo, who wrote from the comfort of an established settlement in Havana, the parcel of land extending from the tip of the Florida peninsula to the Chesapeake seemed a terrifying, icy wasteland—the frigid “northern parts” of Spain’s empire. Its climate set the region apart, a foil to the more equatorial conditions of the Caribbean.

Yet within a century, English colonists in Carolina and Virginia would consider the land as a place both intemperately cold and exceedingly hot. Unlike the Spanish, the English felt that the excessively high temperatures doomed their colonial ambitions as much as gelid winters. As they struggled to accommodate themselves to the new environment, they came to fear the heat, understanding it as a portent of the summer fevers that gripped the colony each year. Indeed, while Virginia’s first colonists experienced death and illness as a result of both summer heat and winter freezes, the former emerged, by the first decades of the seventeenth century, as the primary distinguishing characteristic of the region.

These divergent ways in which the Spanish and English understood the climate of the North American Southeast underscore how ideas about the environment were relative, shaped by expectation, experience, and colonial ambitions. Appreciating that contingency reveals that what is now considered the hot South was not always hot nor southerly, but rather the region’s reputation as such developed over time. Indeed, over the course of more than a century, Europeans’ experiences in the North American Southeast, the nature of their colonial projects, and their attempts to better understand erratic and vexing

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weather caused the climate to emerge as a problem, and as such, a partition that set a poorly-understood and ill-defined corner of the continent apart from other colonial environments. This chapter traces the process by which the cold North transformed into the hot and sickly South.

Examining how these first Europeans experienced and understood the heat of the North American Southeast requires scrutinizing firsthand accounts of travelers in tandem with promotional literature designed to entice settlement and secure financial backing for colonial projects. Arraying these sources alongside each other offers a messy and inconsistent view of southern heat, as the former often portrayed the landscapes they explored as frightening and harsh while the latter offered Edenic portrayals of temperate and healthy climates that promised tremendous agricultural bounty. Yet keeping these sources, however contradictory, in conversation reveals much about how the first Europeans interacted, mentally and physically, with their environments, and how in turn the climate itself shaped their colonizing. For the first century and a half of European contact, Spanish, French, and English colonizers held an imperial view of the climate. They assumed that the regions would offer both health and wealth, and early experience to the contrary did little to dislodge this idea. Prolonged contact eventually required honest assessments of the regions’ environs, though, as rosy characterization of the land obscured the pragmatic considerations required to sustain colonial efforts. Over time, the imperial gaze that cast heat as an asset had to come to terms with the physical drawbacks to high temperatures. The result was a new understanding of the heat of Southeastern North America as both advantage and disadvantage, one that offered both economic
Prosperity and physical harm. That understanding, though, took over a century to develop.

Indeed, long before Europeans traversed the western ocean, the heat of the southerly North Atlantic constituted source of considerable anxiety for potential colonizers. Much of their worry originated in classical medical thought, which taught that human beings were products of their climates, and thus, adapted only to the temperature of the region into which they were born. They based this belief on humourism, or the theory advanced by Hippocrates (among others) that held that humans’ balance of bodily fluids existed as a product of their environmental situation. For early-modern thinkers, illness occurred as as a result of an imbalance of these elements. As such, travel to a climate for which their bodies were not calibrated threatened disease and death. This fear that they may not survive equatorial exploration colored the experience of the first trans-Atlantic voyagers. 91 Christopher Columbus’s own notes reveal that he worried about whether it was even possible to traverse the torrid zone. Only after much consideration did he declare that he believed the tropics to be “all navigable despite the excessive heat.” 92

The actual conditions that Columbus encountered in the Caribbean shocked him. He expected near fatal heat but found instead that the climate of Hispaniola was not only habitable but downright pleasant. Even accounting for the propagandistic motivations, he

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91 For more on European anxiety about high temperatures, see Karen Ordahl Kupperman, “Fear of Hot Climates in the Anglo-American Colonial Experience.”

wrote with genuine surprise at the verdant, temperate, and “very mild” character of Hispaniola and the surrounding islands. An admiral echoed Columbus’ astonishment when he described a Cuban port as resplendent, calling it the “best in the world, with the finest climate.” The temperature of the islands so stunned Columbus and his men that they spent time speculating as to why the islands were so temperate, finally reckoning that mountains tempered the excessive, tropical heat they expected by casting shadows and generating winds. But whatever the reason for the agreeable conditions, they so impressed Columbus such that he claimed “that there can be a more fertile country nor a better climate under the sun.”

Modern climatologists do not cite shadows, though, when speculating about the pleasing Caribbean temperatures Columbus experienced. Though considerable debate remains as to the effect of the Little Ice Age on lower latitudes, the earliest European explorers did sail during a period of relatively cool global temperatures. However, some climatologists believe that the tropics may have been somewhat insulated from this downward swing. Because water heats up and cools down more slowly than earth, the land-heavy Northern Hemisphere above the Tropic of Cancer is more sensitive to

93 Christopher Columbus, *The Journal of Christopher Columbus (during His First Voyage, 1492-93) and Documents Relating the Voyages of John Cabot and Gaspar Corte Real* (London: Hakluyt Society, 1893), 44.

94 Ibid., 69.

95 Ibid., 85.

96 Ibid., 91.

temperature shifts than islands closer to the equator; climatologists refer to the “long thermal memory” of water relative to land. The ocean, then, acted as a thermal buffer for the islands, with the higher ratio of ocean to island lessening the temperature shift. These same climatologists also explain that the location of Atlantic pressure systems during the Little Ice Age also likely swept cold, turbulent air across the eastern faces of many of the Caribbean islands, including Cuba and Hispaniola, further tempering their climates. The result was a prevalence of cooling breezes but not a sizable drop in overall temperature, which would account for the pleasant but warm conditions Columbus and his company described. But, most importantly, it also exaggerated the difference between the climates of continental North America and the nearby Atlantic islands. Early experience in the Caribbean may have calmed fears of heat in the torrid zone, but it led conquistadors to expect—incorrectly—similar conditions on the continent just miles off Cuba’s northern shores.

Because Florida’s weather and climate differed drastically from what the islands conditioned the Spanish to expect, contact with the continent produced confusion that grew into outright anxiety. Contributing to their bewilderment was a failure to understand

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99 Ibid., Brian Fagan, *The Little Ice Age: How Climate Made History 1300-1850*, 47-49. During the Little Ice Age, the thermohaline circulation slowed significantly, causing what climatologists refer to as a negative North Atlantic Oscillation. Though these high and lower pressure systems often fluctuate, climatologists associate the lethargic thermohaline circulation and the Little Ice with extended periods of a negative north Atlantic Oscillation.

that Florida was a peninsula, a protrusion of a larger continental mass. Indeed, the Spanish believed that La Florida was not only climatically similar to the Caribbean but that it was an island. Seventeenth-century historian Antonio de Herrera explained that the first reconnaissance voyages sailed under that assumption, and that not until a half-century later did the Spanish come to understand that it was part of North America with a climate at the mercy of westerly winds that brought continental weather to the peninsula.\footnote{Quinn, \textit{New American World: A Documentary History of North America to 1612} vol. I, 235.} So while the Spanish expected Florida to resemble “daughters to Cuba or Hispaniola,” what they found was a climatic circumstance wholly different than anything they had ever experienced.\footnote{Ibid., 234.}

Oviedo cited these misunderstandings as contributing to colonial failures in the South, paying special attention Ponce de Leon’s 1521 foray into Florida and Lucas Vázquez de Ayllón’s 1522 exploration in and around Cape Fear, North Carolina. In both cases, the conquistadors expected the heat and bounty of the islands but found instead only cold and scarcity. Oviedo claimed that de Leon’s lack of success was because, at least in part, “the temperature” of the region proved both “very unsuitable and different from what he imagined.”\footnote{Ibid.} He said much the same of Ayllón, explaining that because the crew sailed “from the islands,” they assumed that the eastern seaboard of North America would look and feel quite the same. Yet they found the Cape Fear region instead to be “very cold,” and Oviedo ascribed the weather to the illness and suffering these
parties experienced. The extreme conditions, death, and disease so worried Ayllón’s sailors that they mutinied. Explaining why they decided to overthrow the expeditions leaders, they claimed that they were “displeased with the land.”\textsuperscript{104}

Even once disabused of the idea that the lands farther North were climatically analogous to the West Indies, the Spanish still continued to believe that the American Southeast was temperate and warm, and that both the peninsula and the southeastern seaboard of North America would furnish the products of southern Spain and the Mediterranean.\textsuperscript{105} The Spanish, like most others in the Western world at the time, felt that location along the Earth’s north-south axis determined the climate and thus the agricultural output of a place. Indeed, the Greek word for climate, \textit{Klima}, translates to slope, indicating the close relationship between the latitudinal plane and temperature and precipitation conditions that existed in the western mind.\textsuperscript{106} The Spanish government even inscribed that assumption into their colonial mission. In 1523, Spanish King Charles V wrote of the lands between 35° and 37° north (the lands roughly between the southern border of Tennessee and North Carolina and the northern border of Virginia): “according to the location and region in which the said land is…it is believed and considered sure to be very fertile and rich and apparently suitable of settling.”\textsuperscript{107} Settlement would be easy,

\textsuperscript{104} Ibid., 261.

\textsuperscript{105} For more on latitudinal determinism, see Fleming, \textit{Historical Perspectives on Climate Change}.

\textsuperscript{106} For more on the evolution and meaning of climate in the early-modern Western world, see Rodger Fleming and Jankovic, “Introduction: Revisiting Klima.”

they figured, as the country would resemble regions known to be warm and bountiful. Their eventual realization that that these conditions did not exist made the New World climate distinct, singular in both its erratic weather and its failure to adhere to what they knew about the nature of the global climate.

That eventual awareness proved doubly troublesome because the Spanish colonizers also felt that the flora and fauna offered proof of the regions’ climatic similarities in ways that seemed to confirm latitudinal determinism. The coastal environments that greeted the Spanish upon landfall on the continent bred vegetation that indicated near-tropical conditions. Traipsing around what ecologists now call the “mixed-maritime” vegetative zone of the Atlantic seaboard and Gulf Coast, explorers noted plants comparable to those in Spain and the Mediterranean, re-enforcing their mistaken belief that the regions did indeed have analogous climates.  

Cabeza de Vaca, for instance, wrote of the “palmitos, which are like those of Andalusia.” A member of the 1539 Hernando de Soto expedition described “palm cabbages in low palm trees like those of Andalusia.” Other vegetation farther inland, in the mixed hardwood forests of the coastal plain, also offered hope that they were colonizing a warm land. The same conquistador wrote with joy at finding that “the walnut trees do not differ in any other way from those of Spain, nor from those seen before except only in having a smaller

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110 Ibid., 107.
leaf.” In addition, he reported that he found “many mulberry trees and plum trees having red plums like those of Spain, and others gray, differing, but much better.” In addition, the perpetual greenery of the landscape, which the explorer described as “verdant all year,” indicated that it may be exempt from winter, furthering their belief that they had found a near tropical climate that mirrored that of the Mediterranean. 111 Descriptions like these reached the Crown, causing the Spanish king to wholly believe that the temperature and agricultural potential made the land familiar and profitable. After all, he reasoned, “in it there are many trees and plants like those of Spain.” 112

Yet for all the evidence offered by similar vegetation, their primary experience ran directly counter to what they expected. The climate was not only distinct in its cold but also singularly terrifying. 113 De Vaca’s travelogue is dotted with asides about the frigid conditions, with lines like “the Country [was] very cold,” and “the weather was very cold” peppering his memoir. He wrote, too, of the effects of the “severe” cold, explaining that during one fall the bodies of him and his party were “so emaciated the bones might be counted with little difficulty” and that the cold had turned the group into “perfect figures of death.” 114 He wrote also of how the frigid conditions caused his men

111 Ibid., 129.


113 For more on the Spanish shock at finding the region cooler than expected, see Sam White, “‘Shewing the Difference Betweene Their Conjuration, and Our Invocation on the Name of God for Rayne’: Weather, Prayer, and Magic in Early American Encounters,” The William and Mary Quarterly 72, no. 1 (2015): 33–56.

to “one by one…die of cold and hunger.”\textsuperscript{115} He also expressed surprise at the autumn chill. Though his party considered winter “the most inclement of the seasons,” he wrote that even in September and October he and his men camped under canoes to “ward off the cold.”\textsuperscript{116} Even as the party moved closer to New Spain, in San Antonio, Texas, the threat of cold loomed. There, the threat of northerlys—impossibly cold blasts of air from the north—were so icy that “even the fish within the sea freeze from the cold.”\textsuperscript{117} The cold, hellish, and tempestuous environment scared the conquistadors. Oviedo, in summarizing firsthand accounts of the expedition, reported that the party witnessed “both snowing and hailing at the same time,” saying that the climate was “as serious as anyone can imagine.”\textsuperscript{118} The cold and hunger were so great that they even resorted to cannibalism. In the frigid lands of the Gulf, after nearly “everyone died…from cold and hunger…some of them even ate others,” the historian recounted.\textsuperscript{119} Cold also featured especially prominently in the accounts of the de Soto expedition, members of which spent four years traversing the coastal and inland South. A member of de Soto’s party described a frigid March of 1539 in Alabama, saying that “there they endured great suffering from the cold,” for which their only relief came from burning massive fires. “The whole night was passed,” he complained, “turning from one side to the other

\textsuperscript{115} Ibid., 35.
\textsuperscript{116} Ibid., 34.
\textsuperscript{117} Ibid., 68.
\textsuperscript{118} Ibid., 68.
\textsuperscript{119} Ibid., 70.
without sleeping, for if they were warmed on one side they froze on the other.”\textsuperscript{120} The cold seemed to transcend the seasons for this party, too. Oviedo wrote of “heavy frosts and cold” in central Alabama during the fall of 1540.\textsuperscript{121} In South Carolina, they were surprised to find themselves, “suffer[ing] from severe cold, although it was the 26th of May.”\textsuperscript{122} The climate raged down on these parties, sending them not only cold but inclement and inexplicable weather of unrivaled intensity. Little wonder they considered it a land apart.

For all their references to cold, though, they paid little to no attention to summer heat. While cold could doom an expedition and threaten the health of the party’s members, they considered high temperatures, at most, as an annoyance. As such, heat received only passing attention. De Vaca, for instance, mentioned it only indirectly, describing what he knew to be elements of a hot environment rather than heat itself. Most often, this comes in the form of complaints about insects. He wrote that “mosquitos of all sorts…abundant in every part of the country” nettled his men. “They poison and inflame,” he complained, “and during the greater part of the summer gave us great annoyance.” De Vaca also complained about sunburn, saying that “the sun and air produced great sores on our breasts and shoulders, giving us sharp pain.” Not until he came to the Sinaloa River region of Mexico did de Vaca directly mention the heat, saying

\begin{itemize}
  \item[Ibid., 126.]
  \item[Ibid., 178.]
  \item[Ibid., 171.]
\end{itemize}
that there “the climate is hot; even in January the weather is very warm.”\textsuperscript{123} Like de Vaca, de Soto’s men considered heat little more than an irritant, and mentions of high temperatures came in the form of trivial complaints about relative discomfort. A member of De Soto’s party recalled that, on Mississippi River in Tennessee, they established camps “among some trees” to avoid the heat, which he described as “very great.”\textsuperscript{124} At another point, he wrote that “great heat” compelled a member of the party to make camp “in an open forest of luxuriant and lofty trees near a brook.”\textsuperscript{125} Mosquitos amplified the discomfort of summer warmth for this group as well. In the summer of 1542, a member of de Soto’s expedition complained that the party had “to endure an insufferable torment from the myriads of mosquitoes which came upon them and which caused an irritation whenever they stung as if they were poisonous.”\textsuperscript{126} Annoying though it was, heat did not substantially worry the party. Despite the fact that de Soto himself perished from a fever in May of 1542, surviving documents reveal that the Spanish did not consider the land uniquely hot, or even overly warm, in the least.

Indeed, this first wave of explorers found a confusing landscape that seemed to offer no mineral or agricultural bounty and sent many of the colonizers to a frigid grave. But the optimism of the imperial gaze proved resilient. Despite decades of experience and failures in the region, in 1558 the Spanish crown dispatched Tristán de Luna y Arellano

\textsuperscript{123} Ibid., 53.
\textsuperscript{124} Ibid., 129.
\textsuperscript{125} Ibid., 144.
\textsuperscript{126} Ibid., 154.
to attempt, yet again, to create a settlement on the Gulf Coast. His expedition, like those before, began with a sanguine appraisal that the climate was essentially Spanish and conducive to both health and wealth. A reconnaissance ship that sailed in advance of the expedition found Mobile Bay to be “very healthful and has the climate of Spain both in respect to rain and in occurrence of cold.”¹²⁷ But the reality of the situation soon set in. Just after spying the potential port, the ship returned to Cuba “because the winter was very severe and [the Captain] was running great risk.”¹²⁸ The next year, de Luna and company were in the interior of the country, schlepping across the Florida panhandle, Alabama, and Georgia. Low on provisions and facing widespread illness, the party worried that winter would set in before they returned to the warmer coast. If that were to happen, then, as their official complaint read, they would surely “all die.”¹²⁹ A friar on the trip appealed to Luna directly, imploring him to head for their port of entry to restock their provisions “as soon as possible…for the winter is very cruel in this country.”¹³⁰ For these Spanish, too, the North American Southeast was the intemperately cool North.

The mercurial weather of the Little Ice Age continued to make survival difficult. The camp master of the Luna expedition complained that “there are hard rains, cold, and great heat, in such intemperate succession that the clothing which the men wear does not last twenty days,” and he worried about the health of the “nearly naked and barefoot”

¹²⁷ Ibid., 205.
¹²⁸ Ibid., 206.
¹²⁹ Ibid., 230.
¹³⁰ Ibid., 236.
A summary of the de Luna expedition authored by members of the group also described the weather as confusingly erratic. Evincing how these confounding temperatures, and the failures they faced in the region, continued to set the land apart, he wrote that “the climate of this country is unequal…with extremes of heat and cold.”

But despite these swings, they considered the land, overall, a cold place, which seemed at odds with what they knew about the relationship between race and place. “The people in this country have good constitutions and appearance,” they wrote. But they puzzled over that fact that although they “live in a cool country they have as brown a color as those down there [in the Caribbean].” The people, in addition to the vegetation and latitude, led them to expect circumstances that simply did not exist. Less than a year after embarking, de Luna too failed in his colonizing mission.

Nearly a half-century of failures finally unseated the Spanish belief that the warmth and agricultural potential of southeastern North America justified costly colonization schemes. Unlike their land holdings elsewhere in the New World, the North American Southeast produced only misery and death. On the Iberian peninsula, and indeed across Europe, rumors circulated that the region was a land “full of bogs and poisonous fruits, barren, and the very worst country that is warmed by the sun.”

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131 Ibid., 249.
132 Ibid., 239.
133 Ibid., 239.
134 Quoted in Quinn, *New American World: A Documentary History of North America to 1612* vol. 2, 199. The quote itself comes from a primary account of the Coronado expedition of 1540 written twenty years afterwards.
Spanish interest waned, the French stepped in to fill the void. And like the Spanish before them, they fell victim to their own assumptions about the climate of the country. They too cited coastal vegetation and latitude as harbingers of warmth, wealth, and health. One French sailor, describing the coastline of North Carolina, wrote to his King that the forests were nothing like the “wild wastelands of Scythia and the northern countries, full of common trees” but rather that tropical “palms, laurel, cypress, and other varieties of tree unknown in our Europe” dotted the landscape. He described the air as being “salubrious and pure, and free from the extremes of heat and cold.”\textsuperscript{135} And he used latitudinal determinism, the handmaiden of the imperial gaze, to justify his assumption. Though he realized that parts of the region were “situated on a parallel with Rome” yet “somewhat colder,” he still believed latitude to be the primary determinant of weather and that the climate of the region would loosely mirror that of the Mediterranean.\textsuperscript{136}

The French understood that the rumors of cool and erratic weather circulated across Europe depressed interest in colonizing the region. In response, promoters, or those who sought to secure financial support for colonial ventures, offered an understanding of the climate that existed in contradiction to the lived experience of conquistadors and colonizers. In 1563, French explorer Jean Ribault authored a description of “Terra Florida” (for Europeans, Florida described most of the southeastern Atlantic seaboard) in which he happily reported that the land was the fairest and most

\textsuperscript{135} Quinn, \textit{New American World: A Documentary History of North America to 1612} vol. 1, 282.

\textsuperscript{136} Ibid., 282.
pleasant of “all the worlde.” He wrote that the region under the 30\textsuperscript{th} degree of northern latitude was of a “good climate,” healthy and temperate. Over and over again, he praised the nature of the weather, writing that even in the hottest time of the year Europeans suffered no sickness. And like the Spanish before him, he defined the climate against the characteristics of natives. “The people there live long and in great helthe and strength,” he offered, relating that the elderly walked without canes and ably ran as well as young men. That Ribault’s comments on native health represented commentary on the climate illustrates the degree to which Europeans collapsed natives into the environment as well as the degree to which Europeans believed the climate shaped peoples. But most importantly, it reveals that, despite experience in the region and the proliferation of firsthand accounts, the nature of the climate was still up for debate.

Ribault’s analysis proves emblematic of the propagandistic descriptions of the climate, illustrating how imperial ambitions caused authors to offer positive portrayals in order to get funding for costly and risky colonization schemes. However inaccurate, these widely-circulated descriptions were the most intimate interaction most Europeans had with the New World. As such, they fundamentally shaped not only the meaning of southern heat but also shaped the expectations of Europeans. These portrayals of southeastern North America, as manifestations of the imperial gaze, also reveal much about perceptions of the southern climate at the time. They show that despite experiential

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\textsuperscript{137} Ibid., 289.
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\textsuperscript{138} Ibid., 291.
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\textsuperscript{139} Ibid., 291-2.
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evidence to the contrary, the idea that these places would exhibit near tropical conditions continued to hold substantial purchase among most Europeans. Thus, they not only played on the myth of latitudinal determinism; they actively perpetuated it.

A common trend of such literature was to harp on the relative “pleasantness” of an area, a descriptor that referred to a number of sensorial qualities. At the most material level, pleasant connoted moderate climates, which Europeans often associated with their own Old World landscapes. But it was also a multisensory experience, referring to general comfort associated with not only feeling of temperature but also encompassed olfactory qualities that ensured good health. Many descriptions of the region mention comfort alongside sweet smells. In 1586, Rene Goulaine de Laudonnière wrote that Paris Island, South Carolina was not only as “as pleasaunt as was possible,” but was also “covered over with mightie high Oakes an infinite store of Cedars, and with Lentiskes growing underneath them, smelling so sweetly, that the very fragrant odor not only made the place to seeme exceeding pleasant.”

Laudonnière wrote of a region near the seaboard where he found “nothing else but Cedars, Palme, and Baytrees of so sovereigne adour, that Baulme smelleth nothing like in comparison,” which to his mind evinced the “pleasure of the place.” Illustrating the medical valences to this pleasantness, he wrote that even those of a “melancholicke” disposition would be “inforced to change their humour.” The southeastern climate, Laudonnière wrote, need not worry potential colonists.

140 Ibid., 296.

141 Ibid., 323.
But despite their initial impressions of the region and their optimistic assumptions, soon the climate, as it had with the Spanish before, stymied their efforts to establish a permanent settlement. Over the course of the second half of the sixteenth century, heat, tumultuous rain, and excessive wind dampened not only their prospects but also their perception of the landscape. Interestingly, it was during this time that they came to consider the land as uncomfortably warm. Because five decades of attempts caused them to expect cold, they began to remark with surprise on the heat of the region. Despite the constant refrains of pleasantness that peppered the promotional literature, Laudonnière came to find the region overly warm in the summer. He described a happy encounter with natives who supplied his party with fresh spring water, saying that they were grateful for the Natives’ help as his party “were exceeding faint by reason of the ardent heate which molested us.”¹⁴² Yet still, the French hardly considered heat the most troubling aspect of the environment. They also complained about the generally tumultuous weather that earlier Spanish explorers encountered. In trying to build a fort on the coast, they found that winds continually razed their garrisons. “Experience taught me,” Laudonnière explained, “that we may not build with high stages in this Countrey, by reason of the windes whereunto it is subject.”¹⁴³ Not only high winds, but continual rain proved problematic. Laudonnière described the “foule weather” which brought “sickness” that fall, during which it “rayned without ceasing.”¹⁴⁴ A member of his party

¹⁴² Ibid., 325.
¹⁴³ Ibid., 326.
¹⁴⁴ Ibid., 358.
recalled that “Our misery was increased by the constant rain which was so heavy that it was like travelling between two seas.”\textsuperscript{145} Indeed, “the weather was very unfavourable,” he recalled. “The wind blew and it rained continuously.”\textsuperscript{146} While heat began to become a feature of their descriptions, it was hardly the primary characteristic of the environment.

This lapse from extremely fertile to dangerous and unpredictable was common to many firsthand accounts of the period. A carpenter on the Laudonnière expedition’s first impression of the Upper South was that “without cultivation, the fields yielded sufficient to maintain the inhabitants. It appeared that this country could be made the most fertile in the world, only needing diligent and hard working men to reap the bounty and fat of the land for the use of mankind.”\textsuperscript{147} But by that fall, he wrote of constant hunger, kept at bay only “by eating what nature provided, that is to say weeds, roots, and similar things which had to satisfy their empty stomachs.” “Nor was there anything with which to quench [our] thirst,” he continued, “except old pools of muddy water, and one look at the scum which floated on it was enough to make the fittest man sick.”\textsuperscript{148} The confusing climate of the region turned a fertile land of plenty into one that threatened the health of the men and their colonial project.

As attitudes based on experience soured, the propagandistic impulse of the French stressed the positive qualities of the region with new urgency. After the Laudonnière

\begin{footnotes}
\footnotetext[145]{Ibid., 376.}
\footnotetext[146]{Ibid., 378.}
\footnotetext[147]{Ibid., 371.}
\footnotetext[148]{Ibid., 378.}
\end{footnotes}
expedition of 1564-1565, some promoters attempted to rhetorically tame the climate by arguing with increasing zeal that the landscape was a temperate one, which they believed offered a sort of compromise between the high temperature that made life uncomfortable yet produced wealth and the frigid spells that threatened the lives of colonizers. These propagandists defined temperate, at least in part, as a function of averages. At times, they employed the term to portray extremes as balancing each other in an effort to smooth the wild vacillations of actual conditions. Thus, areas could be alternately hot and cold but also temperate when the whole of the weather was taken into account. (Climate scientist Sidney Markham lambasted this notion in 1947 when he claimed that “a ‘temperate’ climate has been described as one where you freeze in winter and die of heat stroke in summer.”)\textsuperscript{149} The growth of the temperate discourse emerged not only out of a need to combat descriptions of vacillating extremes but also because increasing European experience in North America reshaped what they knew about the climate of the New World. Descriptors like “hot” and “cold” derive their meanings from comparisons. As Europeans spent more time in the tropics and more northerly areas, colonizers augmented their perspective in ways that resituated the relativistic meaning of the words. The same carpenter in Laudonnière’s company typified this line of thinking. Previous accounts, he said, were conflicting, but there was a general agreement that Florida “was able to furnish all that a man could wish on earth, for that country had received particular favor from heaven. There was neither the snow nor the frost of the raw, cold weather of the North, and it escaped the burning heat of the South.” And in tying in the tactile sensation of

\textsuperscript{149} S.F. Markham, \textit{Climate and the Energy of Nations} (New York: Oxford University Press, 1947), 179.
comfort with the multisensory experience of pleasantness, he concluded that because there “are also quite high hills, exceedingly pleasant rivers, several kinds of trees emitting a sweet smelling sap…it was impossible that a man could not find there great pleasure and delight.”

The French interest in North America, and possibly the new laudatory accounts of the southern environment, caused the Spanish to reassert their authority over their claimed territories. The geopolitical advantages of the region also caused them to consider the climate in a favorable light, reinvigorating the imperial gaze. Indeed, they remade same inhospitable weather that doomed previous conquistadors into a temperate clime. In one explanation of why the Spanish wanted the region despite a string of failed missions, one chronicler cited “the desirability of settling a land so rich and temperate, especially now that the Lutherans threatened to occupy it.”

Another justified an attack on the French by saying that it was necessary “especially at a time when so many Lutheran heretics were springing up in Flanders, Germany, France, England and Scotland, all of them lands near to Florida, which is such a large country with such a good altitude and climate for all kinds of products that it must perforce contain many good things.”

As ever, imperial ambitions shaped perceptions of the climate.

The Spanish forays that occurred in response to French settlement, informed as they were by previous experiences, took a newly pragmatic tact towards mitigating the ill

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151 Ibid., 455.

152 Ibid., 426.
effects of the environment that required honest, if grim, assessments of the climatic conditions of the New World. In 1560, the crown charged Pedro Menéndez de Avilés with establishing the colony of St. Augustine to combat the French presence. The Spanish king advised Menéndez to choose vessels suitable to the climate, encouraging the party to take several small ships but also a galleon, as the smaller boats could not contend with the heat of the region. “Because,” he explained, “shallows being small and open vessels, cannot carry the said people, and they would sicken and die with the great heat from the sun and the heavy showers there are in the said parts.”

Further climatic pragmatism appears in his instructions for constructing housing. After arriving, he told the colony’s leader that he should establish two or three settlements with 100 men each, and make sure each town had “a large house of stone, mud, or wood, according to the nature and character of the land, with its moat and drawbridge; the most substantial that can be built, according to weather and circumstances.”

These comments reveal the tension between propaganda and pragmatism. Edenic descriptions of the territory might justify colonization, but they did little to prepare the colonizers for survival.

After successfully taking the French Fort Caroline in Jacksonville, Florida, the task of the Spanish changed from conquering to defending the newly renamed San Mateo, a project for which success depended on investment. To secure funds from the Crown, the colony’s leaders pivoted to propagandistic praise. Writing to Philip later that year, Menéndez wrote that the defense of the city, which he described as “so great and of

153 Ibid., 385.

154 Ibid., 385.
such good climate,” was of the utmost importance.\textsuperscript{155} He wrote that Florida possessed a “fine temperature” that afforded all manner of agricultural opportunities. Menéndez went on to promise the cultivation of the staples of hot climates such as wine grapes, rice, silk, varieties of fruit, and sugar. He mentioned, too, the possible cultivation of hemp and the production of pitch and tar.\textsuperscript{156} To further the notion that the area resided in a temperate land, promoters drew favorable comparisons to the more tropical Spanish holdings. He described North America as “a very healthy place” while characterizing tropical islands as diseased and dangerous in the same breath. He advised the Crown, for instance, to avoid tropical islands during their trips to resupply their continental holdings, writing that “if [the supply ship] comes by way of Santo Domingo… many will die there.”\textsuperscript{157} By inviting comparison between southern North America and the more southerly tropics, Menéndez cleaved “temperate” Florida away from the potentially dangerous torrid climates further south.

Despite the efforts of Menéndez and company, the lived experience of colonizers continually undermined promoters’ efforts to portray the climate as healthy and prolific. Excessive rain, drought, and cold all characterized the European experience in North America in the second half of the sixteenth century. During the siege of Fort Caroline in 1565, French and Spanish colonizers described the unpredictable and tumultuous conditions. One account of the march toward Caroline noted frequent rain, sometimes

\textsuperscript{155} Ibid., 399.

\textsuperscript{156} Ibid., 402.

\textsuperscript{157} Ibid., 412.
lasting nearly an entire week. The night of the successful siege, too, brought storms such that “the wind and rain from heaven were such as to be a thing of wonder.” But while the period of French settlement and destruction was a wet one, the next decade proved continually dry and cold. Just a year after the siege, colonizers reported that they saw no rain for 8 months, causing cornfields to wither and the natives to lack adequate supplies of food. The dearth of rain not only strained relations with Indians on whom the Spanish increasingly relied on for food but also amongst the Spanish themselves. Soldiers stationed at San Mateo threatened mutiny, saying that they desired to return “to the Indies to live like Christians, and not remain to live like beasts in Florida.” Friars who accompanied Menéndez on his travels up and down the coast of Florida also balked at the scant and miserable conditions of the land. Menéndez dismissed their complaints, explaining how their experiences in Peru and New Spain, which was a “very fertile country,” ill-prepared them for the “hunger hardships, and dangers in Florida.” However, the dry weather continued for the next several years, causing colonists and missionaries to continually decry the land as miserly and the climate as inhospitable.

158 Ibid., 437.
159 Ibid., 441.
160 Ibid., 493.
161 Ibid., 488.
162 Ibid., 510.
163 Ibid., 557.
One friar near the Jacksonville settlement even believed that their environmental situation came as a result of divine wrath, saying:

Our Lord has chastised it with six years of famine and death, which has brought it about that there is much less population than usual. Since many have died and many also have moved to other regions to ease their hunger, there remain but few of the tribe, whose leaders say that they wish to die where their fathers have died, although they have no maize, and have not found wild fruit, which they are accustomed to eat. Neither roots nor anything else can be had, save for a small amount obtained with great labor from the soil, which is very parched...[The Indians] are so famished, that all believe they will perish of hunger and cold this winter.¹⁶⁴

While the Spanish in Florida dealt with drought, those farther north continued to struggle with the cold. A 1572 correspondence amongst Jesuit Missionaries in the New World offered that the discomfort may make conversion easier, “because the county is so cold, there will be no reason for long absences away from their huts in winter.”¹⁶⁵ Even into the seventeenth-century, cold typified the experience of the friars. On the Potomac near the Chesapeake, One Jesuit wrote that “on the way [to convert natives] they took some sustenance and some mats which would be some protections against the great cold they endured, because the ground was cold and the house in which they were living was so wretched that its chief covering was palm leaves which served as roof and walls.”¹⁶⁶ Whether in Florida or Carolina, the climate imperiled imperial projects.

These experiences breathed new life into the long-standing rumors about the inexplicable harshness of southern North America. Propagandists responded by decrying

¹⁶⁴ Ibid., 557.
¹⁶⁵ Ibid., 561.
¹⁶⁶ Ibid., 564.
what they labeled as lies about the inhospitality of the weather, contrived by colonizers to exonerate their own failures. “In order to justify their weakness,” wrote one contemporary account of the establishment of San Mateo, most of the soldiers “spoke ill publicly of the country…and the hunger, hardship and dangers” that they endured. They wrote letters and told stories “speaking ill of the county against all reason and truth.” The authors claimed that the people who spread these rumors knew little of the interior of the country, as they lazily stayed close to the shoreline which was, unfortunately, spotted with sickly “swamps and sandy stretches.”167 Another account similarly explained that those who “spread ill reports” had “not been inland for as much as a league, but had stayed along the coast, which is composed of sand and swamp.”168 As a result of their lies, the author found, the Spanish government faced difficulties recruiting colonizers.

Indeed, the weather made not only recruitment but settlement difficult. An official in Havana described the problems inherent in establishing permanent residences in Florida. One report complained that forts in Santo Agustín had to be continually reconstructed, as the damp heat rotted the beams. Their constant efforts to repair the structures precluded them from clearing and planting, land, causing shortages and inciting mutiny.169 By 1576, residents of Santa Elena began making official complaints. The found the soil infertile and dry, watered only by the melting frosts of the early spring

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167 Ibid., II, 490.
168 Ibid., 530.
169 Ibid., 582-583.
and hardly conducive to agriculture.\footnote{170}{David B. Quinn, ed., \textit{New American World: A Documentary History of North America to 1612}, vol. 5, 5 vols. (New York, New York: Arno Press, 1979), 15.} And when they were able to grow anything, the excessive rains washed out their crops, as during April and May ‘it does nothing but rain all that time.’ “So we have suffered an do suffer great hardships,” the colonizers wrote, “as the harvest is small which we gather therefrom with excessive labor…we feel ourselves lost, and old, and weary, and full of sickness.”\footnote{171}{Ibid., 15-16.} By 1586, the situation was clear. “To maintain Florida is merely to incur expense because it is and has been entirely unprofitable nor can it sustain its own population,” wrote an advisor to Philip. “Everything must be brought from the outside.” And resupplying the Florida garrison was expensive. What would happen, the advisor rhetorically asked, if they devoted the whole of their substantial resources to aiding floundering colony? Still “the land itself would wage war upon them!” he answered.\footnote{172}{Ibid., 45.} By the late sixteenth-century, the Crown devalued Florida as nothing more than a military outpost and site of missionary projects. And uprising of the Guale Indians in 1597 and a subsequent famine, though, depressed even their impulse to proselytize.\footnote{173}{For more on the Guale uprising, see John Michael Francis, Kathleen M. Kole, and David Hurst Thomas, \textit{Murder and Martyrdom in Spanish Florida: Don Juan and the Guale Uprising of 1597} (American Museum of Natural History, 2011).}

The end of the sixteenth century effectively brought to a close the first wave of extensive European contact with the Gulf South and on the Southeastern seaboard of the Atlantic. Spain continued to hold Florida, but the failure to produce self-sustaining
colonies substantially dented their desire to finance new settlements. The limited interest of Spaniards in populating the region, in tandem with the lack of mineral wealth, compounded the problems and dampened enthusiasm. The Spanish government concluded that Florida was worth possessing but not worth settling. As they did, a new European power began eyeing the North American southeast.

The early English experience of heat in the New World shares much in common with that of France and Spain. They, too, held an imperial gaze of the climate characterized by optimism about the environment and a persistent belief in latitudinal determinism. They also expressed this confidence that the land would produce health and wealth in propagandistic descriptions designed to elicit funds for colony building. Their mercantilist ambitions also colored their descriptions of climate and inspired them to consider heat an economic boon. And these rosy portrayals continued to clash with the lived experience of colonists.

But for all their similarities, the Anglo experience was also unique. Unlike the Spanish, they concentrated their efforts nearer the middle of the Atlantic coastline, leaving the peninsula of Florida to the Catholic conquistadors. Additionally, they had to tangle not only with their own expectations and experiences but also with the conflicting firsthand accounts of the region that by the end of the sixteenth had grown to a substantial cannon. They also lacked Caribbean land holdings from which to succor and supply their fledgling colonies, so a special urgency accompanied their attempts to create self-
sustaining outposts. Their late entry into the colonizing game only amplified that pressure.\textsuperscript{174}

The English experience, then, fundamentally shaped the meaning of heat in North America, but in seemingly counterintuitive ways. Though the Little Ice Age continued during their initial foray into colonizing, the period in which they began colony building saw especially harsh and frigid conditions. While this downturn in temperatures might have caused the English to appreciate heat wholesale, they actually had a more complex relationship with high temperatures. Unlike the Spanish, the English colonies experienced widespread disease, which they understood to be a product of warmth, striking as it did in the summer months. While historians have long since realized the ways in which the climate impeded efforts to create a thriving colony in Virginia, less scholarship exists on the way that the Jamestown affected the view of heat, and how this view shaped their interaction with and perception of the Virginia climate. While the Spanish and French decried the cold, the English came to fear summer heat while simultaneously promoting its benefit in propaganda. They built on, and subtly reshaped, understandings of the climate to inspire financial support and quiet the increasing rumors that Virginia was a land of both freezing winters and impossibly hot and sickly summers.

Indeed, for the English, as with the Spanish and French, understandings of heat continued to be intimately entangled with their colonial projects, informed at every turn by what they wanted from the New World. As a result, they initially welcomed the high temperatures that they believed portended agricultural bounty. A 1565 account of what is

\textsuperscript{174} For more on the Atlantic context of Jamestown, see Karen Ordahl Kupperman, \textit{The Jamestown Project} (Cambridge: Belknap Press, 2009).
now near the Florida-Georgia line found that the region had surprisingly little mineral wealth but great pasturing potential precisely because of what the author considered a hot and humid climate, writing that cattle would do well because conditions all the year round resembled the summer of England. During the 1570s, the period of initial interest in colonizing the region, the agricultural potential of warm climates courted English interest. Richard Hakluyt the Elder’s 1578 instruction for Sir Humphrey Gilbert, who planned to scout much of North America to search for a Northwest passage to Asia and to gauge the general character of the land, reveals the degree to which they hoped to find a hot and lively environment. He advised Gilbert to pay close attention to the soil and climate of the region, asking that he be on the lookout for a warm, but not overly hot, area, one “where the sunne is of the heatte” of Portugal or Spain. Latitudinal understandings of climate continued to lure Englishmen to the southern Atlantic coast of North America during the 1570s. Hakluyt believed that the land that lie between 34° and 36° north (the area roughly comprising southern North Carolina and northern South Carolina) would share commonalities with the climates of “Barbary, Spayne, Portingale, Fraunce, Germany Englade, Danske, Norway, and Muscovia.” Thus, the region would produce any number of Mediterranean staples; he mentioned silk, oranges, lemons, cotton, grapes, and olives specifically. He had similar hopes for regions further South,


177 Ibid., 63.
believing that they could produce sugar in addition to oranges, lemons, figs, almonds, pomegranates, rice, and silk “such as come from Granada.” 178

Though they appreciated heat, they wanted only so much of it. The English desired to occupy a land not so different from Britain, one slightly warmer (and thus more productive agriculturally) but one also suited to their English constitutions. Temperate, as it had for the French, spoke to this delicate balance. The earliest promoters, time and time again, cited the balanced temperature of Virginia. George Peckham’s True Reporte of the Late Discoveries, for instance, characterized the region as having the perfect compromise between hot and cold, and as such, abundant agricultural opportunities. He wrote that nearly the whole of North America, from the northern boundary of Florida to the Canada the climate was mild, “neither too hotte nor too colde” and that nowhere else on the globe offered a “more convenient place to plant and inhabite in.” 179 This land was a perfect fit for Englishmen, he argued, as it had a climate that would “best agree” with the English “nature, disposition, and good liking.” 180 In 1584, Richard Hakluyt the Younger wrote and published A Discourse on Western Planting to convince the crown to invest in colonizing projects in Virginia. He recommended that the Queen take advantage of land near the 30th parallel north (which runs through the panhandle of Florida), saying that had a good climate that was healthy, of “goodd

178 Ibid., 66.
179 Ibid., 41
180 Ibid., 50-51.
temperature,” and “marevelous pleasaunte.”

And the region just North of that, at 34° (parts of which run along the boundary of North and South Carolina), was “with goodd and holesome ayre, temperate betwene hote and colde.” Arthur Barlowe’s 1584 account of Virginia expedition also succumbed to the propagandistic impulse of stressing the temperate nature of the climate. Barlowe used his experience in the West Indies to create a foil between the Caribbean and the North American coastline. He described the islands as having an unwholesome and sickly air that bred disease in his men. His description of the Virginia coast, however, was nothing short of Edenic. “The earth bringeth foorth all things in aboundance,” he wrote, “as in the first creation, without toile or labour.” He described these as products of the climate, which warmed the ground nearly all year long save what he described as a very short winter. In 1585, Ralph Lane described Virginia as “the goodliest and most pleasing territorie of the world” because of its soil, which was of an “unknowen greatnesse.” Indeed, for Lane, the climate was “so wholesome , that we have not had one sicke, since we touched land here.”

Lane continually cited the weather as being at once pleasant, but also warm enough to provide

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181 Ibid., 76-77.
182 Ibid., 77.
183 Ibid., 276.
184 Ibid., 280.
185 Quinn, New American World: A Documentary History of North America to 1612 vol. 2, 293.
a bounty of commodities. He went on to describe the region as being “most sweete,” and having the most “healthfullest climate” and “fertile soyle.”

Yet, as ever, the lived experienced betrayed the efforts of promoters. The failure of the Roanoke Colonies in the mid- to late-1580s made the climate seem substantially less hospitable than previously described. Despite the large body of literature that emphasized the pleasant and temperate environment of the region, the English crown chose to charter the Roanoke effort not because of its agricultural potential but rather its geopolitical significance. The English sought a privateering outpost from which English ships could raid Spanish ships and settled on the coast of Virginia because it existed just out of reach of the Spanish in Florida. In 1585, Sir Walter Raleigh attempted to establish an English settlement on the island. Though the Ice Age hand long-since thwarted imperial projects, modern climatologists believe that Raleigh chose an especially difficult time in which to establish a colony. Though periods of draught plagued the eastern seaboard intermittently for decades, the period from 1587-1589 suffered the most severe period of dryness in 800 years. Soon after settlement, provisions ran low, and the roughly 100 Englishmen sent to establish the outpost were forced to rely on wholly on natives for food. Scarce sustenance caused the native population to clash with the needy Europeans, and their conflict climaxed in 1586 when the English conducted what they considered a pre-emptive strike on the neighboring natives’ village and murdered the

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leader of the tribe. After severing diplomatic ties with the Indians and losing their only reliable source of food, the colonists limped along until Sir Francis Drake, returning to England after a successful raiding venture, found the colonists and took them back across the Atlantic.  

The fate of the colony became well-known in Europe, and the failure colored interpretations of the environment. A sailor of Drake’s boat described the land as “produc[ing] little to eat” and being “wretchedly poor,” and said of the colonist themselves that they had “nothing but maize, and of that little.” Those returning to England likely shared similar information about the harshness of the land, the climate, and the people, and their accounts depressed interest to travel to the region. Raleigh’s subsequent attempt in 1587, which became the fabled Lost Colony, dampened enthusiasm further. Here, John White, who led the expedition, left a group to plant the island while he returned to England to gather more provisions. When he returned months later, he found no trace of the colonists save a skeleton.

In response, propagandists redoubled their efforts and began to directly counter what they characterized as slanderous rumors about the unhealthy and unproductive environment. Armed with the weapons of latitudinal determinism and temperate descriptions, these authors crafted a discourse that blamed the colonists instead of the climate. Thomas Harriot, who had lived briefly on the colony before its disappearance,

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188 Kupperman, The Jamestown Project, 31-36.


190 Kupperman, The Jamestown Project, 36-37.
authored the *True Report* in which he condemned what he described as false rumors about the environment. Contrary to some of the “launderous and shamefull speeches” given by those who returned with Drake, Harriot described the land as a bastion of semi-tropical products, and he invoked latitudinal understandings of climate to make his point. He pointed to Virginia grasses that resembled those of Persia and reminded readers that the colony was in the same latitudinal band as Japan, Cyprus, southern Greece, Italy, Spain, and “many other notable and famous countries.”  

How could the climate be anything short of productive, he argued, given its favorable location along the Earth’s north-south axis? In addition to emphasizing the latitudinal potential, Harriot’s propaganda continued to rely on descriptions of the climate as essentially temperate, neither too hot or too cold. Year round, Virginia had an “excellent temperature of the ayre,” which was warmer than in England and never “so violently hot” as land near or in the tropics. Indeed, even in the first winter there were “but foure of our whole company…that died all yeere.” And those four, he assured readers, were “feeble, weake, and sickly persons before” they came across the Atlantic. In the end, he summarized that the “ayre there is so temperate and holsome, the soyle so fertile and yielding,” and agricultural success possible “with ease and at any season.” The land should promptly be settled, he wrote, and any rumors about poor conditions promptly squashed.  

Yet the first years of the Jamestown settlement, which was founded in 1607, undermined this carefully crafted propaganda. Historians have offered several

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191 Ibid., 154.

explanations for the colony’s tremendous mortality rate, the most compelling of which are material and physiological. Disease ran rampant through the community because of poor sanitation, and their original settlement along a brackish inlet proved further conducive to poor health. While period commentators blamed laziness, colonists supposed sloth likely resulted from a lack of adequate food and access only to disease-ridden water spiked with human waste. The natural index of precipitation lends credence to both of these assertions. Climatologist estimate that the extended drought from 1606-1612 both made subsistence agriculture among Anglos difficult, and the resident Algonquin, similarly affected by the lack of precipitation, were less than predisposed to succor the new colonists.\(^{193}\)

The founders of Jamestown had different colonial ambitions than those at Roanoke that made their commercial success rely even more on positive portrayals of the environment more than that of the earlier privateering outpost. Indeed, the ascendance of James I to the crown after the death of Elizabeth meant that tensions between Spanish Catholics and English Protestants abated. A desire to establish a colony from which to plunder Spanish ships, the primary purpose of the Roanoke ventures, evaporated. In its place was an English desire to emulate the Spanish model rather than steal their bounty. Permanent, self-sustaining colonies became the goal. They hoped that the colony would furnish precious metals, a passage to the Pacific, timber with which to grow their naval power, and agricultural commodities that would lessen their dependence on trade. This colonial project could succeed only if the environment was accommodating. Gabriel

Archer, who authored a description of the country in 1607, illustrated the centrality of temperate heat to these expectations when he stated that the climate would furnish “all such things, as the North Tropick of the world affordes.”

Early experiences revealed that their expectations were badly out of tune. The 108 original colonists arrived in late spring, and their lack of knowledge about the landscape meant that they failed to plant in a harvestable crop in a timely fashion. Poor leadership similarly threatened the colony, and local Indian tribes, facing the same drought as the colonists, could not afford to feed an extra hundred mouths. Disease further strained the population, taking a massive toll in the first summer of their stay. George Percy, in his 1606 account of the first year, summarized the situation adequately when he said that “Our men were destroyed with cruel diseases as Swellings, Fluxes, Burning Fevers, and by wars, and some departed suddenly, but for the most part they died of mere famine.” Their experience, he stated, was singularly awful. “There were never Englishmen left in a forreigne Countrey in such misery as wee were in this new discovered Virginia.” Out of the original 108 colonists, only thirty-eight were alive only six months later.

The Little Ice Age exacerbated not only the cold and harsh conditions of the period and place but also their anxieties as they succumbed to disease in a tempestuous and confusing environmental situation. John Smith’s own writings about the early history of the colony reveal that not only agricultural shortages and strained relations with


Natives caused problems but also a climate given to extreme conditions troubled their efforts. He described the first decade of the seventeenth-century as given to “extreme storms and tempests” and otherwise “tempestuous weather.” 196 In another description, he puzzled at the constant climatic vacillations, wondering how “8. or 10. daies of ill weather” could be followed by another “14 daies” that “would be as Sommer.” 197 The schizophrenic nature of the weather commands much space in his narrative. “The windes here are variable” and given to storms, he wrote. He descried the thunder and lightning as “seldome eithere seene or heard in Europe.” 198 Of the seasons, he wrote that “the sommer is hot as in Spaine; the winter colde as in Fraunce or England.” 199 And indeed, cold continually plagued the colonists. Smith described the first winter one that brought an “extreamity of the bitter colde aire,” and as a result, “more than halfe of us died, and took our deaths, in that piercing winter.” 200 During the winter of 1608-1609, he recalled experiencing “extreame wind, raine, frost, and snowe.” 201 During the summer of 1608, he also claimed that the weather sickened the men. For “3 or 4 daies we expected

197 Ibid., 47.
198 Ibid., 48.
199 Ibid., 47.
200 Ibid., 104.
201 Ibid., 132.
[experienced?] wind and weather,” he wrote, “whose adverse extreamities added such discouragements to our discontents as 3 or 4 fel extreame sicke.”

The Little Ice Age continued to make winter the most uncomfortable season but not the scariest. Unlike the Spanish and French, the English harbored a strong fear of summer months. They increasingly came to associate warmth with disease, and as such, considered heat a potential enemy of their colonial ambitions. John Smith even wrote that the failures of the colony might be attributed to disease as a result of working in the excessive warmth; he admitted that “continuall labour in the extremity of the heate…had so weakened us” that they could barely stand, much less fend off diseases incidental to the climate. And indeed, summer illness at Jamestown established a link between heat and disease that Company administrators had to acknowledge. Instructions that the London Company issued to Sir Thomas Gates illustrates how they had to balance ideas that heat was necessary for profit but dangerous to bodies. The Company recommended that, when choosing the sites plantations, to “rather seeke to the sun then from it, which is under God the first cause both of health and riches.” Yet they also advised organizing work schedules around the belief that the summer heat harshly affected their English constitutions. They made sure that Gates allow laborers a three-hour break during the heat of the day throughout the summer.

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202 Ibid., 12.


204 Ibid., 216.
As a result of continued rumors of ill health, company men shifted the blame from intemperate weather to intemperate bodies and began accusing the colonists themselves for creating their plight. In a 1609 account of life in Virginia that illustrates how faulting colonists shielded the company from criticism about the land and climate. The author cited colonists’ “sloth, riot, and vanity” for the failure of Jamestown.” The Company played on that association and argued that sickly and lazy colonists doomed the colony’s first years. They indicted the men for failing to erect adequate protection against the environment. They blamed illness on indolence, saying that their “sicknesse was bred in them by intemperate idleness.” They argued that the cure for such disease was “moderat labor,” which would immediately restore their health. In 1611, a promotional tract read that “Many have died with us heretofore…thorough their owne filthinesse and want of bodilie comforts for sicke men.”

The widespread belief in seasoning, or the idea that English bodies had to acclimate to their new climates in order to maintain health, also shifted the blame from climate to individual bodies. “The temperature of this countrie doth agree well with


207 Ibid., 262.

English constitutions being once seasoned to the country,” Smith explained. After their Anglo bodies had become accustomed to the environment, they would then be able to civilize the landscape, making it more amenable to their physiology. The first colonists, Smith wrote, had “endured the heate of the day,” but those who came, after, the ones who “shall succeede” the original group, “may ease at labor for their profit, in the most sweete, cool, and temperate shade.” Seasoning dulled the threat of climate and placed the burden of survival on individuals’ constitutions, and through their hard work they would maintain health and remake the land into a cool paradise. Seasoning also cast those who were acclimatized to the region as physiologically different, having had their humours altered by their stay in the sultry region.

In an effort to continue securing financing for the colony, the Company did all they could to silence rumors about the area’s poor health. They forbade colonists to write letters that portrayed the colony in a negative light. The Company sent instructions to colonial leaders to send all correspondence from Virginia first to the Company headquarters in London, where they were read and censure the letters as necessary.

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209 Arber, Capt. John Smith, Works: 1608-1631, 47.

210 John Smith, A True Relation of such occurrences and accedents of noate as hath hapned in Virginia since the first planting of that Collony, which is now resident in the South part thereof, till the last returne from thence accessed at Virtual Jamestown. http://www.virtualjamestown.org/exist/cocoon/jamestown/fha-js/SmiWorks1


Indeed, any news or events that ran counter to their contrived narrative presented problems. Such an issue occurred the following year, in 1611, when one of the Company’s Virginia governors showed returned to England, without permission and complaining of sickness. The company openly chastised the Lord De La Warr, and hastily published a lengthy apology to reassure the public and potential investors that all was well in the colony. The pamphlet’s task, though, proved difficult, as it had to acknowledge that De La Warr’s sickness was real, otherwise it would evince poor leadership and portray the colony as one that even its leaders abandoned. At the same time, it had to cast the illness as anomalous, the result not of unhealthy land but a product of a particular body: De La Warr’s. Integral to accomplishing that task was deliberate wording and a carefully constructed narrative. The pamphlet, supposedly written by De La Warr himself, explained that he fell victim to brief illness, but one that a simple routine of bloodletting cured. However, the disease weakened him sufficiently to make him vulnerable to other sicknesses. After weeks of these new perturbations, he caught scurvy, explaining that “though in others it be a sickenes of slothfulnesse” it was for him simply due to his weakened state from the earlier illness.²¹³ By portraying his disease as a result of personal weakness, the Company reinforced the association of ill health with idleness while navigating around accusations that the land was inherently unhealthy. After recovering a bit, de la Warr wrote that he planned to stay in the New World, but was instead advised to “to “seeke in the naturall Ayre of my Countrey,” and so he returned to England. But the climate of the New World was not to blame, he wrote,

²¹³ Quinn, New American World: A Documentary History of North America to 1612 vol. 4, 263.
assuring readers that “the Country is wonderfull fertile and very rich, and makes good whatsoever heretofore had beene reported of it.”

He concluded his apology with a forceful assertion that it was his own body was at fault, and that the leadership and his dedication to the business of colony building remained steadfast.

As the colony matured, the discourse around the temperate nature of the place grew. A 1611 tract described Virginia as “very temperate,” saying that it “agreeth well with our bodies.” “The extremitie of summer is not so hoat as Spaine,” it read, “nor the colde of winter so sharp as the frosts of England.” And in 1620, in light of continuing fears that the colony was unhealthy, the Virginia Company published another promotional tract designed to counter the “letters and rumours” that “blemish” the country by describing it as “barren and unprofitable.” Its mild, temperate heat, the promoters claimed, balanced health and wealth. Being “seated neere the midst of the world, betweene the extreamities of heate and cold” offered an economic advantage, as it

214 Ibid., 264.

215 Ibid., 265.


217 Ibid.
allowed Virginia to receive the benefits of both “and is capable (being assisted with skill and industry) of the richest commodities of most parts of the Earth.”

Well into the 1620s, though, the mortality rate continued to dampen enthusiasm for investors. That the summer represented the sickliest time of the year cast a heat in a negative light as the association between warmth and disease became increasingly entrenched. Rather than place the blame solely on the bodies, some argued that the company was to blame for ignoring the realities of the situation. Colonists blamed administrators in London for failing to understand the nature of the hot climate, which made labor difficult and disease prevalent. In a 1620 letter from a Company administrator, the then-governor of Jamestown accused of dooming a group of colonists to illness by sending them over when the weather was too hot. “Had [the new colonists] arrived at a seasonable tyme of the yeare,” he wrote, would have been healthy. Yet, arriving in the Spring made them “very weake and sick.” “This great heate of weather,” he explained, proved fatal to new colonists, who had to be seasoned during the winter to survive the summer. The solution, he mentioned later in the letter, would simply be a matter of the company understanding the impact of high temperatures and “observe the season” in which they sent fresh bodies.

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220 Ibid., 299.
member, sent just days later, another colonist echoed that notion, advising the Company to consider “the season of ye yeare wch for mens helath may be the fytest to arrive in this Country.” He explained that the “springe and somer” were “both fatall” to newcomers, so if possible they should arrive in the fall. The “people this springe,” he continued, “came in sickly” and too late to help with the arduous summer work of planting, hoeing, building new quarters, and clearing land.\(^{221}\) Summer, colonial administrators came to realized, constituted a perilous season, one in which labor was difficult and new colonists could not survive.

By the mid-1620s, Virginia came to be considered a land of extreme temperatures that threatened health and welfare despite the promotional literature that portrayed the colony as being temperate and salubrious. Summer heat featured prominently in their accounts of the land, though, as more and more colonists came to meet their end during the summer months. Thus, as these groups argued over the nature of the Virginia climate, they also debated the essential meaning of heat. Though colonial promoters characterized high temperatures as an economic boon, both Company administrators and colonists themselves understood it as a pernicious force that threatened innervation and disease and thwarted imperial ambitions. This conversation about the innate qualities of Virginia’s temperatures imbued heat with tremendous importance. Success in the New World required not only the ability to mitigate the physical effects of high temperatures but also on positive perceptions of the environment—on positive portrayals of heat. In the coming

centuries, that conversation would grow considerably. By the time Virginia had created the conditions necessary to sustain a permanent colony, the frigid North that the Spanish first encountered had become the dangerously hot and sickly South. Southern heat, and by extension the South itself, had become a problem, one for which colonial Americans would have to find a solution.
CHAPTER IV

COLONIAL HEAT

The kind Spring, which but salutes us here,
Inhabits there and courts them all the Year.
Ripe Fruits and Blossoms on the same Trees live,
At once they promise, what at once they give.

So sweet the Air, so moderate the Clime,
None sickly lives, or dies before his Time.
Heav’n sure has kept this Sport of Earth uncurst,
To shew how all Things were created First.

Mr. Waller, quoted in James Edward Oglethorpe, A New and Accurate Account of the Provinces of South-Carolina and Georgia, 1732

“You know that our Staple Commodities, which in general are the same with those of So. Carolina, cannot be cultivated and produced without a Number of Hands and that it has been found from Years Experience here that white people were [unequal] to the Burthen in this Climate and therefore it was absolutely necessary to allow us the free use of Slaves.”

Georgia Assembly Committee of Correspondence, 1768

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John Archdale’s 1707 promotional tract for the newly-established colony of Carolina shared much in common with the propaganda that preceded it. Like those who wrote before him, he deployed the idea of latitudinal determinism to characterize the region as both healthy and bountiful, explaining to readers that its position at the 32nd parallel north constituted the exact center of the “habitable part of the Northern Hemisphere.” As a result of this location on the Earth’s north-south axis, Carolina possessed a temperate, well-balanced climate, one not subject to the “violent heats of the Southern [Caribbean] colonies” nor the “extreme and violent colds of the more Northern Settlements.”

He also invoked the sensorial aspects of the landscape to confirm its mild character. Carolina’s landscapes, he wrote, were “pleasant,” “beautified with odoriferious and fragrant Woods,” and free of sickness so long as colonists avoided “intemperance” and “carelessness in their clothing.” And finally, he also offered that seasoning would shield colonists from any climatic threat. What illness did exist, he explained, struck in July and August, was brought only by visitors from tropical colonies, and tended to affect “New-comers” more than acclimated bodies.

But for all its similarity to other promotional literature, Archdale’s writing also included some novel considerations on heat and colonization. He noted the effects of the region’s high temperatures on skin color, writing that the “somewhat tawny” natives were

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225 Ibid., 290.
of a darker complexion in part because of the “naked Raies of the Sun.”\textsuperscript{226} And he believed, too, that heat affected more than superficial features of the human frame. High temperatures engendered laziness, as the “natural fertility” of warm places was “apt to make the People inclined to Sloth.”\textsuperscript{227} Archdale knew this idea of heat as handicap existed in tension with his insistence that high temperatures stimulated agriculture and portended wealth. How could potential European colonists reap the advantage of heat while dodging its pernicious effects? Archdale offered a solution that countless after would articulate in earnest in the coming century. His promotional tract told potential colonists that they would simply “employ their Hands” in agricultural work.\textsuperscript{228}

This confluence skin color, labor, and sloth in Archdale’s writing reveals that, by the beginning of the eighteenth century, Europeans had begun to racialize the southern climate. They rooted their understanding of distinctions among humans in the environment, and they defined race against the climate in ways that cast heat as a potential problem. Europeans came to understand that the relatively high temperatures of the southern colonies fostered indolence, impeded economic growth, and threatened to darken bodies.

Historians have often looked to the late seventeenth and eighteenth century for the origins of institutionalized slavery. Peter Wood, for instance, argues that between 1650 and 1700, “a chilling transformation, the enslavement of people solely on the basis of

\textsuperscript{226} Ibid., 289.
\textsuperscript{227} Ibid., 290.
\textsuperscript{228} Ibid., 289.
race, occurred in the lives of African Americans living in North America.”

Similarly, Ira Berlin argues that between the early and mature colonial periods, America shifted from being a from a “society with slaves” to a “slave society.” But while historians have identified the colonial period as pivotal moment in the creation of American slavery, less academic attention has situated this transformation in its appropriate climatic context. In many ways, American climate science and racial thought were coeval. The descriptor “natural” that so many colonists applied to racial distinctions, generally in the service of justifying white supremacy if not bonded labor outright, indicated both an innate condition and a product of the natural environment. Because of the close confluence of race and climate, the expansion of slavery represents a fundamental episode in the history of southern heat. It had the consequence of casting high temperatures as decidedly problematic while simultaneously offering a solution to the problems heat presented.

Like slavery itself, the growth of this racial discourse occurred at a relatively protracted pace. Anglo expansion into areas further South than Virginia invited new commentary on the southern climate, and most promoters continued to cast these regions as temperate. But because they argued that Carolina and Georgia were exempt from Virginia’s deadly frosts, these characterizations further contributed to the creation of the hot South that offered fertile ground for the cultivation of climatic justifications of slavery in the coming decades. As the colonial South matured, promoters would prove

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less influential in shaping considerations of heat than physicians and politicians who increasingly came to associate southern heat with medical illness, coerced labor, and distinctive cultural traits. This discourse intersected with eighteenth-century political theory in ways that proved potentially problematic for the colonies during their bid for independence, causing patriots recast heat as a boon in their Revolutionary rhetoric. The war itself, though, proved that the southern environment was, indeed, singularly hot and sickly. Throughout colonial American history, all of these considerations—whether promotional, political, or medical—had the effect of contributing to heat’s ability to cleave the South apart from the nation and create distance between white and black bodies. As British North America transformed into the United States, the heat of the South became a distinct and problematic feature of the North American environment that would serve as the basis for further distinction in early national and antebellum America.

The earliest commentary on the regions farther south than Virginia laid the groundwork for this distinction while not explicitly mentioning race or cultural distinctiveness, though. This literature simply adhered to the common tactic of casting heat as an economic advantage. However, because promoters of individual colonies competed for resources and colonists, they characterized Virginia as a land of intemperate extremes in ways that separated Carolina from other mid-Atlantic settlements. Refrains of temperateness, pleasantness, and profitable warmth appear often in the early literature. A 1650 promotional tract, for instance, described the ill-defined expanse of land south of Virginia that included modern day North Carolina, South Carolina, and Georgia, as being “of more temperate Clymate then that the English now
inhabite.”

In a 1654 letter from a colonist to a potential backer in England, the author wrote that Carolina was “unacquainted with our Virginia's nipping frosts.” “No winter, or very little cold,” he continued, “was to be found there.”

Another tract said much the same. This description positioned Carolina in a Goldilocks zone of health and wealth, one in which “the Summer is not too hot, and the Winter is very short and moderate, best agreeing with English Constitutions.”

A 1682 visitor wrote that Carolina in the twenty plus years since the English had begun peopling the province, immigrants had “found no Distempers either Epidemical or Mortal” except those that came as a result of colonists’ own intemperance. While conceding that in July and August there were touches of “Auges and Fevers,” the author went on to reassure readers they were “not violent, of short continuance, and never Fatal.” Moreover, “the Summer not so torrid, hot, and burning as that of their Southern, nor the Winter so rigorously sharp and cold, as that of their Northern Neighbors.”

These widely circulated promotional tracts did more than simply educate potential colonists on the nature of the environment south of Virginia. They also defined the

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232 Ibid., 7.


235 Thomas Ashe, “Carolina, Or a Description of the Present State of that Country,” Ibid.). Quotes from pages 141 and 149.
essential nature of the near-tropical climate itself in ways that tilted the balance between the negative and positive effects of heat in favor of the latter, playing up the proximity to the tropics while insisting that they were still distant enough to be pleasant. A description of Charleston, South Carolina, found that city, by reason of it being “within nine Degrees of the Tropick,” had but a “small Winter.” That the cold was both mild and short offered a number of economic advantages to colonists. For one, he claimed, it “adapts the Country to the Production of all the Grains and Fruits of England, as well as those that require more Sun.” But the writer took pains to relate to his audience that while the sun would allow for diverse agriculture, it would not threaten health or comfort. He explained that “its nearness to the Tropicks” afforded the city oceanic breezes that kept the colony “fresh and cool.” Even in its breezes, this pamphlet offered, Carolina benefited from the advantages of the tropics without any of the drawbacks of actually being located in the tropics.

Indeed, it was this “neerness to the Tropicks” that enticed the English to the area. Like the Spanish before them, they felt that the Lowcountry’s flora, especially the palmettos, indicated that the region would produce tropical products. For this new generation of colonizers, though, they pinned their hopes not on grapes or silk but rather sugar, which had grown to a massively profitable enterprise in the Caribbean. In the middle of the seventeenth-century, though, land scarcity and a series of crop failure in the

\[236\] Ibid., 168.

\[237\] Ibid., 169.

\[238\] Ibid.
islands of the South Atlantic induced sugar planters from Barbados to begin eying the North American mainland with increasing interest. When they immigrated to Carolina with the hopes of cashing in on sugar production, they expected both the same bounty that their island climates afforded the same problems that heat caused. As they settled on the coast, they brought with them more than dreams of sugar; they also imported the anxiety that Europeans felt about the tropics, and these fears came to settle on the Carolina Lowcountry.239

A fear of hot climates pervaded western thought since antiquity, but Anglo experience in the Caribbean brought these worries out of the realm of abstraction. When the British began colonizing Barbados in the 1640s, they immediately noticed the negative effects that tropical temperatures had on their energy and health. Richard Ligon, who came to Barbados in 1647, noted as much when he stated that English bodies, “having been used to colder Climates, find a debility, and a great failing in the vigor, and spriteliness as we have in colder Climates.”240 It stood to reason that Africans, coming as they did from a hot climate, would prove less susceptible to debilitation and therefore provide a more effective source of labor. In tandem with early modern ideas about race, economic developments such as the decreasing price of West African slaves (a result of

239 For more on the settlement of the Carolina coast by sugar planters, see Matthew Mulcahy, Hubs of Empire: The Southeastern Lowcountry and British Caribbean (Baltimore: Johns Hopkins University Press, 2014), chapters four and five.

240 Richard Ligon, A True & Exact History of the Island of Barbados Illustrated with a Mapp of the Island, as Also the Principall Trees and Plants There, Set Forth in Their Due Proportions and Shapes. Drawne out by Their Severall and Respective Scales : Together with the Ingenio That Makes the Sugar, with the Plots of the Severall Houses, Roomes, and Other Places That Are Used in the Whole Processe of Sugar-Making ... / by Richard Ligon, Gent., 2005, http://name.umdl.umich.edu/A48447.0001.001, 27.
greater efficiency in the slave trade) installed slavery on the island plantations. So when Caribbean sugar planters moved onto the coast of Carolina in the 1670s, they brought them not only their agricultural regimes but also their ideas about race and labor.\textsuperscript{241}

Promoters for the colony courted these planters, integrating slavery into the political economy of the colony in ways that made it safe to emphasize the warm temperatures without prompting fears of disease and uncomfortable labor. “Negros” one promotional tract from 1670 explained, “by Reason of the mildness of the Winter thrive and stand much better, than in any of the more Northern Collonys, and require less clothes, which is a great charge sav’d.”\textsuperscript{242} The quick profits of the warm climate would allow planters to expand their labor force, too, as they would grow enough cane to “be inabled to buy Negro slaves…without which a Planter can never do any great matter.”\textsuperscript{243} Others also cited the mild winter as an economic advantage for the South. “The season for making [pitch and tar],” an author offered, was six months longer in that in either Virginia or the northern colonies. As a result, “a planter can make more tar in any one year here with 50 slaves than they can do with double the number in those places.” Additionally, the warmth meant that slaves were cheaper to hold in the South, as there

\textsuperscript{241} For more on race in the Greater British Caribbean, see Mulcahy, \textit{Hubs of Empire}. For more on the anxiety about heat in the New World, see Kupperman, “Fear of Hot Climates in the Anglo-American Colonial Experience.”

\textsuperscript{242} Ibid., 172.

\textsuperscript{243} Ibid., 174
they lived “at very easy rates and with few clothes.” For these promoters, warm climates and slaver labor went hand-in-hand.

Europeans who noted the negative effects of heat on health were not altogether mistaken about the relationship between high temperatures and energy, though they were wrong to consider it a product of race. Though early-modern Europeans observed that heat resulted in what they termed a general loss of vitality, physiologists today explain that exposure to high temperatures for prolonged periods of time can cause muscle cramps and dizziness, and the body’s attempts to establish homeostasis hastens fatigue. And there was some truth, too, to the claim that Africans weathered the heat better. However, this was less because of having humors adapted to a particular location than the fact that people raised in areas of relatively high temperatures were better acclimated to hot climates. While the number and density of sweat glands tends to differ little from person to person (though there are small differences between some populations), those accustomed to high temperatures from birth tend to have more active versus inactive glands than those from cooler areas. Prolonged exposure to hot climates can awaken sweat glands in the body, but that process does not occur immediately and widely varies depending on other physiological factors. Some evolutionary scientists speculate (perhaps not cautiously enough) that other adaptations favor those from warm climates. Allen’s rule, for instance, offers that mammals living in cool areas will, by evolutionary

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imperative, minimize their size and thus the surface area of their skin to decrease heat loss. Taller (and leaner) people, then, are better adapted to hot climates as they have more skin and a greater ability to take advantage of evaporative cooling.\textsuperscript{246}

Nor were Europeans wholly mistaken about the relationship between heat and disease. Hot, humid climates offer conditions ideal for the proliferation of the mosquitos. The \textit{A. aegypti} mosquito, the primary insect carrier of yellow fever, came to Caribbean along with the first African slaves in the first half of the century. Barbados especially proved amenable to the spread of the fever, both because of its relatively high population density (indeed, higher than anywhere else in British America in the middle of the sixteenth-century) and the human alterations to the landscape. As historian Matthew Mulcahy explains, yellow fever carrying mosquitos “breed in water, and sugar plantations, with lots of cisterns and clay pots collecting water, created ideal breeding grounds.”\textsuperscript{247} In 1647, the island experienced a yellow fever outbreak that killed thousands. Tropical climates, Anglo colonizers learned, were indeed deadly. Heat sapped energy, debilitated the body, and caused widespread illness.

The Carolina coast was no less sickly, but it was less amenable to the production of the staple crop that planters had hoped the sandy soil would support. Sugar planters arriving in Carolina in the 1670s found, to their consternation, that the flora and high temperatures that promised an environment that would produce sugar had misled them. Though the Lowcountry shared much in common with Caribbean islands in appearance

\textsuperscript{246} Ibid., 54.

\textsuperscript{247} Mulcahy, \textit{Hubs of Empire}, 53.
and perhaps sensation, the semitropical environment failed to grow sugar with the same enthusiasm as tropical climes. Their lack of success, though, was not for lack of trying. After the 1670s, the areas surrounding modern day Charleston, South Carolina became populated quickly by planters who drastically altered the environment with the single-minded goal of raising sugar. As early as 1682, Charleston experienced a timber shortage as a result of the extensive and rapid felling of forests to plant cane and make the barrels and staves that they envisioned would cross the Atlantic brimming with sugar. Even though they failed to raise a profitable crop, they were able to sell the timber to the tree-hungry planters who remained in the Caribbean. As timbering continued, planters came to realize that the swampy lowlands nearest the coast could, after extensive manipulation, produce rice in great quantities. This “rice revolution” initiated a massive transformation of the landscape. Elaborate dam and dyke systems that regulated the flow of water to rice fields sprang up across the coast.\textsuperscript{248}

These human alterations invited disease in ways that further entrenched the association between high temperatures and illness. Just as on the sugar islands, the watery landscapes of rice production proved amenable to the transmission of disease, especially one that those on Barbados had not been subjected—malaria. While yellow fever requires a population density sufficient to spread quickly from person to person, malaria represented more of a backcountry disease that struck plantations each summer. By 1680, the yellow fever of the port city in combination with summer sickness on plantations

\textsuperscript{248} Mulcahy, \textit{Hubs of Empire}, 96-100.
earned Charleston a reputation as being so sickly that colonial administrators lamented “the disreputation” that it brought to the entire colony.\(^\text{249}\)

Planters soon noted that African slaves seemed less likely to catch the fevers, and even if they became infected, less likely to perish. This claim that black bodies were less susceptible to illness in hot climates was not altogether inaccurate. Many people of African ancestry possessed some level of resistance, either genetic or acquired, to some of the diseases that plagued the South. Historians, with the help of modern medicine, speculate that many African Americans lacked the Duffy antigen, which guarded them against *vivax* malaria. The sickle-cell disease that occurs relatively often in those of African descent both protected against *falciparum* malaria and increased ability to survive yellow fever. Acquired resistance to yellow fever also shielded Africans in the New World against the annual menace that raced through non-inoculated populations. Though Europeans and Africans shared this ability to acquire resistance, a prolonged absence from endemic locations lessens the body’s ability to ward off sickness. Thus, African Americans who toiled year round in sickly areas likely had a greater resistance than European plantation owners who had the means to flee malarial areas during the summer and fall.\(^\text{250}\)


The diseases of hot climates not only seemed to justify bonded labor, it also fed the belief that Europeans could not work outdoors in high heat, a theory that only further entwined heat, race, and slavery. Simultaneously, it also ostensibly legitimated a long-standing idea that hot regions created, and proved attractive to, slothful people. Yet here too the environment offers a clue to the origins of the idea. Mild forms of malaria caused fatigue while not necessarily demonstrating other, more obvious and debilitating, symptoms. And as historian Peter McCandless notes, the same pools of stagnant water that proved so attractive to mosquitos proliferated parasites like hookworm, which caused anemia, and thus fatigue, in infected humans. So while slavery became an established fact, with portrayals of the climate supporting the institution, the related notion that that hot and prolific environments predisposed those who resided in them to indolence also became increasingly prevalent.

One of the most direct and extended articulations of these ideas came from William Byrd’s *History of the Dividing Line of Virginia and North Carolina*. Byrd’s work differed from earlier commentary on heat and sloth, as he never intended the work to promote immigration or colonization. Indeed, rather than sing the praises of North Carolina, he used heat to denigrate the region and its inhabitants. As such, his work offers a more casual (and even humorous) take on the connection between heat and laziness. Most importantly, though, it illustrates that by the early eighteenth-century, the relationship between heat and culture had become so connected that remarks on the weather and environment of a region represented value judgments an that area’s

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inhabitants and their culture. For Byrd, to be southern was to reside in the heat, and to live in a hot climate was to be innately inferior.

Byrd felt that the political boundary dividing North Carolina and Virginia also divided a warm place from a hot one. He wrote as an elite Virginian traveling through an exotic land, and he reveled in the unfamiliarity, taking an ethnographer’s gaze of the climate and the people. He agreed with the propagandistic literature that Carolina was, on the whole, in a different climatic situation than Virginia, but he deplored the more southerly landscape and those who peopled it. Byrd abhorred the heat, which he felt promoted “aguish distempers” in the summer, and he complained often of the “moist air” and “damps” that bred illness.252 He condemned the discomfort from both stifling heat and mosquitos, as well as the innervating effect of high temperatures. Indeed, he argued that ever-invigorating rum was never “found more necessary than it was in this dirty place,” as it “not only recruit the people’s spirits, now almost jaded with fatigue, but served to correct the badness of the water, and at the same time to resist the malignity of the air.”253

But most of all, he loathed the effect high temperatures wrought on North Carolinians themselves. For the people who lived in the swamp, Byrd argued, the debilitating heat led invariably to lifelong, incurable indolence. He wrote that Carolinians “are slothful in every thing but getting of children.”254 He described the men as “so

252 Ibid., 14.
253 Ibid., 20.
254 Ibid., 20.
intolerably lazy, they seldom take the trouble to propagate” what would otherwise be a rich landscape.\textsuperscript{255} “Surely there is no place in the world where the inhabitants live with less labour,” he scoffed, “than in North Carolina.” He despaired what he considered “the felicity of the climate, the easiness of raising provisions, and the slothfulness of the people.”\textsuperscript{256} Heat not only made savages out of civilized men but also attracted those given to sloth already. He wrote that a “thorough aversion to labor” caused Europeans to “file off to North Carolina, where plenty and a warm sun confirm them in their disposition to laziness for their whole lives.”\textsuperscript{257} Byrd used the hot environment as exposition, explanation, and to distance himself from his subjects. For Byrd, to talk about the heat was inherently to talk about the backwardness of a place, a condemnation doubled because hot climates had the potential to be extremely wealthy. His commentary on the heat of North Carolina constituted nothing short of an indictment of Carolinians themselves.

Byrd’s report illustrates that many Americans believed that the further south one went, the more debilitating the climate and more indolent the people. This understanding proved problematic for the fledging colony of Georgia, which since the end of the

\textsuperscript{255} Ibid., 20-21.

\textsuperscript{256} Ibid., 27.

\textsuperscript{257} Ibid., 27-28.
Spanish occupation in the 1680s had excited little interest amongst Europeans.\textsuperscript{258} At the beginning of the eighteenth century, though, as Anglo-interest inspired by the colonization of South Carolina increased and political tensions between Spain and England spiked, Georgia became newly attractive as both a place that would produce tropical staples and serve as a buffer between Catholic Florida and Protestant Carolina. Georgia’s relatively late development meant that its promoters had to contend with the widely-accepted belief that heat, indolence, and disease proliferated in the deeper South. To dodge these allegations, they portrayed the problems experienced by more northerly colonies as the result of improper management. An early promotional tract found that the mistakes made in the other colonies could be avoided in Georgia. Earlier projects in Virginia and Carolina had been met with difficulty, the author explained, as it was settled by planters unfamiliar with the country or what it took to survive. As a result, “Their woods remain’d unclear’d; their Fens undrain’d, The Air by that Means prov’d unhealthy.”\textsuperscript{259} Effective settlement relied on proper planning so immigrants could quickly remake the landscape, and in so doing, transform an unhealthy and vaporous wilderness into a productive paradise. Carolina proved especially educational. Though Carolina was “distress’d” by a lack of foresight, Georgia, “our future Eden,” would avoid the issues

\textsuperscript{258} For more on the history of colonial Georgia, see Mart Stewart, \textit{What Nature Suffers to Grow: Life, Labor, and Landscape on the Georgia Coast, 1680-1920} (Athens: University of Georgia Press, 2002). Indeed, this entire section, and the whole field of southern environmental history, owes a tremendous debt to Stewart’s groundbreaking study of environmental manipulation in the Georgia Lowcounty.

that arouse from an uncultivated southern landscape.\textsuperscript{260} This argument shifted blame, again, from the climate onto people. Just as seasoning, or biological experience, fitted the human frame to the environment, so too did experience in building colonies shield the English from the worst effects of the climate while still enjoying the “enlivening Influence of the Sun.”\textsuperscript{261}

But too much sun, of course, was dangerous. The early eighteenth-century saw newly sophisticated efforts to establish a location as temperate and salubrious, with some promoters offering what appeared to be cutting-edge climate science to portray regions as bountiful. These promoters adopted an academic tone to conceal bias and portray themselves as experts without having any real experience in the environment, and their works reveal the growing influence of the reasoning and rationale generally associated with the Enlightenment. One of the most original tracts in this vein came from Jean Pierre Purry, of Switzerland, who in 1721 courted the Crown’s attention to receive funding to colonize Georgia. He not only foregrounded the climate of this deeper South in his discussion of the colony’s potential, he also crafted an elaborate explanation to support it. Purry’s treatise illustrates how colonization shaped ideas about the relationship between latitude and temperature, underscoring the colonial context in which American climate science came of age.

Emphasizing the importance of understanding the relationship between heat and imperialism, he reminded the king that “the Sun alone…animates all things and causes

\textsuperscript{260} Ibid.

\textsuperscript{261} Ibid., 17.
them to fructify.” He searched for a “fixed principle” that would determine a region’s possible agricultural potential that led him to study the effect of heat and the length of the day on landscapes. The ideal location, he hypothesized, would balance the amount of sunlight, which he referred to “degrees of heat,” with the “temperature of the air.” The poles received considerably more sunlight but not enough heat to be prosperous, he explained. By the same token, short summer days robbed the tropics of potential bounty. The perfect balance, he reasoned, would be directly in the center of the equator and the northernmost-habitable part of the globe, the 66th parallel. Simple science, he wrote, indicated that the 33rd parallel constituted the climatic “par excellence,” and that “all other regions are less desirable in proportion to their remoteness from this degree.” His argument buttressed the general assumptions of climatic determinism while also casting the colony as a land of perfect terrestrial and atmospheric compromise, one scientifically proven to be the most productive in the world. As late as the early eighteenth century, the imperial gaze continued to support latitudinal determinism.

It is difficult to overstate the importance of these tracts for shaping both human-land interactions in Georgia and views of the southern climate. Historian Mart Stewart has argued that these treatises informed later colonial administrators’ expectations of what the land would produce, and as such, were based on “part concrete description, part

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263 Ibid., 56.

264 Ibid., 57.
pseudoscientific theory, and part fantasy.”265 And indeed, James Oglethorpe, who alongside a group of philanthropists known as the Trustees, attempted to establish a colony in the region based on a free labor and Mediterranean agriculture, parroted much of the earlier work of those like Archdale and Purry in his own promotional literature. The group planned to use the colony to siphon off Britain’s poverty-stricken population, believing that agricultural work could transform the hapless lazy of England into productive workers while enriching the Empire at the same time with the cultivation of a number of exotic staples, chief among them silk.

The similarities between Oglethorpe’s portrayals and those that came earlier are striking. According to a 1732 promotional tract authored with the consent of the Trustees and including excerpts from the royal charter, the latitude indicated potential wealth and, when “rightly cultivated” by Europeans would supply England with “raw Silk, Wine, Oil, Dies, Drugs, and many other Materials for Manufacturers, which she is obliged to purchase from [Caribbean] Colonies.”266 In other works, Oglethorpe expressed his belief that these colonies had the advantages of the nearby tropical climates but none of the drawbacks. In his 1732 New and Accurate Account of South Carolina and Georgia, he cited as proof the development of Charleston, which by that time had grown “so considerably, that Charles-Town has near Six Hundred good Houses, and the whole Plantation has above Forty Thousand Negroe Slaves, worth at least a million pounds of


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sterling, besides an infinite number of Cattle.” And while promotional literature continued to cite latitude as proof-positive of the region’s fertility, Oglethorpe also anticipated criticism of such deterministic arguments. He subtly shifted their reasoning and argued that topography in tandem with latitude either depressed agriculture in desert regions like Egypt, Barbary, and Arabia or else facilitated it, as was the case with “Kingdom of Kaschmere...which is entirely surrounded by mountains,” causing their winter to be “almost as Cold as ours in England.” And, as ever, they promised potential colonists and financial backers that the region was essentially temperate. Shifting from pose to poetry, the pamphlet included a verse written by a supposed traveler to the region that evinces the propagandistic and agricultural appreciation of heat.

The kind Spring, which but salutes us here,  
Inhabits there and courts them all the Year.  
Ripe Fruits and Blossoms on the same Trees live,  
At once they promise, what at once they give.  
So sweet the Air, so moderate the Clime,  
None sickly lives, or dies before his Time.  
Heav’n sure has kept this Sport of Earth uncurst,  
To shew how all Things were created First.  

As ever, this rhetoric allowed promoters to ameliorate the rumors of extreme temperatures, but it did nothing to change the actual conditions. In the first years of settlement, widespread disease ran through the fledgling colony. And though promoters

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spoke of “seasoning” as a bodily boon, the actual experience of having impaired health in a hot and insect-ridden colony was considerably less than pleasant than the sanitized medical term made it seem. In fact, the colonizers of Georgia shared much in common with their Jamestown predecessors, with their debilitated state appearing to colonial leaders as laziness, and colonists’ illnesses a product of bodily rather than climatic intemperance. As their grievances mounted, heat featured increasingly in their condemnations of the land.

And indeed, many of the would-be farmers expressed severe dissatisfaction and even fear of summer temperatures. Planter Peter Gordon complained in his journal of heat, sickness and draught, describing the weather was “extreamly hott,” a discomfort exacerbated by the brackish water on which he was forced to rely.269 Another colonist wrote that “removal from Brittain to So Southern a Latitude” affected his “Constitution,” and that “the excess of heat in the Summer disables the servants from working in the Middle hours of the day.”270 Future Georgia governor Henry Ellis furnished an article to London Magazine in which he gave “An Account of the Heat of the Weather in Georgia.” He spoke of the “debilitating quality” of the “violent heat,” the “inexpressible languor” that “enervates every faculty,” and “render[ed]” even the thought of exercising painful.”271 He told readers in Europe that those in Savannah likely “breathe a hotter air


than any other people on the face of the Earth.”

The intense heat caused some colonists to doubt whether Georgia could continue as a free colony. A collection of Georgian settlers’ grievances, published in 1741, mentioned, alongside myriad other complains, a condemnation of the region’s high temperatures that only those of African descent could survive. These Georgians complained that “hoeing the ground” under the “sultry heat of the sun” to be insufferable. “It is well known,” they wrote, that Africans’ “Constitutions are much stronger than white People, and the Heat no way disagreeable or hurtful to them.” Moreover, they considered that specific jobs—generally the most burdensome, like clearing lands—to be tasks “unequal to the Strength and Constitution of white Servants.” For Europeans, laboring under the sun threatened “inflammatory Fevers…wasting and tormenting Fluxes, most excruciating Cholicks, and Dry-Belly-Achs; Tremors, Vertigoes, Palsies, and a long Train of painful and lingering, nervous Distempers.” Clearly, they felt, the sun demanded black labor.

The association between heat and black labor was so entrenched, and so detrimental to the health of the free colony, that as early as 1739 Trustees countered the idea that blacks alone could do the necessary work. Minutes from a meeting that year happily reported on the Salzburgers, a group of German-speaking protestants who settled in Georgia, who had been largely successful in cultivating food crops. They claimed that that “they did not find the Climate so warm,” but rather considered it “very tolerable for

272 Ibid.
Indeed, the success of the Trustee vision of free, yeoman farmers hinged on the fact that Europeans could till the southern earth, so they reported that though Georgia possessed a “a hotter Season” than the country they emigrated from, it was “not so extremely hot” as many supposed. It was important, though, that colonists take a break between mid morning and late afternoon, or until “the greatest heat is over.” These experiences gave lie to the rumor that it was “impossible and dangerous for White People to plant and manufacture any Rice” a job most considered suited best to “Negroes, not for European People.” But the Salzburgers claimed that “neither the hot Summer Season, nor anything else, hinders us from Work in the Ground.”

Despite this lone tale of success, though, heat, in tandem with poor soils, false expectations of what the environment would produce, and economic competition with the slave-based economy of South Carolina, doomed the Trustees’ plan to create a colony of small farmers who bettered themselves and the crown through their labor on the land. By the 1740s, the complaints about the heat of Georgia swelled beyond a manageable size, and centuries’ worth of experience in North America’s southern colonies ostensibly proved that heat made labor difficult at best and deadly at worst for Europeans. By the 1750s, Georgia’s administrators repealed the colony’s prohibition on slavery and administrative control transferred from the Trustees to the Crown. Unfree labor had won,

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274 Ibid., 428.

275 Ibid., 429.

276 Ibid., 430.
giving credence to colonial Americans that white and black bodies were fundamentally
different enough to justify race-based slavery.

Georgia was not the only southern colony whose residents pioneered climatic
justifications for slavery in North America. This discourse also grew up in Charleston,
South Carolina, which continued to expand despite its notoriously unhealthy climate.
Every summer South Carolina’s plantation owners fled the coast in favor of more
salubrious locations, leaving their slaves to toil, and often die, during the sickly season
that extended well into October. As a result, South Carolina gained a growing reputation
as a place where disease had “too much sway, and people die in masses.” A Swiss
publication repeated a commonly-held truism that “those who want to die quickly go to
Carolina.” 277 The medical fascination with Carolina’s consistent illness drew the attention
of a handful of European physicians, who immigrated to the colony to study disease and
offer medical services to the colony’s residents.

As medical men descended on the city, they reshaped considerations of heat
substantially. They promoted a new way of understanding heat informed by a growing
reliance the systemized inquiry that scholars typically associate with Enlightenment
thought. John Lining clearly evinces this trend. Lining immigrated to Charleston from
Scotland in the 1730s with the intent of setting up a medical practice in the sickly city.
Lining spent a career investigating the relationship between heat and illness that shaped
both elite and popular discourses about the nature of high temperatures. Though
remembered primarily as a physician, Lining’s climatological concerns were central to

277 Quoted in McCandless, Slavery, Disease, and Suffering in the South Carolina
Lowcounty, 30.

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his medical practice. Indeed, Lining was as much as climate scientist and a medical
doctor.278

Lining’s publications offer insight into the nature of Enlightenment
understandings of heat, which differed substantially from vernacular associations with
disease and previous speculation about the influence of latitude. The largest and more
important divergence came with the use of quantitative analysis of weather patterns and
their effects on the human body, enabled in no small part by the increasing availability
and affordability of the Fahrenheit thermometer.279 Lining believed that the regularity of
seasons and disease were intimately related, so he took to carefully recording
atmospheric conditions—temperature, precipitation, air pressure, etc.—and arrayed these
findings against his bodily excretions of blood, urine, sweat, and feces, as well as his
weight. In articles written for the Royal Society’s publications in the 1740s, he shared his
finding with the Atlantic World in an attempt to better discern the effect of heat on the
human frame. In the end, he lent a new, Enlightenment legitimacy to the belief that
southern heat was conducive to illness and fatigue. He even concocted a medicinal
“punch” to counteract the effects of Charleston’s hot summers, which he made by

278 For more on Lining, see Everett Mendelsohn, “John Lining and His Contribution to

279 William Edgar Knowles Middleton, A History of the Thermometer and Its Use in
combining water, sugar, lime juice, and, of course, rum.\textsuperscript{280}

Lining was hardly alone this attempting to understand the scientific nature of heat through systematic analysis. A number of Englishmen and Europeans in the South turned to taking and circulating official records of temperature, and in so doing, transformed heat from a problem for labor and comfort to one of scientific and intellectual importance. Lining’s medical partner Lionel Chalmers, for instance, pondered how the built environment exacerbated temperatures. By the mid-eighteenth century, Charleston had grown up considerably. Brick buildings lined the streets, squeezed together to create shade and bedecked with balconies and verandas to facilitate breezes. But while the orientation of the homes may have shielded their inhabitants from discomfort, their presence made life difficult for those on the street. He wrote that the heat from a downtown stroll compared to “that glow which strikes one who looks into a warm oven; for it is so increased by reflection from the houses and sandy streets as to raise the mercury sometimes to the 130\textsuperscript{th} division of the thermometer.”\textsuperscript{281} He reasoned that the absorption of heat by the buildings accounted for this increased temperature. “Solid bodies, more especially metals,” he theorized, “absorb so much heat at such times that one cannot lay his hand on them but for a short time without being made very uneasy.”

\textsuperscript{280} J. Lining, “Extracts of Two Letters from Dr. John Lining, Physician at Charles-Town in South Carolina, to James Jurin, M. D. F. R. S. Giving an Account of Statical Experiments Made Several Times in a Day upon Himself, for One Whole Year, Accompanied with Meteorological Observations; To Which Are Sub-Joined Six General Tables, Deduced from the Whole Year’s Course,” \textit{Philosophical Transactions of the Royal Society of London} 42, no. 462–471 (January 1, 1742): 491–509.

\textsuperscript{281} Quoted in David Ramsay, \textit{History of South Carolina, From Its First Settlement in 1670 to the Year 1808} (Charleston, South Carolina: Walker Evans and Company, 1858), 37.
He claimed that piece of “beef-steak” laid on a cannon for twenty minutes would be “so deprived of its juices” that it would be “over-done according to the usual way.” 282

These thinkers extended their inquiry into the economic realm, pondering the consequences of high temperatures on laboring bodies. Previously, Lining had been struck by seeing both white and black bodies die because of their exposure to heat. He pondered why “Men who were then in the Streets (when the Heat was probably 124 or 126 Degrees)” and “several Slaves in the Country, at Work in the Rice-Fields” dropped suddenly dead. 283 Chalmers placed thermometers in his own kitchen in order to “know what degree of heat my servants were exposed to,” and found the “mercury stood at the 115th division.” He told readers, though, that “notwithstanding this seeming distress, the negroes assured me they preferred this sort of weather to the winters’ cold.” 284 Benjamin Franklin also speculated about how temperature affected human physiology. In a flurry of correspondence in 1758, Franklin and Lining discussed methods for cooling bodies using evaporation, as Franklin had hypothesized that biological functions related to evaporation kept the body at a standard temperature. This insight had implications for laboring bodies. “May not this be a reason,” he considered, “why our reapers in Pensylvania[sic], working in the open field, in the clear hot sunshine common in our harvest-time, find themselves well able to go through that labour, without being much incommoded by the

282 Ibid.
284 Quoted in Ramsay, History of South Carolina, 37.
heat, while they continue to sweat, and while they supply matter for keeping up that sweat, by drinking frequently of a thin evaporable liquor, water mixed with rum.” “But if the sweat stops,” he continued, “they drop, and sometimes die suddenly, if a sweating is not again brought on by drinking that liquor.” 285 Franklin’s extended his logic to consider race as well. “May there not be in negroes a quicker evaporation of the perspirable matter from their skins and lungs, which, by cooling them more, enables them to bear the sun’s heat better than whites do?” he asked. And he was especially interested in this point. If proven true, then this physiological fact had tremendous implications for the institution of slavery, as the “alleged necessity of having negroes rather than whites, to work in the West-India fields, is founded upon it.” Anecdotal evidence buttressed his reasoning. “I am persuaded,” he continued, “from several instances happening within my knowledge, that they do not bear cold weather so well as the whites; they will perish when exposed to a less degree of it, and are more apt to have their limbs frost-bitten; and may not this be from the same cause?” 286 Franklin’s theories, shared with other members of the American Philosophical Society and disseminated widely through their publications, gave new certainty to the belief that Africans were warm weather beings, best suited hotter regions of the globe.

Over the course of the second half of the eighteenth century, documenting the

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286 Ibid.
weather grew out of economic and medical necessity but also as an amateurish hobby. South Carolinian James Glen, for instance kept a weather diary out of a desire, he wrote, “to please myself only.” The readings did little to explain why the temperature varied, but they offered a numeral comfort to Glen, who could at least quantify the conditions in Carolina. Glenn was hardly alone in using new instruments to better understand his environment. The previously mentioned governor of Georgia who complained about the excessive heat, Henry Ellis, often strolled through Savannah with a thermometer hanging from his umbrella. These thinkers demonstrate the permeable boundary between professional and amateur climatology in the eighteenth-century, a fluidity that had important implications for the perceived relationship between heat and race but also for temperature and national health.

Indeed, over the course of the second half of the eighteenth century, growing interest in the science of climate and systematic inquiry into weather trends and events began to serve national interests. This patriotic propaganda contributed to the belief that heat offered an economic boon. But whereas earlier promotional propagandists tailored their message to encourage settlement and immigration, these patriotic discussions of climate, which found that climate strengthened nationalism and fomented a national identity, came to the fore. As the conversation shifted, so too did the authors, and promoters yielded their pens to patriots. A dramatic shift in the way Anglo-Americans discussed climate occurred as the colonies matured and worries of settlement became less

287 Plowden Charles Jennette Weston, Documents Connected with the History of South Carolina (London, 1856),72.

important than political considerations. As a result of these changes, heat became, in political circles, regarded less as something that had to be explained or rhetorically tempered than as the potential foundation for agricultural strength.

This thinking came about as a response to a prevalent Enlightenment belief that forms of government, to be successful, must be adapted to the climate and that different portions of the globe demanded different government systems. The clearest articulation of this idea came in 1748, when Charles-Louis de Secondat, Baron de La Brède et de Montesquieu published *The Spirit of the Laws*, in which he speculated about how temperature shaped political economy. For Montesquieu, hot climates were detrimental to republican virtue. He explained that heat sapped the strength and energy of men while cold forged braver, more adventurous, and more creative stock. Because the quality of a government hinged on the character of its people, only in cooler regions could democracy flourish. In hotter climates (here, Montesquieu cited tropical North and Central America specifically), despotism offered the only means of controlling unruly populations.\(^{289}\) As a corollary to this line of thinking, Montesquieu also claimed that labor in hot areas could only be compelled by force, thus justifying the slavery in areas that exhibited an “excess of heat.”\(^{290}\) Montesquieu’s reasoning not only identified a diversity of climates as a problem—how could a single government effectively control so many dissident environments, each with their own political economy?—but also re-entrenched the association between heat and slavery, imbuing the idea with new legitimacy.

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\(^{290}\) Ibid., 240.
Colonists responded by recasting the heat of the southern colonies as an integral element of the nation’s climatic diversity and thus the strength of the nation. Indeed, they argued that, when considered holistically, the American colonies possessed a wealth of economic potential. Benjamin Franklin constituted a key figure in this conversation. For this American philosopher, he considered the way climate functioned and its patriotic/political valences among his favorite conversation topics, and he often discussed political issues and climate in the same breath. In 1754, for instance, in a letter to governor of Massachusetts William Shirley, Franklin discussed how climatic diversity in America offered the English empire considerable strength. “For being in different climates,” he wrote, “they afford greater variety of produce, and materials for more manufactures.” Thus, “the strength and wealth of the parts is the strength and wealth of the whole.”

As tensions with Great Britain increased, the diversity of climate began to serve American interests instead of British nationalism. By 1767, Benjamin Franklin was already remarking on the ways in which climatic diversity created a prosperous independent America. The new country “may suffer for a while in a Separation” from Britain, but that the expansive lands and diverse climates of America would make independence both easy and profitable. Pennsylvania politician Cadwalader Evans echoed this sentiment when he wrote that America’s strength lie in its diverse “climates

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291 Benjamin Franklin to William Shirley, December 22, 1754, reprinted from The London Chronicle, February 8, 1776.

suitable for almost all the productions of the Globe.” Alexander Hamilton repeatedly wrote that economic self-sufficiency made the boycotting of trade with Britain possible, at one point citing climate and “variety of our products” that the country’s diverse environments could afford. John Adams also remarked the first Continental Congress as a success, not least of all because of the “variety of climates, soils, religions, civil governments, commercial interests, &c. which were represented at the congress.” He claimed that such strength and diversity was “scarcely be paralleled in any assembly that ever met.” As late as 1778, Americans portrayed the diversity of climates as a decided advantage. That year, the Massachusetts Board of War stressed that “13 united States are blessd with all the fruitfull Climates of our Globe,” and even “exoticks” would grow well and enrich the nation after independence.

Franklin wrote that he was hopeful about


of the sultry climate of Georgia as well as those of the cold region of the Province of Maine would have both concurred in rejecting every shadow of Monarchy.”

Mirroring the tension between promotional literature and lived experience, though, the heady appreciation of diversity did little to abate the sickness that thrived in the heat of the southern colonies. Though they claimed to appreciate the agricultural products of the South, in wartime these politicians came to realize that the heat and disease could prove problematic. Maneuvers in the southern theater propelled the southern climate into national consciousness in ways that emphasized the difference between northern and southern climates and cast the South in a decidedly negative light. By the war’s end, there was little doubt that the South was a land of heat and illness that offered not advantageous diversity but rather constituted a national problem.

Indeed, the war forced Americans to finally address the tension that had been building for over a century between promotional literature and lived experience, or in the words of George Washington, “the contradictory Accts given of the Lands upon the Mississippi.” “Some speak of the Country as a terrestrial Paradise,” he wrote, “whilst others represent it as scarce fit for any thing but Slaves & Brutes.” At the end of the war, Americans considered it the latter. During the conflict, soldiers and officers

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encountered the climate by marching through its diseased landscapes, by languishing in
the summer heats, and by reading accounts of widespread illness decimating troops.
Patriots spilled much ink on the dangers of the climate, peppering their correspondence
with admissions that they worried the “Climate [would] destroy” older officers or feared
“the effects of a Southern Climate upon those” who marched down South.\textsuperscript{302} Some
suggested avoiding the South altogether, expressing the opinion that “Certain loss, in
sickness, Death & Desertion…will Inevitably take place, thro’ a long & fatiguing march,
in a Climate to which our people are not Inured.”\textsuperscript{303} Others knew firsthand its ravages.
One official wrote that the “southern Climate” reduced him to a “febrile State.”\textsuperscript{304} And
still another American officer complained about the “the shock my constitution has met
with from reiterated attacks of the fever, in this Inhospitable climate.”\textsuperscript{305}

\textsuperscript{302} “To George Washington from Lieutenant Colonel Joseph Reed, 15 March
1776,” \textit{Founders Online}, National Archives, last modified March 30, 2017,
http://founders.archives.gov/documents/Washington/03-03-02-0349. [Original source: \textit{The
Paul H. Smith, et al., eds. \textit{Letters of Delegates to Congress, 1774-1789}.
1776, North Carolina Council of Safety. Accessed at https://memory.loc.gov/cgi-bin/query/r?ammem/hlaw:@field(DOCID+@lit(dg005157)).

\textsuperscript{303} “To George Washington from Anthony Wayne, 10 May 1780,” \textit{Founders
Online}, National Archives, last modified March 30, 2017,

\textsuperscript{304} “Elbridge Gerry to Samuel and John Adams, 3 August 1776,” \textit{Founders
Online}, National Archives, last modified March 30, 2017,

\textsuperscript{305} “To George Washington from Anthony Wayne, 17 January 1783,” \textit{Founders
Online}, National Archives, last modified March 30, 2017,
Benjamin Lincoln said much the same. After a trip into Georgia, his health failed him, and he had to “retire from that climate unfriendly to his recovery.” A Virginia quartermaster to Nathanael Greene remembered the year 1782 as a time when “The army was…repeatedly upon the point of mutinying, from discontents, at being in an unhealthy climate, in an inactive state, and conceiving that there was a certainty of peace being established.” The experience of the Revolutionary War, for these patriots, only proved that southern summers were as dangerous as previously reported.

The fear of the climate and the effect it had on bodies during the summer was so widespread and so uncritically accepted that, at times, Americans enlisted the heat in fighting the British. Trapping troops in Charleston, for instance, would allow “the Climate will do their Business” of eradicating redcoats. In 1779, Benjamin Franklin, in a letter to member of Parliament and advocate of American independence David Hartley, wrote that he heard that the British “have now got a little Army into Georgia, and are triumphing in that Success.” Yet, he asked his correspondent, “Do you expect ever to see


that Army again?” He continued: “I know not what [American officer] Genl Lincoln or [American officer] Genl. Thomson may be able to effect against them; but if they stay thro’ the Summer in that Climate, there is a certain Genl. Fever that I apprehend will give a good Acct of most of them.”

309 Gouverneur Morris said the same more explicitly, writing to George Washington in 1779 that in the “Southern States…the Climate will fight for us during the Summer.”

310 They were not altogether mistaken. Reports indicated that British troops were “greatly diminished by sickness and desertion” in the South by the “hot season.”

311 Washington noted that other troops were “greatly weakened, by the severity of the service and climate.”

312 In 1780, patriot James Duane also conscripted the


climate, writing that “the severe Season of that Climate swiftly approaches when the Enemy will no longer be able to operate.”

But overall, the climate impeded American efforts, and the ever-growing fear of the southern environ increasingly swayed logistical decisions in the southern theater as the war progressed. Washington resolved to divert armies away from the South because of the “unhealthiness of that Climate.” Others voiced the opinion that, when the southern theater heated up, they should “bring back the war to a climate” that was “more healthy at least for the New-England people” and remove it from “a southern one.” Indeed, there existed a prevalent belief that defending South Carolina and Georgia would prove difficult, as the “Climate is unhealthy & a long Siege would be injurious to the Troops.” In 1782, Washington advised a garrison to wait for instruction in Baltimore rather than head any farther southward. He explained that the mid-Atlantic was a better place to “pass the time of the great heats and of the Sicknesses in a more healthy climate.” Other officers agreed, often reasoning that the “farther northward you move


the troops, more healthy is the climate.” Clearly, the southern contingent would need help in succeeding in the sickly south. Washington requested that “50 Hogsheads of Rum” be sent southward to combat the “severe and incessant duties and fatigues” that worked on the troops there. Nathanial Greene wrote that “the troops are extremely dissatisfied with the climate,” saying that “the terrors of the climate operate with more power, than the force of the Enemy.”

The climate became known as so bad during the conflict, in fact, that some questioned whether it was worth fighting for at all. A Dutch correspondent of John Adams pondered why the patriots risked their own health for such an unattractive parcel of land. Why should American colonists fight for Georgia, that “unsettled Colony, without strength, in an un-wholesome climate,” he asked, suggesting that Washington concede it to the British to hasten the wars’ end. Luzac was hardly the only European who feared the climate. French troops especially worried about the effect of the southern climate on their armies. In 1781, the Marquis de Lafayette wrote in regard to the southern climate.

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theater that having his troops remain in the southern states would, to them, seem “Intolerable,” as they were “Amazingly averse to the people and climate.”321 At another point, he told Washington that avoiding Carolina would be beneficial to the Patriot’s cause. He worried that after arriving in the South, his “detachment will Be Reduced to An Handfull of Men…by the disorders of that Unwholesome Climate.”322 The Comte de Rochambeau shared the belief that troops sent southward would likely never return. “No personal interest,” he wrote, “would make me carry an army at 300. Leagues distance…its destruction would be completed by the Autumnal diseases in a climate unhealthy at that time.”323 Though the American army never abandoned Georgia or the Carolinas to the British, that such an idea was conceivable, and that climate was the basis for such as a consideration, illustrates the effect the South’s high temperatures had on casting the region as not only unattractive but un-American, a place apart.

Nearing the end of the conflict, there was little doubt that the South represented a hot and sickly land, one that impeded efforts at independence by wreaking havoc on American troops. But over the course of the colonial period, the solution of black labor had gained relatively uncritical acceptance. In 1782 Nathaniel Greene expressed the


opinion that to enlist white Americans in the insalubrious South was impractical, so he “recommended to this State…to raise some black Regiments.” The Revolutionary War effectively intensified fears about southern heat, further casting the South as dangerous, exotic, and fundamentally different on account of its sickly climate, which in turn cemented the belief that black labor provided a solution to these problems in the minds of the country’s founders.

The United States was hardly born united. The new nation grew up with the firm understanding that the South was different, in no small part because of its high temperatures that bred illness and disease. Just as the promotional literature for South Carolina accepted that slavery would be an integral component of the colony’s political economy, so too would the early national republic concede that climatic difference justified bonded labor as surely as it made the South a land apart. After the Treaty of Paris, though, southern heat was no longer a colonial problem. It was an American one.

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CHAPTER V
SOUTHERN HEAT

“For in a warm climate no man will labour for himself who can make another labour for him.”

*Thomas Jefferson*, *Notes on the State of Virginia* 325

“The sun hurts.”

*Analiza Foster* 326

In 1789, Josiah Henson was born into slavery in Charles County, Maryland. In his autobiography, he explained to readers the omnipresent fear that colored every aspect of a slave’s life. The constant threat of violence, potential separation from family, and harsh living and working conditions were all sources of painful anxiety, he told his audience, but “the greatest of all terrors to the Maryland slave” was “being sold to the far south.” 327

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And that was a dread he knew all too well. Shortly into his life, Henson, his mother, and his siblings stood on the auction block, their fortunes at the whims of whomever decided to buy them and wherever that person chose to send them. He recalled the experience, emphasizing his “frantic terror of being sold ‘down south,’” where masters were crueler, the work more grueling, and the environment hotter and sicklier.\(^\text{328}\) Luckily, Henson dodged that fate. Instead of being clapped in irons and coffled down into the Carolina Lowcountry or Mississippi Territory, he stayed in the Upper South, eventually working for Amos Riley, a planter in Kentucky.

In his early adult life, though, the threat of the Deep South returned to terrorize him. One evening, Riley came to Henson’s cabin and told him that he would be traveling to New Orleans to help sell crops to downriver markets. Henson immediately saw through the ruse. He knew that it was not crops that Riley wanted sold; it was him. He was bound for the block again, and this time, at the infamous slave market at the terminus of the Mississippi. Any number of worries immediately sprang to mind, but some of the most troubling, he told readers, were the “long days and heat of June,” in which they would travel. After all, he wrote, “everyone knows what the climate of New Orleans is at that time of year.”\(^\text{329}\)

He saw firsthand the effects of the heat on slaves in the Deep South when he accompanied his master’s son to a plantation outside of Vicksburg, Mississippi. Henson later recalled that “it was the saddest visit I ever made.” He wrote that the slaves’ “cheeks

\(^{328}\) Henson, "Uncle Tom's Story of His Life," 18-19.

\(^{329}\) Josiah Henson, “Uncle Tom’s Story of His Life,” 74.
were literally caved in with starvation and disease,” explaining that “four years in an unhealthy climate and under a hard master had done the work of twenty.” He told readers that they “toiled, half-naked in malarious marshes, under a burning, maddening sun, exposed to poison of mosquitoes and black gnats.” The conditions were so deplorable that the slaves “looked forward to death as their only deliverance.” Their sickening plight exacerbated his own terror. “The worst fears of being sold down South,” he wrote, “had been more than realized.”330 The rumors were true. The Deep South was an impossibly hot and sickly land where death was preferable to the debilitating work.

The sickly clime, though, proved advantageous for Henson. Before reaching New Orleans, Riley’s son fell ill, and his incapacitation presented an opportunity for Henson to return to the Upper South as his caretaker rather than being sold in New Orleans. Upon returning to Kentucky, Henson decided that he would never again face the prospect of being peddled downriver. In short order, Henson escaped to Canada, where he lived the balance of his life as a free man. In describing his life north of the United States, Henson wrote that “some have asked me ‘if those who have been accustomed to a hot climate at the south, do not find the cold Canadian winters long and unpleasant?’ I have only one reply to make to that query, ‘that cool freedom is far better than hot oppression.’”331

Henson’s story vividly encapsulates the climatic valences to slavery in the antebellum American South. Henson was hardly alone in fearing the debilitating heat and disease of the Old Southwest. Indeed, over the course of the early national period,

330 Josiah Henson, “Uncle Tom’s Story of his Life,” 67.

331 Josiah Henson, Uncle Tom’s Story of His Life, 142.
Americans as a whole came to believe the land west of Georgia to be both hotter and sicklier than any other part of the continent. As Americans began to people the region in the wake of the Louisiana Purchase and Indian removal, their manipulation of the landscape raised surface temperatures, exacerbated disease, and gave experiential evidence to their earlier suppositions about the nature of the Deep South’s climate. As concerns of heat increased, so too did the insistence from slave owners that only those of African descent could survive fieldwork there, an argument that further naturalized African Americans to the hot climate. Indeed, Henson’s interviewer’s question about his amenability to the cold of Canada reveals that the belief that African Americans could survive high temperatures existed alongside the notion that black bodies also preferred warm conditions, a dangerous assumption that came to bear on the bodies of the enslaved.

This binding of heat and race cast its shadow on the growing sectional divide in the United States as well. Climatic considerations fueled ideas about southern distinction in ways that eventually undergirded the case for southern secession. The belief that the South’s climate was singularly hot proved sufficient to justify the foundation of a new nation, one whose political economy took as fact that only enslaved Africans could preform the agricultural labor on which the country’s economy depended. In the colonial period, southern heat emerged as a distinct problem. Early national and antebellum America faced its repercussions.

Henson’s saga indicates more than the importance of climate in pro-slavery and secessionist rhetoric, though. In a larger sense, the nineteenth century brought new voices into the battle to define what it meant to be hot. Politicians and Enlightenment thinkers,
to be sure, continued to shape the elite discourse surrounding the relationship between climate and race. But the experience of the enslaved, entering the historical record via escape narratives like Henson’s or else coming from Works Progress Administration interviews in the 1930s, demonstrates the many ways that African Americans too fought to define heat itself. These sources reveal that enslaved African Americans like Henson knew the consequences of heat through both rumor and experience. They often understood the nature of their subjugation in overtly climatological ways because race shaped their access to cool and exposure to heat. They crafted an understanding of heat wherein their level of climatic vulnerability reflected on their masters’ relative cruelness or kindness. Their fear of heat and appreciation of shade ran directly counter to emerging ideas articulated by mid-century racial theorists who argued that African Americans both appreciated warmer temperatures and needed heat to maintain health, views that placed new biological distance between white and black bodies. The idea of southern heat had long since separated the South from the nation and those of African and European descent, but the expansion of the slavery into the Deep South exacerbated heat’s long-standing ability to cleave while also providing new ways to create distance between southerners.

And that separation influenced some of the young country’s first decisions. Early-national political concerns identified sectional distinction as emerging from both slavery and the climate on which the South based its political economy. James Madison’s notes on the Constitutional debates, for instance, reveal that he believed the states’ divergent interests came not a result of “their difference of size” but rather by “other circumstances; the most material of which resulted partly from climate, but principally from the effects
of their having or not having slaves.”\(^{332}\) The ability of climate to foment distinct interests mingled with ongoing fears of the southern climate in the years immediately following the Treaty of Paris, worries that existed in no small part because of the widespread reports of illness in the southern theater of the Revolutionary War. The nation’s first politicians so feared heat that they were wary of conducting business even in Maryland. One politician wrote in advance of the Annapolis Convention, which convened to discuss possible changes to the Articles of Confederation, that “the northern gentlemen dread a warm [climate].”\(^{333}\) Others at the Convention remarked with surprise at how well they maintained their health in such a southern location in spire of the “intermitting fevers” which they assumed were “frequent” in the South.\(^{334}\) Others were not so lucky. A representative from Massachusetts wrote that the climate was “very injurious” to his well-being.\(^{335}\) Another felt that the Maryland heat even imperiled national progress. He worried that important matters would go unsettled if not decided by spring because some so feared “a southern Climate in the Summer” that they worried they would “die unless

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\(^{335}\) Ibid., Francis Dana to the Massachusetts Assembly
they adjourn.”336 In choosing a site for the new nation’s capital, Samuel Osgood wrote to John Adams that a compromise would be necessary that balanced southerners’ distrust of locating the center of government too far north with the fear of southern disease. Osgood explained that a southerly location would potentially work, so long as Congress only met in the fall and winter.337 That these politicians spoke with such certainty about widespread disease in the South, and the frequency with which they mentioned it, speaks to how pervasive concerns about the southern environment were.

These political concerns both responded to and reinforced Enlightenment medical science that argued the North and South were fundamentally different. Inspired in part by the eighteenth-century discourse that linked environmental conditions with national strength, throughout the period scientists surveyed American locations to determine the relative advantages and disadvantages each climate offered. In 1792, for instance, medical doctor William Currie published *A Historical Account of the Climates and Diseases of the United States*, which offered a reasonable summation of the then contemporary understanding of disease and heat. He wrote that “the cold of the northern states…produces but few diseases of a dangerous nature.” “But,” he continued, “in proceeding to the southward in Maryland and Virginia, where the heat is more intense and of longer continuance,” diseases were “very prevalent…and often fatal, especially to

336 Ibid., Arthur Lee to Theodorick Bland

foreigners.” And “in South-Carolina and Georgia, Fevers and Fluxes are still more epidemic, violent, and obstinate.” While Currie hardly argued for latitudinal determinism, he did stress that disease increased as the latitude dropped and heat trended upward.

The confluence of politics and medical thought created a widespread notion that the southern climate was not only distinctive, but that it produced distinctive people with characteristics peculiar to their climate. These differences grew in both popular and scientific circles as Americans attributed an increasing number of cultural differences to high temperatures. Evidence of such thinking dots historical correspondence. Historian David Ramsay and physician Benjamin Rush, for instance, debated whether or not southern heat bred a predication towards “revenge.” While Rush held as true that hot blood and high temperatures went hand in hand, Ramsay disagreed, though he admitted that “irascibility” was “almost certainly due to climate.” William Ellery felt that the South’s wont of dueling was a product of the heat climate, making southerners more “prodigal of life” than other Americans.

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340 Smith, Letters of Delegates to Congress, vol. 7 May 1, 1777 - September 18, 1777 William Ellery to Oliver Wolcott
and debilitating climate” lacked the “energy and habits of attention and perseverance of
the Northern States.”341 In another letter, he remarked that men “of a warm climate”
tended to act without consideration of consequences, saying that a southerner does not
“examine his ground well before he takes it.”342 Americans, then, felt that the warm
cclimate made southerners reckless, hot-headed, violent, and impulsive.

Indeed, by the end of the eighteenth century, the belief that one could “know his
latitude by the character of the people among whom he finds himself” was widespread.
Jefferson himself noted the differences in characters between North and South, saying
that southerners were “careless of their interests” and “thoughtless in their expences and
in all their transactions of business.” And he attributed these vices “to that warmth of
their climate which unnerves and unmans both body and mind.” He summarized his
findings in the following table:

341 Smith, Letters of Delegates to Congress, vol. 23 November 7, 1785- November 5,
1786 Nathan Dane to Edward Pulling

342 Smith, Letters of Delegates to Congress, vol. 25 March 1, 1788- December 31,
1789 Nathan Dane to Theodore Sedgwick
Table 1  Jefferson’s characterization of northerners and southerners

<table>
<thead>
<tr>
<th>In the North they are</th>
<th>In the South they are</th>
</tr>
</thead>
<tbody>
<tr>
<td>cool</td>
<td>fiery</td>
</tr>
<tr>
<td>sober</td>
<td>Voluptuary</td>
</tr>
<tr>
<td>laborious</td>
<td>indolent</td>
</tr>
<tr>
<td>persevering</td>
<td>unsteady</td>
</tr>
<tr>
<td>independant</td>
<td>independant</td>
</tr>
<tr>
<td>jealous of their own liberties, and just to those of others</td>
<td>zealous for their own liberties, but trampling on those of others</td>
</tr>
<tr>
<td>interested</td>
<td>generous</td>
</tr>
<tr>
<td>chicaning</td>
<td>candid</td>
</tr>
<tr>
<td>superstitious and hypocritical in their religion</td>
<td>without attachment or pretentions to any religion but that of the heart. 343</td>
</tr>
</tbody>
</table>

While Jefferson’s musings on the effect of climate seem somewhat playful, he placed a tremendous amount of importance on better understanding the weather. Jefferson exhibited all the features of the Enlightenment climatologist, and his systematic inquiry added numerical certainty to longstanding assumptions about the southern climate. An avid observer of weather, in countless correspondence he asked friends and

family to buy thermometers so he could compare America’s climates. He had overseas correspondents send him meteorological observations so he could examine how America compared to Europe and elsewhere. And he gave exacting instruction to his family on how to take measurements. A letter to his son-in-law, Thomas Mann Randolph, Jr., reveals the tedious methodology he expected as well as the importance he placed on daily observations.

I will propose to you to keep a diary of the weather here and wherever you shall be, exchanging observations from time to time. I should like to compare the two climates by cotemporary observations. My method is to make two observations a day, the one as early as possible in the morning, the other from 3. to 4. aclock, because I have found 4. aclock the hottest and day light the coldest point of the 24. hours. I state them in an ivory pocket book in the following form, and copy them out once a week. The 1st. column is the day of the month. The 2d. the thermometer in the morning. The 4th do. in the evening. The 3d. the weather in the morning. The 5th do. in the afternoon. The 6th is for miscellanies, such as the appearance of birds, leafing and flowering of trees, frosts remarkably late or early, Aurora borealis, &c. In the 3d. and 5th. columns, a. is after: c, cloudy: f, fair: h, hail: r, rain: s, snow. Thus c a r h s means, cloudy after rain, hail and snow. Whenever it has rained, hailed or snowed between two observations I note it thus, f a r (i.e. fair after rain) c a s (cloudy after snow &c.) otherwise the falling weather would escape notation. I distinguish weather into fair or cloudy, according as the sky is more or less than half covered with clouds. I observe these things to you, because in order that our observations may present a fair comparison of the two climates, they should be kept on the same plan. I have no barometer here, and was without one at Paris. Still if you chuse to take barometrical

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observations you can insert a 3d morning column and a 3d afternoon column.³⁴⁶

He carried his penchant for recording temperatures to Philadelphia, as well, even recording the temperature there on July 4th, 1776. At one in the afternoon, the mercury read seventy-six degrees Fahrenheit.³⁴⁷ Just as it had in the colonial period, these systematic investigations into temperature offered qualitative proof of fundamental difference between the North and South and buttressed the less-academic assumptions of how heat bred distinct cultural traits.

These systematic investigations held significant political importance. Developments in natural science made climate newly important, and Jefferson’s defense of the American environment caused him to emphasize the positive impact of high temperatures. Though his correspondence reveals that he did attribute some weaknesses of character to the sultry climate, on the whole, he lauded high temperatures. A summary of Jefferson’s systematic investigation into weather, and indeed the whole of Virginia’s environment, came in the form of Jefferson’s seminal Notes on the State of Virginia, written in response to a series of questions about the state’s resources and people posed


by French statesman François Barbé-Marbois. While historians have noted how *Notes* effectively amounted to a work of American propaganda, rebutting as it did the charges of the Comte de Buffon that the environment of the New World caused human and animal degeneration (the logical extension of which meant that America could never prosper), less academic attention examines how Buffon’s allegation that the cold and wet environment caused degeneracy inspired Jefferson, in his defenses of the American climate (which transcended *Notes* and appeared frequently in his private correspondence) to emphasize the benefit of heat.  

Over the course of the last two decades of the eighteenth century, Jefferson came to embrace characterizations of the South as warm and healthy in ways that resembled promotional literature. Even though he admitted that warmth could inspire less than admirable traits and habits, he still found that its benefits outweighed its negatives.

And indeed, Jefferson often emphasized the benefit of heat even in letters to friends, family, politicians, and natural scientists, often expressing his appreciation of high temperatures as a form of southern patriotism. He considered himself a son of the South and “an animal of a warm climate,” for which he considered himself quite

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fortunate.349 In writing to Hugh Williamson after receiving a weather diary from Quebec and comparing it to one from Natchez, Mississippi, he wondered why “any human being should remain in a cold country who could find room in a warm one.”350 He said almost the exact same to William Priestly when he wrote that he was puzzled by why “men should ever settle in a Northern climate, as long as there is room for them in a Southern.”351 Jefferson offered an even more effusive defense of heat in a letter to William Dunbar two days later, in which he remarked that “I have often wondered that any human being should live in a cold country who can find room in a warm one.” He went on to claim that the cold constituted “the source of more sufferance to all animal nature than hunger, thirst, sickness & all the other pains of life & of death itself put together.”352

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These letters do more than simply illustrate Jefferson’s preference for warm climates. They offer a window into how one of the foremost American minds and the country’s third president understood heat. Indeed, his correspondence reveals a firm belief that warm climates strengthened human health, an idea that existed in tension with the widespread belief that heat bred illness. He often wrote that in warm Virginia, he and his family were never ill. He claimed that the “fervid sun” was “as innocent” as “cloudless skies” were “agreeable.” He even believed that the abundance of sunlight that shone on the South guarded against depression and suicide. He considered American climate “more cheerful” than England’s and that the sun “has eradicated from our constitutions all disposition to hang ourselves.” Not only was the American climate physically healthy, but it was mentally salubrious as well.

His continuous rebuttal of Buffon not only inspired him to portray heat as healthy, but also led him to consider the effects of human-induced climate change. He inverted Buffon’s allegations by arguing that, instead of the environment altering humans, that the

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imposition of civilized, European agriculture transformed the climate. In *Notes*, he wrote that in the early colonial period, “extremes of heat and cold…were very distressing to us,” but promised that “a change in our climate is taking place.” Indeed, both highs and lows were becoming “much more moderate,” supporting his observation by claiming that “snows are less frequent and less deep.”356 The climate was not only temperate, he argued, but increasingly so thanks to the husbandry of American farmers. In offering that agriculture had tempered the climate, Jefferson traded on a widespread belief that culture and climate were coeval, and that the advancement of one would result in a positive change in the other. Earlier, American climatologist Hugh Williamson authored an article for the *Transactions of the American Philosophical Society* in which he claimed that in Pennsylvania a “very observable climate change,” had occurred, explaining that both summers and winters had, in the previous decades, decreased in intensity.357 David Sewall wrote to John Adams in 1803 that “the Cultivation of the Inland parts of the Country, will undoubtedly render our Winters more mild.”358

Climatologists today would argue that this tendency toward moderation in Pennsylvania and northern Virginia resulted from both global climate change and the

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anthropogenic alteration of microclimates. In those latitudes, clearing forest cover for agricultural purposes generally had the net effect of reducing summer temperatures because denuded land reflects more of the sun’s heat than it absorbs. In snowy regions, this cooling effect is amplified because winter precipitation sends back even more solar radiation and further depresses the annual mean temperatures. However, the warming associated with the end of the Little Ice Age (cool conditions gave way to increasing warmth at the end of the eighteenth-century, and after another cold spell in 1810s, temperatures climbed quickly though not linearly) likely offset some of the effects of winter cooling. Thus, the clearing of vegetative cover in tandem with global climate change likely conspired to create the moderating effects that Williamson and Jefferson observed.359

His belief that agriculture represented a moderating influence, combined with his appreciation of generally warm temperatures, likely made him consider the land west of Georgia all the more attractive. Of course, economic and geopolitical concerns represented the primary motivations to acquire and Americanize the Old Southwest, but his climatic considerations likely dulled fears about expanding into the region. Moreover, the racial valences to his ideas about climate also tempered anxieties he might have felt about the deeper, hotter South. Jefferson’s complicated thoughts on race reveal the

complexity which attended to discussions of heat and slavery in the early republic. Jefferson deplored the institution, claiming that it degraded the morality and industry of southerners. But he also believed African Americans innately inferior to Europeans and that physiological distinctions made them more effective laborers in hot climates. Jefferson explained that those of African descent sweated more, and in addition to generating a “disagreeable odour,” it also made them “more tolerant of heat, and less so of cold, than the whites.”

He cited southern heat, not as an inevitable cause of slavery, then, but a predicated element. “For in a warm climate,” he wrote, “no man will labour for himself who can make another labour for him.”

An already prevalent notion, the idea that black bodies tolerated heat better expanded as quickly as the size of the nation, and in no small part because of the acquisition of new land. The Louisiana Purchase of 1803 proved a pivotal moment in the history of heat. In the Old Southwest, long-standing ideas about the relationship between heat, race, and labor came to a head, and the social impact of climate science settled more and more on the bodies of the enslaved. This hotter land raised the stakes for debates about the effect of high temperatures on human health because Americans assumed that the Deep South was both hotter and more diseased than anywhere else in the nation.

But that characterization was, indeed, an assumption. At the turn of the century, Americans knew relatively little about the expanse of land that stretched from the western frontiers of Georgia to the Mississippi, much less about the lands west of the river.

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Earlier, George Washington had complained that he did not know if the land offered a “terrestrial paradise” or it was “scarce fit for anything but Slaves and Brutes.” Thomas Jefferson himself referred to Old Southwest as the “terra incognita” of the continent. What little they did know only confirmed their worst suspicions. Some of the only accounts of the backcountry and Gulf Coast came from naturalists who trekked through the southeast in the latter half of the eighteenth century, and as such, these travelers’ descriptions of the western reaches of Georgia, Florida, and Mississippi Territory massively shaped the expectations of Americans before widespread emigration into the region. William Bartram, for instance, spoke frequently of the “scorching” and “sultry heats” that he described as “intolerable.” He, too, noted how the fatigue and the insects occasioned by these temperatures “oppressed and harassed” the expedition. Bernard Romans, a surveyor and entrepreneur who explored East and West Florida in the 1770s, offered more amenable accounts of the climate (like other promoters, he spoke of


365 Bartram, Travels, 384-385.
its salubrity and agricultural potential, blaming illness on the excesses of its inhabitants), but also noted that only those of African descent could work in the hot reaches of the nation. He wrote that Georgia was proof-positive of the “necessity of having Negro slaves” to cultivate the land, calling them “useful though inferior members of society.”

Given the long history of slavery in western society, the physiology of black bodies that allowed them to work unmolested in the heat, and the Bible’s sanctioning of the institution, “is it not therefore better,” he asked, “to employ those, who labour at a similar work in their own sultry country, and in a state of slavery too, than to make victims of men who can by no means be qualified for the fatigue of a southern plantation?”

Turn of the century commentary supported these earlier characterizations. The two related lines of thought offered by Bartram and Romans—that the Deep South was singularly hot and that outdoor work demanded black labor—also combined in the writings of Scottish-born physician and Natchez planter William Dunbar. Dunbar more than any other contributed to Americans’ knowledge about the climate of the regions bordering on the Mississippi River, not least of all because he, like Jefferson, styled himself something of a climatologist. And he also had the President’s ear, who corresponded frequently with Dunbar while he negotiated the Louisiana Purchase and afterwards. It was Dunbar, in fact, to whom Jefferson remarked that the climate and environment of the Old Southwest was virtually unknown. Dunbar, who had lived on the Mississippi River near modern day Natchez for over a decade by the time the United

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367 Ibid., 106.
State acquired Louisiana, explained to politicians like Jefferson and others interested in the natural history of the mysterious lands of the Deep South that they were, in fact, hot and sickly but also prolific, capable of producing magnitudes of profitable staple crops.

One of Dunbar’s most vivid descriptions of the landscape came from a 1798 surveying expedition that he undertook at the bequest of the Spanish government to trace the boundary line between United States and Spanish West Florida. That August, camping in a muddy floodplain from which the Mississippi River had only recently retreated, he recorded the environmental and climatological characteristics along the 31st parallel north. His description characterized the South as impossibly hot and productive to the point of danger. In this, the “hottest month of the year,” he wrote, “the surface of the earth teems with life…not of those kinds which invite and delight the view of the inquisitive naturalist; but of the most disgusting forms and noxious kinds.” He noted the “serpents of the waters frequently entwined in clusters to the number of several hundreds,” in addition to a “vast variety of toads, frogs…and the thundering Crocodile.” He described their “hideous forms,” adding that there were other monstrosities, the “multitude” of which made them “too tedious to mention.”368 He wrote, too, of the “innumerable swarms of Gnats,” as well as the “variety of other Stinging and biting insects.”369 Dunbar considered these beasts products of the climate, and he spared little ink on describing the inhospitable warmth of the region. He wrote that the “party


369 Ibid., 82.
suffered” from the “extreme of heat.” He remarked with disdain that the dense vegetation was “impenetrable to the stoutest breeze,” and he deplored that the “ardent beams of the sun” that “excited a degree of heat which might be literally said to scorch.” For proof, he cited the temperature, which had “risen to 120° Fahrenheit.”370

His previous experience and extensive knowledge of the region, led him to expect the conditions of the dangerous and trying climate. And because he knew the environment to be one of “terrible Sublimity,” he had planned accordingly. After meeting Andrew Ellicott, the American surveyor, he suggested they split up to cover the terrain more efficiently. Dunbar proposed that Ellicott and company move eastward toward the Atlantic Coast while he and his team traversed the warmer and more dangerous environments towards the Mississippi River, explaining that “the moist and Swampy Soil in the vicinity of the Mississippi” was more “hazardous to the health of our Northern friends.” Ellicott took with him “the White laborers, 50 in number” through the less treacherous terrain, while Dunbar tasked himself with “pushing the line through the low grounds to the Margin of the Mississippi with the assistance of 2 surveyors, 22 black laborers and a White Overseer.”371 Dunbar’s allocation of labor had everything to do with his understanding of the relationship between race and heat, and his decision to imperil the health of the “22 black laborers” anticipated decisions that countless other slave owners would make over the course of the next six centuries.

370 Ibid., 84.
371 Ibid., 80.
Soon, an increasing number of Americans experienced for themselves the distinctive perils of the southern climate, and their complaints about the region further cleaved the South from the nation while simultaneously growing the belief that only African Americans could survive the southern sun. In 1801, Elihu H. Bay wrote to James Madison that the region bordering the Mississippi River was “unhealthy” and “fatal in the extreme, to the strong, robust constitutions of our Western Brethren” because of the “Climate and disease.”372 In establishing a hospital in New Orleans to combat the rampant sickness in New Orleans, Jefferson sought only seasoned doctors who had previously worked in hot climates. Applicants even stressed their own biological experience in applying for positions. The “ravages” of the New Orleans climate, the President reasoned, required not only acclimated bodies but also a specialized knowledge

of “the diseases of warm climates.” Indeed, there existed a widespread belief that only
doctors who served in hot regions knew “what medicines suit a Southern Climate.”

Jefferson’s earlier characterizations of the South as essentially healthy had to
contend with the undeniable instances of disease in the region, most especially New
Orleans, the flagship city of the purchase. Mirroring the efforts of the Virginia Company
two centuries earlier, he blamed people rather than the environment, aiming his
condemnation at poor civic planning. He thought that the built environment created
yellow fever as it seemed to be exist only the “lower, closer & dirtier parts of our large
cities.” Rather than clump buildings together in ways that would generate more disease,
he suggested reorganizing and expanding New Orleans along a “chequer board” pattern,
leaving open land full of “turf and trees” in the metaphorical white squares and only
developing the alternating black squares. That way, he reckoned, the town would “be

373 “To Thomas Jefferson from William Barnwell, 15 March 1802,” Founders Online,
National Archives, last modified July 12, 2016,
University Press, 2010, p. 75.]; “To Thomas Jefferson from Caspar Wistar, 10 April
1802,” Founders Online, National Archives, last modified July 12, 2016,
1802,” Founders Online, National Archives, last modified July 12, 2016,
Papers of Thomas Jefferson, vol. 38, 1 July–12 November 1802, ed. Barbara B. Oberg. Princeton:
insusceptible of the miasmata which produce yellow fever.”

The sickly South not only distinctly southern doctors but distinctly southern planning.

Despite their best efforts, though, yellow fever continued to run through the South’s port cities with increasing intensity. As the population rose, so too did potential disease vectors that, in tandem with steadily warming temperatures, exacerbated the spread of illness. In 1819, New Orleans lost 2,000 of its residents to yellow fever. In 1839, 1841, and 1843 annual mortality totals for the city were in excess of 400 each year. Mobile, Alabama experienced similar disasters, experiencing deadly fever outbreaks six times between 1819 to 1844. Importantly, Americans did not just consider the land unhealthy, but uniquely so. Jefferson described New Orleans, for instance, as having “more suffering citizens than in any other place” because of the “peculiarities of climate.”

While yellow fever raged in New Orleans, the rapid peopling of modern-day Alabama and Mississippi raised surface temperatures significantly and created environments increasingly conducive to the spread of malaria. Over the course of the eighteenth century, millions of people flooded into the region to cultivate the newly-


375 For more on yellow fever in New Orleans and Mobile, see Margaret Humphreys, Yellow Fever and the South, Revised ed. edition (Baltimore, Md: Johns Hopkins University Press, 1999).

profitable upland cotton. Between 1800 and 1820, the population of Alabama rose from 1,250 people to 127,000. At the turn of the century, 7,600 people lived in the expansive and ill-defined Mississippi Territory. By 1820, the population exceeded 75,000. In 1860, Alabama’s population reached over 964,000, and Mississippi’s climbed to just short of 800,000.377 As farmers raced into the region with their slaves, they cleared trees and denuded the landscape. As had happened earlier in Georgia, these human alterations proved amenable to breeding mosquitos, and higher surface temperatures only increased their opportunities to procreate.

The environmental characteristics of the region also exacerbated the spread of disease. The climate of the Old Southwest responded differently to cultivation and denudation than what Jefferson saw in Virginia and Hugh Williamson witnessed in Pennsylvania. Though the dark forests that once covered the landscape absorbed more solar radiation than they reflected, rather than cooling the environment, clearing away this heat-trapping foliage actually increased the surface temperatures in the region because it inhibited cooling. Climatologists cite evapotranspiration, or the process by which plants release moisture that is then evaporated, with moderating surface temperatures in tropical and subtropical locations. In the lower latitudes of North America, trees and plants expel more liquid during photosynthesis than flora in more temperate areas. Southern plants, in other words, sweat more readily. Because they transpire more effectively than those in areas with cooler average temperatures, the South

experienced warming from land clearance. Whereas in temperate regions land use changes may have offset the effects of warming global temps, in the South, they amplified them.\textsuperscript{378}

Climate scientists noticed this effect, too. Hugh Williamson, who in the eighteenth century wrote that European-style agriculture moderated Pennsylvania’s climate, rethought the effects of clearing land after the Louisiana Purchase. In his 1811 \textit{Observations on the Climate in Different Parts of America}, he spoke of climate change as increasing heat rather than tempering hot and cold conditions. In addition to a new appraisal of the relationship between heat and agriculture, his work also offers an example of how experience in the antebellum South abbreviated what little distance existed between racial science and climatology. In the work, Williamson proposed a “general theory of heat” that addressed the relationship between heat, health, race, and agriculture. In an inversion of modern-day understandings of solar reflectivity, he felt that the reflection of light, rather than absorption, warmed the earth. This reasoning had important implications for outdoor labor, he argued, as reflection prevented perspiration. As a result, he explained, white skin proved unable to sustain prolonged contact to the southern sun, being heated by reflection and thus unable to efficiently sweat. Black skin, on the other hand, was perfectly fitted to a “hot climate, for it transmits the light, so that the surface is not heated by reaction.” Black skin could thus sweat more freely, and thus

\textsuperscript{378} For more on how semi-tropical and tropical areas respond to denudation, see Mi Zhang, et al., “Response of surface air temperature to small-scale land clearing across latitudes”, \textit{Environmental Research Letters}, Vol. 9, no. 3 (2014).
those of darker complexions could cool themselves more easily.\textsuperscript{379} For Williamson, heat necessitated black labor, and the rising temperatures that occurred as a result of agriculture exacerbated that need.

The intensification of slavery in the deep South came, in part, as a result of these considerations while simultaneously strengthening the appeal of such thinking for advocates of slavery. Over the course of the first-half of the nineteenth-century, the slave population of the Deep South exploded. As production moved inland from the coast, Georgia’s enslaved population rose from less than 30,000 in 1790 to over 460,000 in 1860, a 1,479\% increase. By 1820, already 47,449 slaves were forced to call Alabama home; by the time of secession, that number had risen over 800\% to just shy of half a million. Numbers were similar for Mississippi, which in 1820 had 32,814 slaves and by 1860 had 436,631. Arkansas was home to under 5,000 slaves in 1830 and over 111,000 in 1860. In Louisiana, the numbers were 69,064 in 1820 and over 330,000 when Confederate troops fired on Sumter.\textsuperscript{380}

As slavery grew and matured, heat began to cleave white bodies from black ones in new ways. Experience in the hotter Deep South exacerbated the different climatological experiences, but it also created ideological distance between the two: masters and slaves understood heat in vastly different ways. Enslaved Americans crafted an understanding of the relationship between race and climate that contradicted the ideas

\textsuperscript{379} Hugh Williamson, \textit{Observations on the Climate in Different Parts of America} (New York, 1811) 56.

\textsuperscript{380} United States Census Bureau, “Historical Census Statistics on Population by Race, 1790 to 1990.”
espoused by Enlightenment thinkers like Williamson. As advocates of slavery continually placed physiological difference between white and black bodies, African Americans articulated their fear of heat and the discomfort and danger of outdoor labor in ways that asserted their fundamental humanity.

Heat was central to the slave experience. High temperatures constituted such an integral part of their lives that in their writing, former slaves used heat to symbolize enslavement and underscore the bodily agony of their oppression. Charles Ball, for instance, recalled sitting in a South Carolina jail soon to be sold to a Georgia planter, where “the heat of the day had been very oppressive.”

Those in the Upper South, too, remembered the pain inflicted by the sun. Kentucky slave William Wells Brown remembered the sting during fieldwork, writing that “work in the burning sun…was very hard.” Frederick Douglass, in his autobiography, noted the association when quoting verse by abolitionist John Whittier about the fear that attended interaction with the southern environment.

GONE, gone, — sold and gone,
To the rice-swamp dank and lone.
Where the slave-whip ceaseless swings,
Where the noisome insect stings,
Where the fever demon strews
Poison with the falling dews,
Where the sickly sunbeams glare
Through the hot and misty air;
Gone, gone, — sold and gone,


382 William Wells Brown, Narrative of William W. Brown, a Fugitive Slave, in Yuval, ed., I Was Born a Slave, 693.
To the rice-swamp dank and lone,
From Virginia's hills and waters;
Woe is me, my stolen daughters!\(^{383}\)

The *Born in Slavery* narratives, complied by the Works Progress Administrations’ Federal Writers’ Project employees, further illustrate the pivotal and painful role heat played in slave life. Former slaves often used exposure to the sun as a way to communicate to interviewers the treatment of their masters. Kinder slave owners and drivers offered laborers a brief reprieve from their work during the heat of the day, but crueler owners and overseers forced them to pick, plant, and hoe from sunup to sundown. Addie Vinson, enslaved in Oconee County, Georgia, recalled that one overseer worked them particularly hard, saying that they were in the field long before the sun rose and stayed there until after sundown with no break.\(^{384}\) Richard Toler said much the same, characterizing his master as harsh by saying that he had to work “all the time every day.”\(^{385}\) Rose Williams, of Texas, recalled that her master was “awful cruel,” as she had to work in the field “from daylight till dark.”\(^{386}\) Hannah Scott complained of her master, an Arkansas planter, that he was “mean…and worked [t]he slaves from daylight till nine

\(^{383}\) Frederick Douglass, *Narrative of the Life of Frederick Douglass*, in Yuval, ed., *I Was Born a Slave*, 559.


o’clock at night.” Conversely, Clara Brim, of Louisiana, felt that she was treated well in slavery, supporting her assertion by offering that her master “didn’t work [slaves] in de heat of de day.” Similarly, Hester Hunter told her interviewer that her master was kind because in the “summer time when it would get too hot to work” he would allow the slaves access to a fishing pond to catch dinner and cool off. Irene Robertson, who worked in Bedford County, Tennessee stated that the mark of a good master was to provide cool shade and spring water. Her master “was pretty good to his slaves,” she reported. He allowed the slaves to take a midday intermission and “rest around in the shade.” She fondly recalled laying down “in the heat of the day,” happily recalling the “big shade trees” under which they would rest, eat, and sip cool spring water.

Slaves found a number of ways to mitigate the extremely hot temperatures to which they were subject. Some found reason to go to the spring house, the small structures built on the top of wells and natural springs that kept milk, butter, and cheese cool in the summer. Indeed, fetching either water or these items was a cherished assignment. Lucinda Washington communicated the joy of spending time in the cool

387 Ibid., 7.


shelter, impressing the interviewer enough to write of “how cool and nice” she felt in there. Tom Baker, in Alabama, recalled the joy of being asked to fetch water for the fieldworkers who worked in the “sun all day long.” He described to his interviewer the “powerful cool” he felt at the spring, recalling that he used lie on the moist moss letting his “bare belly” get cool while he plunged his face into the water. Others escaped heat by dodging fieldwork altogether. Lindsey Moore, for instance, learned how to card and weave cotton on his plantation in Forsyth County, Georgia, to avoid uncomfortable fieldwork. He also learned the craft of soap making, at which he was particularly adept. As a result of his skillset, “he was able to spend many hours in the shade pouring water over oak ashes that other young slaves were passing picking cotton or hoeing in the burning sun.” Such shade jobs delineated status amongst the slave community. As skilled laborers exempt from the toil of fieldwork, they occupied a position somewhere between hands and domestic servants who also spent their days shielded from the sun. That designation underscores how access to cool also separated southerners by creating social distance between slaves themselves.

For these reasons, and the mere comfort it provided, shade held tremendous cultural importance for slaves, who considered time spent under shadows a pleasant

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392 Ibid., 17.

interruption from their otherwise sun-soaked lives. Minerva Bendy, who grew up in Texas, recalled fondly her time spent with the other children sleeping in the heat of the day underneath the “spreadin’ oak tree in de yard.” Dosia Harris, interviewed while living in Georgia, recalled that slave children “didn’t stay out of de branch long ‘nough to need much clothes in hot weather.” Some slave quarters, too, took advantage of shade. Jane Mickens Toombs of Washington-Wilkes, Georgia, recalled that the slave row was “set thick” with “wild mulberry trees” to make shade for the children to play in. Shade had such cultural value that, on occasion, the shadow cast by a tree could become a makeshift places of worship. Celia Henderson, during her time in Natchez, Mississippi, recalled that an older man who was “powerful in prayer” gathered slaves under “a big tree,” where they all kneeled down and prayed for an end to of a draught that had dried their streams and parched their throats. Charles Ball, in his escape narrative, praised the magnolia, the “most magnificent” shade tree. He described its pleasing scent and its comfortable foliage that was “as impervious as a brick wall to the rays of the sun.”


“coolness,” he went on, “affords one of the greatest luxuries of a cotton plantation.”

Slaves not only appreciated shade but also feared heat for its pernicious effect on their health and comfort. Cruel overseers even used the heat as punishment. Analiza Foster, of Person County, North Carolina, recalled a particularly brutal episode in which a pregnant woman was beaten to death. Her mother, she recalled, told her that the driver punished the woman for fainting during fieldwork. The master, more concerned about the health of the future slave in the womb than that of the mother, dug a hole in the sand and buried the woman up to her chest to protect her unborn while whipping the mother mercilessly. Analiza reported that he cut “long gashes all oevr [sic] shoulders an’ raised arms” before walking off and leaving her buried and exposed to the “hot sun.” She poignantly summarized the savagery of the punishment by pithily reminding her interviewer that “the sun hurts.”

Other slaves noted that masters used heat as punishment. Moses Roper wrote of his time in Florida that his master punished him by “flogging” before sending him out to “work without any shirt, in the cotton field, in a very hot sun, in the month of July.” The widespread practice of such discipline made its way into literature as well. Joseph Holt Ingrahm’s novel The Sunny South, told through a series of letters from fictional Kate Conygham, a northerner transplant to the Deep South, mentioned using heat as punishment. Ingrahm’s wrote that domestics and

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398 Ball, Slavery in the United States, 133-134.


400 Moses Roper, A Narrative of the Adventures and Escape of Moses Roper, From American Slavery, in Yuval, ed., I Was Born a Slave, 494.
field laborers never transcended their social boundaries except for “when a refractory
house servant [was] sometimes sent into the field, to toil under the hot sun as
punishment.”

Indeed, slaves were daily reminded of how heat threatened their health, and they
developed their own medical understandings of high temperatures that ran against the
constant refrain of slave owners that they were impervious to the effects of high
temperatures. Many slaves, for instance, believed that labor in the sun while pregnant
was especially dangerous. Hannah Allen, who worked in Pocahontas, Arkansas, reported
that a woman faced chronic illness “cause she got too hot” before her child was born.
But even quotidian exposure to heat during work could threaten illness. Charlotte Foster
complained of working “in the hot sun,” reporting that it brought about frequent
headaches that forced her to petition her master to rest until it got better.

While heat threatened their health and discomfort needled slaves throughout the
day, white comfort depended in no small part on slave labor. Over the course of the first
half of the nineteenth-century, slaves’ efforts to cool their owners further created social
distance between the two groups. Even in beating the heat, high temperatures separated
southerners by matters of degree. Joseph Holt Ingraham’s Kate Conynham mentioned the

401 Joseph Holt Ingraham, The Sunny South, or, the Southerner at Home (Philadelphia:
G.G. Evans, Publisher, 1860), 35.


403 Federal Writers' Project: Slave Narrative Project, Vol. 14, South Carolina, Part 2,
practice of slaves fanning their masters to ensure that they stayed cool. The character
described an elegant dining room she encountered in Tennessee. Above the lavish table
hung “a huge silk covered fan” that ran the “breadth of the table.” “From rings in the
corners,” the character described, “lead red cords, which are pulled to and fro by a little
negro, all dinner time.” Addie Vinson also recalled that her job during dinner to stand
behind her masters, fanning them with a “turkey-feather fan to keep the flies off” and
cool the diners.405

While feathers and fans offered stopgap ways that whites might beat the heat, their overall retreat from uncomfortably high temperatures represented nothing short of an architectural feat. The built environment also amplified these differences of exposure to climatological dangers while also building the discourse of southern distinction. As Americans made their way into the Deep South, the wealthiest constructed elaborate residences that mirrored the architectural forms of classical Mediterranean homes to escape the sun’s violent rays. Architectural historian Kenneth Severens argues that these homes, with their gracious porches, stately ionic and doric columns, and emphasis on colonnades, piazzas, and breezeways were of massive cultural significance. Planters’ fascination with this style, he argues, stemmed from both a practical adaptation to high temperatures and from a hope that the South’s “‘peculiar institution’ could be exonerated

404 Ingraham, The Sunny South, 54.

through association with classical antiquity.” Plantation owners also placed their homes with an intense environmental awareness, making sure to situate them in such a way as to minimize direct sunlight and tempt cooling breezes. Many plantations in the deep South ran in an east-west orientation, with the shorter sides receiving the bulk of direct sunlight which was also often mediated by the presence of large shade trees, such as oak, live oak, and hickory. These designs themselves emphasized the distinctiveness of the South. The architecture constituted ideology in edifice, an expression of culture intimately related to the climate that cast the South as a land apart.

Oak Alley, near Vacherie, Louisiana, offers a typical example of such distinctive placement and style. Situated facing the Mississippi and buried in the shade of oaks, the owner made sure to situate and design the house in such a way as to maximize comfort. Architect Susan Ubbelohde explains that the house’s elaborate shutter system could transform the residence into either an “open parasol” or a “thermal enclave” depending on the weather. The house contained an intricate set of interior doors, too, that inhabitants could open to invite cross breezes or else strategically close to either trap in or circulate warm air throughout the house. Additionally, the home had a belvedere on the second floor, a balcony that offered a scenic view of the grounds in addition to venting hot air as it rose. As a telling tribute to his intense awareness of the environmental situation in which he built his house, the sugar planter who designed the house adorned

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the extravagant residence with twenty-eight columns, one for each live oak that flanked
the entryway to the property. Frederick Law Olmsted, upon seeing the residence in 1858,
marveled at the magnificence of the structure. “I stopped my horse and held my breath,”
he recalled, “for I have hardly in all my life seen anything so impressively grand and
beautiful.”408

Oak Alley also offers a typical example of the Greek Revival design
overwhelmingly associated with southern plantations. Another conspicuous example of
Greek Revival and its prominent stylistic elements designed to mitigate high
temperatures can be seen in the Waverley Plantation located outside of West Point,
Mississippi. Built in 1852, a massive octagonal cupola tops Waverley, serving as a heat
sink that facilitates the circulation of hot air up and out of the top. Indeed, the owner
designed the entire floor plan to serve this purpose, with the rooms built in a circle
around the house’s central rotunda. The cupola itself is equipped with two windows on
each side that open outward from the top on a horizontal hinge. George Hampton Young,
the original owner the estate, could easily create a cross breeze by opening the front or
back doors and the windows on top. In the winter, he could just as easily close the
windows and receive passive solar heating for the bedroom located on the second
story.409

When possible, masters’ constructed their homes on areas of relatively high

408 Quoted Severens, *Southern Architecture*, 43.

409 For more on Waverly, and plantation architecture more generally, see Theresa A. Singleton, *The Archaeology of Slavery and Plantation Life* (Routledge, 2016).
elevations, both for greater surveillance of their workers and to invite breezes. This conscious placement, in addition to the prominent architectural elements that capped so many plantations, created a racialized topography in which cool comfort somewhat paradoxically faced upwards while heat sunk to a plantations’ valleys. Masters had slaves’ construct their own quarters, more often located on the downslope of hills or else on the lower, sicklier portions of the planation grounds, with considerably less attention to comfort. Some owners employed basic design elements such as the dogtrot, a house in which an open breezeway connected two separate living quarters (named for the mongrels who congregated in the shaded outdoor corridor between the two rooms), but more often, expedience and cost most directly affected cabin construction. In the last three decades, academics have begun to pay attention to the black landscape of the plantation grounds. One of the more important works in this vein comes from John Michael Vlach, an architectural historian whose *Back of the Big House: The Architecture of Plantation Slavery* surveys areas of African American autonomy on the planation landscape. He argues that planters designed slave cabins, as much as their own homes, to emphasize their own power. After all, “a master’s house was ‘big’ only if it had smaller buildings nearby,” Vlach reminds readers.\(^{410}\) And period observers noted how the poor conditions of slave housing shed light on the grandeur of the Big House. In 1809, Margaret Bayard Smith toured Jefferson’s Monticello and commented on where slaves lived, saying that they appeared “poor” and “form[ed] a most unpleasant contrast with the

palace that rises so near them.” Just as plantation owners used their stately, heat-beating homes to demonstrate their dominance over the environment, how they placed slave quarters illustrated their dominance over black bodies. The owner of the aforementioned Oak Alley, the one who placed twenty-eight columns around his home to call attention to same number of live oaks that lined his driveway, also constructed twenty-eight slave cabins. For this planters and others, mastery of the environment and their bonded laborers went hand in hand.

Though the degraded conditions of slave cabins existed to provide a foil to the masters’ lavish accommodations, the problems of housing were due to more than just intentional asymmetry. Some of it was down to simple negligence. Over the course of the antebellum era, showy houses that emphasized distinction were not the only thing that drew national attention. Concurrently, the mistreatment of slaves and their exposure to heat and squalor increased abolitionist sentiment across the country. In the 1840s, slave owners began a concerted campaign to reform their treatment of slaves to combat allegations of abuse. Slave owners’ paternalistic insistence that slavery was a benign and educational institution, after all, relied on visible evidence of genial treatment. So southern magazines such as the Southern Cultivator, DeBow’s Review, and Soil of the South, among others, began publishing articles and essays intended to inspire reform as accusations of inhumane treatment mounted. Admonishments to negligent owners

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punctuate the literature, evincing the ubiquity of mistreatment and revealing that masters’
themselves were well-aware of slaves’ inhospitable accommodations. They, too,
recognized that temperature separated them from their bonded laborers.

Chief among the common infractions was that many owners paid too little
attention to the comfort of the slaves and the construction of their cabins. As late as 1856,
the Southern Cultivator could report “that negroes are not, as a general thing, as well
provided for in the way of comfortable dwellings as they might be is simply a well
known fact.” The author went on the identify the two main issues with slave quarters,
claiming that masters paid no attention to “ventilation and shading.”412 Another essayist
writing in the Southern Cultivator railed that too few owners “provide [slaves] with
comfortable houses, sufficiently ventilated in the summer.”413 Many considered raised
houses were essential to good health. Writing to the Southern Agriculturist, a “lower
south” planter voiced the common opinion that houses should be raised two feet above
the ground “so as to admit a free circulation of air beneath, thereby preventing dampness,
and the cleaning out of all filth and trash that may accumulate there.”414

412 “Negro Houses—Plantation Hospitals,” Southern Cultivator 14 (January, 1856), in
James O. Breeden, ed., Advice Among Masters: The Ideal In Slave Management in the Old South
(Westport; Greenwood Press, 1980), 127.

Cultivator 4 (August 1846), in James O. Breeden, ed., Advice Among Masters: The Ideal In Slave
Management in the Old South (Westport; Greenwood Press, 1980), 12.

414 Arator, “Negro Houses,” Soil of the South 2 (March, 1852), in James O. Breeden, ed.,
Advice Among Masters: The Ideal In Slave Management in the Old South (Westport; Greenwood
While ventilation represented a necessity for health, concerns of airflow had to be balanced with guarding against cold. Indeed, “the construction of of negro houses is desirable to combine thorough ventilation with the requisite warmth,” a contributor to the *Farmers’ Register* noted.\footnote{415}{“Hints in Relation to the Dwellings and Clothing of Slaves,” *Farmers’ Register* 2 (April, 1835), in James O. Breeden, ed., *Advice Among Masters: The Ideal In Slave Management in the Old South* (Westport; Greenwood Press, 1980), 115.} Planters offered several ways to accomplish this feat. The *Register* article recommended a “pendent lid” that could cover exposed cracks in the joints of the house during the winter, yet “hang loosely off from the house in the summer.”\footnote{416}{Ibid.} An article in the *American Cotton Planter and Soil of the South* advised slave owners to daub the cracks between logs and planks with clay during the winter, which could be knocked out during the summer.\footnote{417}{“The Policy of the Southern Planters,” *American Cotton Planter and Soil of the South* (October, 1857), in James O. Breeden, ed., *Advice Among Masters*, 134.} Georgia physician John S. Wilson, a proposed expert on African American diseases and physiology, argued that the biology of blacks required a delicate balance between the warmth and ventilation. Based on the “defective heat generating powers of the negro” and the “vicissitudes” that plagued the “variable climate” in which he lived, special attention needed to be paid to the architecture of slave homes.\footnote{418}{John S. Wilson, “The Peculiarities and Diseases of Negroes,” *American Cotton Planter and Soil of the South* (February, 1860): 79.}

In addition to addressing issues of housing, these reformers also addressed other bodily discomforts that slaves experienced. There existed a long-standing belief amongst
planters that the mildness of Lower South winters made provisioning slaves less costly; references to this idea occur as early as the eighteenth-century in Carolina and Georgia. The persistence of that belief, combined with the thriftiness of owners, often resulted in poorly clad slaves. Reformers addressed the reports of threadbare clothing in the winter and the cost-saving measure of providing cotton clothing, traditionally summer attire, year-round. The *Farmers’ Register* attacked the practice in one article, saying that it slaves should be given a wool suit for the winter and two summer shirts made of cotton or linen.419 In the same vein, winter warming of houses commanded attention in the literature, as many believed that Africans were naturally more warm-blooded and suffered unduly in cool temperatures. “The negro is peculiarly susceptible to cold,” a South Carolina planter explained. “In our variable climate, the sudden changes of temperatures, the burning noonday Sun, the chilling dews of night, the treacherous S.W. wind of the gulf, the cooler and damper wind from the N.E. are all very trying to the best of constitutions.” Their very biology made them different, the author argued. “The negro is naturally indolent – in the profusest perspiration he will take his seat or lay down to sleep in the open air – the pores of the skin becomes closed – chills follow, and general derangement is a natural consequence.” To guard against this inclination, the planter cautioned, masters should provide the warmest clothes in the winter and cooler cloth for warmer months.420 A minister-planter from Tennessee agreed. “Negroes are liable to


suffer peculiarly cold. Their health and comfort require that they be well protected. It is not an uncommon or unpleasant spectacle to see them half-stripped and basking in the genial rays of their native sun, but a shivering servant is a shame to any master.”

Arguing that slaves required warm temperatures was part of a larger trend in medical thought that often increased discomfort and illness. Here yet again, racial assumptions came to bear on black bodies. One Alabama physician recommended not seasonal attire, but rather providing uncomfortable and hot wool year round because it produced “friction under the movements of the body” that “irritat[ed] the skin and invit[ed] an increased flow of blood to the surface to the relief of internal parts.”

Medical knowledge that took for granted that African slaves had different physiological properties also affected their housing. Indeed, not everyone agreed on the importance of providing slaves ventilation and shade. To the former, a medical man from Alabama wrote that the “rancorous weeds and grass interspersed with fruit trees, little patches of vegetables and fowl-houses effectually shading the ground and preventing that free circulation of air” actually prevented “the enjoyment of health” among blacks. A Mississippi planter noted that overcrowding houses failed to pose a dire health risk, as “owing to certain constitutional peculiarities, the negro does not consume as much

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oxygen as the white man.” Another South Carolina planter argued that owners should accommodate their slaves’ preference for sunlight, and place cabins in the hottest possible location. “A negro loves the sun,” he explained, “it is his element, and he basks in its rays ‘con amore.’ His quarters should be on the south side of a hill, and never in the shade. No tree should be allowed to stand very near them.”

Another agreed that shade was dangerous, as it was important that the sun “have free access to dry up the miasma that might otherwise be generated.”

A Mississippi planter-physician went even further. He recommended that the planks of the floor be so tight that “no draft of air” could “blow on negroes when in their house,” saying that “this will prevent the typhoid and pneumonia fevers.” Indeed, “a man had better buy carpets for his cabins than to have floors so open that there is a draft of wind blowing on his negroes.”

Many medical men and scientists believed that the physiological differences that made African Americans appreciate heat and fear cool drafts came as a result of the race’s collective environmental history. Most early eighteenth-century race scientist adhered to the common racial theory of monogenesis, which held that all of humankind descended from the Biblical Adam and Eve. As their progeny spread over the globe,
humans came to acquire distinct characteristics as products of their environmental situation. First Enlightenment thinkers and then early national physicians gave this idea new legitimacy in the early-nineteenth century when they argued that the equatorial sun had nurtured those who came to populate Africa into cultural and biological inferiority. Exposure to the fervent heat of the Deep South, though, inspired some to reconsider that idea. Over the course of the nineteenth century, the belief that heat and illness could erode whiteness proved increasingly unattractive. Moreover, the constant disease that plagued southern whites but left some African Americans unmolested confirmed for some that they lived in an environment not too different from that of Africa. As a result, some southerners began to rethink the relationship between climate and race. No one better typifies this trend than physician and race scientist Josiah Nott.

Nott moved to Mobile, Alabama, in 1833 with the intention of starting a medical practice in the city. In the wake of the 1839 outbreak of yellow fever, which left 450 dead within a span of months, he set out to better understand how the fatal illness spread. Struck by the fact that yellow fever seemed to run through populations despite not being directly contagious (that is, transferred by contact), he finally surmised—correctly, it turned out—that insect intermediaries transported the disease from place to place and person to person. Though celebrated for his investigation of fevers, he achieved more fame for his racial theorizing. Nott, like others, noted that those of African ancestry
seemed to “enjoy an almost perfect exemption from yellow fever.” He speculated that something essential about their nature shielded them against the summer illnesses. Unlike earlier thinkers, though, who assigned this protection to long adaptations to life in hot and diseased environments, Nott felt that this difference of immunity demonstrated that Caucasians and Africans represented fundamentally different species. Contrary to monogenesis, then, Nott promoted the idea of polygenesis, or separate creation, which held that the Divine created each race with particular faculties and placed them in a location suitable to the racial characteristics. Because polygenesis taught that climatic influences long-believed to have created differences amongst humankind were of a secondary nature, they effectively tamed the consequences of hot environments, dispelling concerns about living in especially warm regions.

Nott authored pamphlets, wrote books, and gave speeches across the South promoting this relatively novel interpretation of racial distinction. His ideas found popular purchase amongst slave owners, despite the fact that they were ostensibly at odds with traditional interpretations of Christianity. But in a climate considered uniquely warm, such an argument likely seemed comforting. In 1854, he contributed to the decade’s seminal work of race science, the 700-page-plus *Types of Mankind*, in which his

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428 Josiah Clark Nott, *Types of Mankind: Or, Ethnological Researches, Based Upon the Ancient Monuments, Paintings ... and Upon Their Natural, Geographical ... and Biblical History ... by --- and Geo roma (roins) Gliddon* (Trübner & Company, 1854), 68. For more on Nott’s life and academic background, see Mason I. Lowance Jr., ed., *A House Divided: The Antebellum Slavery Debates in America, 1776-1865* (Princeton, 2003), 310-12.

work appeared alongside some of the most prominent scientific minds of the day. With
the publication of this work, he and his colleagues brought polygenesis into mainstream
scientific thought, and Nott’s ideas usurped the position of monogenesis as being the
leading theory of the origin of racial differences.

Whether or not southerners and advocates of slavery bought wholesale his
argument about separate creation, they accepted uncritically any idea that stressed the
necessity of African Americans to the southern agricultural economy. Throughout the
1840s and ’50s, physicians and politicians used variants of that argument to justify
bonded labor and build support for secession in the face of a growing abolitionist
sentiment in much of America. This line of thinking, after all, combined well with ideas
that had long since circulated about the unhealthiness of New Orleans and other Lower
South locations. In an 1842 issue of Southern Quarterly, New Orleans physician Edward
Barton had claimed that the knowledge that whites were incapable of laboring in the heat
of the South represented one of “the best established truths in human physiology.”
430 Nott’s arguments lent new credence to these assertions, which translated easily into anti-
abolition sentiment. In 1848, William Elliott argued that slavery was an “affair of
cclimate.”
431 In 1849, J.D.B. De Bow, editor of De Bow’s Review, summarized popular
understandings of race science when he offered that the western African races from
which contemporary thinkers believed that modern “field negroes” descended were “jet

430 The Southern Quarterly Review 1, no. 2 (April, 1842), 415.

431 Quoted in Mart Stewart, ‘Let us Begin with the Weather?’: Climate, Race, and
Cultural Distinctiveness in the American South” in Mikulas Teich, Roy Porter, and Bo
Gustafsson, eds., Nature and Society in Historical Context (Cambridge; New York: Cambridge
University Press, 1997), 240.
black, medium height…seldom possessing any mechanical skill…and capable of great endurance under a burning sun.”

Racial science supported the ultimate articulation of fundamental difference – that of secession. These ideas became codified in the works of one of the most radical proponents of the climatic defense of slavery, New Orleans physician Samuel Cartwright. In an 1851 article submitted to De Bow’s Review, Cartwright authored a piece intended to lay to rest, once and for all, the myth that white bodies and black bodies shared a common physiology. Cartwright, using “scientific investigations,” set out to prove to all Americans what physicians like he had long-since known. To wit, that difference in skin color and appearance were hardly superficial and indicated distinctly different biological features. Lest his readers doubt that outward appearance revealed deeper differences, he cited a well-known fact of nature to prove his point. “The practice of negroes in exposing their bare heads and backs, through choice, to the rays of a sun hot enough to blister the skin of a white man,” he informed his readers, “proves that they are under different physiological laws from him.”

The stakes for understanding the essential differences between whites and blacks were higher than ever, he explained, given the political consequences of these distinctions. Indeed, for Cartwright, abolitionists were more than just wrongheaded—

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432 De Bow’s Review, Vol. 7, no. 3 (1849)


434 Ibid., 184-185.
their ideas threatened to tear the nation apart. He believed that the “natural distinctions” between race constituted “the rock on which American Republicanism” had been built, and that failure to adhere to natural law portended national doom. “Women, children, and negroes are assigned to such places only as best suit their physical peculiarities and natural capacities,” he claimed, and the organization of government should account for these distinction which “Nature alone has made.”

Thus he argued that knowing the “true nature and character of our negro population, on which our peculiar southern institution rests” proved, beyond a shadow of a doubt, that slavery was environmentally, and thus divinely, ordained.

For Cartwright, this heavenly sanction meant that slavery existed only where God intended it. The expansion or contraction of the institution was a product of the highest laws of nature that no federal law could ever counteract. Divine will, manifest in the “nature of the products and the climate,” would only make slavery profitable where the creator intended it. Race-based slavery was only necessarily and desirable where “no other kind of laborers can do the required drudgery-work in the sun and live.” Indeed, natural law also decreed that the “white man” could not toil in the “cotton and sugar region without exposing him to disease and death.” The creator, he argued, placed black bodies on the Earth to do the goodly and godly work of cultivation in regions where others could not. And this work that doomed whites proved “wholesome and beneficial”

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435 Ibid., 186-187.
436 Ibid., 192.
437 Ibid., 194.
to blacks. Riffing on a paternalistic line of thinking common to the time, he argued that southern fieldwork disciplined the unruly children of heat, instilling in them a work ethic and putting their otherwise wasted potential to good use. Why abolish slavery, he asked his audience, when it proved so “beneficial to both parties and injurious, to neither”?438

The degree to which his work influenced scientific discourse is less certain than the fact that it buttressed the belief among De Bow’s subscribers that abolitionists were ignorant of the demands of the southern climate. His work influenced myriad other proslavery advocates, and excerpts and reprints of his studies found their way into a number of promoting slavery and secession, most notably the seminal 1860 work Cotton is King & Pro-Slavery Arguments.439 Comforted by Nott’s idea that racial backsliding in hot climates was an impossibility, and with Cartwright galvanizing their conviction that heat justified slavery, some southerners came to believe that these “natural laws” warranted secession in the wake of Abraham Lincoln’s election to the presidency in 1860. The clearest political articulation of this line of thinking came with Mississippi’s Declaration of Secession, which stated that the state’s decision to leave was “thoroughly identified with the institution of slavery - the greatest material interest of the world. Its labor supplies the product, which constitutes by far the largest and most important portions of commerce of the earth. These products are peculiar to the climate verging on the tropical regions, and by an imperious law of nature, none but the black race can bear

438 Ibid., 189.

439 E. N. Elliott, David Christy, and et al, Cotton Is King, and Pro-Slavery Arguments: Comprising The Writings of Hammond, Harper, Christy, Stringfellow, Hodge, Bledsoe, and Cartwright, on This Important Subject (Oxford: Benediction Classics, 2011).
exposure to the tropical sun. Their climate—not their institution—was peculiar.

Peculiar enough, in fact, to split the Union.

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440 A Declaration of the Immediate Causes which Induce and Justify the Secession of the State of Mississippi from the Federal Union (Jackson: 1861), 4.
CHAPTER VI
RECONSTRUCTED HEAT

The Negro has qualities something like our Southern climate, genial and cheerful, humid and long-suffering, and as this sunny land puts forth its beauty and attractions, often to be followed by storms and distress, so may we look for similar traits in that race whose millions are spread over its soil.

Reverend J.R. Slattery, 1900

“The climate of our cotton region,” Josiah Nott explained in an 1866 article he authored for DeBow’s Review, “cannot properly be considered hot.” In truly “hot climates,” he wrote, the “Anglo-Saxon is killed outright by high temperature.” In the tropics, the white body becomes “attenuated by the exhausting effects of heat and profuse perspiration—the muscles are relaxed and debilitated, the nervous system is exhausted, the liver inflames and becomes corroded with abscesses, and the whole machine is worn out by the wear and tear of heat.” But this deterioration did not occur in the bulk of the southern United States, as it was not “hot,” but rather simply “warm.” For the sixty-one-year-old physician, the difference mattered, with implications not only for white elites like him. The climate being milder than generally presumed meant that the agricultural economy of the South need not rely on African Americans for fieldwork. “The mere

matter of temperature,” he explained, “is no serious impediment to the introduction of white labor.” On the whole, the southern environment would accommodate European immigrants to the cotton fields, as there was “nothing in our climate potent enough to keep them from it.”

To make his argument, Nott reconsidered the relationship between race and heat that had developed over the course of the previous two and a half centuries, some strains of which he himself had pioneered. For too long, he explained, people make the mistake of thinking climate solely a function of temperature. In actuality, though, climate referred to both temperature and disease. In this definition, climate could be changed by draining marshes, clearing land, or planting trees. Equally malleable, he continued, were human constitutions. Nott described their “pliability,” paying special attention to the different adaptive capacities of each race. While whites struggled to survive in tropical regions, they thrived in the sub-tropical South, the temperate North, and could even inhabit Arctic areas. Black bodies, though, could live safely only in their original, tropical environments and the milder, sub-tropical southern United States. Nott found that north of the Potomac River the black man’s “endurance begins to yield, and every degree north cuts deeper into his constitution.” Simple observation, he wrote, reveals that “the white race enjoys a higher degree of pliability of constitution than the black.”

This 1866 article, which subtly contradicted his earlier reasoning that argued that black bodies labored best in the South, represented a response to larger transformations in

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American society that occurred as a result of emancipation. Indeed, the Civil War forced as much change on Nott’s thinking as it did the South’s politics and economy. Nott had tethered his fate to that of the Confederacy, and he supported the South in battle as ardently as he advocated secession. He directed the Confederate General Army Hospital of Mobile, Alabama, from 1861 to 1863. Thereafter, he acted as medical inspector in the Department of the Gulf. He rode alongside General Braxton Bragg as he battled his way across the South, treating the wounds of his gray-clad brethren. By the time Lee gave up his sword to Grant at Appomattox, Nott had sacrificed nearly five years of service—and two of his sons—to help create a government based on the principle that black bodies were racially distinct and innately inferior to white ones.

When the Confederacy collapsed, so too did Nott’s racial ideology. Perhaps nothing symbolizes the failure of Nott’s antebellum thought than the fate of his Mobile Medical College, which he founded in 1857. Just months after the War ended, the Freedman’s Bureau commandeered the school and transformed it into a college for recently emancipated African Americans. To Nott, the seizure represented an affront to the ideas that he had spent a career cultivating and disseminating. He had spent the previous three decades arguing that African Americans were too indolent to better themselves. The image of black bodies being educated in the same rooms where white men previously espoused oppressive racial theories incensed the aging doctor. In short order, he dashed off an angry letter to Freedman’s Bureau chief Oliver O. Howard, in which he condemned the Union for this “instance of the assumption of power and spirit
of dictation,” which he described as “galling” and “destructive.”  He continued: “When you take forcible possession of our Medical College, of which we have been justly proud, and pervert it to the purpose of a negro school, and then coolly call the negroes of Alabama ‘the people’ of the State, you insult us, and your bureau cannot expect to affect your purposes in any Southern State, unless you hold us as conquered provinces, and with the bayonet pointed at our breasts.”  But for all his remonstrations, Nott would never again run his school. In 1867, he abandoned the Deep South, settling in Maryland before living out the rest of his days among Yankees in New York.

As Nott’s saga indicates, the surrender of the Confederacy heralded a change in thinking about race and the southern climate. Nott’s reconsiderations encapsulate much about how ideas of climate and race changed in the post-emancipation South, and his 1866 article anticipated the debates about climate, race, and labor that would unfold in the coming decades. Nott reveals the degree to which arguments about the nature of southern heat in the post-emancipation South were, in reality, proxy debates about the role African Americans would play in the social, cultural, and economic life of the nation. Race and heat became newly entwined in ways that continued to separate white bodies from black and southerners from the rest of the nation. Time and time again, planters, academics, and public intellectuals invoked climate to make their case for how to best organize the post-emancipation South. Arguments about the suitability of different races for agricultural labor became inextricably married to the economic and social vision


445 Ibid.
of the New South. As such, political agendas continued to shape ideas about southern heat, often buttressing southern distinction and white supremacy.

By the first decades of the twentieth century, a nuanced revision of antebellum ideas about the southern climate had emerged. Though distinct from earlier climatic thought, twentieth century ideas about heat continued to limit African American economic opportunity and cast the South as a land apart. Over the course of a half century, the argument that the South needed black labor faded. In its place emerged a new, equally oppressive belief that it was actually African Americans who needed the warmth of the South to maintain bodily health.

This transformation occurred alongside and as a result of the professionalization of climatology in the United States, and the direction the inchoate field took had tremendous consequences for the way Americans understood southern heat. In 1870, Ulysses S. Grant’s administration established the Weather Bureau and placed it under the direction of the Secretary of War. It became a civilian institution in 1890 when it came under the auspices of the Department of Agriculture. The role of the Weather Bureau, though, was largely meteorological and economic, not concerned with race and culture in the way previous climatology was. It primarily sought to record information on temperature and precipitation patterns in the service of predicting potentially harmful weather events and increasing agricultural production. The Bureau’s goal of assembling an instrumental record harmonized with new trends in international climatology. These changes came as a result of the development of Wladimir Köppen’s 1884 climatic
classification system, which divided the world into climatic regimes based on temperature, precipitation, and vegetation.446

Because professional climatologists’ interests’ lie primarily in what regions could/should produce, they concerned themselves with understanding what climate was rather than pondering how climate acted on humanity. While the adoption of this statistical line of thinking in meteorological and climatological circles did not occur immediately or wholesale, climatologists’ increasing preoccupation with classification based on statistical recordings of temperature, atmospheric pressure, and precipitation evinces a decided move away from more holistic conceptions of climate held by Enlightenment thinkers and antebellum race scientists. Historians James Rodger Flemming and Vladimir Jankovic refer to this transformation as a switch from understanding climate as agent, where it actively intersected the social, economic, and political concerns of a region, to climate as statistical index, where climate became reduced to little more than weather in aggregate, a mere backdrop to human activity.447

When professionals abstracted climate from its effects on societies and the racialized body, this unmoored much of the thinking about weather and humans. A new group of academics began to re-think the relationship between skin color, biology, culture, and climate after emancipation. More so than dyed-in-the-wool meteorologists and climatologists, this emerging cadre of economists, geographers, sociologists, and

446 For more on the administrative history of the Weather Bureau and the introduction of Wladimir Köppen’s classification system, see James Rodger Flemming, Historical Perspectives on Climate Change. (New York: Oxford, 1998).

historians who came to dominate the conversation in the twentieth century in one sense represented the ideological heirs of Lining, Franklin, Jefferson, Dunbar, and Nott. But while their speculations about the relationship between civilization and temperature considered the same topics as previous thinkers, emancipation caused their actual theories about the causal relationship between race and climate to differ in significant ways, at times completely inverting the supposed relationship between heat and labor that had existed for centuries prior. However different their ideas, though, their goal was the same: to undermine black autonomy.

Indeed, these new climate thinkers’ interest in climate grew directly from the economic and social upheaval of the end of the Civil War. Put bluntly, emancipation and defeat rocked their economic, psychological, and personal worlds. They examined the relationship between race and climate in no small part in response to white southerners’ new attempts to secure reliable labor. As Nott indicated, nowhere was this problem more acute than in the South’s cotton fields. Though antebellum southerners spoke frequently of “King Cotton,” it was not until after the Civil War that cotton production across the South peaked. From 1879 to 1919, cotton acreage in the United States increased from nearly 14.5 million acres to over 33 million. The United States Department of Agriculture reported a total of just under 2.5 million lint bales harvested in 1849. By 1919, the number increased over 350% to just under 12 million. The cotton frontiers of Mississippi, Arkansas, and Texas especially witnessed substantial growth. From 1879 to 1909, acreage in Mississippi increased from 2,106,215 to 3,400,210. In Arkansas, acreage shot
up from 1,042,976 in 1879 to 2,553,811 in 1919. By that year, cotton accounted for 88% of planted acres in Mississippi, 74% in Alabama, 76% in Louisiana, and 86% in Texas.\textsuperscript{448}

With increases in cotton production in the frontier reaches of the South, more and more recently emancipated African Americans moved westward. This mobility caused large planters to enact a series of legal and economic reforms designed to increase bodily control of farm workers in ways that approximated the conditions of slavery. Sharecropping, tenant farming, and crop-lien arrangements became the dominant forms of labor control. Historian Gilbert Fite notes that by the 1880s, most landowners relied on some variant of sharecropping or tenancy on their Southern farms (excepting some of the sugar producing parishes of Louisiana). These relationships developed out of mutual need. Freedmen and women lacked capital or farming equipment, and thus came to depend on planters to furnish tools equipment and front cash or supplies for basic sustenance. Planters, for their part, needed a labor force willing to plant and harvest cash crops.\textsuperscript{449}

Though these labor arrangements emerged out of mutual need, they disadvantaged tenants both white and black. Historians have long-since noticed how the growth of sharecropping and tenant farming shifted the onus of production from planters to the farmers themselves, making them more vulnerable to changes in cotton prices, the weather, and pests like the boll weevil and thus tethering their fates to the whims of a


\textsuperscript{449} For more on tenancy rates and the development of share cropping, tenantry, and the crop lien system, see Gilbert Fite, \textit{Cotton Fields No More: Southern Agriculture, 1865-1980} (Louisville: University of Kentucky Press, 1984), chapter 1.
market economy in new ways. But the relationship also substantially increased tenants’ and croppers’ climate sensitivity, as their fortunes came to exist at the mercy of temperature and precipitation. In 1874, a Georgia farmer responded to a question about the cost of planting cotton by saying that it depended on number of variables, most immediately the “sun and rain, time and quantity; worms, caterpillars, storms, frost, and land.” Sharecropping and tenant farming, though, provided some insulation for planters and landowners from the vacillations of climate. Owners continued to benefit from a bumper crop, but still received debt and interest from tenants in down years.

Any number of climatic conditions could dent a harvest. Cotton, especially, proved vulnerable to changes in temperature and precipitation. Indeed, the weather mattered tremendously to tenants across the region. United States Department of Agriculture Weather Bureau reports reveal the myriad ways that climate could undermine farmers’ efforts. In 1889, the annual report for Mississippi stated that cooler summer temperatures proved “injurious to cotton,” as the plant required “a mean temperature full up to 80° during most of its growth.” Late frosts required replanting seed, and excessive rains in April and March could cause the germinating seedlings to rot. Cold in the early months of the plants’ growth could retard growth, while heavy rains during the flowering period could cause rust, blight, and shedding. Hot early summer temperatures,


452 United States Department of Agriculture, “Annual Summary, 1889: Mississippi Section of the Climate and Crop Service of the Weather Bureau” (Vicksburg: Weather Bureau Office).
on the other hand, could cause bolls to open prematurely. High late summer temperatures, too, caused problems. In 1900, the Weather Bureau’s annual summary explained that “picking progressed slowly” that year, “on account of the excessive heat.” Quick shifts in conditions were especially harmful. In 1895, a wet first half of August gave way to an excessively hot and dry latter two weeks, which caused bolls to gain water weight and then sizzle under the hot sun, damaging their quality and causing bolls to snap off the plants. Mississippi’s annual report of 1889 underscored this point when it concluded by stating that “the remarkable peculiarities of weather in 1889 and their influence on the producing power of our State emphasize the importance of its careful and continued study.”

Clearly, cotton, as it always had been, was at the mercy of weather, but the evolution of tenant farming meant that other farmers, already disadvantaged by exploitative labor arrangements, experienced the repercussions of climatic vacillations in newly consequential ways.

To the chagrin of cotton planters, croppers often moved to escape the debt incurred from insidious contracts and losses exacerbated by climatic uncertainty. But they also relocated out of a desire to exercise their autonomy. Indeed, movement often represented more than a rational response to violence and financial problems. It constituted an expression of freedom and an assertion of fundamental rights, which

453 United States Department of Agriculture, “Annual Summary, 1900: Mississippi Section of the Climate and Crop Service of the Weather Bureau” (Vicksburg: Weather Bureau Office).

454 United States Department of Agriculture, “Annual Summary, 1889: Mississippi Section of the Climate and Crop Service of the Weather Bureau” (Vicksburg: Weather Bureau Office).
African Americans especially were eager to establish. At times these motivations colluded to not only inspire horizontal movement across the South but also make emigration out of the South appealing.

The discussion about the desirability of African Americans leaving the South revolved in no small part around climate, and the debate about whether black farmers should stay or go reveals the contemporary understandings of heat as much as it shaped conceptions of the southern climate. An aging Frederick Douglass represented a central figure in this conversation, and his work illustrates the connections between climate to mobility. Douglass had long understood the environmental valences to racial considerations in the South. In his antebellum career, he railed against the Notts of the world, those “Southern pretenders to science” who claimed that the heat of the South demanded black labor. Before the Civil War, Douglass emphasized the malleability of climate and race, arguing that environment had a tremendous impact on shaping racial characteristics. “Need we look higher than a vertical sun,” he asked the graduating class of the Western Reserve College in his 1854 commencement address, “for an explanation of the negro’s color?” For Douglass, race was an illusion, a result of superficial adaptations to climate.

But just as Nott had to reconsider his thought after Emancipation, so too did Douglass tailor his racial ideas to fit the new political circumstance. Douglass entered into the post-bellum conversation on race and climate as a result of the emigration of some several thousand African Americans out of the South in the late 1870s. While

455 Frederick Douglass, *The Claims of the Negro, Ethnologically Considered* (Rochester: Lee, Mann, and Co., 1854), 31-33.
freedmen and women leaving the region after the Civil War was nothing new—from 1865 to 1880, some forty-thousand exited formerly Confederate states—in 1879 alone, six thousand “Exodusters” headed to Kansas, buoyed by the hope that the land of John Brown would offer a more peaceful and prosperous life than possible in the recently-redeemed South. Concurrently, communities of black farmers in North Carolina began to move to Indiana, also a result of violence and disenfranchisement in the wake of Redemption. Douglass, however, argued against their leaving the South. He recognized that the potential hemorrhage of fieldworkers worried southern planters, and he viewed their anxiety as opportunity. Addressing a crowd in Saratoga Springs in 1879 (twenty-five years after his Western Reserve College address), Douglass urged southern African Americans to use the perceived labor shortage to secure better treatment and fairer compensation. “The Exodus,” he explained, “has revealed to southern men the humiliating fact that the prosperity and civilization of the South are at the mercy of the despised and hated negro.” “For as a southern laborer,” he informed listeners, “there is no competitor or substitute. The thought of filling his place by any other variety of the human family will be found utterly impracticable. Neither Chinaman, German, Norwegian, nor Swede can drive him from the sugar and cotton fields of Louisiana and Mississippi…they would certainly perish in the black bottoms of those states.”

As before, Douglass rooted this belief in the environment. The fact that the southern climate necessitated black labor afforded African Americans a monopoly on fieldwork in the region. He explained that, “Aided by a perpetual summer, and

abundantly supplied with heat and moisture, [the South’s] soil readily and rapidly covers itself with noxious weeds, dense forests and impenetrable jungles.” Cultivating such a landscape, he argued, required the “bone, sinew, and muscle of the strongest and most enduring kind,” and that “nothing less powerful than the naked iron arm of the negro” could save the South from its hot and dangerously prolific natural environment.

“Climate,” he found, “protected the negro from all competition in the labor market.” Thus, blacks alone stood “between the contending powers of savage and civilized life, and thus, were the “author[s] of whatever prosperity, beauty, and civilization are now possessed by the South.”

Douglass’ change in ideology ran directly parallel and counter to the reasoning of Nott. Whereas Nott’s South became cooler and race more pliable, Douglass’ belief that the intemperate climate would never be amenable to white bodies offered a rigid construction of race and cast the South as distinctly hot. As Douglass realized, the same environmental reasoning that buttressed slavery in the antebellum South could be turned to empower blacks after the war. Thus, he cited heat, implicitly acknowledging the South’s climatic distinctiveness, to argue that African Americans should continue to people the South. His argument had the ironic consequence of freezing African Americans in place, undercutting their attempts at mobility and potentially playing into planters’ desire for a reliable and immobile labor force.

Indeed, Douglass’ argument resonated with southern planters hostile to African American outmigration who perverted this new line of thinking to claim heat necessary to

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457 Ibid.
black health. While antebellum planters and physicians had professed this notion for years, a cohort of post-emancipation figures deployed it in the service of confining black bodies in the South rather than in the defense of slavery or secession. Southern newspapers sympathetic to planters’ supposed labor problems published articles and editorials arguing that African Americans would freeze in the cold North. Turning Douglass’ argument that the South absolutely required black laborers on its head, an emerging discourse posited that it was African Americans, in fact, who needed the South.

This belief dotted periodicals across the nation. In 1879, Kansas paper The Lawrence Standard reported that African Americans would physically deteriorate in cooler climates. Speaking of black migrants, the paper voiced the opinion that “these people have been habituated all their lives to an entirely different climate…It is safe to say not a single one of them has been bettered in physical condition by removing to the North.”458 A paper from another popular destination for disenfranchised African Americans, The Indiana State Sentinel, quoted a black Presbyterian minister in 1880 who believed that the South offered a “good climate,” while in Indiana they would “freeze to death.”459 Later that year, the same paper chastised emigration societies, formed to help defray the cost of relocation, for bringing African Americans “from States where the climate is more favorable for their health and comfort, to one where they must endure great suffering.”460 The North Carolina Weekly Transcript and Messenger reminded

458 The Lawrence Standard, January 8, 1880.

459 Indiana State Sentinel, January 28, 1880.

460 The Indiana State Sentinel, August 18, 1880.
readers that the “the Indiana climate is more severe and colder than ours” in hopes of depressing emigration.  

It was a pure matter of physiology, the Chicago Tribune reported in 1879, in arguing that “the Southern climate is better suited to the negro in every way than a Northern climate.” The article quoted a “Southern physician” who explained that the “capacity of the negro’s lungs” was “much smaller” than that of whites. Black bodies did not receive as much oxygen, with the result being that they required “more exterior heat” to compensate. For proof, the author asked readers to look no further than the common sight of blacks laying with their heads to the fire when sleeping, or dozing lazily under the “broiling sun in summer.”

These fears about the trying climate of the North constituted more than mere abstractions, papers informed readers. The publications often included first-hand accounts of the frigid and threadbare conditions emigrants faced. The Goldsboro Messenger, out of North Carolina, reported that those who left for work in Indiana became victims of “exposure,” and those who survived ended up in “almshouses and asylums.” The paper went on to note that twenty five “wretched immigrants” perished from the “effect of change of climate in eight weeks,” and that they “were buried as paupers in the Potter’s field.” Memphis’ Public Ledger wrote that the deaths were common and occurred as a result of a misinformation campaign on behalf of disingenuous labor agents. These underhanded opportunists baited African Americans by

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461 Weekly Transcript and Messenger, December 12, 1879.

462 The Chicago Tribune, May 29, 1879.

463 The Goldsboro Messenger, February 16, 1880.
“lying to them regarding the soil, climate, and special inducements offered in Kansas.”\footnote{464} The Raleigh, North Carolina Observer wrote that the physiological differences between white and black bodies doomed African Americans in the North. Because blacks were “by habit calculated to endure the heats of summer,” they would perish in the North. The paper explained that “the negro race has never multiplied when exposed to the rigors of a Northern climate.” “Whether they like it or not,” the paper offered, “their nature and characteristics adapt them more peculiarly for life in warm climates.” If they were to “migrate to the North, where a rigorous climate prevails, they will violate a law of nature and bring about their own destruction.”\footnote{465}

These characterizations of the relationship between climate and race only further naturalized African Americans to the South while at the same time feeding the conversation that the South continued to be climatically distinct from elsewhere and thus required a unique political economy. The Philadelphia Times printed an article authored by the aging Civil Rights advocate in 1879, in which he argued that to abandon the South was to retreat from the battle for political protection and social equity. He chided emigrants who left “in pursuit of homes in a cold and uncongenial climate, rather than remain on the soil of our birth, where we may live down persecution and oppression.”\footnote{466}

That same edition of the Times also reported that “only an ignorant and an intensely superstitious race like our freedmen could have been moved to the present suicidal

464 The Public Ledger, March 29, 1879.

465 The Observer, October 2, 1879.

466 The Philadelphia Times, May 5, 1879.
exodus from a genial climate and acceptable pursuits to an inhospitable region where severe winters and entirely new channels of industry must be met.” Because the South required no “special protections from the frosts of winter” and offered “the almost spontaneous growth of many articles of food,” the land below Mason and Dixon’s line constituted the “natural home of the black man,” who would “beg their way back to their own sunny South” once they experienced the frigid North.467

Black intellectuals pushed back against such oppressive environmental reasoning by arguing that African Americans could indeed live well and comfortably in the North. These politicians and civil rights leaders attacked the ideology espoused by planters and white supremacists, and they sought to abbreviate the physiological divide between the races, arguing that nothing in African Americans biology impeded their ability to survive any American climate. John M. Langston, a black attorney, politician, and diplomat, argued that “there is no question but that the negro does even better as a laborer in the northern climate than in the South” precisely because of the cold. Having to work hard for shelter against the more trying climate encouraged a strong work ethic.468 This same argument applied to southerners making the ultimate migration to Canada as well. The Republican leaning Chicago Inter Ocean reported that African Americans could endure the cold Canadian winters “with less of suffering than had come to them through their own improvidence and that of their formers masters in a more hospitable clime.” The cold inspired “habits of industry and economy” such that the children of emigrants, with

467 The Philadelphia Times, May 5, 1879.

468 The Observer, October 2, 1879.
their spirited work ethic, served as “a living example of the great truth, that a somewhat rigorous climate is essential to a true development of manly excellence—is as important an agent in promoting habits of thirst, and as necessary a stimulant to thought and invention, of which ‘necessity is said to the mother,’ for the black man as for the white.” This argument traded on the old idea that the South’s heat impeded cultural and economic advancement by debilitating the physical, moral, and intellectual faculties of its inhabitants. Indeed, the article included a criticism of the “sunny South’s” climate, finding that it “debilitates” and “invites to laziness of body and mind.” 469

This debate about African Americans’ fitness and physiology represented nothing less than an argument about the essential nature of the black body and reveals how climatic considerations were, in reality, less about the heat and physiology than economic ambitions and social agendas. Though the mania surrounding fears of emigration died down after 1880, though, largely as a result of the relatively small number of migrants, the issues at hand continued to be points of contestation. Throughout this quarrel over the relationship between race and climate, though, there was no debate over the fact that the South was different and uniquely hot. Soon, though, even that belief came under scrutiny. Towards the end of the century and the beginning of the next, planters themselves came to rhetorically temper southern heat in ways that downplayed climatic distinctiveness.

This ideological shift came as a result of planters’ growing recognition that horizontal movement within and across the South, rather than outmigration, constituted the primary impediment to their economic and political ambitions. The constant

469 The Inter Ocean May 5, 1879.
relocation of African Americans unfairly earned them a reputation of being shiftless as planters mistook their mobility for laziness. (Small white farmers were less often described this way, despite similar rates of relocation.) In their attempts to secure a labor pool that offered cheap and reliable work, they pioneered new views of the relationship between race, labor, and climate in ways that fundamentally shaped the meaning of the southern heat.

Their foremost concern in the creation of that tractable labor force lay in undercutting Douglass’ troubling assertion that blacks alone were the authors of southern prosperity, and as such, deserved full citizenship and fair compensation. The average planter, of course, was not overtly concerned with whether skin color determined ability to labor, but many cared about African Americans gaining social equality. Indeed, white farmers had always tilled the southern earth, and they constituted a sizable proportion of tenant farmers’ in the New South. White elites’ issue with Douglass was that his arguments undermined their ability to justify oppressive legislation that would allow them to create a perpetual underclass of Americans who would depend on planters’ largesse, and thus, exist at their mercy. The climatological arguments had more to do with perpetuating the paternalistic relations that were economically advantageous than finding the ideal race for fieldwork.

At times, that meant considering other ethnic or racial groups of people to harness and exploit. Some planters began to argue that other Europeans could toil in the South, at least once acclimatized. As early as 1879, former Confederate soldier and Mississippi congressman Van H. Manning requested information from a census superintendent about the number of white and black agricultural laborers in the state. A paper in North
Carolina reported that he did so to “show that the great staple is largely cultivated independently of the negro” and that, “contrary to the general belief, the climate and soil of the South are well suited to immigration.” This consideration represented more than idle theorizing. By the 1890s, planters in the Mississippi Delta and Arkansas cotton frontier tested the idea on their plantations. This group of planters set out to prove that Europeans could labor in the Deep South.

One of the more famous attempts to test the growing idea that the agricultural economy of the South could come to depend on white labor occurred in an 1890s experiment with Italians in the Delta. The first group of Italian immigrants to the region came as a result of the efforts of Austin Corbin, who assumed ownership of the Delta Sunnyside Plantation in Chicot County, Arkansas in 1893. He made deals with immigrant officials in New York as well as the Italian Ambassador to the United States, and in December of 1895, 125 families arrived at Sunnyside, each renting between fifteen and twenty-five acres on which to farm. These farmers, who had experience in relatively warm climates and having a history of exposure to the disease of such areas, would be ideal laborers, the planters reasoned. Their efforts would surely be met with success. If Corbin could prove that the South need not rely on African American labor, it would

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470 *Weekly Transcript and Messenger* Dec 12, 1879.


undermine a potential path to securing fair treatment and upward social mobility. Black southerners would lose their monopoly.

But the experiment failed. The would-be farmers found the plantation little more than an expanse of soggy earth prone to floods, overgrown with dense groundcover and partially forested. They had the misfortune of arriving during an uncommonly warm winter, and by the summer the plantation teemed with mosquitos that one migrant described as being “as big as bumblebees.”472 Within months of their arrival the colonists began petitioning for better facilities, requesting artesian wells and better drainage. In 1897, they formed committees to submit official complaints to immigration agents and the plantation’s management. They felt misled, they told Sunnyside’s owners, about the climate, the work, and the terms on which they rented their land. Later that year, a yellow fever outbreak ran through the community, killing twenty-eight adults and forty-four children. These most recent deaths proved too much for the Italian Embassy to ignore. In January 1898, the Italian government dispatched an agronomist to investigate the living and working conditions at Sunnyside, and he found the situation deplorable. He reported back to Rome on both the underhanded tenant contracts and the constant disease that plagued the community.473 Sunnyside’s owners responded with stopgap solutions. Rather than wells, they installed filters to clean drinking water, but that did little to abate the


sickness. They started a campaign to drain adjacent swamps, but the Italians charged with actually battling the stagnant waters received only more illness for their efforts. Soon, complaints about poor conditions and improper management grew into allegations of peonage. In response, Mary Grace Quackenbos, a United States Attorney with the Department of Justice travelled to Arkansas to assess the situation. She found that even the vocal complaints of farmers and previous Italian immigration inspections understated the sickly conditions. In her official report to the US Department of Immigration, she stated that though “Sometimes [Sunnyside] is spoken of as a model of foreign settlements,” it was, in reality, “a complete failure as an Italian colony.”

The repercussions from the Sunnyside experiment dwarfed the actual size of the “experiment.” Soon, the press latched on to the story, and the supposed failure of the Sunnyside made it appear that the climate bested the Italians, giving credence to Frederick Douglass’ assertion that African Americans were singularly capable laboring in the southern environment. Planters responded with a two-pronged approach of continuing to import Italian laborers while simultaneously publicizing how well new immigrants responded to the region’s climate, all in an attempt to prove that whites could also author the South’s prosperity.

But demonstrating that the South’s warm climate was amenable to white labor proved more difficult than they expected. The failure seemed to indicate that southern heat precluded European cultivation. Perceptions of the climate, after all, were in some ways of greater importance than the actual conditions in which millions of whites already

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worked. Negative portrayals of the region’s temperature and disease stymied immigration and undercut planters’ efforts at creating that assured tenantry. Especially worrisome to planters were stories that circulated in Italian newspapers that scared Italians from moving into the region. One report, written in 1903 and published in a handful of Italian periodicals, illustrates the degree to which Italians understood their environmental and economic situation as inseparable. In the “Revelations of Adolfo Rossi,” the author portrayed the region as a fertile yet disease-ridden bottomland. The Delta would be a great region to settle and farm, he told readers, if not for the “numerous marshes” that were “the cause of all the swamp fever.” The insalubrious climate made financial gain impossible, with colonists spending any accrued income on medical care. And while he toured the whole of the Delta, he singled out Sunnyside as an archetype of unhealthiness. Even though the new owners finally succeeded in clearing and draining the land, thereby taking away “the principles which create the fever…it cannot be said that the State of affairs are any better.” “Slavery and fever,” he told readers, is all that you can expect in the Delta. Ultimately, he recommended avoiding this region “where the malaria dominates, a country the Italians are not fit to stay in, and where they cruelly die, abandoned by everybody.”

Planters nervously circulated these and other clippings amongst themselves, wondering how best to handle the rapidly deteriorating situation. They decided to

475 Percy Family Papers, Box 1, Folder 1. Mississippi Department of Archives and History, Jackson, Mississippi.

476 “The Revelations of Adolfo Rossi,” for instance, can be found in the Percy Family Papers as part of a series of correspondence with adjacent planters in the Delta and labor agents in Chicago.
counter by portraying the Delta as a place where Europeans could prosper. So they took to the presses, submitting articles to various agricultural magazines and planting stories in newspapers that harped on the healthiness of immigrants and the salubrious quality of the Delta environment. Prominent Greenville planter and future senator LeRoy Percy, who leased substantial tracts in Sunnyside as well as operated his own plantation in Mississippi, represented one of the strongest advocates for white tenant labor in the South. He wrote articles that brimmed with praise for Italian efforts in both Arkansas and Mississippi. He claimed that Italians thrived in the southern climate, and predicted that they would “gradually take the places of the negroes without there being any such violent change as to paralyze for a generation the prosperity of the country.”

In addition, he worked with other planters to have the Italian Ambassador to the United States to tour their properties and see for himself how contented the Italians were with the work and weather of the cotton region. Despite the Ambassador’s less than favorable impression of the labor arrangements, the Delta Democrat-Times reported that the diplomat found the Italians well suited to the southern landscape. “The Delta country is a revelation to me,” the paper quoted. “I am delighted with your Southern climate, your soil and your people.”

477 “Italians in Cotton Growing,” Manufacturers’ Record (April 7, 1904).

478 Ernesto Milani, “Peonage at Sunnyside and the Reaction of the Italian Government,” in Shadows over Sunnyside, 45. Milani argues that Des Planches later revealed that he found the tenant arrangements exploitative and unfair, but Milani does not contend that Des Planches was, in any way, misquoted by local papers.

479 Delta Democrat-Times (April 20, 1905)
But stories of ill health and poor conditions continued to depress emigration. Percy’s own labor agent in Chicago admitted that finding groups willing to relocate to the region was difficult because the immigrants were “afraid to go.”480 With Italians increasingly hesitant to head south, Percy turned to other Europeans. The same year that he accompanied the Ambassador on his planation tour, Percy secretly arranged to have a small group of Bohemians colonize his own Greenville, Mississippi property. He decided not to publicize this new “experiment,” reflecting on the ways that the Sunnyside incident had backfired. And good thing, too, because this new trail turned out to be, in his own words, a “rather costly” failure.481 Increasingly desperate, Percy even contemplated Scandinavian workers. He corresponded with the Danish consulate, who affirmed that “the South has only been known to [Scandinavians] as a place of swamps and fever, of snakes and virgin forests, sprinkled slightly with whitecappers and negroes." But while he knew that the “summers are long,” the consulate also thought that his people might “bear with a great many inconveniences if they are only making money.”482 In the wake of the Bohemian experiment, though, and in consideration of his ongoing efforts with Italian workers, Percy eventually abandoned this plan. He explained to the consulate that he doubted the Danes’ ability to “stand our long summers, and the unaccustomed heat.”483

480 Robert Rose to LeRoy Percy, March 12, 1905, Percy Family Papers, Box 1, Folder 1.

481 LeRoy Percy to Robert Rose, March 12, 1905. Percy Family Papers, Box 1 Folder 1.

482 T. Söegaard to LeRoy Percy, July 14, 1905. Percy Family Papers, Box 1, Folder 1.

483 LeRoy Percy to T. Söegaard, July 18th, 1905. Percy Family Papers, Box 1, Folder 1.
Despite planters’ efforts, then, the South continued to be known as a hot and singularly sickly place. Ironically, because of their attempts to downplay the heat in order to lure immigrants, this group of Delta landowners caused Southern heat—and southern distinction—to achieve new international notoriety. People the world over came to fear the region’s climate in ways that undercut landowners’ ability to find workers willing to provide cheap labor. At the same time, their conspicuous failures to prove that Europeans could safely and happily people the Deep South also seemed to give credence to the belief that there was indeed something different about African American bodies, and the fact that whites had long-since toiled in the same environs failed to undermine that persistent assumption.

In an attempt to portray the South’s, and especially the Delta’s, climate in a more positive light, one planter took to rewriting the history of the famed Sunnyside experiment. In the first decade of the twentieth century, Delta planter Alfred Holt Stone began proclaiming Corbin’s efforts, and all subsequent experiments with Italian labor, a success despite their ostensible failure. Stone’s efforts transformed what had been a local problem amongst Delta planters into an indictment of African Americans as a race such that the consequences of their field experiments shaped ideas about the relationship between race and climate nationwide. In so doing, he acquired a reputation not simply as a knowledgeable plantation owner but as an expert on race relations and one of the foremost students of racial science. Stone’s ability to parlay his experience as a planter into a reputation as an academic allowed him to rewrite the history not just of a Sunnyside, but the history of race and place in the South.
Stone belonged to a new generation of racial theorists. In the latter half of the nineteenth century, a wave of professionalization swept over American society, and disciplinary organizations proliferated across the country. The American Historical Association was founded in 1884. In 1885, scholars established the American Economic Association. The American Association of Geographers sprang up in 1904, followed closely by the American Sociological Association in 1905. By the time these organizations came into being, Josiah Nott, who died in 1873, and Frederick Douglass, who passed in 1895, were no longer part of the conversation. In their place was a new cohort of scholars, some of whom were amateur academics using membership in professional organizations to grow their credentials in ways that served their political and economic interests. No one took advantage of this intellectual climate more effectively than Stone.484

Stone’s earliest forays into the study of race relations came in the first years of the twentieth century. By 1900, the debate regarding the place of African Americans in southern society had evolved from piecemeal, scattered considerations into a formal line of inquiry. Referred to as the “race problem” in the South, or else framed more problematically as the “negro question,” the term collapsed all considerations of legal, economic, and social interactions between whites and blacks under a single heading. Though academics across the nation contributed to the conversation, some southerners felt that meddling carpetbaggers and Republicans exacerbated racial tensions, and

southern organizations emerged that attempted to wrestle the conversation away from African Americans and northern intellectuals. The Southern Society for the Promotion and Study of Race Conditions and Problems in the South represented one such group. In 1900, the newly formed body convened the First Annual Conference on Race Relations in the South in the hopes of establishing southern leadership on the questions that attended black-white relations. Stone attended the conference and became enamored by the ideas he heard. Especially striking to Stone was the committee’s belief that southerners were “best fitted by knowledge and experience to deal with these difficulties intelligently and helpfully.” He sympathized with their desire to create, from “within the South itself, a popular literature on the subject—a literature representative of the soil and the people, a literature which would interpret the South both to the world and to itself.” For the conference organizers and eventually Stone, to understand the “negro problem” required an understanding of the South.485

Stone immediately used his own knowledge of the South to portray himself as an expert on the “African race.” Though he did not speak at the conference, he made a valuable contact in the person Walter Willcox, professor of economics and statistics at Cornell. Willcox gave a brief talk at the event, in which he professed his belief that emancipation would eventually result in the extinction of African Americans, and emigration to the North would only hasten the process. Stone found much to admire in Willcox’s line of thinking, and he ingratiated himself to the northern intellectual soon

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after he spoke. Stone explained what he knew of race relations in the Delta, and Willcox urged him to submit to give a talk at the annual meeting of the American Economic Association in 1901. In 1902, Stone’s talk appeared in article form in that years’ *Publications of the American Economic Association*.

Though ostensibly formed by his ideas about race, Stone actually built his academic reputation on his supposed environmental knowledge of the South. In his 1902 article for the Association, entitled “The Negro in the Yazoo-Mississippi Delta,” he gave an impassioned plea for local circumstance to more often inform inquiry into the “negro-problem.” The issues revolving around race relations were so expansive and sensitive to changes in environment and circumstance, he wrote, that there was “but one proper and reasonable method of considering it…through the analysis and study of its component parts” via a “study of local conditions.”

And by local conditions, Stone meant first and foremost the environmental context. He opened the paper with a physical and geographical description the Delta, calling attention to the “character of the soil” and the alluvial situation of the region. He stressed its unique features, saying that “the delta differs radically from the rest of Mississippi” and the South writ large. The soil, he offered, made the region the “cream jug of the continent.” And he quoted the description of one observer to the region who found that “Nature knows not how to compound a richer soil. It can no more lie idle than the sea can keep still. Every square foot of it riots with vegetable life.”

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For Stone, the environmental situation informed the demographic one. The region’s climate furnished copious amounts of cotton, a consequence of which was that the Delta possessed a majority black population. He argued that the complete lack of white laborers created a clearly defined racial caste system that made the region home to the most peaceful black-white relations in the nation. He announced that this amicable situation, alongside the fertility of the soil that provided limitless opportunity for self-advancement, offered a template for how to cultivate successful race relations. White supremacy and segregation, he argued, created the ideal economic conditions for both whites and blacks to thrive. This insight, he argued, could be used to solve the country’s “gravest concern.”488 Stone’s article concluded that African Americans, by their very indolent nature and innate constitutions, belonged in the South.

To that end, in 1905 he published an article in the Quarterly Journal of Economics entitled “A Plantation Experiment.” For the previous six years, Stone had kept tedious records of his plantations’ African American tenants, detailing every aspect of their economic lives. He took these scrupulous records, he explained to readers, as part of an experiment to discern how to best create an “assured tenantry” out of what he considered to be “shiftless” African Americans in the post-emancipation South.489 He explained that, for him and other cotton planters, “an adequate supply of labor” represented the “first essential in the business of raising cotton.” Yet, “not for forty years,” he claimed, “has the supply [of labor] equaled the demand in the alluvial section


of Mississippi.” To determine what set of conditions best ensured steady renters, those who would work hard and return year after year, he turned his fields into laboratories, experimenting with different lease arrangements and labor contracts, and measuring these changes against differences in yields and profit per acre. Though he hypothesized that adequate income would engender stasis, he claimed that, to his disappointment, this was not the case. “To my mind,” he reported, “the most suggestive fact which these operations would seem to establish is, stated conservatively, that the attainment of a prosperous conditions by the plantation negro does not influence him sufficiently to create and attachment for the local environment which accomplishes his material betterment.” Though local in nature, Stone felt that his “experiment” illustrated a larger truth about free African Americans the world over. It confirmed, he argued, for “the student of sociology and economics” the “generally stated” belief that “a certain large and distinct class of the world’s laboring population is characterized by a restless, migratory tendency.” And this insight, he felt, exonerated the whites of the South. “When the friend of the negro masses would know the whole truth behind the forces which to-day most militate against the material progress of the race,” he argued, “he must go deep below the surface of troubles which the white man can remove or rectify.” For

490 Stone, “A Plantation Experiment,” 270.


Stone, it was race, not racism, that impeded African American advancement since emancipation. And his “experiment” proved it.

After proving that African Americans could never author the South’s prosperity as a result of their racial inadequacies, he sought to prove that Italians could work in the heat of the South. To do so, he began to revise the history of the “Italian Experiments.” In a 1905 article for the *South Atlantic Quarterly*, he explained that “the association of the negro with the production of [cotton] is so fixed in the public mind,” that it had given rise to the false belief in “the absolute dependence of the Southern crop upon negro labor.”

Italian colonization, though, gave lie to this notion. Though previously, “every consideration of climate, soil, and economic condition tended to render absolute the hold of the negro agriculturalist,” he stated, the “Italian immigrant…has proved his ability to meet the negro upon his most favored ground.” He explained that though African Americans were perhaps better suited to the climate of the South, Italians were more spendthrift, more intelligent, and harder workers. Once acclimated, they offered a more productive labor force. For Stone, the permanent advantages of the white race outweighed the temporary advantages the climate afforded blacks. In 1907, he published an article in the *Review of Reviews* arguing that the “supposed failure” of the Sunnyside Experiment had no basis in statistical fact. Though many refereed to Sunnyside “as proof conclusive, the ultimate demonstration, of the inability of a white foreigner to compete with the negro as a cotton grower,” objective analysis and careful

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495 Ibid.
scrutiny revealed that, acre for acre and hand for hand, the Italian outperformed the African American wherever they were in competition. Stone even bent the undeniable existence of disease, which he claimed came as a result of Italians inability to care for themselves, to argue for paternalism. Once taught how to live clean and healthy lives, and after the short process of acclimatization, they thrived. Stone even aimed this study at Douglass’ line of thinking, arguing that it was curious that he “overlooked the Italian” in the arguing that none but the black man could author the South’s prosperity.496

Stone’s campaign worked. In 1908, Stone published his magnum opus, Studies in the American Race Problem.497 Amounting to little more than a collection of his previously published works, it still propelled him to a place of prominence in academic circles, affording him the reputation of being one of the most knowledgeable students of race science. Reviews lauded his scientific approach and lack of bias. Stone “is not a propagandist, pessimist or optimist” Carl Kelsey, of the University of Pennsylvania, wrote in his review for The Annals of the American Academy of Political and Social Science. “His approach to the problem is that of a student.”498 “He marshals his facts well, and he evidently desires to discuss the largely and impartially,” a reviewer for the


Political Science quarterly noted.499 “No other book on the negro problem,” wrote yet another, “has reached and held so high a level in scientific thoroughness and passionless judgment.” Especially noteworthy was his ability to pen the “strongest showing yet of the economic possibilities for the South, and by consequence the negro, that lie in Italian immigration.”500

Stone’s academic reception reveals that he had successfully recast ideas about African-American distinction. Black bodies were different, he argued, not because of their ability to withstand southern heat but rather because of their innate inferiority. Building on decades of works attempting to undermine the popular assumption that the South relied on African Americans, he crafted an oppressive, racist discourse that saved the southern environment from condemnation at the expense of African Americans. In part because of his efforts, by the first decade of the twentieth century, the notion that the southern economy necessitated black labor had lost substantial purchase. Clarence Poe, editor of the popular southern agricultural magazine The Progressive Farmer, denounced the misconception that black bodies alone could stand southern sun. In writing about Japanese labor on sugar plantations in Hawaii, Poe noted that planters on the island employed cheap foreign workers with the same “excuse with which our Southern farmers so long deluded themselves – the statement that ‘the climate is too hot for white men to work in the fields.’” But now, he noted, race science had “knocked the whole idea into


smithereens.”

This new belief existed neatly alongside the idea that African Americans required high temperatures to thrive. Evidence of this attitude is clear in a series of articles journalist William Garrott Brown authored in the first decades of the twentieth century. Describing the economic conditions of cotton and tobacco mills in North Carolina, Brown seemed to adhere to an older line of thinking about the relationship between race and labor. He noted blacks’ “racial preference for a high degree of temperature,” and confirmed the common belief that such heat, while appreciated by African Americans, depresses their ability to work diligently. Echoing older ideas about heat and languor, he wrote that in the summer months, high temperatures made it difficult for managers to “hold them to their work.”

Yet in a subsequent essay, he noted that such thinking was in flux. The previously held belief “about the absolute necessity” of black agricultural labor in the South were “proving ill-founded,” he reported.

As the idea that African Americans preferred southern heat but that the southern economy did not rely on their labor became increasingly accepted, academics began to assign new causal power to the environment in shaping culture that strengthened notions of climatic distinctiveness. In the post-emancipation South, efforts to argue that southern heat did not preclude white labor brought new attention to the role of climate in ostensibly determining the economic, cultural, and social institutions of a region. When looking to the South, then, environmental determinists cited heat as the most

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501 The Progressive Farmer (October 1, 1910)


503 Brown, The South at Work, 47.
consequential element of the region’s environment. One of the more important for the molding perceptions of southern heat was Ellen Churchill Semple, who graduated from Vassar in 1891 before studying geography and ethnography in Europe. Semple pioneered a new brand of environmental determinism that emphasized climatic factors in shaping human history. Her preoccupation with environmental and climatic conditions resulted in a body of work impressive in its penchant for reduction. For Semple, it really was all about the weather. In her first major work, a 1903 synthesis entitled *American History and Its Geographic Conditions*, Semple made sweeping claims about climate’s ability to affect human history, claims that resembled the Enlightenment thought of Thomas Jefferson. Semple felt that climate predetermined a region’s propensity for civilization, which she considered to be “at bottom, an economic fact.” “Beneath the economic,” she explained, “lie the geographical conditions, and these in the last analysis are factors in the formation of ethical standards.” Such reasoning allowed her to claim that “the question of slavery in the United States was primarily a “question of climate and soil.” While New England’s bracing climate proved unfavorable to bonded labor, in the South, “conditions favorable to the plantation system which alone made slave profitable, upheld the institution on economic and moral grounds.”

In her 1911 *Influences of Geographic Environment*, Semple doubled down on this assertion in considering the issue of race and migration. In this work, she explained “warm, moist air of the Gulf and South Atlantic States” had begun inspiring African Americans who headed north after emancipation to return back South, as “their numbers were being depleted by a harsh climate.”

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African Americans were “unfit” for the cold, they belonged, she reckoned, the South were they should comprise the “laboring class” of the region.\textsuperscript{505}

These ideas found popular articulation in the new debates about the Great Migration. Continued disenfranchisement, the reformation of the Ku Klux Klan in 1915, sharp drops in cotton prices during the first year of World War I, and the growth of an industrial wartime manufacturing economy in the North colluded to increase motivations to leave the South in the mid nineteen-teens. Just as the Kansas Exodus of 1879 reinvigorated discussion of the South’s heat and its amenability to African Americans, the Great Migration of the early twentieth century, too, caused Americans to ponder the nature of the southern climate. This conversation reveals that though the heat of the South became tempered enough to allow white labor, the widespread association between heat and black bodies continued to work against African Americans.

While the first wave of migration during the late 1870s involved a relatively small proportion of black southerners, period commentators felt this new exodus to be of considerable size. W.E.B. DuBois estimated the wartime migration to have reached 250,000 by 1918. In May of 1917, the Colored Citizens’ Patriotic League estimated that 300,000 black men and women headed northward in eight months alone. The chairmen of the National League on Urban Conditions on Negroes reported that a single year saw 350,000 leave the sunny South. As a result, southern politicians and planters scrambled to prohibit movement out of the region. News outlets reported policemen rounding up potential immigrants by the hundreds at train stations. Local politicians passed ordinances

\hspace{1cm}\textsuperscript{505}Ellen Churchill Semple, \textit{Influences of Geographic Environment, on the Basis of Ratzel’s System of Anthro-Geography} (New York: Henry Holt and Company, 1911), 619-620.
and by-laws that placed exorbitant fees on labor agents who recruited southern workers.\textsuperscript{506} Rumors circulated that a Methodist minister found himself in jail for allegedly enticing African Americans to New York.\textsuperscript{507} The widespread reporting of the frigid conditions that prevailed in the North represented another facet of these campaigns. Again, references to the rigors of the Northern climate peppered white newspapers across the South. The \textit{Macon Telegraph}, the \textit{South Carolina State}, the \textit{New Orleans Item}, and the \textit{Atlanta Constitution} all published articles that told of African Americans freezing to death, and the matter-of-fact tone in which they reported the fatalities masked their political ambitions. A survey of these papers conducted by the Carnegie Foundation in 1916 reported that a general trend of papers issuing “warnings of the South against the rigors of the northern winters.”\textsuperscript{508}

This new conversation tread familiar territory, closely resembling the arguments about African American fitness that occurred thirty years earlier. As they had earlier, local governments in northern locations embraced such fear mongering in an attempt to stem immigration. In 1911, the \textit{Crisis}, the official organ of the NAACP, reported that the influx of migrants may cause the Canadian provinces to no longer allow African Americans to enter the country, saying that the Edmonton and Winnipeg boards of trade had passed resolution to “protest against the continuance of immigration” on the “ground

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\textsuperscript{506} Herbert W. Horwill, “Negro Exodus,” \textit{The Contemporary Review} 114, no. 631 (July, 1918), 299-301.


\textsuperscript{508} Ibid., 31.
\end{footnotesize}
that the Negro is not adapted to the Canadian climate."\textsuperscript{509} The following year, after inquiring about whether African immigration to the northerly country would be amenable to other Canadian destinations, the \textit{Crisis} reported that the Canadian Superintendent of Immigration believed there were no “good openings for your people” anywhere in the country. He explained about the health concerns he and his countrymen shared, as well as the fact that the government had been forced to send black Americans back South in poor health before stating that “the opportunities for your people are better in the warmer climate.”\textsuperscript{510}

Some news outlets worried that the lived experience of African Americans would give lie to their trumped-up descriptions of conditions in the North. According to the Carnegie Institute’s study, the editor of a Jackson, Mississippi based paper stated that he “feared that the result of the first winter’s experience in the North would prove serious to the South, in so far as it would remove the bugbear of the northern climate.”\textsuperscript{511} Southern papers and politicians responded in various ways. Some encouraged returning migrants to speak ill of the conditions in the North. The editors of the \textit{Atlanta Constitution}, though, took it upon themselves to spread these rumors without the help of returning immigrants. In 1917, the paper claimed that “stories of sufferings from the cold, brought back by negroes during this winter, checked the movement considerably.”\textsuperscript{512}

\textsuperscript{509} \textit{The Crisis} Vol. 2, No. 3 (July, 1911), 98-99.

\textsuperscript{510} \textit{The Crisis} Vol. 4, No. 3 (July 1912) 148-149.

\textsuperscript{511} Scott, \textit{Negro Migration During the War}, 79.

\textsuperscript{512} \textit{Atlanta Constitution}, March 26, 1917. Quoted from Scott, 61.
Black papers responded with hostility to these claims. The Crisis chastised those who adhered to those beliefs and made fun of those who believed that African Americans would “die in droves” if moved from “one climate and social system to another.” Georgia’s Macon Telegraph was a favorite target of the paper. In response to article claiming that African Americans should serve on the frontlines of the more tropical campaigns of World War I on account their “durable feet” and the fact that the African American “thrives on the baring down of sunshine,” the Crisis insulted the laziness of whites. African Americans could proudly serve their country, the paper reported, because they made honorable, hardworking soldiers, unlike the “southern white man,” who “developed so little he is still wearing ladies’ sized shoes and has never become inured the climate of the sunny South.” The Telegraph made claims about blacks’ tolerance of heat often, drawing the ire of the Crisis time and time again. In November of 1916, when the Macon paper wrote that:

We must have the Negro in the South. The black man is fitted by nature, by centuries of living in it to work contentedly, effectively and healthily during the long summers of semi-tropical and tropical countries. He has been with us so long that our whole industrial, commercial and agricultural structure has been built on a black foundation. It is the only labor we have; it is the best we possibly could have—if we lose it, we go bankrupt!

The Crisis responded with a typical post-Stone appreciation of the effect climate had on constitutions. They acknowledged that black Americans raised in the region “loves the South, its activities, its sunshine, its climate.” But they continued that the they were “very

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513 The Crisis Vol. 3, No. 3 (January 1912), 115.
514 The Crisis Vol. 12, No. 5 (September 1916), 238.
much dissatisfied with the treatment that he otherwise receives.” They cited disenfranchisement, lynching, segregation, general condescension, and a litany of other mistreatments. Thus, “in spite of all the Negro’s natural inclination to the Southern climate he so eagerly seizes an opportunity to go elsewhere.”\textsuperscript{516} In June of 1917, they made a similar argument. A reporter for the \textit{Crisis} traveled to New Orleans to investigate immigration, and found that just that day 800 African Americans were arranging transport to Chicago. The reporter listened in shock to stories of poor treatment and meager compensation. He understood their motivations, but warned them that they may be “unprepared for the climate.” They responded, though, that they were “willing to run any risk to get where they might breathe freer.”\textsuperscript{517}

And indeed, by that year, the editors of the \textit{Crisis} became more overtly hostile to the notion that heat and cold determined their opportunities. They understood these arguments about climate to be as insidious as legal barriers to emigration. The paper mentioned the underhanded tactics that whites employed to keep African Americans in the South, saying that often African Americans were “told that no permanent gain awaits [them] in the North, where [they] will find the colder climate a hardship.” The paper described this tactic of persuasion as another form of violence designed to limit black mobility, ranking it among the “force,” “ordinances to hamper northern recruiting agents,” “prohibitive license fees,” and damaging “old laws” put in place to “keep the Negro for the services of the South.” They concluded that the “warm climate” proved

\textsuperscript{516} \textit{The Crisis} Vol. 13, No.1 (November, 1916), 24.

\textsuperscript{517} \textit{The Crisis} Vol. 14, No. 6 (June, 17), 66
attractive, but a feature African Americans would gladly forego in return for better treatment. In 1920, the Crisis argued against the Savannah Tribune, a paper that cited cold climates as deadly to those of African descent, that the previous decades proved that black Americans “could meet the new conditions of labor, climate, and housing” which awaited them in northern urban centers.

The Chicago Defender also responded aggressively to rumors of African Americans dying in droves. They encouraged emigration from the South by telling southern African Americans to ignore the accounts of the northern climate offered by white papers. They denounced the “bugaboo handed out by the white press” that African Americans met a frigid and fatal climate in the North. Instead, they would find plenty of work, fewer lynchings, and a climate perfectly fine for their health. “The Defender says come,” the paper exclaimed. And even if these allegations were true, the paper stated, then it was better to perish in the cold than attempt to survive the violent South. “To die from the bite of frost is far more glorious than at the hands of a mob,” the paper shouted.

Despite the dire warnings of papers, and perhaps encouraged by the Defender, African Americans continued to seek new life in the North. The debate about whether or not black bodies could survive in colder climates likely did little to depress immigration. Family ties and familiarity with planting likely caused more hesitancy than fear of freezing. The climatic considerations of the debate, though, suggest the degree to which ideas about race and place continued to hold sway. The Great Migration proved that heat

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518 The Crisis, Vol. 13, No. 4 (February, 1917), 181.

519 Quoted from Scott, Negro Migration during the War, 31.
continued to possess considerable explanatory power throughout the first half of the twentieth century, and despite re-appraisals of the relationship between heat and race, climate continued to separate white and black Americans.

Academics continued to feed and take advantage of that line of thinking. Earlier in the century, Stone and Semple demonstrated the utility that looking to the past offered professional scholars in justifying and explaining the necessity of post-war paternalism and white supremacy. Stone, especially, illustrated the ways that revising the past could serve contemporary political agendas. After Stone established himself as one of the “nation’s foremost experts on the ‘race problem,’” he served as a research associate in economic history for the Carnegie Institute. During this time, he crossed paths with a young Ulrich Bonnell Phillips, and the two quickly developed a professional friendship. Stone and Phillips shared common ideas about the nature of both the southern environment and the southern black man, and they collaborated on efforts to secure sources with which to reconstruct an economic history of the plantation South. Phillips visited Stone’s home, Dunleith, to learn more about the inner workings of cotton agriculture and the character of those who planted seeds and picked bolls. From the porch of Stone’s Washington County plantation, Phillips formulated the arguments that he would make in his 1918 *American Negro Slavery* and the seminal 1929 *Life and Labor in the Old South*. With an ear trained to Stone, eyes fixed on the cotton fields of Dunleith, and enveloped by the southern heat, it is little surprise that Phillips began his most important work by telling readers that they must “begin by discussing the weather, for that has been the chief agency in making the South distinctive.” He chased that now famous dictum with the assertion that climate predisposed the South to plantation
agriculture, for which slavery proved the most profitable system of labor. Thus began a “lasting race problem” that scholars such as Stone and Phillips spent years investigating.\footnote{520}{For more on the relationship between Stone and Phillips, see John David Smith, \textit{Slavery, Race, and American History: Historical Conflict, Trends, and Method, 1866-1963} (New York: M.E. Sharp, 1999), 55-60. The quote comes from U.B. Phillips, \textit{Life and Labor in the Old South} (New York: Little, Brown, and Company, 1929), 3.}

Historians often portray Phillips as simultaneously the progenitor of modern southern history and as a pioneer of using environmental determinism to interpret the South’s past. A. Cash Koeniger wrote in in 1988, for instance, that historians “from U.B. Phillips to Carl Degler” have argued that heat shaped southern history.\footnote{521}{Koeniger, “Climate and Southern Distinctiveness,” 35.} In 2000, Otis Graham credited Phillips as being one of the first historians to interrogate the environment in southern history, stating that “the human-nature relationship at the center of the South’s story” started with Phillips and ran through “Avery Craven, Tom Clark, and Chapel Hill sociologists.”\footnote{522}{Graham, “Again the Backwards Region? Environmental History In and Of the American South,” 62.} More recently, Christopher Morris used Phillips to make the point that “since the early days of the modern history profession, southern historians have relied on loose impressions of the climate and environment” of the South to explain the region’s historical trajectory.\footnote{523}{Christopher Morris, “A More Southern Environmental History,” 586.} While Mart Stewart connected Phillips’ arguments to their antebellum roots, he still abstracted Phillips’ work from the concurrent discussion of
race and place in post-bellum American society that extended beyond the halls of academia.\textsuperscript{524}

However, placing U.B. Phillips at the beginning of a historiographical trend instead of understanding him as a product of contemporary race relations, these historians obscure the longer history of the culture of climatic consideration that contributed to Phillips’ ideas. Phillips may have popularized the idea of climatic distinctiveness and used it to justify bonded labor, but being the most prominent advocate of taking seriously the weather in southern history was a position he usurped, not created. Such reconsideration of his role begs a question: must we begin with U.B. Phillips?

\textsuperscript{524} Mart Stewart, “Let us Begin with the Weather?: Climate, Race, and Cultural Distinctiveness in the American South.”
CHAPTER VII
CONQUERED HEAT?

“The problems of whites against blacks manifests itself in economic and political forms, but fundamentally much of it seems to be a question of the effect of climate.”

Ellsworth Huntington, Harpers’ Magazine, 1915

In 1935, Alabama-born journalist Clarence Cason predicted that air conditioning could never “be a grand success in the South.” Time would prove the essayist wrong, of course, but to the audience of the day his prediction seemed viable, not least of all because of Cason’s reputation as an astute observer of southern society. Though an obscure figure today, Cason gained a modicum of fame in the early twentieth-century by authoring some of the most thoughtful essays about the evolving New South. Born in 1896 in Ragland, Alabama, Cason wrote of his home region with a tone that pivoted between critical and celebratory, though as literary critics have noted, he often found “more to censure than admire.” Cason, like many of his generation, pondered the

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527 Fred Hobson, Tell About the South: The Southern Rage to Explain (LSU Press, 1983), 255.
relationship of the South to the rest of the nation in the wake of emancipation. Indeed, as historian Baily Thompson claims, Cason “belonged to that restless generation of southern intellectuals who, between the world wars, questioned the South's stubborn traditionalism, even as they tried to explain and defend its distinctiveness.” These scholars contemplated the region’s continued backwardness and wondered whether it could ever compare, socially or economically, to the rest of the country. Cason, for his part, doubted that the South would shed its visceral racism and inequality as much as he questioned air conditioning’s potential in the South. And for Cason, the two were intimately connected.

His own life history, he explained, led him to that conclusion. Cason’s hometown lay just fifty miles outside of Birmingham, which during his youth experienced a surge in population and industry that seemed to deliver on the promises of New South boosters. Though founded in 1871 as a trading post at the intersection of two railroad lines, in the first years of the twentieth century steel manufacturers realized that more than locomotive tracks converged in central Alabama. Birmingham represented one of few places in the world where the three primary ingredients of steel—iron ore, coal, and limestone—existed in nearby proximity and ready supply. The sudden rise of the city’s steel industry remade the small town into one of largest cities in the New South, complete with midrise skyscrapers built with local metal that offered a symbolic testament to steel’s ability to support Birmingham’s rapid growth. By the time Cason was in his mid-teens, Birmingham was home to the four largest buildings in the South. These monuments to

528 Baily Thompson, introduction to 90° in the Shade, v.
southern progress earned the intersection of 1st Avenue North and 20th Street the nickname “heaviest corner on Earth.”

While the Magic City represented the pinnacle of southern modernity in the first decades of the twentieth century, Ragland offered a juxtaposition of Old South agriculture and New South industry. Cotton fields dotted the landscape, but so did coal mines. The city’s residents could find work as croppers in fields or laborers in brick, cement, or lumber mills. In Ragland, as elsewhere in the South, despite the rhetoric, no great chasm separated old and new. Cason lived in a world of hookworm and skyscrapers in an economy anchored at once by sharecropping and steel. Vestiges of the past existing in easy harmony with modern manufacturing shaped his ideas about the essential nature of the New South. He witnessed firsthand that economic growth rarely brought with it any meaningful degree of social mobility for African Americans or poorer whites. Industrialization, in fact, facilitated the exploitation of the factory worker as surely as King Cotton oppressed sharecroppers. In 1935, Cason coalesced his observations about the so-called “age of progress” in which he lived into a collection of essays titled 90° in the Shade. In it Cason argued that despite the region’s supposed evolution, the “shadow of the plantation” still loomed over the region. He believed that the ruling elite of the South would bend any economic development to their own ends at the expense of others and that they would dismiss out of hand any technology that failed to support their


530 Cason, 90° in the Shade, 6.
vision of economic progress and social conservatism. And that, explained Cason, was why air conditioning would never be a “grand success.”

Southerners would never attempt to conquer climate because, Cason believed, the elite considered heat a “welcome ally.” He chased that assertion by playfully explaining that it made the indoor environment unattractive in the summer, affording southerners an excuse to ditch work in favor of fishing. But as his argument unfolded, he began to explicate the direr implications of high temperatures, eventually concluding that heat buttressed white supremacy. Cason considered heat one of the “main conditioning elements of southern life,” arguing that the whole of southern culture, everything from southerners’ preference for spicy foods to whites’ love of “lynching bees,” were products of the region’s high summer temperatures. Heat created the plantation, and with it, exploitation, which in turn disproportionately exposed lower class populations to high temperatures. Over the course of southern history, heat came to delineate social and economic castes; Cason explained that a southerner’s social status could “be loosely measured in terms of the inverse ratio of the number of hours spent at the mercy of the July sun.” Though Cason’s ideas about climate and culture seem to represent garden-variety examples of the environmental determinism common to both the scientific and popular discourse of the day, he invoked heat not to explain away inequality or bonded

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531 Ibid., 10.
532 Ibid.
533 Ibid., 5, 13.
534 Ibid., 12.
labor as products of the environment as others had, but rather to decry the social hierarchy that he believed heat created. He talked about the weather to condemn rather than exonerate. And because he believed that heat had so fundamentally shaped the South, for Cason, to discuss its weather was to talk about the very nature of the region—its environment, its economy, and its social and cultural characteristics. And air conditioning portended change for all three.

Cason’s prediction that the South would reject the technology, though, proved false. Over the course of the twentieth century, air conditioning grew from an expensive industrial technology that only a handful of manufacturing facilities installed into to a ubiquitous feature of southern, and indeed American, life. It moved from industry to movie theaters to automobiles to department stores and eventually entered the southern home. AC was not only successful in the region; it had its most spectacular success in the South. According to a 2009 Residential Energy Consumption Survey administered by the United States Energy Information Administration, the census South constitutes the United States’ most climate-controlled region, with a whopping 95% of southern homes having air conditioning, and the vast majority of those (85%) using a central AC unit.  

But these impressive figures belie a startling reality. Rather than cooling the South, AC actually warmed the region, and significantly. Especially in the post-World War II South, the rapid adoption of the technology facilitated the twin forces of industrialization and urbanization, which together gave rise to urban heat islands that sent

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the mercury flying in the region’s rapidly expanding city centers. In addition to its material consequences, the century-long conversation about the merits of climate control raised the rhetorical temperature by drawing new attention to the climate of the region. Cason represented just one of a group of academics who, after the advent of climate control, pondered the nexus of climate and culture with renewed vigor. Against the backdrops of New South industrialization and international imperialism, heat became problematic in new ways that shaped perceptions about the American South and its people. Cason and his contemporaries attempted to diagnose the ongoing problems of the South, and heat featured prominently in many of their analyses, with most considering the hot climate an arresting influence on social and economic development. Such studies fit neatly into the discourse of environmental determinism of the early-twentieth century, fueled at once by climate control and colonialism. For many writing in this vein, air conditioning promised progress, and a gospel of cool emerged in which climate control represented the savior of hot and backward regions that remake them into temperate, prosperous regions.

But rather than propelling the backward South into economic and social modernity by taming heat, AC did just the opposite. Indeed, Cason was also mistaken in his belief that air conditioning, by undermining heat, would upend the region’s social hierarchy. In fact, the diffusion of climate control, and other cooling devices that predated it, actually increased the gulf between racial and economic castes as well as the perceived difference between the South and the nation. Born in a segregated facility, the nearly solidly white textile mills of the North and South Carolina Piedmont, the technology had the immediate effect of reemphasizing long-standing ideas about the racialization of
comfort. At the same time, the belief that AC could solve the South’s climatic problems further highlighted the negative effects of heat in ways that fed arguments about southern distinction, a conversation that gained a substantial amount of academic traction after the profusion of residential climate control in the postwar period. As the South came to look increasingly like the rest of the nation, a new group of academics, largely sociologists and historians, looked to the climate for evidence of continued distinctiveness. Just as AC became all but ubiquitous in the region, these scholars paid more mind than ever to the heat.

Before the advent of air conditioning, though, most late-nineteenth-century southerners downplayed the heat of the region or else counted what they described as long, mild summers as an economic boon. New South boosters, a diverse group of actors united only by a common goal to grow the southern economy, often remarked on the temperate nature of the climate in order to lure industry southward or else expand and diversify agriculture. Indeed, boosters waged a war against the idea that the South was anything short than perfectly comfortable. They especially railed against the oft-espoused belief that the brick-and-mortar infrastructure requisite for industrial production could not exist in a region where the summer heat would turn factories into ovens for half of the year. To that end, they energetically revised the mid-nineteenth century, pro-slavery argument that heat installed the plantation system to the exclusion of other forms of economic development. Strikingly similar to promotional material in the colonial period, these boosters attempted to recast ideas about the South being too hot by arguing that it was simply fortuitously warm in ways that promised rich economic growth. In a flurry of literature, this new generation of promoters insisted that the climate was ready for
industry. New South spokesmen extolled the weather, speaking often of the ways that temperate winters and longer daylight hours would facilitate industrialization. Henry Grady, for instance, often spoke of the “perfect climate” and the “temperate” nature of the South alongside his discussions of abundant natural resources and readily available labor.\(^{536}\) Kentucky journalist and congressman Henry Watterson shared similar sentiments. Since the eradication of slavery, he wrote that the “congenial climate” was ready to receive industry. In fact, for Watterson, bonded labor alone explained the hitherto tepid participation in manufacturing. “The soil was here, the climate was here, but along with them was a curse, the curse of slavery,” he explained.\(^{537}\) And historian Albert Bushnell Hart, who perhaps most closely resembled the seventeenth and eighteenth-century southern propagandists, wrote in his *The Southern South* that the region’s climate proved, at worst, only a modest handicap to economic development, and that the congenial effects of the weather outweighed the negative. The South, he explained, was not without the “drawbacks as all over the world are the penalty for the fruitfulness of semi-tropical regions.” Hart believed the most pernicious consequence of heat—disease—could be conquered by cultivating the sickly swamps that gave rise to malaria. He was less sanguine, though, about the ability of whites to labor in agricultural work. He claimed that though New York City experienced similar high temperatures, in

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the South, these were more commonplace, and that the summer heat was “steady and unyielding.” And yet still, he explained, instances of heatstroke rare, though he admitted that “the heat affects the powers, at least of the Whites, to give their best service.”

His portrayal typifies the easy coexistence of change and continuity in New South rhetoric. For many in the New South, the belief that the climate was mild and portended economic progress lived comfortably alongside the idea that African Americans could better tolerate what heat did exist.

Though Grady, Watterson, and other New South boosters lauded the South’s climate in an effort to attract industry, southern textile mill owners found the region’s higher temperatures to be a decided disadvantage. Cotton processing factories sprang up in the Piedmont during the late nineteenth century in response to economic shifts, increasing soil exhaustion, mounting erosion problems, and proximity to the southern cotton plantations. Between 1880 and 1900, their number nearly tripled from 161 to nearly four hundred in the Carolinas alone.

And from every mill floor owners and workers bemoaned the effects of heat. For the workers it made summer labor exhausting and sweaty. For the owners, the concern was the bottom line. The absorptive nature of cotton made the fleece extremely sensitive to environmental conditions, and spinning a quality product required high levels of humidity that softened the fibers as they churned through the machines, spooling and weaving into cloth. Too little moisture, mill owners

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quickly realized, caused the fleece to become dry, brittle, and snap. And even if the cotton did not break on the spindle, the friction created by processing dry fibers generated static electricity, which caused the threads to stick to milling equipment and choke machinery. Heat, of course, exacerbated these problems. Because relative humidity is simply the ratio of moisture in the air to the air itself, when higher temperatures caused the air to expand, this decreased the relative saturation. Heat was the enemy of moisture and moisture was good for cotton milling. Though counterintuitive to contemporary perceptions of the muggy South, then, factory owners in the early twentieth century found the region excessively hot and dry, too dry. Factory managers initially met the problem of dry heat with relatively crude, stopgap solutions. They sprayed water directly into the spinning, weaving, and carding rooms of factories, or else simply littered the factory floor with containers of water. These evaporative technologies, though, were imprecise, unhealthy at best, downright dangerous at worse, and only marginally effective.\(^{540}\)

By the turn of the twentieth century, it became clear that efficient textile production could be achieved only with the precision of modern climate control.\(^{541}\) In 1902, Willis Carrier installed what historians consider the first modern system designed

\(^{540}\) Discussions of humidity in mills, and the consequences of dry heat, are found throughout textile bulletins from the period. For an overview of the problems associated from dry heat, see Arsenault, “End of the Long Hot Summer,” and Margaret Ingels, *Willis Haviland Carrier: Father of Air Conditioning* (New York: Country Life Press, 1952).

to regulate temperature and humidity in a paper factory in New York. Soon after, one of Carrier’s chief engineers (a recent graduate of the Georgia Institute of Technology) urged Carrier to direct his attention southward to the expanding textile industry. As early as 1904, Carrier installed conditioning systems in textile mills in the southern Piedmont, starting with the state-of-the-art Chronicle Cotton Mills of Belmont, North Carolina.\textsuperscript{542} In 1907, Carrier authored an article in \textit{Textile World}, the industry’s premier magazine, in which he explained to southern mill owners the advantages of his new system that married “artificial ventilation” with humidity control.\textsuperscript{543}

Textile magnate and New South booster Stuart Cramer was an early and eager adopter of the new technology. Cramer was among the first to transport the New England mill town model to the Carolina Piedmont in the late-nineteenth century, and the success of his operations established him as a leader of southern industry.\textsuperscript{544} His reputation earned him the audience of textile mill owners throughout the region, and Cramer tirelessly promoted the idea that air conditioning could rescue the South from its climatic disadvantages. It was actually Cramer who coined the term “air conditioning” to refer to his own machine that he believed improved on Carrier’s design.\textsuperscript{545} Cramer marketed his system to the textile manufacturers of the Piedmont by emphasizing the poor quality of the southern climate for manufacturing. In a 1909 trade publication, for instance, he

\begin{itemize}
\item \textsuperscript{542} Arsenault, 602; \textit{Air Conditioning, Heating, and Refrigeration News}, September 20, 1976.
\item \textsuperscript{543} \textit{Textile World}, May Supplement, 1907.
\item \textsuperscript{544} \textit{Lubbock Morning Avalanche}, July 21, 1931.
\item \textsuperscript{545} \textit{Air Conditioning, Heating, and Refrigeration News}, September 20, 1976.
\end{itemize}
documented the temperature and humidity of thirteen different domestic and overseas locations and found that northern cities in Pennsylvania, New York, Maine, and Massachusetts were more suitable to textile manufacturing than their counterparts in Alabama, Louisiana, Georgia, and North Carolina. He concluded that though the South had no industrial advantage over the North—in fact, climatically, they were at a decided disadvantage—air conditioning could ameliorate the problematic conditions of the southern environment.  

Cramer’s invention and research soon caught the attention of industrial magazines, academic journals, and the popular press, all of which then introduced air conditioning to the public. Throughout the 1910s and 1920s, Americans became increasingly fascinated with the idea of “Making Weather to Order,” captivated by air conditioning’s ability to overcome “the handicap of climate.” But this flurry of national press about the South and its weather had an ironic result. Because magazines billed AC as a technology that would facilitate industrialization in hotter regions, this rhetoric of air conditioning, rather than help promote industrialization, actually emphasized climatic disadvantages. The ability to “conquer climate” inspired a renewed interest in the role of weather in shaping human society, and the growth of air conditioning during the early twentieth century resurrected ideas of climatic determinism. As one Texas newspaper explained to readers, “Climatology”—a period term for climatic

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determinism—had fallen out of favor in recent centuries, and yet, modern air conditioning “promis[ed] to reopen the field.”

Rather than just reinvigorating the field, the growing interest in air conditioning intersected and built on the already thriving early twentieth-century discourse of environmental determinism because both considered high temperatures as impediments to economic development and thus an enemy of that loaded twentieth-century idea “civilization.” Piggybacking on this common thinking, political scientists and geographers came to associate heat with backwardness in new and increasingly academic ways, often mindful of how such arguments justified western imperialism during the first half of the century. Geographer Ellsworth Huntington represented the central figure in this conversation, and his work fundamentally shaped both academic and lay perceptions of heat and the American South. Huntington argued that climate was one of the “greatest factors in determining the course of human progress.” He spent his lengthy career speculating about the relationship between climate and “vigor of civilization,” a term that connoted individual achievement and energy. In the early nineteen-teens, he published several articles on the “handicap of climate” in which he argued that the tropics were backward, diseased, and peopled by indolent and mentally deficient populations because of heat. His reasoning aligned with the centuries-long theory that heat produced bounty and that bounty engendered sloth. “If the traditional palm-tree will support a family,” he

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549 For more on the idea of “civilization” in the early twentieth century, including a look at its imperial context, see Gail Bederman, Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880-1917 (Chicago: University of Chicago Press, 1995).
said, summarizing centuries’ worth of thought on the subject, “the members of that family are not likely to work, except under some unusual impulse.” \(^{550}\) Moreover, hot climates welcomed disease that hindered mental development. As a result, tropical peoples’ “mental processes, as well as their physical activity, [were] dulled.”\(^{551}\) High temperatures eroded humans’, and especially whites’, physical and intellectual ability.

Though Huntington began his career by creating a discourse that promoted colonialism in the tropics, by 1915, he was writing about the effect of heat and cool across the globe. His interested in climate and physical efficiency led him to study cigar factories in Florida and textile mills in Georgia and South Carolina, and in both he noted that heat depressed output. In the Georgia mills, he explained, the type of climate control promoted by Cramer was not in widespread use. Though difficult to estimate the exact number of air conditioned factories, the expense and inefficiency of early models likely dampened interest for many owners, so air conditioning existed only the mills that produced top-quality products. The factories from which Huntington culled his data corded only course materials and thus declined to invest in of AC, placing the mills at the mercy of the weather. Surveying the efficiency of the “Anglo-Saxon” workers in the Georgia plains, he found (unsurprisingly) that in the warmest months, mill workers did the least amount of work, and that their inability to perform efficiently extended even into


\(^{551}\) Huntington, “Adaptability,” 372.
the autumn months. Akin to something of a heat hangover, high temperatures proved so
detrimental to physical labor that it affected workers even after the summer ended.
Juxtaposing his textile study with the Florida cigar analyses reveals the continuing ideas
about the racialization of comfort, climate, and efficiency. For the Florida cigar factories,
Huntington measured “negro” Cuban and “Spanish” cigar rollers’ inclination to labor,
stating that high temperatures may not have depressed their capacity for work but it did
undermine their willingness and motivation. Here, he simply restated his oft-cited truism
that warmer climates produced indolent people who could better weather the heat but
made the slothful choice not to work despite their ability to do so.552 This climatic
history of racial development was important, he argued, as it contributed to racial
conflict. That same year in Harpers’ Magazine, he summarized these arguments and
stated baldly that “the problems of whites against blacks manifests itself in economic and
political forms, but fundamentally much of it seems to be a question of the effect of
climate.”553 The discourse that Huntington helped popularize created such firm causal
links between climate, society, race, and “civilization” that to discuss the heat of an area
was a commentary on that region’s capacity for progress.

Huntington’s study of heat and efficiency led others to speculate on the optimal
conditions for “civilization.” In 1920, political scientist S. Colum GilFillian published an
article in the Political Science Quarterly entitled “The Coldward Course of Progress,” in
which he argued that “the advancement of civilization moved towards colder climes, and

552 Ellsworth Huntington, Climate and Civilization (New Haven: Yale University Press,
1915), 70-75.

553 Ellsworth Huntington, “Is Civilization Determined by Climate?” 944.
when, in human history, civilized culture moved to hotter locations, it invariably deteriorated.” For him, hot regions were the most primitive of the globe. He claimed that civilization emerged in sultry areas because the high temperatures created ideal conditions for agriculture, which nurtured sedentary life and increased population density that in turn caused increasingly sophisticated societies to emerge. The benefits of heat, however, declined in subsequent centuries as mankind made technological developments that supported agriculture in cooler regions, domesticated animals that thrived in the temperate portions of the globe, and came increasingly to rely on hot regions to supply the cooler areas with food. In his own words: “the positive value of warmth, for agriculture, steadily diminishes with the advance of civilization, while its harmful effects upon health and mind cause the scene of maximum efficiency in civilization increasingly bound by agriculture, to withdraw ever farther from the tropics.” Agriculture and heat were anchors of civilization, both in the sense that they undergirded its development and also because they tethered societies to their primitive states. And even if tropical and subtropical portions of the globe wanted to outgrow their perpetual adolescence, it would be impossible because of the effect it wrought on the human frame. Echoing earlier writers, he contended that heat bred mental illness, languor, crime, suicide, and even disastrous political revolutions. Thus, heat created the “fiery and volatile temperament of southern peoples,” that rendered them incapable of competing with the work ethic of the

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555 Ibid., 394.
“phlegmatic northern races.”\textsuperscript{556} Luckily for southerners the world over, though, they were fine with their perpetual state of nascent development. Hot climates also rendered in their inhabitants a “temperament…good enough for the simple and petty life.”\textsuperscript{557}

GilFillian also took up the task of mapping temperature graduations across the globe to divine the ideal climatological conditions for development. Using reasoning riddled with confirmation bias, he located the “ridge” of modern civilization along the 50°F isotherm, around which what he considered the world’s greatest cities clustered. In North America, the line ran from Astoria, Oregon, through Omaha, Nebraska; Des Moines, Iowa; Indianapolis, Indiana; to New York City, New York. As people moved away from this line, the level of civilization decreased. GilFillian cast areas south of his ideal line as more backward than those to the North, even if the locations were equidistant from the ridge, because the drawbacks of heat outweighed those of cold. He explained that 64° was best for physical efficiency while 40° promoted mental vigor. So while areas north of this divide better nurtured minds, the southern reaches caused both mental and physical deterioration. Thus southern heat was, in every way, inferior to northern cool.\textsuperscript{558}

Little surprise that the ability to remake the indoor climate entranced these climatic determinists. AC promised to transform unfavorable regions into prosperous, temperate centers, conducive not only to industry but societal advancement. In his 1913,  

\textsuperscript{556} Ibid., 396.  
\textsuperscript{557} Ibid., 396.  
\textsuperscript{558} Ibid., 408.
Huntington speculated about a possible technocratic solution to overcoming the handicap of temperature, though he lamented that none yet existed. And he ended his 1915 *Climate and Civilization* with the assertion that if humans could “conquer climate, the whole world will become stronger and nobler.”\(^{559}\) In the following decade, the increasing diffusion of air conditioning offered the geographer hope. In 1926, Huntington claimed that “mechanical air control” would “be of positive service to humanity.”\(^{560}\) The subtropical and tropical South could be saved.

Southern boosters, though, resented the very idea that the South needed a savior. In part as a response to the rhetoric of Huntington and others, several southern voices attempted to reshape the climate through rhetoric rather than technology.\(^{561}\) Both agricultural and industrial magazines continually responded with the common refrain that southern summers were temperate rather than excessively hot. In 1926, for instance, Clarence Poe, writing in the *Progressive Farmer*, stated that though “much of the South was made to believe that its climate was a liability,” it was, in actuality, “an immeasurably valuable asset.” Poe claimed that the South had “practically the same summer temperature as the North;” the only difference was that the southern United States had “vastly pleasanter winters.” Poe went so far as to document the temperatures for twenty-four cities, twelve in the North and West and twelve in the South, to prove his

\(^{559}\) Huntington, *Climate and Civilization*, 294.

\(^{560}\) *Florence Morning News*, October 17, 1926.

point. His findings supported the increasingly popular idea that it was not the South that was inordinately hot. Instead, he argued that everywhere outside the southeast was extraordinarily cold, pointing out that average July high was only 3 degrees warmer in the South, while the January minimum was a whopping 24 degrees lower in the rest of the country.⁵⁶²

Richard Edmund’s Manufacturers’ Record, a journal devoted to growing the economy of the New South, offered similar comments, emphasizing the agricultural advantage of long summers while denying that the South was too hot for industrial development. “A great many people in this country,” one article stated, “have an idea that the South is full of barbarians, that it is a land of such intense heat that it is difficult…to live there, and it is full of malaria and all other ills…and that the man who goes South for a visit, is in very considerable danger.” This “misinformation,” argued the paper, could not be further from the truth.⁵⁶³ In fact, according to the Manufacturers’ Record, the South was “temperate,” “equable,” and “salubrious.” He reminded readers that the was only semi-tropical, and save some portions of the gulf, the temperature was altogether

⁵⁶² Progressive Farmer, May 8, 1926. Poe based this argument on data from the Weather Bureau and accurately represented the figures provided. He calculated the annual mean temperature, the January mean, the July mean, the January minimum, and the July maximum for each of the twelve locations and averaged them for the summary he provided readers. In the article itself, he included these tables, informing his audience of the locations he chose from which to generate the data. His southern cities, in the order he listed them, were Richmond, Virginia; Raleigh, North Carolina; Charleston, South Carolina; Atlanta, Georgia; Asheville, North Carolina; Montgomery, Alabama; Tampa, Florida; Birmingham, Alabama, Memphis, Tennessee, Vicksburg, Mississippi, New Orleans, Louisiana, and Dallas, Texas. For the North and West, he compiled data from Boston, Massachusetts; New York, New York; Cincinnati, Ohio; Indianapolis, Indiana; Chicago, Illinois; Des Moines; Iowa; Kansas City, Kansas; St. Paul, Minnesota; Bismarck, North Dakota; Denver, Colorado; Spokane, Washington; and Los Angeles, California.

⁵⁶³ Manufacturers’ Record, June 7, 1923.
pleasant. He took a state-by-state approach in his praise of the southern climate. The magazine assured readers that in Alabama, “extreme cold or heat is unknown anywhere in the state.” Additionally, “The climate of Arkansas conforms to that of the other southern states being largely temperate with extremes of temperature rarely occurring.” Florida, though being “situated close to tropical latitudes,” was “decidedly equable due to the proximity of the Atlantic Ocean and the Gulf Coast of Mexico.” And despite having a “variety of climate[s] from the Mountains to the sea,” Georgia was “essentially temperate with an average of over 230 growing days a year.” Even though “the topography of Kentucky is undulating and varied with mountains in some regions,” the magazine argued, “the difference in elevation is not sufficient to cause any marked variation of climate.” In fact, the state was “essentially temperate with abundant moisture.” And finally, the magazine stated that “extremes of climate [were] virtually unknown in Louisiana.”

Boosters’ campaign to turn the South—a region that everyone from Italian farmers in the Delta to textile owners in North Carolina considered undeniably hot—into a temperate land free of extreme weather did little to dislodge the idea that southern

564 Ibid., June, 1935.
565 Ibid., June 1938.
566 Ibid., July, 1938.
567 Ibid., August, 1938.
568 Ibid., September, 1938.
569 Ibid., October, 1938.
economic success hinged on AC. Unsurprisingly, climate control engineers themselves preached the gospel of coolth the loudest. Over the course of the first half of the twentieth century, air conditioning and climatology developed in tandem, each reinforcing the other. Scholars began to praise air conditioning’s benefit to southern industry and society, and at the same time, air-conditioning manufacturers and engineers embraced climatic determinism to argue for the necessity of air conditioning in fostering healthy civilizations. In 1934, The American Society of Heating and Ventilating Engineers, soon to become the American Society of Heating, Ventilating, and Air Conditioning Engineers, published a paper written by Clarence Alonzo Mills, medical doctor and professor of experimental medicine at the University of Cincinnati. Mills’ paper detailed the effects of heat on both the South and its inhabitants. Like GilFillian and Huntington before him, the ability control indoor environment caused Mills to ponder “the important place climatic environment has in mankind’s existence.”\footnote{C.A. Mills, “Air Conditioning and Its Relation to Human Welfare,” \textit{Journal of the American Society of Heating and Ventilation Engineers}, Volume 40 (1934), 289.} And for Mills, there was simply no denying the facts: the South was hot, and heat was bad. In the article that echoed over two centuries of ideas about the negative effects of heat, Mills argued that summers sapped southerners of their energy, forcing them to battle not for social excellence but rather fight simply to live. Air conditioning engineers, believed Mills, could “liberate the South…from this serious handicap to their economic,” and thus societal, “development.”\footnote{Ibid., 299.}
Citing “what we know” about the role of environment in health, Mills offered that high heat and humidity resulted in a “sluggish” metabolism that caused those acclimated to hot climates to be especially susceptible to disease. Conversely, cold climates promoted both a more vigorous metabolism and the health effects that descended from it. Not content to speak in the abstract, Mills proceeded to define climatic zones in the United States and their relationship to metabolic energy and salubrity. In the “cool stormy regions of the Temperate Zone, man lives on a high energy plane,” Mills argued; “he is vigorous, full of pep and vitality, and must be always doing something.” Conflating the southeastern United States with the global South, he claimed that “in the Tropics and the Orient, and in [the] Gulf states,” however, “there is much less energy available, so that a much greater part of the daily supply must go into the business of mere existence.”\textsuperscript{572} Mills went on to state that the American South had more in common with tropical climes across the globe than their neighbors to the north. While the temperate weather of the majority of North America explained the “astonishing rate of development of the physical resources of the continent” as well as their inhabitants’ “impetuous zeal for action,” the sluggish South was more “similar to that of the Mediterranean countries of Europe and of Japan and North China.”\textsuperscript{573} Mills also believed that southerners became biologically different from northerners as a result of their hotter climate. “Southerners coming north” offered Mills, “show their sluggish heat metabolism by the way they chill under conditions that natives call comfortable. For indoor comfort, they demand a temperature

\textsuperscript{572} Ibid., 290.

\textsuperscript{573} Ibid.
4-8° F higher than we need.” Even relative comfort, it seemed, proved southerners’ inferiority.

Mills even attributed poor health in the North to the abundance of energy in the Temperate Zone of North America. Analogous to contemporary ideas about neurasthenia resulting from over-civilization, Mills believed northerners, to an extent, suffered from their own climatic and industrial advantages. Cursed with too much of a good thing, these invigorating climates caused some to “break under the strain” of their temperate regimes. Metabolism was a product of glucose consumption, and the pancreas, feared Mills, was being overworked in people living in regions blessed with tremendous amounts of energy. For proof, he cited high rates of diabetes in the North relative to the low rates in the South. Similarly, and in opposition to GilFillian’s earlier argument, Mills found that suicide rates were higher in areas of greater mental stimulation. The “easier, more relaxed and care-free existence that goes with the lower energy level less often brings on the disease of exhaustion,” Mills stated.

Lest the southerner “be envied,” however, he reminded readers “his lower energy state…is more susceptible to infections and shows a higher death rate from tuberculosis, acute nephritis, and acute appendicitis.” 574 Not only excessive heat but also dramatic temperature swings put the South at a societal and economic disadvantage. While the Temperate Zone of the North was relatively stable, the “rapidly rising” and “rapidly falling” temperatures of the Gulf states were less conducive to mental and physical health. Heat not only exacerbated poor health, it also delayed recovery. Patients suffering

574 Ibid., 293.
from hot air conditions like appendicitis and “summer diarrhea” had prolonged recovery times in hot hospital rooms, a result of the “lessened vitality” endemic to hot climates. The South’s lack of proper medical care, hinted Mills, was a product of its heat.  

Air conditioning, for Mills, was the solution to both overstimulation in the North and “climatic stagnation” in the South. Proper climate control, he argued, would bring southerners into “more fair competition with energetic northerners.” Though air conditioning would “foist upon less energetic people this urge to action which will largely destroy their present calm and carefree existence,” the “restlessness” and “inability to relax” were small prices to pay for civilization. What’s more, it would benefit the “negroes of our northern and southern states,” the former of which had moved to a colder climate and “sloughed off” their “tropical indolence.” In order to “step up human energy and efficiency to a level more nearly equal to that of the cooler temperate regions,” Mills charged the American Society of Ventilation and Heating Engineers with spreading cold air across the South and the hotter portions of the globe, thus relieving the “backward corners of the Earth” from the “handicaps imposed by climate.” Air conditioning could save “The Tropics and the Orients…and also the states of the Old South (from Louisiana westward)” from the “devitalizing moist heat” of their regions.

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575 Ibid., 290-292.
576 Ibid., 308.
577 Ibid., 298-299.
578 Ibid., 299.
Thus for Mills, heat was a problem, air conditioning was the solution, and climate control engineers were the foot soldiers of progress.

Diatribes’ like Mills were the exact kind of rhetoric boosters feared. The effect of these arguments about the benightedness of the southern climate was to make the South into a problem in novel ways while simultaneously building on a long-standing belief that the South was a barbarousness, dangerous, and exotic land apart. Evidence of the popular conflation of heat and lack of social and economic progress for the New South came as early as 1920 with H.L. Mencken’s scathing indictments of southern culture. The title of his most famous essay, “Sahara of the Bozart,” is telling: the idea that a region was culturally desolate precisely because it was hot aligned perfectly with the discourse that Huntington, Mills, and others professed. Indeed, his denigrations of the South’s “worn-out farms, shoddy cities and paralyzed cerebrums” combined environmental and intellectual condemnations in a single breath. He further entrenched this association by saying that “for all its size and all its wealth and all the ‘progress’ it babbles of, it is almost as sterile, artistically, intellectually, culturally, as the Sahara Desert.”579 Though ostensibly more interested in criticizing the South rather than solving the southern problem, he did note that “what is needed down there, before the vexatious public problems of the region may be intelligently approached, is a survey of the population by competent ethnologists and anthropologists.”580 In the coming decades, academics heeded his call. How they characterized the South’s climate—hot or cold, extreme or


580 Ibid., 75.
moderate—were in actually value judgments about southern society. Though not directly in conversation, these scholars contested the nature of the southern climate, and thus, the nature of the South itself.

Indeed, in the 1930s, just as Mills condemned the heat of the South and damned the region to perpetual social and economic adolescence unless it embraced AC, a cadre of academics and journalists turned their attention to better understanding the New South and surveying the progress the former Confederacy had made since emancipation. Clarence Cason represented just one of these scholars who sought to explain the South to the rest of the nation. These critical observers of southern society, inspired in no small part by the resurgence of the Ku Klux Klan and a continually stagnating economy, saw the region through kinder eyes than Mencken, with most attempting to understand the South in the service of fixing it rather than skewering it. But their diagnoses effectively pathologized southern society, increasing the gulf between the South and the nation while simultaneously abbreviating the divide between the Old and New South. While not every academic included commentary on the region’s climate, many did, and whether as an object of inquiry or simple literary exposition, temperature featured often enough in their works such that it further fueled the conversation about heat and identity. Because they considered the South a problem, they contributed to a discourse that linked high
temperatures with barbarism and social backwardness that resembled the condemnations of hot climates that environmental determinists espoused.  

While not the first, Cason represented one of the most prominent voices in the conversation that understood the South as fundamentally hot, and in no small part because of that, backward. For Cason and others, the confluence of climate, culture, and capacity for civilization created a rhetorical space from which authors could praise or decry the South’s social and political institutions by simply commenting on the weather. For these writers, representations of the southern climate constituted commentary on southern society. As it was with U.B. Phillips, these discussions usually began with a discussion of the past. Cason noted that throughout southern history, climate featured prominently in the discussion of the South’s political economy. Cason cited heat in explaining the development of slavery. “The July sun,” he summarized, “has been exerting an influence for generations in determining the social and economic classes in the South.” He went on to explain that heat, and the resultant “presence of the Negro,” were the “main conditioning elements in southern culture.” He informed readers that the southern sun lessened the vitality of southerners, who were immune from that


582 Cason, 90° in the Shade, 11-12.

583 Ibid., 15.
“everlasting inner demand” to “improve upon [their] earthly position.” Though he believed the South would benefit from a “quiet little revolution,” he remained skeptical that it was possible. In calling attention to the South’s resistance to adopt mechanical cooling, he levied a critique against the South and its pervasive conservatism. He believed the South would always be hot, though he lamented that the sun sapped energy such that southerners, black and white alike, could not “muster a sufficient amount of vitality to pull the weeds from their cotton and demand the rights of free-born American citizens at the same time.” His survey so depressed him, in fact, that just weeks after the publication of his book, he took his own life.

Others disagreed with the belief that South’s climate predisposed the region to racism and doomed any hope of social or economic progress. In 1932, Rupert Vance published his own survey of southern society that offered a more nuanced appreciation of the southern climate and thus, southern society. Vance, a geographer, cited climate often in his discussion of regional identities, observing the ways in which weather bred a parochialism by creating environments that favored certain agricultural, and thus cultural, regimes over others. But Vance offered a fresh, and to modern eyes, sophisticated interpretation and the relationship between climate and culture. He decried the climatic determinism that plagued other considerations of southern culture while simultaneously recognizing the ways in which weather affected society. He argued that it was less the environment itself than “man’s adjustment to the environment” that shaped history. By

584 Ibid., 6.

585 Ibid., 11.
adopting this Turnerian framework, he avoided “assigning to geographic factors a determinative influence that they do not exert.”\textsuperscript{586} The result was a nuanced, though sometimes inconsistent, appraisal of the region’s climate and capacity for progress.

At times, Vance reified climatic distinctions between the South and the North, though he did so without denying the existence of regionalism within the South itself. Sharing an impulse with professional climatologists who relegated the vast majority of the political South as “humid subtropical,” Vance too succumbed to the temptation to use climate to unite the South against the North. Indeed, after 300 pages of explicating differences in culture and geography found across the region, he opened chapter XIV, “The Southern Clime,” by claiming that though the South was home to “varied regions, …conditioning, integrating, dominating these diverse domains in the climate,” was a unifying force in the South.\textsuperscript{587} Noting the racial valences to this consideration, he set out to understand how “the white man wagered against climate,” telling readers that “history and science were yet undecided as to whether he has won or lost.”\textsuperscript{588} That he considered them as engaged in battle, though, proved important. Unlike Cason’s southerners, essentially conservative types content to continue in their hot inequality, Vance hinted at efforts of improvement and reform.

In fact, though he found humid subtropical North America unique in its weather, he also noted that high temperatures alone were not sufficient to set the South apart from


\textsuperscript{587} Ibid., 351.

\textsuperscript{588} Ibid.
the nation, thus questioning the supposed impact heat had on southern society. He cited a growing body of literature that found the summer temperatures between northern and southern North American locations surprisingly similar. Indeed, a survey of the period medical literature found that heatstroke was more common in the northern Midwest than in the South. He wrote that “critics of the southern climate” had to face the facts: heat waves were worse in the North, mild winters offered a lengthier growing season and healthier conditions than in more frigid locations, and that the ultra-violet rays of the sun had a positive effect on health. He supported this last point by examining sports, showing that considerations of the climate shifted in response to social conditions, and not that societies and institutions were merely products of their physical environment. He reminded readers that when “southern football was at the bottom of the heap,” commentators cited the heat and humidity as the causal explanation for their lack of athletic success. But as the South’s prowess on the field improved, sports writers began to claim the invigorating sun’s rays as the primary reason for their success. For Vance, both were more or less true: “the greater exposure to ultra-violet rays is as fully a scientific explanation of the comparative rank of southern athletics, as heat and humidity.”

Citing the studies of Huntington, he acknowledged that heat, humidity, and sunlight affected mental and physical production, but resisted arguing that these climatological features fundamentally shaped southern society. The primary difference, he argued, was winter temperatures. The North and South shared heat, but the lower regions did not experience the brutal cold of temperate-zone winters. Because of its mild winters, the

589 Ibid., 361.
South had a decided economic advantage over the North, an idea that existed at odds with the common refrain that the singular heat of the South doomed the region to backwardness. He did, however, concede that the humidity, alongside the scant breezes, meant that southerners felt the heat in a more intense fashion. Indeed, it was only “the change from day to night” that brought the lower South “the relief that saves it.”

Though Vance questioned the actual difference that existed between the South’s climate and that of the rest of the nation, he shared with other earlier twentieth-century thinkers the impulse to collapse the subtropical South into the global South. He argued, as had Europeans for centuries, that the effect of heat was somewhat ambiguous. Like in the tropics, the southern North American climate offered a long growing season but also bred disease and contributed to an unhealthy diet. He spilled more than a little ink discussing the negative impacts of southern weather, attempting to “ascertain the how far the South suffers the handicaps of a sub-tropic climate.” Like other academics of the period, imperialism structured his analysis of climate and racial distinction, with a white-man’s-burden mentality informing his ideas about the suitability of Europeans to the subtropical South. Indeed, he stated plainly that parallels existed primarily because the plantation system is the “mode agriculture assumes in the tropics.” He similarly conflated the

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590 Ibid., 359.
591 Ibid., 351.
592 Ibid., 351-2.
subtropics and the tropics in arguing that southerners experienced a “lowering of biological adequacy similar to that encountered in tropical climates.”

Yet for all the similarities, Vance also noted differences. He argued that southerners imported the plantation system rather than the environment demanding it. Climate was a factor, no doubt, in the development of the South, but assigning to climate the cultural, racial, and social traits that characterized the region’s inhabitants would be impossible, he argued, to demonstrate conclusively. Most importantly, he condemned the “superstition” that whites could not perform fieldwork and chastised southerners who for so long believing it despite “thousands of yeoman farmers and their wives” who contradicted the myth with every field they plowed and boll they picked. To make this point, he cited the work of air conditioning engineers and physiologists employed climate control to better understand the effect of temperature and humidity on human health.

Indeed, air conditioning allowed physiologists a hitherto unknown ability to manipulate temperature and humidity that allowed them to interrogate the notion of comfort with new sophistication. Engineers and physiologists working for the American Society of Heating, Ventilating, and Air Conditioning had, since the 1920s, undertaken a series of experiments in which they examined the effects of temperature and humidity on test subjects. Summarizing their findings in a 1926 report, they found that optimal comfort with 100% humidity required a temperature of 64°. As humidity decreased, the acceptable temperature for comfort increased. The team eventually concluded that

593 Ibid., 351.

594 Ibid., 354.
comfort constituted more than a mere matter of preference. Indeed, it was physiological: optimal comfort happened when the body had to do the least work to maintain homeostasis.595

While these engineers did not explicitly racialize comfort, others working in their wake used the group’s findings to argue that black and white skin responded differently to heat because of the epidermal glands. Doctor C. Eijkman, for instance, echoed the suppositions of thinkers dating back to John Lining and Benjamin Franklin when he identified what he considered the “biological foundation of the black man’s climatic adaptation.”596 Black skin, he found, was immune to sunburn, and thus allowed those of African descent to bear the heat with fewer clothes than whites, increasing the surface area that sweat effectively cooled. And though black skin absorbed more sunlight, the higher temperature caused an increase in the “dilation of the cutaneous capillaries” led to a greater loss of heat. White skin, because it was thicker, held in more heat than mere evaporation could cool, but Africans’ dilation allowed them to lose heat in other ways. While Whites in the tropics literally dripped with sweat, Africans did not. They had but a thin layer which increased the efficiency of evaporative cooling. Eijkman concluded that “the brown man is superior to the white in his economy of sweating.”597

Vance, however, found that no such conditions existed in the subtropics. He noted that the region’s history offered no examples of purely tropical disease, no diminution of

595 Ibid., 364-365.
596 Ibid., 365.
597 Ibid., 364-365.
European birth rates, and no evidence of white skin’s inability to cope with the
temperature. For Vance, the subtropical South was a region that could be civilized, and so
he presented the climate as conducive to advancement and progress in ways that had the
effect of deriding those who espoused the old “superstition” on which the Old South had
been built. He shows, then, the close proximity of arguments for economic advancement
and racial equality. He went so far as to contend that many of the supposed handicaps of
the climate were ultimately results of culture and not weather, though he did parrot the
widely-held belief that the prolific climate made life easy, thus engendering indolence in
the regions’ inhabitants.

Most importantly, and contrary to Cason and others who found heat perpetual or
demanding to be tamed, Vance claimed that the subtropical South’s climate lent it to
modernity. He first cited a playful example—southerners had long since worn the light
and airy clothes that modern cosmopolitan fashion now found in vogue, he told readers.
And the diet of fruits, vegetables, and diary that had long since been the staples of
southern tables was now, Vance reported, considered healthy fare. And finally, he
concluded that air conditioning would make mill work more efficient, though he noted
that the Midwest needed it more than the South. Vance used the categorization of
subtropical to argue that the South had the agricultural advantages of the tropics without
any negative aspects that culture and air conditioning could not conquer.598 The climate
of the South portended progress. Only pervasive cultural traits precluded economic and

598 Ibid., 372-373.
social advancement. Indeed, even disease was down to culture. Though heat and humidity allowed for the proliferation of mosquitoes and hookworm, it was a lack of medical professionals and a history of misunderstanding the diseases that led to the high rate of incidents.

These ideas, especially regarding the “superstitions” of race and climate, took time to gain widespread acceptance. In the following decades, other academics would consider the relationship between comfort, climate, and skin color. In 1937, for instance, John Dollard published *Caste and Class in a Southern Town*, a social survey of Indianola, Mississippi (codenamed “Southerntown” to protect the anonymity of residents). Dollard moved to the small Delta town in the early 1930s with the intent of studying race relations, conducting interviews and recording his observations of the region. Dollard envisioned his work as the southern counterpart to *Middletown*, Helen and Robert Lynds’ groundbreaking sociological case study of Muncie, Indiana. Indeed, his methodology resembled that of the Lynds, in that he integrated himself into the community and lived among its residents so as best to ethnograph the city and its people. But where the Lynds portrayed “Middletown” as representative of American society, Dollard characterized Indianola, and by extension the South at large, as fundamentally different than, and out-of-step with, the rest of the nation. He used the climate to depict the region as exotic, and whether an intentional framing device, subconscious association, or simple statement of the facts, he portrayed heat, or protection from it, as an indicator of both economic and racial status. Dollard illustrates that well before residential AC took off, the electrification

599 Ibid., 374.
that caused ceiling fans to whirl and tabletop fans to oscillate, enabled ice factories to pump out frozen water, and allowed refrigeration to enter the southern home. Each of these technologies made cool spaces available only to those who could afford them. For Dollard, these technologies not only increased race and class divides but conflated the two. He contrasted the conditions of white and black residences, juxtaposing the cramped and hot houses of the black side of town with the “commodious, well painted, shrubbed, and neat” white homes in which “fans buzz” and screened in porches made the houses “as cool as the can be in this climate.” While Indianola’s white residents lounged with cool comfort, black residents sat on their front porches to keep cool, “lacking the fans and electric refrigeration” which were so essential in “combatting the summer heat.” Similarly, he described sharecroppers cabins as “poorly constructed and suffocating.” And he noted that whites could afford to quench their thirst with the “cool shock of a ‘coke,’” or take in a movie in an air-conditioned theater to survive the summer days that he told readers were “long, still, and intensely hot.” But when African Americans sought to escape the heat by catching a flick, they were forced upstairs to sit in a “hot balcony in a very small theatre.” In his study, Dollard introduced the nation to the ways in which temperature helped to define a southerner’s caste and class. More


601 Ibid., 3.

602 Ibid., 103.

603 Ibid., 4.

604 Ibid., 357.
importantly, though, he contributed to the discourse that temperature continued to
delineate southern society, which buttressed the increasingly prevalent idea that high
temperatures perpetuated inequality.

Johnathan Daniels, editor of the Raleigh News and Observer, wrote in the same
vein as Dollard insomuch that he studied social relations, invoked temperature to
illustrate inequality, and used heat as exposition rather than explanation. In his *A
Southerner Discovers the South*, a travelogue of his journey across the deep South in
1937, he scrutinized southern society with a journalists’ gaze, describing in detail not
only the conditions of the South but the experience of traveling in it. To bring readers in,
he wrote of the quotidian aspects of the travel, which included frequent comments on the
weather. Soon into his journey, he came to the conclusions that “negroes and heat”
characterized a “true southern state,” while noting that whites and blacks weathered the
climate differently. In Savannah, Georgia, for instance, he remarked that though the heat
wrought a terrible effect on his own body, African Americans there went
“undisturb[ed].” And like Dollard before him, he noted the ways that access to coolth
revealed social position in the South. In Birmingham, even Alabama’s topography
facilitated the distance between the wealthy and low-income residents. Small hills
encircled the city center, with suburban communities dotting the southern rim. He noted
that it was cool “on the mountains where the great houses of the well-to-do are,”

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605 Jonathan Daniels, *A Southerner Discovers the South* (New York: MacMillan, 1938),
322.
explaining that there was “a little breeze” that “cut through the Alabama heat.” “But there was no breeze in the city. In the valley, “it baked,” he told readers.\textsuperscript{606}

For Daniels and others, then, air conditioning symbolized modernity. In the nineteen-teens, the technology existed in a handful of theatres in Chicago and New York but the trend towards cool accelerated in the 1920s. In the late twenties, it found its way into railroad cars, simultaneously with the growth of AC in department stores across the country. The Great Depression latched onto the emerging industry, believing that it might pull the country out of its economic woes by offering jobs in AC factories as well as providing a product that was attractive enough to stimulate demand that could reinvigorate the economy. Though the downturn decreased demand during the 1930s, air conditioning became increasingly visible in most Americans’ lives. By World War II, not only did nearly every American know about AC, many had experienced it.\textsuperscript{607}

The same boosters who continually denied that the South was overly hot came to embrace climate control, both taking advantage of and feeding the association between air conditioning and progress. Indeed, as historian Marsha Ackermann has argued, AC not only seemed modern, it felt modern.\textsuperscript{608} Though initially a tireless proponent of the idea that the South was temperate, by 1937, Edmund’s \textit{Manufacturers’ Record} described the South as having “one of the greatest stakes” in the “phenomenal air conditioning

\begin{itemize}
  \item \textsuperscript{606} Ibid., 272.
  \item \textsuperscript{607} Ackermann, \textit{Cool Comfort}, 43-61; Gail Cooper, \textit{Air-Conditioning America: Engineers and the Controlled Environment, 1900-1960} (Baltimore: Johns Hopkins University Press, 2002), 110-139.
  \item \textsuperscript{608} Ackermann, \textit{Cool Comfort}, 45.
\end{itemize}
industry.” “Control over temperature and humidity,” he wrote, was “the key to Southern manufacturing progress” and allowed “the South to vie with the North for commercial supremacy.” He went so far as to promise readers that they could soon “forget the hot days” of a bygone era, a statement that essentially represented a tacit admission that earlier conceptions exaggerated the temperate nature of the South. The magazine continually drew attention to the cool factories that had popped up in the South, and capitalized on the belief that air-conditioned spaces evinced industrial and societal progress. In 1940, for instance, the magazine took pride in announcing the establishment of a fully climate controlled fluorescent lamp factory in Jackson, Mississippi. More than simply a cool facility, the manufactory promised to spread cooler temperatures everywhere, as they made fluorescent lights produced “high-levels of lighting without discomfort from radiant heat.”

Local papers further established air conditioning as a central feature of modern America. “Let’s make it a nice, cool summer…with modern cooling appliances,” a 1939 advertisement read. Clean clothes, good health, and cool temperatures were all possible with “modern air conditioning units.” Because the “modern world has come to the conclusion that science can accomplish most anything it attempts,” one Texas paper boasted, air conditioning had become necessary to “comfortable midsummer living in this

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609 Manufacturer’s Record, March, 1937.

610 Manufacturer’s Record, August, 1946.

611 Manufacturer’s Record, February, 1941.

612 Courier News, June 7, 1939.
best and most interesting of climates.” The Lubbock Avalanche described the technology as being nothing short of an “ultra-modern convenience,” and the Waco Tribune-Herald told readers that air conditioning represented a modern, decisive victory for “man in his long fight to control the forces of nature.”

Its perceived industrial benefit, in tandem with the belief that air conditioning brought both economic and societal advancement, made air conditioning into “a necessary luxury” by the middle of the decade. By 1935, air conditioning had grown to a fifty million dollar a year industry. By 1938, Dallas, Texas ranked fourth in the nation for the amount of horsepower used in air cooling, with Houston and San Antonio not far behind. By 1940, Mobile proudly proclaimed that it was the air conditioning capital of the nation, boasting more AC tonnage per capita than any other city in the country. The Waco Tribune-Herald was able to tell readers that modern science had finally won a decisive victory for “man in his long fight to control the forces of nature.”

Perhaps nothing better evinces the close connection between air conditioning and southern progress than the conversation surrounding the 1936 Texas Centennial Exposition, designed to showcase a century’s worth of economic progress. The event

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614 Lubbock Avalanche-Journal, June 25, 1933; Waco Tribune-Herald, August 20, 1933.
615 Business Week, October 5, 1936.
617 Southern Power and Industry, January, 1940.
618 Waco Tribune-Herald, August 20, 1933.
captured the attention of the entire nation, with newspapers from California to New York printing articles covering the ceremony. For many, the most striking element of the Exposition was the fact that the event’s twenty-nine buildings, covering over ten acres of combined floor space, would be fully air-conditioned. Centennial organizers spent over one million dollars, roughly four percent of their entire budget, to become “the first air-cooled World’s Fair in history.” In truth, the Century of Progress Exposition in Chicago, held between 1933 and 1934, was the first to offer air-conditioned spaces. While “there were a few air-conditioned spots at the Century of Progress in Chicago,” admitted the one paper, the Texas Centennial would be the first time in which an “entire world’s fair ha[d] been air-conditioned.” In a country still reeling from the market collapse of 1929, however, some questioned the wisdom of spending twenty-five million dollars on such a celebration. “Who will the Texas Centennial help? What good will it do?” inquired one local resident in a 1935 letter to local Texas paper *The Lubbock Avalanche*. The editor of the *Avalanche*, though, was of a different opinion. The Texas fair was not simply a commemoration of independence or industrialization, he reasoned. It was a celebration of societal progress writ large. It celebrated the “march…to tame wild and natural opposing forces” like heat, the curbing of which “allowed [Texas] to attain its present level of development and civilization.”


620 Ruston Daily Leader, April 29, 1936.

621 Ruston Daily Leader, April 29, 1936.

These articles, in concert with the published studies, effectively conflated modernity with cool temperatures and the barbarous, uncivilized, past with heat. Even Clarence Poe, who wrote often about how the South was pleasantly warm and that the rest of the country was unpleasantly cold, came around. Though still denying that the South was any hotter than the North, in 1937 Poe recognized that though the length of the summer may be an industrial disadvantage. In the *Progressive Farmer*, he reluctantly admitted that the prolonged summer heat potentially lessened the “efficiency” of Southern workers. But as modern “air conditioning” was now an “accomplished fact,” he wrote, factories could safely and economically operate in the South.⁶²³

The racial valences to this conversation about climate conquered continued to resound. The 1941 Yearbook of Agriculture, entitled *Climate and Man*, offers a clear summation of American attitudes towards the relationship between climate, culture, and race at the end of the interwar period. The piece included some older notions but explained that they were dated. It mentioned, instance, the idea that the “draw-backs to white settlement in the hot, wet regions of tropical rainforest” included the oft-cited elements of disease, “overpowering vegetative growth,” and deficient diets. But it also included a disclaimer that there existed a new “optimistic view” about fair-skinned Europeans’ ability to achieve health in hot climates, not least of all if they exercised regularly, took the proper medical precautions, and imported devices for suitable “air conditioning.”⁶²⁴ To that last point, the authors of the work inscribed tremendous

⁶²³ *Progressive Farmer*, October, 1937.

importance. While adaptations to the heat could ensure physical health, only air conditioning could facilitate the intellectual efforts at achieving “high forms of cultural achievement,” to which hot, equatorial climates, and by extension equatorial peoples, “seem[ed] unfavorable.”\textsuperscript{625} They explained that recent medicine had largely cured the “tropical diseases” of “malaria, dysentery yellow fever, African sleeping sickness, hookworm, and others,” and believed that “air conditioning may in time become as significant in fighting heat as the traditional means of fighting cold are in temperate climates.”\textsuperscript{626}

Thus while conceding that health, fitness, and ideas of comfort were products of culture more than “hereditary and racial differences,” they still argued that those of African possessed skin with more sweat glands and a better ability to perspire and that their epidermis “withstands infection better than the white skin.” But they also noted that while “darker races are considerably better suited to the Tropics,” that others – including Italians, Portuguese, and Spaniards – had an advantage over the “blonds from higher latitudes.”\textsuperscript{627} Lest anyone think that these observations did not map on to the subtropical American South, they also noted that “from the sea-island coast of South Carolina to the Delta of Mississippi, tropical climatic conditions prevail during most of the year.”\textsuperscript{628}

\textsuperscript{625} \textit{Climate and Man}, 228

\textsuperscript{626} \textit{Climate and Man}, 231.

\textsuperscript{627} \textit{Climate and Man}, 255-6.

\textsuperscript{628} \textit{Climate and Man}, 163.
Air conditioning’s close association with modernity made it an object of criticism for those who were anxious about the sweeping changes taking place in American society. Some authors used air conditioning as a symbolic repository for the anxieties and fears that accompanied industrialization. In 1945, Henry Miller attempted to recast air conditioning as a terrifying technology that divorced mankind from nature.\textsuperscript{629} In *The Air-Conditioned Nightmare*, he bemoaned the desire to alter the climate of the South; Miller sneered at the hubris of air-conditioning engineers and their attempts to manipulate nature. “The Earth is a Paradise,” wrote Miller, “We don’t have to make it one.” Yet in the face of a rapidly industrializing nation, Miller found comfort in the “natural beauty” of the yet to be air-conditioned areas of the South, places where the people “went hand in hand with the soil.”\textsuperscript{630} While southern industrialists sang the praises of climate control and sociologists and geographers debated to what extent the climate hampered growth, Miller still found much to admire in the South’s heat. He highlighted the ecological elements of the warm region: he spent paragraphs detailing the wonders of Spanish Moss on the Gulf Coast and described the joy he felt in seeing watermelons growing fat in the heat of Arkansas. Most directly, though he used a pleasant stay at the Shadow-on-the Teche, a Louisiana plantation located on Avery Island, as a foil for the dismal North. Indeed, he praised the Shadows for being “warm” and “alive.”\textsuperscript{631}


\textsuperscript{630} Ibid., 12.

\textsuperscript{631} Ibid., 96.
Miller commented on the unique architecture of the plantation, calling attention to its expansive columned porch and high ceilings, both created (he reminded readers) as an adaption to the heat of the region. He also drew attention to the nine entrances and exits to the house, fashioned, he said, to encourage ventilation. He found the outside staircase, a distinctly Spanish colonial feature, puzzling, but claimed that it evinced the permeability between the indoor and outdoor environments that demonstrated, for him, the naturalness of southern life. Indeed, Miller proclaimed the house and his entire southern experience as “organic.”

Aware of the intellectual climate in which he was writing, he understood what expressing admiration for the heat meant: lauding the hot southern environment was to condone slavery and racial disparity that descended from it. Miller accepted this proposition, though, and exonerated not only the South but all historical slave societies. “One is inevitably induced to reflect on what might have been had this promising land been spared the ravages of war,” he explained, “for in our Southern States that culture known as the ‘slave culture’ exhibited only its first blossoms. We know what the slave cultures of India, Egypt, Rome and Greece bequeathed the world. We are grateful for the legacy; we do not spurn the gift because it was born of injustice. Rare is the man who, looking upon the treasures of antiquity, thinks at what an iniquitous price they were fashioned. Who has the courage, confronted with these miracles of the past, to exclaim: ‘Better these things had never been than that one single human being had been deprived

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632 Ibid., 98-100.
of his rightful freedom!" Air conditioning would have the same effect as the Civil War, he believed, as both were northern impositions on the southern landscape. Indeed, climate control was as devastating as the Union Army, and he desperately hoped that some regions, like his precious Shadows-on-the-Teche, would be protected from the invasion of AC. He concluded *The Air-Conditioned Nightmare* with a forceful assertion. “It is all over now,” Miller stated. “A new South is being born. The old South was ploughed over, but its ashes are still warm.”

Despite the dire warnings of Miller that climate control promised cultural erosion, the technology advanced significantly during the decade, and social scientists continued to hail AC as the eradicator of heat and thus the savior of inhabitants of hot climates. After the onset of the Second World War, the imperialist line of thinking that undergirded earlier environmental determinism faded, but the belief that climate shaped aptitude for civilization persisted, fueled largely by the belief that air conditioning could save the global, and the North American, South. The 1947 edition of Sydney F. Markham’s *Climate and the Energy of Nations* simultaneously relied on and revised the thinking of earlier twentieth-century environmental determinists, though advances in climate control allowed the sociologist and political scientist to inject human agency into the equation. Similar to Vance and Frederick Jackson Turner before him, Markham argued that economic and cultural progress, civilization in other words, occurred as a result of societies mitigating the ill effects of their weather patterns. To conquer climate was to

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633 Ibid., 286.
634 Ibid., 288.
vanquish backwardness and incivility. History supported his reasoning, he explained. Though Virginia represented at one time the pinnacle of American civilization, as North Americans began to create more effective heating technologies, civilization moved northward, which in the immediate postwar period he found to be the apogee of class and culture. The Virginian’s stint of being “more favoured than anybody else in America” had been eclipsed by the “advent of central heating and electricity.”

*Climate and the Energy of Nations* shared much in common with earlier works in the same vein. Markham’s study, replete with the isothermal maps, mortality rates, and economic tables common to period studies of climate and culture, once again denigrated the South as being at a comparative disadvantage to the rest of the country. He even cited Huntington’s experiments with efficiency in the South. And like Cason and others before him, he attributed cultural traits, often viewed as negative, to heat. He found, for instance, that the reason Midwestern cities saw a disproportionate amount of deaths from heatstroke arose from their greater vigor, which their short summers failed to eradicate completely. So while the summer month temperatures were comparable between Louisiana and Indiana, he explained, they lasted longer in the South, fostering a “life-long habit of acting more slowly than Northerners, so that he does not suffer so much from the heat and perhaps would say that he enjoys it.” The northerner for “his” part, “works at a pace which is too fast for his hot summer,” as the cool, invigorating air of


636 Ibid., 182.
winter dominates the calendar year. “The central point,” he concluded, “was that “man adjusts himself to a rate of activity appropriate to the combined effect of the natural climate in which he lives and the artificial climate which he creates.”

In his discussion of the “artificial climate” man crafted for himself, he extolled air conditioning’s ability to push back the frontiers of incivility and wage war on the climates that bred backwardness. While he lamented that nearly half the states in the country had “from 1 to 5 months of the kind of weather which almost inevitably will continue to make people relatively slow,” he felt that “perhaps air conditioning might do the trick.” He devoted the whole of his second-to-last chapter to AC, portraying it as the sole hope for the benighted South. Calling it the most important developments in the last century, he offered a rough overview of the technology’s history before speculating on its role in shaping the future. He bombastically predicted that “mankind [was] on the verge of a development which may alter the whole focus of civilization.” And that development would uplift even the lowliest peoples; he offered that “the Negro may yet reach heights of intellectual attainment undreamt of by Booker T. Washington” as an example.

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637 Ibid., 180.
638 Ibid., 181.
639 Ibid., 181.
640 Ibid., 215.
641 Ibid., 217.
And indeed, air conditioning did take off in the decades following the second world war. The national figures are striking: in 1960, 12% of US homes had air conditioning, with most being window units. By 1980, that number climbed to 55%. In 2005, 82% of homes had climate control, and most of those had central heating and cooling. 642 This massive growth occurred as a result of the trend towards suburbanization in the second half of the twentieth century. The expense of installing AC into a home precluded many from cooling their residences, but it actually decreased the cost of construction in new homes because it made issues of building placement irrelevant and offered contractors the ability to built from generic templates rather than forcing them to alter their plans to create a livable indoor environment. So while Antebellum southerners placed their homes with an intense environmental awareness and designed the architecture in ways that mitigated high temperatures, postwar developers placed identical box-like dwellings along grids that were more cost effective. Front porches shrank, ceilings lowered, and hallways narrowed. The suburban South more closely resembled the rest of the nation. Levittown and suburban Birmingham were not altogether dissimilar. 643

Temperatures, too, became increasingly similar. From 1920 to around 1970, most of America experienced a warming trend. The South, however, plateaued. As the soils of much of the Old Southwest gave way to exhaustion, cotton agriculture became

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643 For a discussion of the effects of climate control on architecture, see Gail Cooper, Air Conditioning America: Engineers and the Controlled Environment, 1900-1960 (Baltimore: Johns Hopkins University Press, 2000).
concentrated in the Mississippi Delta, or else moved to Texas and Arkansas. Millions of acres of once-cleared land became reforested, and the growth of the sustainable (though still labor exploitative) timbering also increased ground cover. As new growth forests and pine plantations came to cover the South, cooling from evapotranspiration increased, and insulated much of the region from the uptick in temperatures that affected the rest of the continental United States. 644

This trend reversed in the 1970s as a result of the industrialization and urbanization of the South that new, more affordable air conditioners had facilitated. Some period commentators watched the South realize the dream of industrialization that a century earlier Henry Grady espoused with wariness. Historians and sociologists pondered the effect that the expanding economy would have on distinctive southern culture. As early as 1958, C. Vann Woodward commented that the “bulldozer revolution” gripping the South may strip it of its identity. 645 A year before, John T. Westbook remarked that the South had grown “rich” as it became “urban [and] industrialized,” speculating that it was “no longer ‘southern’ but rather northernized, Europeanized, and cosmopolitan.” 646 In the coming decades, southern historians would debate the degree to which the South became Americanized (or whether it was the rest of the nation that

644 Pam Knox, et. al., “Challenges and Opportunities for Southeastern Agriculture in a Changing Climate: Perspectives from State Climatologists” *Southeastern Geographer* Vol. 54, no. 2 (Summer, 2014), 123.


646 Quoted in Cobb, *Away Down South*, 216.
became “southernized”).  

Climate featured in many of their works as a constant marker of distinction. The indoor climate may have been tamed, these thinkers agreed, but the heat of the South remained a feature that set the South apart.

Two seminal articles provide examples of how the air conditioner caused historians to re-assert southern distinctiveness. In 1984 Raymond Arsenault’s “End of the Long Hot Summer: The Air Conditioner and Southern Culture,” traced the development of air conditioning throughout the twentieth century. He found that though air conditioning “affected nearly every aspect of southern life” and had done its best to “homogenize the nation and eliminate regional consciousness,” he stated, the “South remains a land apart – a land that still owes much of its distinctiveness to climatic forces.” Similarly, in his 1988 article, “Climate and Southern Distinctiveness,” A. Cash Koeniger claimed the ultimate casualty of climate control was the very idea of climate itself. “One of the consequences,” he explains, of the “coming of air conditioning…is the decline of climate in interpreting southern history.” He foolishly reasoned that scholars who “typically leave air-conditioned homes for air-conditioned automobiles, that in turn they abandon for climate-controlled offices, classrooms, and libraries” have ignored the very role of climate in

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648 See, for instance, Cobb, Away Down South, chapter 8.


shaping southern history.⁶⁵¹ Like Arsenault, he also found that the region’s hot summers and mild winters made the South unique, positing that heat accounted for the personality and disposition of southerners both contemporary and historical. In reasoning reminiscent of Cason, he ascribed a number of distinctive southern traits, including predispositions for violence and folk culture, to a warm climate.

While these historians continually emphasized heat to argue for distinctiveness, the South itself warmed in disproportionately. Air conditioning’s facilitation of suburbanization inspired white flight, with urban centers became increasingly African American and disproportionately hot.⁶⁵² The proliferation of cement and concrete in postwar construction, in tandem with the expense of installing central cooling in a pre-existing building, raised city temperatures much more than their suburban, exurban, and rural counterparts. This Urban Heat Island effect occurs as a result of the fact that these substances absorb heat more readily and release it slower, they raise the temperature significantly. The infrastructure necessary to support an urban population of one million people raises annual temperatures, on average, by about six degrees Fahrenheit. This built environment also made traditional forms of beating the heat obsolete. Night air cooling, for instance, involved opening a residence to breezes during the evening and then trapping the colder air for the day. Night air cooling, though, requires cool night air; urban heat islands have been known to raise the nighttime temperature by as much as

⁶⁵¹ Ibid., 31.

⁶⁵² For more on white flight in the South, see Kevin M. Kruse, White Flight: Atlanta and the Making of Modern Conservatism (Princeton University Press, 2007).
twenty-two degrees Fahrenheit. Downtown residents came to be at the mercy of heat much more than those with the means to leave the city.

Atlanta offers a telling case study in how AC warmed the South. Atlanta’s rapid population expansion in the postwar period and tremendous rates of white flight make the city an ideal location to study the effects of the Urban Heat Islands. Between 1950 and the turn of the century, the population of the Atlanta metropolitan statistical area increased by 313%, making it the most populated city in the Southeast. This growth came at a costly environmental price. From 1973 to 1997, forested area decreased by 20% and the city lost green space to development at a rate faster than any other city in world history. Over the same period, suburbanization occurred in earnest, doubling between 1973 and 1997. These tremendous shifts made attractive to climatologist who wanted to better understand how the built environment raised surface temperatures and altered the local climate. In 1996, the National Aeronautics and Space Administration (NASA) began funding the ATlanta Land use Analysis: Temperature and Air quality project (project ATLANTA) to determine “Atlanta’s effects on local climate and air quality.” The study confirmed what they suspected: Atlanta experienced massive warming as a result of the aforementioned shifts. They found temperatures up to 5° Celsius warmer (a whopping 41° Fahrenheit) in the city’s downtown. This warming affected wind and

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655 Ibid., 1276.
precipitation patterns, too. Because it wasn’t only hotter, but massively warmer than surrounding areas, the city created a lower pressure system above the city. As warm air drifted upward, cool air rushed into the city, and the vertical motion caused “convective thunderstorms.” For Atlanta, air conditioning warmed the city to the point that it altered the metropolitan regions’ weather.

Atlanta offers proof positive that AC warmed the South, giving lie to Cason’s earlier predictions. In 1935, Cason forecasted that the South would never embrace AC because it would eclipse racial and economic distinctions and remove the distinctive features of society that southerners embraced. On these counts, he was wrong. Over the course of the twentieth century, air condition expanded greatly, becoming an omnipresent feature of American society. But rather than conquer heat, upend social hierarchy, and homogenize the nation, climate control reified ideas about both racial differences and southern distinctiveness. Air conditioning, then, continued the centuries’ long process of allowing heat to separate blacks from whites, and the South from the rest of the nation, by matters of degree.

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656 Ibid.
CHAPTER VIII
CONCLUSION: THE BURDEN OF SOUTHERN HEAT

Despite air conditioning’s ironic and troublesome consequences—raising the temperature of urban spaces, disproportionately subjecting low-income people to the pernicious effects of heat, and emphasizing the relatively high temperatures of the southern United States—the technology certainly dulled the impact of heat, even if it did not wholly tame the climate. Indeed, AC made it possible for Americans on both sides of the Mason-Dixon to appreciate southern heat. High temperatures became more welcoming, more enjoyable when cool comfort was never far away. In no small part as a result of air conditioning’s spread in the second-half of the twentieth century, heat became a positive feature of the southern environment in ways that obscured its contentious past.

That understanding took hold sooner rather than later. As early as 1960, when only twelve percent of US homes could boast AC, its use in theaters, automobiles, and department stores relegated heat itself to a thing of the past.\(^{657}\) Novelist Harper Lee noted as much in her seminal *To Kill a Mockingbird*. Lee, who set the book in 1930s Alabama, used heat as exposition, remarking on high temperatures to signal the fictional town’s distance from the present. “Somehow,” she wrote, “it was hotter then.” Back then, she

wrote, men’s collars dripped with sweat by nine in the morning, dogs lazily dosed on porches, flies swarmed mules, and most everyone took a midday nap to escape the fervent heat. As the narrative unfolds, these quaint reminiscences mingle with other more troubling vestiges of the past. It was hotter, Lee suggests, back when lynch mobs undermined the judicial process, when the myth of the black rapist held considerable sway, and when the effects of Redemption redounded throughout the South. Then, it was hotter. Now, it is cooler. Heat happened; it was no longer happening.658

That understanding began changing in the late 1980s. In the summer of 1988, director of the National Aeronautics and Space Administration’s Institute of Space Studies James Hanson stood before a senate panel and declared that the Earth was warming. That June marked the fifth straight month of record highs, and he explained to Congress that increasing atmospheric pollution caused temperatures to climb to levels hotter than any since standardized recordings began 130 years prior. He explained to the committee that the burning of fossil fuels released greenhouse gases into the atmosphere that trapped solar radiation, reflecting energy back towards the planet instead of allowing it escape. The increased surface and atmospheric temperatures that came as a result, Hanson explained, posed a significant threat to the planet. The New York Times, reporting on Hanson’s testimony, told readers that this warming could “affect life on Earth for centuries to come.”659


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Air conditioning, of course, played a role in the warming Hanson described. In its final ironic twist, the cooling technology contributed to global warming by increasing energy consumption and emitting greenhouses gasses of its own. According to the United States Department of Energy, climate control today accounts for roughly 6% of all electricity produced in the nation, which discharges about 117 million metric tons of carbon dioxide into the atmosphere each year. While the sheer amount of carbon dioxide makes it the primary culprit of climate change, it is not the most robust agent. For most of the twentieth-century, AC used chlorofluorocarbons (CFCs) to produce cool air. This cocktail of synthetic chemicals, released into the air every time someone ran an air conditioner, not only sends heat back earthward with more intensity than carbon dioxide but also stays in the atmosphere much longer. So while most governments and companies have phased out their usage, CFCs continue to trap solar radiation. Air conditioning did not only warm the South. It continues to heat the planet. 660

The United States’ population has begun to increasingly fear heat in new ways as they consider the consequences of a warming globe. Though considerable skepticism originally greeted the news that human activity had a measurable effect on the global climate, in recent decades, most of the US has come to accept that greenhouse gas emissions contribute to rising global temperatures. Yale’s “Six Americas” study, which in 2009 surveyed American attitudes towards climate change, reported that only 7% dismissed the idea that humans could alter the climate outright, and that only another 23% were either skeptical or disinterested. The remaining 70% expressed various levels

of recognition, concern, and alarm about the fate of a warming planet. For the majority of Americans, the idea that heat existed only in the past has become itself a remnant of an earlier time. Heat is no longer something that simply troubled our historical counterparts. It is now a problem for the future.661

As a result, what had long since been a problem for the South now threatens much of the globe. In the last several decades, scientific studies and news outlets have predicted the dire consequences that accompany warming temperatures. The World Health Organization, for instance, warns that climate change will increase illness and lead to renewed outbreaks of mosquito born disease, chief among them malaria and dengue fever.662 The Center for Disease Control adds Lyme Disease and West Nile Virus to the list of illness that will increasingly affect a warming planet.663 Climate Central reports that warming may allow the Zika virus to travel northward.664 The American Psychological Association writes that climate change affects mental health as well. Warming temperatures initiate changes in society that may cause “loss of professional or personal identity.” Similarly, the stress that accompanies worry about a climate change


threatens to weaken the immune system. And they report that studies reveal that higher temperatures can increase “hostility” and “interpersonal and intergroup aggression.”

One cannot help but recall the eighteenth-century belief that southerners, because of the heat, were more given to violence.

Indeed, the idea that the southern experience can inform the national one in the coming decades brings to mind another seminal publication that hit the shelves in 1960. As the previous chapter mentioned, in his *The Burden of Southern History*, C. Vann Woodward interrogated the relationship between the South, the nation, and the world to examine southern distinction during a time of eroding regional identity. But in addition to tracing the consequences of the “bulldozer revolution” he also insisted that the South continued to exist as a land apart because of its distinctly un-American history. Borrowing a phrase from a Faulkner character, he summarized his thesis by offering that, for southerners, the “past was never dead. It’s not even past.” The historical dimensions of a southerner’s consciousness—the knowledge that the South was not “born free” like the rest of America, that it for much of its history it represented a place of poverty within a land of plenty, and even that it continued to have a sense of place in country where identity was increasingly abstracted from the environment—continued to mark contemporary southern society as distinct. That distinction, he went on to argue, bequeathed to the South a unique position within the nation. The irony of southern history lay in the fact that what made it exceptional in the United States actually made it a wholly unremarkable place.

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That typicality could prove instructive. Writing amid nationalist fervor during the Cold War, Woodward argued that American exceptionalism had infiltrated the country’s collective consciousness. Having never known military defeat and convinced of their moral and economic superiority, America had become “isolated…rather dangerously, from the common experience of the rest of mankind.” It fostered in Americans the belief the country would forever prevail, an “illusion of innocence,” which made pragmatic diplomacy impossible and blinded Americans to much of the injustice that still predominated across the nation.666 In an interesting twist, then, what W.J. Cash ascribed to the South in 1941, that “tendency toward unreality, toward romanticism,” Woodward saw in the nation at large by the 1960s.667 The South, though, knew defeat, guilt, and shame. And that burdened southern historians with the obligation of undermining American exceptionalism, using the South to dent that dangerous national myth. The nation could learn something from the South.

Just as Woodward encouraged Americans to look to the South for answers during the Cold War, Americans may do well to look to the South for lessons on how to address a warming globe. Not necessarily by scouring the South’s past for ways to mitigate the material effects of high temperatures, though there are lessons there. Decentralized urban spaces, increased vegetative cover, houses designed to tempt breezes and placed with environmental awareness offer solutions that may help reduce carbon dioxide levels.


667 Cash, The Mind of the South.
More importantly, though, the South offers lessons on how to navigate the debates surrounding climate change. The current politicization and polarization of climate discussion imperils our ability to address this pressing issue. Ideas about climate change are bound up in political agendas and identity politics in ways that impede efforts to generate broad support for any actionable plan. Indeed, for many Americans, attitudes towards climate change represent a kind of political litmus test, with most viewing one’s stance as a signifier of everything from economic ambitions to political affiliations to religious ideologies. Recently, academics have given their attention to this interconnectedness. As climatologist and philosopher of climate and culture Mike Hulme has argued, climate change debates are less disagreements about climate science than contestations of values. He explains that in popular discourse, the relationship between the belief in global warming and the climatological science that empirically asserts its existence becomes severed. To talk about climate change is not, then, to disagree about the merits of modeling or whether climbing temperatures are “natural” or “human-induced” but rather it is to invite clashes between a wider bodies of principles in which climate change is inextricably embroiled.\footnote{668}{Mike Hulme, \textit{Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity}, 4th Edition edition (Cambridge, UK ; New York: Cambridge University Press, 2009).}

For historians of the southern climate, such observations are hardly revelatory. As this dissertation has argued, a survey of southern heat reveals that these entanglements are not of recent invention, products only of contemporary climate change debates. For the whole of American history, discussions of climate have intersected political,
economic, social, racial, religious, and cultural concerns. The southern historian knows all too well climate’s ability to cleave. Its students need no reminding that disagreements about climate are, in reality, proxy debates about society, culture, politics, and economics. Historians who take seriously climate’s role in southern history know the consequences of such discussion and as a result prove well-equipped to disarm the conversation such that it no longer impedes efforts to address climate change. An appreciation of how climate functioned to separate southerners by matters of degree illustrates that the physicality and materiality of climate fundamentally matters. It shapes humans’ limits and opportunities, and heat can threaten human health and place physiological stress on the human frame. But equally important are the consequences of ideological considerations that obfuscate these material realities. Rather than argue for or against climatic distinction, this dissertation has attempted to prove that the mere idea of distinction had tremendous effects for southern history in ways that had an impact on the southern environment and southern bodies. Only by laying bare the ideological agendas that underpin contemporary discussions of climate change can we begin to properly frame the debate as one of values and cease using arguments about the nature of climate science as a smokescreen to conceal ulterior ambitions.
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