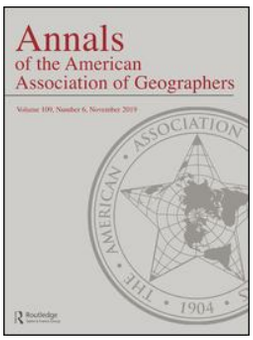

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An Arkansas Parable for the Anthropocene

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The claimed rediscovery of North America's rarest bird, the ivory-billed woodpecker, in the early 2000s, was one of the most high-profile events in global ornithological history. The reappearance of the bird in a remote locality in eastern Arkansas seemed to vindicate belief in the innate resilience and adaptability of nature, yet within a few months the claims became shrouded in doubt and uncertainty. This article argues that the reasons for the bird's likely extinction in the early 1940s go beyond the usual parameters of conservation biology to include the violent impetus toward nature unleashed by settler colonialism and the plantation system. The changing ecologies of the Delta are explored through a dialogue between critical landscape studies and emerging perspectives on race, masculinity, and violence that have been extensively occluded under the burgeoning interdisciplinary fascination with the Anthropocene. I conclude that the story of the ivory-billed woodpecker gives credence to a modified reading of the Plantationocene as an alternative conceptual framing for global environmental change. *Key Words: Anthropocene, ivory-billed woodpecker, Mississippi Delta, Plantationocene, political ecology.*

> Sixty-two years since the last sighting,
> ornithologists say they've spotted one
> somewhere along the lip of the White River,
> its pale beak, red crest, black and white feathered tuxedo,
> the last of the ivory-billed woodpeckers.
>
> —Danusha Laméris[1]

> For, in the end, it is in the relationship that we maintain with the totality of the living world that the truth of who we are is made visible.
>
> —Achille Mbembe[2]

It is a warm morning bathed in April sunshine. I am standing in the Dagmar State Wildlife Management Area, some sixty miles east of Little Rock, Arkansas, located in one of the last remaining fragments of the vast swamp forests that once filled the Mississippi River Delta from southern Missouri to the coast of Louisiana (Figure 1). The site lies near the claimed rediscovery of North America's rarest and arguably most charismatic bird, the ivory-billed woodpecker, *Campephilus principalis*, a species that has not been definitively seen in North America since 1944. The public announcement of the bird's reappearance by the Cornell Lab of Ornithology in 2005 attracted global media attention as a story of "ecological hope." Conservationists wondered whether this species might join a small list of spectacular returns such as the appearance of the black-hooded antwren, *Formicivora erythronotos*, in Brazil, after an absence of more than a century. For a brief period, the possible comeback of the ivory-billed woodpecker in eastern Arkansas served as a symbol of ecological resilience in the face of the looming threat of what has been widely referred to as the sixth mass extinction. Over subsequent years, however, the story of this bird has gradually shifted from a sense of excited expectation toward one of doubt, uncertainty, and even scientific recrimination. A reexamination of the loss of the ivory-billed woodpecker begins to open up a set of questions that lie beyond the more familiar terrain of conservation biology. In this article I am interested in exploring the cultural and political resonance of the disappearance of this bird as part of a wider reflection on occluded dimensions to race, masculinity, and violence under the putative shift towards the Anthropocene.

I invoke the term Anthropocene here as more than a matter of alliterative poetics but as an entry point into reflections on the intersection between different cultural and ecological temporalities. The Orbis Spike proposal from within the geophysical

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Figure 1. Dagmar State Wildlife Management Area, Arkansas (2018). Photo by Matthew Gandy.

sciences for the year 1610 as the synchronous starting point for a human-dominated geological epoch resonates with a renewed emphasis on colonialism, the rise of the plantation system, and European expansion into the New World as a more convincing transitional moment for global environmental change than the rival scientific focus on a range of mid-twentieth-century geological markers.[3] This earlier chronology presents a better account not just of the rise of global capital—and its accompanying structural and topographic forms—but also of the close imbrications between race, violence, and the reorganization of life under the expanding frontier of European modernity. The gradual "unmooring" of the Anthropocene debate from the geophysical sciences presents an opportunity to take the constituent historical elements within global environmental change more seriously and at the same time elucidate a more nuanced account of the relationship between causes and outcomes. The productive tension between alternative terms, and in particular the recent interest in the Plantationocene, is especially apposite for a closer engagement with the environmental transformations of the Delta.

Let us now return to the Dagmar State Wildlife Management Area. The sound of birds and rustling leaves is accompanied by the constant rumble of trucks along the highway connecting Little Rock to Memphis. The well-trodden trails, with their discarded bullet casings scattered in the bushes, emphasize with every step that this entire landscape is an elaborate cultural artefact that resides both in the human imagination and in the multiple material entanglements of the space itself. A park sign in front of me helpfully displays the diagnostic differences between the ivory-billed woodpecker, and the similar yet widespread pileated woodpecker, *Dryocopus pileatus*. After walking a few minutes, I am surrounded by towering cypress trees that constitute remnants of the old growth forests that once filled the Delta. The immense trunks jutting out of the muddy water contain numerous cavities that I imagine might once have housed ivory-billed woodpeckers but have long since been taken over by barred owls, raccoons, and other animals. The remaining

swamp forests of the Delta are no longer any kind of wilderness, if indeed this term was ever a satisfactory signifier, in the paradoxical sense of a cultural landscape that is somehow devoid of human impact. Before the arrival of Europeans in the seventeenth century there had been an extensive network of Indigenous agricultural practices throughout much of the bottomland forests for corn, beans, squash, tobacco, and other crops.[4] The European term *wilderness* is peculiarly unsuited to the intricate cultural landscapes of the Delta. If we displace Eurocentric variants of landscape legibility, including existing classificatory schema and associated ecological imaginaries, then what hidden elements might come into view?

The article begins by exploring the circumstances surrounding the claimed rediscovery of the ivory-billed woodpecker. I reflect on the significance of absence as a kind of ornithological haunting that illuminates some of the tensions woven into the spectral ecologies of the Anthropocene. I then turn to the underlying dynamics of landscape change in the Delta driven by the rise of the plantation system, timber extraction, and intensified efforts at land reclamation. I suggest, however, that more specific forms of violence against nature, namely hunting, were ultimately responsible for the demise of the ivory-billed woodpecker rather than habitat destruction. In the third part of the article, I delineate an ecological counter imaginary for the Delta interior in which the bird would have persisted into the modern era alongside alternative cultures of nature such as marronage, which represented the material and symbolic antithesis to the plantation system. Finally, I develop an alternative reading of landscape change in the Delta that brings questions of race and masculinity into closer dialogue with radical environmental discourse.

False Positives

In April 2005 a public announcement was made by the world-leading Cornell Lab of Ornithology that the ivory-billed woodpecker had been rediscovered in swamp forests near the town of Brinkley in eastern Arkansas. The declaration was accompanied by a peer-reviewed scientific paper in *Science* as well as excited newspaper headlines in the *New York Times* and the *Wall Street Journal*. An editorial in the *New York Times* exclaimed that "the ivory-billed woodpecker is a living monument to the stubbornness of all creatures that refuse to be erased." The story presented an enthralling vision of nature for the twenty-first century that tapped into a deeper sense of reconnection with the lost world of early naturalists such as John James Audubon and the "doomed wilderness" of William Faulkner (see Figure 2).[5] As this article shows, however, both the bird's claimed presence and its associated ecological imaginaries represent a distorted account of environmental change. The ornithological literature is framed by a contrast between "pristine" and "modern" landscapes that belies a certain blindness to the brutalities, complexities, and delineations of human and nonhuman histories alike.

The claim for the bird's rediscovery, after an intensive year-long search, was based on a brief sequence of poor-quality video footage that nonetheless provoked a giddy reaction from much of the ornithological community.[6] Shortly afterwards, the federal government announced that some $10 million would be made available for the study and protection of the ivory-billed woodpecker. Dozens of volunteers joined the search for further birds, combined with the use of motion-activated cameras and other recording devices. The announcement of the bird's rediscovery had been quickly seized on by the Bush administration, along with state agencies such as the Nature Conservancy in Arkansas, as a vindication for their "cooperative conservation" strategy developed in partnership with private organizations (see Gorman and Revkin 2005).

Almost immediately, however, skeptical voices were raised. A response to the original paper, also published in *Science*, cast doubt on the veracity of the public announcement and concluded that "verifiable evidence" was lacking (Sibley 2006, 1555a). The ornithologist David Sibley suggested that the Cornell team, led by John W. Fitzpatrick, had based their claim on "false positives" derived from an intense combination of hope and expectation (see Sibley 2007). By the mid-2000s the status of the ivory-billed woodpecker had become embroiled in the institutional politics of ornithology amid a welter of claims and counterclaims. The Cornell team published a response to the Sibley critique, also based on an elaborate frame-by-frame analysis of the original blurred video sequence, using the experimental reconstruction of wing angles in flight, along with supplementary acoustic evidence

Figure 2. Ivory-billed woodpecker (*Campephilus principalis*) depicted in John James Audubon's *Birds of America*, printed between 1827 and 1838.

derived from more than 17,000 hours of material gathered from autonomous recording units located at 153 sites across the region (Fitzpatrick 2006). A further round of exchanges in *Science* and other journals failed to reach a definitive conclusion with a gradual drift of professional ornithologists toward the skeptical camp. Above all, as Sibley and others have pointed out, the surge in search efforts, both human and technologically enhanced, since the Cornell Lab's original announcement in 2005, has yet to produce a single definitive sighting of the bird. Over time, therefore, the original skepticism has steadily gained credence.

Despite these controversies, however, the federal Fish and Wildlife Service announced in 2008 that a further $27 million would be made available to assist with the bird's recovery, a sum equivalent to about 5 percent of the entire budget for the Endangered Species Program (see Hitt 2012). The diversion of limited resources away from other vulnerable species that are known to exist has generated tensions between rival ornithological camps. Tellingly, the Cornell Lab's woodpecker research program is now increasingly aimed elsewhere, to the less studied mountainous regions of Cuba, where a subspecies of the ivory-billed woodpecker was last seen in the 1980s, and most recently to Mexico, where the closely related imperial woodpecker, *Campephilus imperialis*, was last recorded in the Sierra Madre Occidental mountain range in 1956 (see Snyder, Brown, and Clark 2009).

Claims for the ivory-billed woodpecker's continuing presence in Arkansas and elsewhere have drawn on two arguments in particular. A first contention is that the bird has changed its behavior in the face of human encroachment: in the past it was evidently easy prey for hunters owing to its large size, distinctive call, and in the case of pairs, the propensity for living birds to remain near to their slaughtered mates. "Inherent in the biology of the ivory bill is its wariness of humans," avers biologist Jerome A. Jackson (2004), "—perhaps a trait selected for by hunting pressure from those who would eat it, or collect it for its bill or plumage, for profit or for science" (237). Jackson presents us with a form of "speculative ethology" based on the supposition that the bird has changed its behavior to avoid people and now adopts a largely skulking and silent habit. A second argument is that scientific discourse has systematically downplayed the veracity of grassroots knowledge. It is suggested that "metropolitan skeptics," including professional ornithologists, have chosen to ignore local claims that the bird still exists. The geographer Michael K. Steinberg (2008a), for instance, makes an appeal to "southern honour" to bolster the credibility of recent sightings of the bird by hunters and others. Steinberg (2008b) makes a distinction between "southerners and nonsoutherners" that pitches local knowledge against outside elites including the Audubon Society, the professional ornithological community, and conservation officials (Steinberg 2008b, 3). Yet as the literary critic Thadious M. Davis shows, the very term "southerners," or at least a putative regionalist sensibility, appears detached from any kind of "racial designation," so that the categories of race and region become analytically displaced from one another (T. M. Davis 1988, 4). Steinberg's insistence on the continuing presence of the bird is thus mired in the sense of a forlorn encounter with a scornful outside world. This implicitly race-based appeal to a form of "epistemological valour" echoes early twentieth-century ornithological discourse and its differentiation between "good" and "bad" forms of hunting, along with specific manifestations of masculinity in the swamp forests of the New South. Indeed, the bird has been incorporated into a kind of morbid ecological imaginary, even depicted alongside symbols of white supremacy as part of the cultural iconography of the Old South.[7]

Another problematic trope associated with the ivory-billed woodpecker is that of the "ghost bird" whereby the Delta landscape becomes shrouded in a kind of ornithological haunting driven by the intense desire of both amateur enthusiasts and professional scientists to catch a glimpse of the bird.[8] In the sociological formulation of Avery Gordon ([1997] 2008) the idea of haunting is connected with the persistence of an unresolved or problematic past within the present: it is an irksome reminder of complicity that refuses to allow a sense of individual or collective closure. Yet the deployment of various "hauntologies" sits uneasily with the kind of violent erasures associated with settler colonialism (see Cameron 2008, 384). A "spectrogeographical lens," to use Cameron's formulation, does not necessarily illuminate past events or acknowledge the ideological framing of the present. From this perspective we can characterize the presence of ornithological ghosts as a form of "collective haunting," in keeping with Maurice Halbwachs's insights into collective memory, whereby the phenomenon of shared

spectrality serves the cultural needs of the present. If we follow Cameron and ask who is being haunted by the absence of the ivory-billed woodpecker, then it is primarily the tired ornithologists in their waders and canoes, batting away mosquitoes, and hoping against hope to make a famous sighting. This is not a sociological haunting à la Gordon that might connect with a richer history of the Delta, and the racial formations underlying the erasure of nature, but rather a masculinist trope of experiencing the landscape "as if for the first time" under the aesthetic chimera of European adventursim (see Pratt 1992; Zantopp 1997). Ornithology, like other branches of the natural sciences, has displayed a form of what Saidiya Hartman (2002, 771) terms "extreme discretion" in terms of how its own historiographies handle the question of race and the brutal legacies of slavery in particular. Without slavery, after all, the modern science of taxonomy, to which natural history and biodiversity discourse is intimately related, would never have evolved in the way that it did (see, for example, Iannini 2012). A more nuanced kind of "spectral attunement," that looks beyond a cultural disavowal of extinction, might begin to elucidate the palimpsest of violence that has been etched into the landscape.

The story of the ivory-billed woodpecker exemplifies the degree to which research into biodiversity loss is a culturally and politically inflected practice characterized by the dual role of scientists as highly motivated human subjects and "dispassionate" investigators of the natural world. The complexities of nature conservation illuminate tensions between different variants of truth—legal, vernacular, and scientific—and the circumstances or temporalities under which different types of knowledge claims can be sustained (see Lakoff 2016). A narrow focus on the conservation status of the bird, and the adjudication of whether it is present or not, occludes larger questions concerning the cause of its disappearance. Given that the bird is likely to have disappeared from eastern Arkansas around the year 1915, I want to turn now to a closer consideration of the developments that led to its extirpation from the Delta and elsewhere.

Logics of Annihilation

The history of the Delta can be divided into a sequence of "plantation regimes" built on changing intersections between race, power, and capital, within which the rise of the Bourbon plantocracy, and the shift from fur trading to cotton and rice, set in train a logic of destruction for the swamp forests. The postreconstruction era after 1875 involved a brutal intensification of white supremacy across the region marked by draconian forms of agricultural peonage, the increasing use of convict labor for land drainage works, and the tightening of white control over the state apparatus at every level (see Woods [1998] 2017). Furthermore, powerful landowners promulgated a form of regional exceptionalism that sought to naturalize racial hierarchies within the Delta landscapes as part of a wider cultural and political discourse of "southern distinctiveness" to be defended from outside threats or criticism (see Giesen 2009, 698; see also Stewart 2002). During the 1890s the increased flow of northern capital into the region led to a marked expansion in timber extraction (see Curry 1960). The impetus towards "drainage reclamation" connected lumber companies with "plantation interests, railroad corporations, and land speculators" who could draw on a ready supply of cheap labor (Harrison and Kollmorgen 1948, 25). An emerging nexus of interests sought to rapidly convert the remaining swamp forests of the Delta into "an agricultural empire" that evoked the alternate geopolitical ambitions of the Old South.

The final disappearance of the ivory-billed woodpecker from North America in the mid-1940s, most likely from Florida or Louisiana, coincides with an accelerated phase of timber extraction driven by rising prices and war-time exigencies (Figures 3 and 4). This moment of transition to postwar prosperity has been termed the Great Acceleration as a widely deployed geohistorical marker for the Anthropocene. More apposite, however, is an alternative genealogy for the Anthropocene that can be traced back to the devastating impact of what the Jamaican cultural theorist Sylvia Wynter terms the "1492 event" and the expansion of European capitalism. Wynter (1995) seeks to unsettle the existing "system of symbolic representations" (9) through a radical synthesis of cultural and ecological insights into the pattern and meaning of global environmental change including new constructions of racial difference. She showed how the elevated significance of a canonized date obscures intersections between different modes of understanding. In this sense the Anthropocene, as a date-oriented discourse, marks an elaboration of

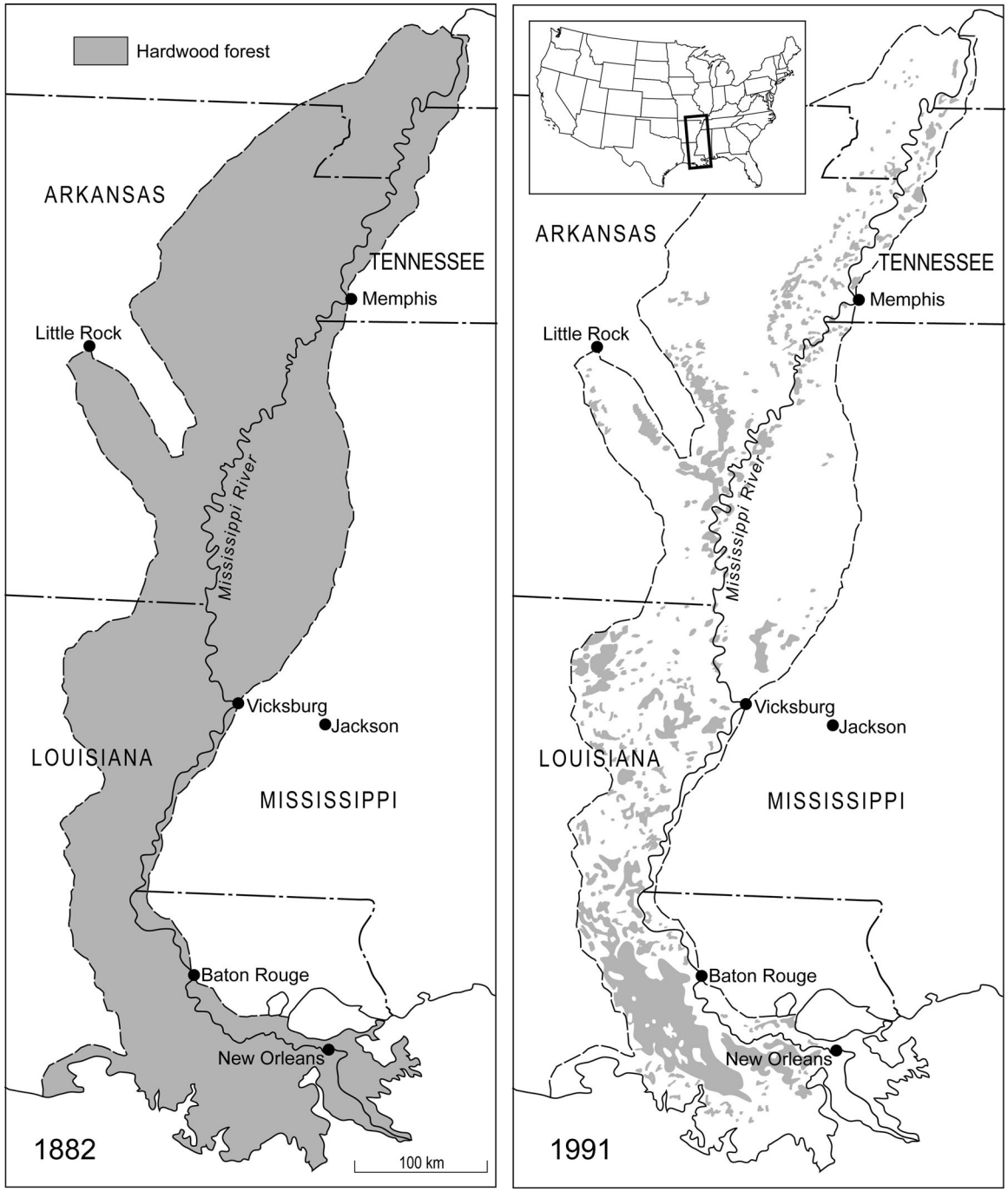

Figure 3. The decline in bottomland hardwood forests in the Mississippi Delta, 1882 to 1991. Adapted from various sources including Llewellyn et al. (1996). Cartography by Philip Stickler.

existing hierarchies of scientific knowledge and human worth, and not a significant conceptual or cognitive departure from what Wynter (1995, 50) terms "conventional reason." Any attempt to impose a singular "starting point" on the Anthropocene is indicative of a form of epistemological reductionism that remains trapped within the strictures of a Eurocentric worldview (see Saldanha 2020). In the case of the U.S. Southeast, genocide, exile, and epidemiological devastation saw an original population of over 1 million in 1492 reduced to around 200,000 within 200 years (see Key 2000). The Orbis Spike thesis, as elaborated by Lewis and Maslin (2015), identifies vegetation change produced by agricultural abandonment in the wake of European arrival in the Americas, as the driving factor behind a global dip

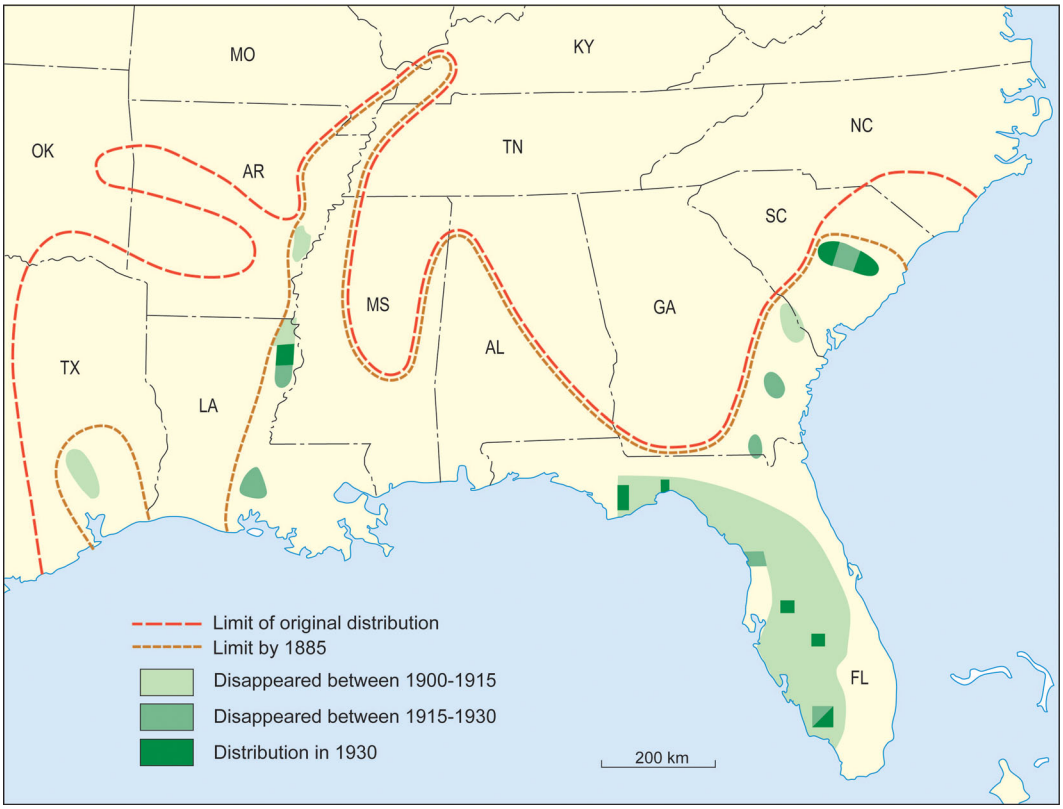

Figure 4. The declining range of the ivory-billed woodpecker. Adapted from various sources including Tanner (1942) and Snyder, Brown, and Clark (2009). Cartography by Philip Stickler.

in atmospheric concentrations of carbon dioxide. Though Lewis and Maslin make clear that the devastating impact of European contact with the New World provides the historical background to their thesis, their intended audience is the geosciences and the quest to establish an alternative starting point for the Anthropocene.[9] If we put the concern with a putative "golden spike" to one side, however, and shift our attention to the more interesting question of how to account for patterns of global environmental change, then this alternative thesis within the geosciences opens up the possibility for a different kind of interdisciplinary dialogue in which questions of race and the persistence of Eurocentric epistemologies play a much more significant role.

From the eighteenth century onwards, the increased European trade in deerskins and other animal products "led to an unprecedented slaughter of wildlife" (Woods [1998] 2017, 42). A cultural ecology of natural abundance was rapidly and systematically destroyed amid what early observers such as the Swedish botanist and traveler Pehr Kalm (1716–1779) termed an "equal carelessness" toward nature under settler colonialism (cited in Cronon 1983, 168). An indication of the profligacy of violence toward nature under the apparent order of modernity is provided by the reported use of bear oil for street lighting in eighteenth-century New Orleans (see Whayne 2013).[10] It is against this background of limitless destruction that the extinction of the ivory-billed woodpecker was fully anticipated by many of its earliest European observers.

One of the last confirmed populations of the ivory-billed woodpecker persisting into the twentieth century was recorded from the so-called Singer Tract in northeastern Louisiana, which constituted "the last remaining large stand, of the primeval forest that once covered all the bottomlands of the Mississippi Delta" (Tanner 1942, 90). In 1916, the Singer Sewing Company had acquired the 81,000-acre fragment of the original swamp forests and then sold the logging rights to the Tendall Lumber Company and the Chicago Mill and Lumber Company (Tanner 1942, 90). The Chicago connection is illuminating in terms of the wider financial dynamics of accelerated environmental destruction in the Delta, connecting with fluctuations in

commodity markets and the role of the city itself as a capitalist leitmotif for trading in agricultural futures (see Cronon 1991). During the 1930s the price of timber derived from cypress and other prized hardwoods rose rapidly, which increased the economic value of the site, and further stymied efforts to negotiate its protection (Tanner 1942). In an early failure for the U.S. conservation movement, the Singer Tract was "cut over" in the early 1940s despite appeals by four state governors and the Audubon Society to set up a protected area. The case of the Singer Tract marks the emergence of conservation efforts geared toward the acquisition of privately owned sites to prevent their destruction. Writing in 1942, for example, the Cornell-based ornithologist Arthur A. Allen declared that the remaining "virgin forest must be set aside as a sanctuary and intelligent management practices applied." "It is," added Allen, "worth whatever we must pay to preserve it before it is too late" (cited in Tanner 1942, IV).

The cause of the ivory-billed woodpecker's extirpation has been widely assumed to be the destruction of the Delta swamp forests—a perception emboldened by the desperate efforts to prevent the loss of one of the bird's last confirmed redoubts in the Singer Tract. Yet the environmental history of the Delta suggests a more nuanced and complex set of developments: the destruction of the forests was certainly deleterious to the bird's survival, leaving only a handful of isolated populations by the early twentieth century, but it was the opening up of the "inland empire" through timber extraction and improved transport connections that facilitated the decisive factor in the bird's demise: the hunting of birds for sport or commercial gain.

Interestingly, James Tanner, the young ornithologist who undertook the most detailed field study of the ivory-billed woodpecker ever undertaken in the late 1930s, predicted the bird's inevitable extinction.[11] The work of Tanner exemplified the shift in priorities within the ornithological sciences from hunting and collecting towards the study of living birds in situ. Although Tanner was clearly worried by the clear felling of old growth forests, he specifically identified the threat of hunters:

> Experience in the Singer Tract has shown that *all* hunters should be barred. The seemingly innate desire of most hunters to kill and examine a spectacular bird is a constant threat. (Tanner 1942, 97, emphasis in original)

But Tanner also recognized the practical implications of any complete ban on hunting in protected areas:

> Laws prohibiting hunting on a refuge are not enough; it must be protected by good wardens who are willing to work persistently at the arduous, often thankless, and sometimes dangerous job of keeping out poachers. (Tanner 1942, 97)

Tanner's research project was financed by the Audubon Society after it had undergone a shift in priorities toward more scientifically informed forms of conservation. New members of the Audubon board from the 1920s onwards included the influential environmentalist Aldo Leopold, who enthusiastically supported a focus on "a bird inextricably woven with our pioneer tradition—the very spirit of that 'dark and bloody ground' which has become the locus of national culture" (cited in Barrow 2009, 279). Leopold's juxtaposition of blood with violently seized land connects with the ecological imaginary of white settlerism, yet it paradoxically affirms a neo-romanticist yearning for an "unpeopled" wilderness. The early conservation efforts for the ivory-billed woodpecker were thus steeped in the articulation of a white nationalist myth (see Heise 2016).

Although the ivory-billed woodpecker had always been vulnerable to hunting, the intensity of depredations never presented a direct threat to the survival of the species until the late nineteenth century. There is evidence for a flourishing trade in ivory-billed woodpeckers long before the English naturalist and illustrator Mark Catesby (1683–1749) first sketched this species during his travels through Carolina, Florida, and elsewhere in the early 1730s. Catesby (1731) noted that:

> The Northern Indians having none of these Birds in their cold country, purchase them of the Southern People at the price of two, and sometimes three Buckskins a Bill. (31)

Similarly, the Saint-Domingue (now Haiti) born naturalist John James Audubon (1785–1851), writing in the early 1830s, described seeing "entire belts of Indian chiefs [sic] closely ornamented with the tufts and bills of this species" and of passengers on steamboats "very apt to pay a quarter of a dollar for two or three heads of this Woodpecker" (Audubon 1831, 343). By the early twentieth century one bird was worth $1,000 (equivalent to over $14,000 today) and even if the woodpecker had clung on in a few

localities after the 1940s, the threat to any remaining populations could only have risen further in spite of nascent conservation efforts (see A. A. Allen and Kellogg 1937).

The origins of U.S. ornithology emerged in tandem with excursions into the little-known "western interior," and especially the swamp forests of the Delta. The activities of Alexander Wilson (1766–1813), widely regarded as the founder of U.S. ornithology, involved a combination of hunting, specimen acquisition, and scientific reconnaissance. His modus operandi comprised a mix of random slaughter along with field observations set amid "the everyday violence of territorial appropriation" (see Rigal 1996, 257). Wilson was also familiar with the ivory-billed woodpecker, providing detailed descriptions of the bird, yet he already regarded the species as doomed, along with the First Nations people he encountered wearing its bills and feathers.

Hunting and ornithology evolved in tandem during the nineteenth century with an emphasis on the killing of birds for collections, taxidermy, and at a later stage for the sale of feathers used in hat making (see Barrow 1998). Writing in 1886, the first president of the American Ornithologists' Union, Joel Asaph Allen (1838–1921), decried the growing popularity of hunting and the "disgraceful greed for slaughter" that he blamed on various categories of people, including consumers of feathers for fashion, "the newly arrived 'foreign-born citizen,' who, to demonstrate to himself that he has really reached the 'land of the free,' equips himself with a cheap shot-gun, some bird-traps, clap-nets, or drugged grain," and "colored people" selling birds as a source of food at "southern markets," yet a photograph from 1890 shows the cofounder of the American Ornithologists' Union and first president of the Massachusetts Audubon Society, William Brewster (1851–1919), after a hunting spree posing with his quarry: an ivory-billed woodpecker (J. A. Allen 1886, 191, 193).

The increasing intensity of hunting in the nineteenth century reflects the shifting contours of violence, masculinity, and the cultural reframing of the American "wild." Cultural histories of hunting show how violence against nature can promote political kinship and intimidate adversaries (see Beaver 2008). Increased gun production during the Civil War, in combination with postwar economic upheaval, led to a much wider circulation of weapons (Proctor 2002). Furthermore, improvements in gun design steadily expanded the technological scope for the extirpation of nature (see Stone 1972). Hunting became a convenient pretext to allow roaming groups of white men with guns to assert their power and became a pivotal element in the articulation of degraded and violent forms of white masculinity (see, for example, Bederman 2008). Throughout the reconstruction era and after, African Americans were still being "hunted through the swamps," in the words of Ida B. Wells, as an emboldened reign of race-based terror was instituted across the New South (Wells [1892] 2014, 59). Additionally, paramilitary organizations could be disguised as sports clubs to evade federal control and these collective practices of hunting served to foster a form of "white nostalgia" for the Old South (see Proctor 2002, 170). There were also systematic attempts to restrict opportunities for lone Black hunters through the need for hunting licenses, the extension of land enclosures, and a slew of new pass and curfew regulations (see Barkley Brown 1994; Proctor 2002). The introduction of greater controls over hunting also stemmed from a desire to restrict the economic autonomy of freed slaves to ensure minimal disruption to the labor supply for the plantation system (see Hahn 1982). The tightening embrace of land ownership with hunting rights was thus simultaneously an effort to preserve the existing social and racial hierarchy within a capitalist landscape marked by new extractive frontiers for timber and agricultural commodities. The intersections between hunting and masculinity have long served to spectacularize both male power and social and racial hierarchies within a given landscape. From the postreconstruction era onwards there was a gradual shift from various forms of subsistence "pot hunting" towards the systematic enclosure of the remaining "wild spaces" as the underlying dynamics of modern hunting became more explicitly gendered through the reaffirmation of group identities.[12] The historian Stuart A. Marks (1991), for example, in his study of Southern hunting cultures, describes an exaggerated form of masculinity evolving in relation to the progressive marginalization of rural livelihoods and the decline of the plantation system.

Ecological Counterimaginaries

For many conservationists, the ivory-billed woodpecker evokes a premodern ecological imaginary that

is paradoxically framed through the encounters of white settlers and explorers. Consider, for example, the vanished ornithological world of Audubon, who not only produced an iconic illustration of the bird but also wrote vivid descriptions of its haunts in the swamp forests of the American interior. "I have visited the favourite resort of the Ivory-Billed Woodpecker," wrote Audubon, "those deep morasses overshadowed by millions of gigantic, dark, moss-covered cypresses which seem to admonish intruding man to pause and reflect on the many difficulties ahead" (Audubon 1831, 342). If a visitor "persists in venturing farther into these almost inaccessible recesses," continued Audubon, "he must follow for miles a tangle of massive trunks of fallen, decaying trees, huge projecting branches, and thousands of creeping and twining plants of numberless species!" For Audubon, the swamp forests were exhilarating and terrifying in equal measure, a place where the human ear "is assailed by the dismal croaking of innumerable frogs, or the hissing of serpents, or the bellowing of alligators!"

> Would that I could give you an idea of the sultry, pestiferous atmosphere that nearly suffocates the intruder during the noon-day heat of the dog-days in those gloomy and horrible swamps! (342)

Landscape architect and social commentator Fredrick Law Olmsted (1822–1903), writing in the early 1850s, similarly evoked this twin register of wonder and dread in his description of the swamp forests of the Old South, where "vines and creepers of various kinds grew to the tops of the tallest trees," yet he also noted the cultural significance of these impenetrable landscapes as a precarious haven for runaway slaves (Olmsted [1856] 1904 v. 2, 8). "There were people in the swamps still," noted Olmsted, "that were the children of runaways, and who had been runaways themselves all their lives" (Olmsted [1856] 1904 v. 1, 177). What Olmsted is describing here is the historically neglected phenomenon of marronage, and the presence of autonomous and sometimes multigenerational communities living in the most inaccessible parts of the southern swamps.

A new history of marronage in the swamp forests is now emerging that emphasizes a diversity of settlement types and living arrangements. It is worth recalling that the word *maroon* has its origins in the Spanish *cimarrón*, referring to escaped or feral animals, but the term acquired its insurrectionary connotations in relation to the plantation systems of the New World (see Malm 2018). Earlier temporal distinctions between "petit" and "grand" forms, drawing heavily on the Latin American and Caribbean experience, have been supplemented by a geographical emphasis on "borderland" and "hinterland," with the former involving a more porous interaction with proximate elements of the plantation system and existing social networks (see Diouf 2014). Not only did these alternate social forms often build complex alliances across cultural and racial categories, but they also produced a welter of new socioecological interactions involving foraging, fishing, trapping, and small-scale cultivation (see also Nelson 2009; Sayers 2014; Bledsoe 2017; Wright 2020). The contours of a "marronage ecology," emerging within what Willie Jamaal Wright (2020, 1135) terms a "defiant environment," served as a refuge for human and nonhuman nature alike, lying beyond the reach of the plantation system. For Andreas Malm (2018, 9), the idea of noncapitalist nature can be framed as one of "subaltern wilderness," or perhaps more precisely, a degree of "relative wilderness," as a counterhegemonic kind of cultural and political formation to the reactionary understanding of "wilderness" that has been venerated within the European ecological imagination (see also Robinson [1983] 2020). In contrast to the enforced placelessness and cultural erasure of the plantation system, the parallel phenomenon of marronage enabled the articulation of what Katherine McKittrick (2011, 949) terms a "black sense of place" replete with alternative cartographic and ecological imaginaries. Building on McKittrick's insights, we can delineate forms of sociospatial intersectionality with remnants of Indigenous culture that persisted within the *ferae naturae* of the settler elite's worldview.[13] The presence of these racialized "spaces of absolute otherness" (McKittrick 2011, 954) represented both a noncapitalist borderland and also a focal point of resistance to the plantation system. We might also draw on Stuart Hall's (2003, 186) definition of cultural creolization emerging from the "forced transculturation" of the slave-based plantation system as the starting point for the delineation of a geographically distinct form of "ecological creolization" stemming from the impact of European globalization from the late fifteenth century onwards.

The people that lived in the more inaccessible swamp forests would have constituted a historically

specific kind of cultural ecology, a set of socioecological constellations emerging from, yet at the same time unsettling, the racial demarcations of capitalist modernity, within which the ivory-billed woodpecker was a constituent element. Known as the Lord God Bird in vernacular African American folklore, the bird would have been a distinctive if not familiar sight in the gloomy interior of the bottomland forests. Furthermore, these alternate cultural landscapes present a counternarrative to totalizing conceptualizations of the toiling Black body as framed within the confines of liberal humanism. By looking beyond labor as the overriding analytical focus of the plantation system, other ecological dimensions to settler colonialism come into view (see King 2016, 2018). Indeed, the conceptual apparatus of "settler colonialism" itself has become a field of wider contestation (see Rowe and Tuck 2017; King 2019). By elaborating on the concept of Black fungibility we can delineate alternate other-than-human constellations within the Delta interior that would have coexisted with more familiar manifestations of the plantation landscape.

In the words of King (2016), an expanded conception of the Black corporeal presence in the landscape "enables at least a momentary reflection upon the other kinds of (and often forgotten) relationships that Black bodies have to plants, objects, and nonhuman life forms" (1023). In the final year of her life, for instance, Phillis Wheatley (1753–1784), who had been born in West Africa, published "An Elegy on Leaving," which remains one of the few examples of African American nature poetry surviving from the antebellum era. Writing partly from memory and partly from imagination, Wheatley evokes a vibrant American landscape with oaks, pines, and birdsong beneath "the fervid sky" (Wheatley [1784] 1989, 178). We can discern a distinctive set of Black ecologies that serves as a material and symbolic counterpart to the kind of ontologies of race, place, and countermodern sensibilities elaborated by King, McKittrick, and other scholars.

The southern swamps represent a disordered other to the authoritarian landscapes of control under the Bourbon plantocracy (see Cowan 2005). More specifically, the space of the plantation is connected with a series of other landscape formations. In this sense the maze-like swamp forests of the Delta, with their Black cultural ecologies, require a radical elaboration to the critical landscape tradition articulated by Raymond Williams and other neo-Marxian scholars. Parcels of the English countryside were being refashioned in the eighteenth century to produce a series of "pleasing prospects," yet these new vistas rested on "systems of exploitation" that extended from impoverished agricultural labor in the surrounding fields to coercive regimes of control in more distant plantations (see Williams 1973, 124). It is the question of control over land, through a racialized hierarchy of human bodies, that binds disparate locales into a nexus of cultural and material relations (see Bhandar 2018). Clearly, the question of race has been undertheorized within critical landscape studies, marking part of a wider set of limitations in applying neo-Marxian theory to the novel socioecological formations that emerged in parallel with the existing plantation system (see McKittrick 2011; Wright 2020; Bledsoe 2021). The analytical significance of the plantation has recently been revisited via the introduction of the term Plantationocene in opposition to the implied epistemological universality of the Anthropocene. The idea of the Plantationocene, as elaborated by Wendy Wolford (2021), also highlights certain limitations to the related term Capitalocene for being too recent, too Eurocentric, too abstract, and too cursory in its engagement with questions of race (see also Saldanha 2020). For Wolford (2021), there remains a degree of conceptual disjuncture between different scales and temporalities of extraction and dispossession as we oscillate between the originary logic of the New World plantation system and the multiple modalities and race-based social formations of the contemporary Plantationocene.

Under settler control the Delta was transformed into a violent malarial landscape marked by a liminal zone of cabins, quarters, and ramshackle dwellings that separated the plantation from the swamp forests beyond. These landscapes of transition include specific elements of hydrology, topography, and vegetation that marked out the limits to white authority. For the poet Michael S. Harper, the "canebrake"—a kind of dense bamboo thicket adjacent to water courses —served as a space of delineation between "who is human and who is not" (cited in T. M. Davis 2003, 260).[14] Rather than a bifurcated representation of the plantation system and its disordered other, we are better served by a relational conception of landscape formations that emerges

across different scales and temporalities. This tangle of iterative connections, which operates on both the material and symbolic level, contrasts with the neo-romanticist ecological imaginary of the primeval swamp wilderness.

The Doomed Wilderness

The uncertain confluence between the cultural, ecological, and political dimensions to the Delta within a Eurocentric spatial imaginary finds its apotheosis in the literature of William Faulkner. In Faulkner's ([1942] 1960) collection of stories *Go Down, Moses*, first published in 1942, it is telling that Ike McCaslin's denunciation of hunting serves as a disavowal of violence in general, including the racially configured social and economic system as a whole. What Fredric Jameson (1972, 192) refers to as the "world of the hunt" serves as both a symbolic encounter with the American other as well as a microcosm of the violent tensions permeating throughout society. Even if earlier critics of the Old South such as Olmsted offer no wider critique of capitalist modernity—he was, after all, a social Darwinist interested primarily in the ordered rationalities offered by industrialization and urbanization—his writings nonetheless illuminate the barbarities of an alternate plantation-based modernity coexisting within the circulatory dynamics of global capital.[15]

The affective heaviness of Faulkner's Delta operates on several levels through the frenzied destruction of the old growth forests and the suffocating cloak of racism and violence permeating the New South (see T .M. Davis 2003). In Faulkner's story titled "The Bear," from *Go Down, Moses*, our woodpecker makes an entrance under the African American name Lord-to-God bird, as part of a meditation on landscape and time. The bird is never directly seen but simply heard clattering on a dead tree "beside a little bayou whose black still water crept without motion out of a canebrake" (Faulkner [1942] 1960, 153). Faulkner's depiction, through the eyes of his early twentieth-century protagonist who recalls a nineteenth-century childhood encounter, as he stands in the same spot many years later, builds a sense of reverie over a "deep time" that long predates the impact of modernity. The absence of the woodpecker in the same place serves as a powerful symbol for one kind of cultural landscape being irrevocably replaced by another. There is a weary teleology to Faulkner's conception of landscape change marked by a transition from the labor-intensive plantation regime of the New South toward a coexistence between the "ruined woods" and a series of increasingly mechanized landscapes beyond. Faulkner's rendition of what he terms the "doomed wilderness," however, inadvertently illustrates historiographical shifts in American landscape studies. Earlier interpretations of Faulkner are marked by a retreat into a form of regional exceptionalism that has only recently been the focus of a sustained critique.[16] Although questions of race are present in Faulkner's rendering of environmental destruction, there is nonetheless a sense of conceptual stasis that cannot quite connect the different cultural and ecological elements.

The recognition of Black cultural ecologies in the Delta moves beyond the analytical impasse presented by attempts to graft Faulkner's interpretation of the landscape onto the established canon of (white) American environmentalism. The impact of hunting, extractive expropriation, and the expansion of the plantation system are inseparable from the politics of masculinity, race, and violence. Yet a neo-Marxian cultural framing of the Delta landscapes also holds analytical lacunae in relation to the alternate socio-ecological formations within which our bird persisted into the early decades of the twentieth century. A more nuanced environmental history of the Delta would comprise several elements: successive waves of premodern human impact over some 12,000 years, including a variety of agricultural practices; a series of emerging intersections between white settlerism, the plantation system, and alternative Black ecologies; a postreconstruction era of agricultural peonage and accelerated rates of landscape change; and a recently emerging patchwork of landscape formations whereby a few heavily modified fragments of the original Delta forest persist within a monocultural expanse of cotton, rice, catfish ponds, and other elements of the agricultural technosphere.[17] The contemporary landscapes of eastern Arkansas can be conceptualized as a late-modern facet to the Plantationocene in terms of their structural origins and extractive topographies.

The emerging relationship between conservation biology and the American landscape has revolved around a tension between the protection of individual species and the safeguarding of intact ecosystems

yet this leaves the broader phenomenon of wanton violence against nature, including hunting, in a somewhat anomalous position. The history of conservation in North America evolved in parallel with the cynegetic landscapes of European settlerism. Aldo Leopold, for instance, carried out a series of investigations into "game management" on behalf of the Sporting Arms and Ammunition Manufacturers' Institute, which placed the needs of hunting at the center of any concerns with "preservation" of nature. The ivory-billed woodpecker was extirpated as part of the wider annihilation of pre-European cultures of nature led by the expanding frontiers of extractive capitalism and the increasingly obsessional and lucrative realm of trophy hunting. The loss of this species connects to a more destructive, violent, and intractable set of questions that are occluded by a neoromanticist fascination with the "unaxed woods." The ornithologist John James Audubon, after all, who had painted the iconic image of the ivory-billed woodpecker, was the creole son of a Saint-Domingue sugar plantation owner.[18] The causes of the bird's extinction are *inter alia* the commodification of nature, habitat destruction, the technological facilitation of hunting, and white supremacy.

Coda

The next day, whilst walking in Faulkner County (not named after the author), my heart gives a jolt: a large woodpecker with a pied appearance flies between two pine trees. I have caught a glimpse of a pileated woodpecker, *Dryocopus pileatus*, which is the classic "confusion species" highlighted in the ornithological literature. This is precisely the kind of tantalizing encounter that has driven the recent upsurge of interest in the ivory-billed woodpecker. Looking around me, however, I can see that this patch of forest is clearly not in good shape. Many trees are dying or diseased with pieces of corrugated iron still hanging from higher branches in the wake of a recent tornado. Nearer the ground there is a variety of flood debris strewn about. These woodlands can be likened to the damaged landscapes described by the anthropologist Anna Tsing (2015) that connect with global histories of ruination. What does it mean, though, to consider a landscape to be lying in a state of ruins? Is there not a process of ruination at stake in relation to a series of socio-ecological transitions? For Tsing (2017, 61), the history of landscape is not a singular narrative but an intersecting set of processes that pitches efforts to protect existing ecologies against the "approaching unlivability" of the Anthropocene. The surge of interest in the Anthropocene presents not a new perspective but a radical reassertion of dominant scientific narratives along with existing modes of cultural representation (see, e.g., Demos 2017; Yusoff 2018; Karera 2019; Jackson 2021). The contemporary emphasis on greater control over nature under the bio- and terraforming logic of the "adaptive Anthropocene" marks a perpetuation or even enhancement of existing power relations. The call to save the existing ecologies of the Holocene from the unfolding disaster of the Anthropocene is captured in Tsing's use of the term "multispecies resurgence" as a counterpoint to "plantation-augmented life" (Tsing 2017, 51, 52; see also Haraway 2015). In this article the plantation serves as an entry point for understanding the reconstructed ecologies of the Delta under settler colonialism but also as a lens through which to observe an intersecting set of landscape formations at different scales. A greater emphasis on the historical origins and racial dynamics of the plantation system clearly unsettles posthumanist conceptions of the Plantationocene (see J. Davis et al. 2019). We can discern a "plantation logic" that suffuses a variety of other spaces, then and now, that lie beyond the original sociospatial formation of the plantation (McKittrick 2013). It is this core dynamic of white settlerism, and its specific articulations with racism and violence, that I have tried to connect with the loss of particular natures. It is McKittrick's (2011, 950) delineation of "collective plantation futures" that provides a connecting analytical thread between the blood-soaked specificities of the environmental history of the Delta and the threatening global dynamics of the Plantationocene. By framing my article about the story of one element of loss, and developing a narrative account of the extinction of the ivory-billed woodpecker, I have presented an "ecological plot" that speaks to Sylvia Wynter's (1971) double meaning of the word "plot" as both the literary convention of the modern novel and also the occluded material ground underpinning the "secretive histories" of the colonial present.

The beauty of the American landscape, and its natural abundance of birds and other creatures, is tainted not simply by histories of extirpation but

also by traces of racial violence. In a striking aside from her literary criticism, Thadious M. Davis (2003, 251) recalls how she "wanted to be a nature poet and write hauntingly of southern landscapes lush with brilliant birds," but felt stymied by the brutal associations of these same landscapes with past atrocities. The reconstruction period saw a surge of hunting activity throughout the Delta as part of a reconfigured cultural formation rooted in specific manifestations of nativist ideology, regional exceptionalism, and white supremacy. We should recall that the claimed recent reports of the ivory-billed woodpecker in Arkansas, which are defended on the basis of a form of "epistemological valor," are not far from the site of the Elaine massacre in 1919, and many other instances of indiscriminate violence toward African Americans, who were hunted down and killed by roaming gangs of white men with guns.[19]

The contested status of the ivory-billed woodpecker opens up tensions within evidentiary hierarchies of knowledge as well as symbolic dimensions to interventions by state agencies seeking to protect or enhance specific elements in the web of life. The ivory-billed woodpecker evokes an ecological imaginary marked by an abundance of senescent trees with minimal human impact: the bird is considered an "umbrella species" that requires an extensive range thereby protecting countless other organisms. Yet historical evidence suggests that the ivory-billed woodpecker actually occurred at significantly higher densities than the field observations of early twentieth-century ornithologists suggest because it was already critically endangered by the time it became a focus of intense scientific study (see Snyder, Brown, and Clark 2009). Concern with habitat loss connects not only with a preservationist ethic but also with emerging interests in rewilding. The regrowth of many of the "cut over" forests has encouraged attempts to consolidate the ecological viability of the contemporary Delta. In the early 2000s some of the remaining fragments of the swamp forests saw the return of the bald eagle and the swallow-tailed kite leading to a sense of anticipation that the ivory-billed woodpecker might follow. Yet the loss of this bird suggests that the global destruction of nature entails intractable and irreversible dimensions that go far beyond the discourses of conservation stewardship or hope-filled stories of ecological resilience. The almost certain extinction of the ivory-billed woodpecker, notwithstanding its current IUCN Red List status as "critically endangered" rather than "extinct in the wild," shows that there are elements of nature that are not amenable to forms of biopolitical remediation such as resurrection biology, deextinction, and the genetic corollaries to geoconstructivism. Anthropogenic extinction represents a form of temporal disordering as material elements of the web of life vanish before their time, to be replaced in more high-profile cases by a kind of cultural and taxonomic vapor trail.

If we think of the ivory-billed woodpecker as a ghostly presence within the Delta then it offers a form of cultural and political efficacy by virtue of its absence. Indeed, a Derridean reading of the spectral qualities of late modernity, as Fredric Jameson (1995) has pointed out, does not actually require ghosts to exist at all. The figure of the ghost reminds us that the "living present is scarcely as self-sufficient as it claims to be" (Jameson 1995, 86) and its fears and obsessions remain rooted in past events. Furthermore, following Adorno ([1951] 2001), an interest in spectral ecologies is not to be elided with any attachment to an occultish displacement of human agency or some kind of alternative animist pastiche of premodern forms of knowledge. After all, is the haunting not really a bird at all, but rather the shift in socioecological formations, including forms of marronage, that had allowed the species to coexist into the modern era before its final extirpation? The question of spectral ecologies must, therefore, be reframed in terms of the relations between the contemporary cultural resonance of a "ghost bird," and its ideological role within conservation biology, and the underlying material histories of the Delta.

The ivory-billed woodpecker occupies a liminal ornithological space marked by a form of ecological nostalgia for an imaginary web of life that predates the imposition of European modernity. The woodpecker serves as a powerful symbol for a wider sense of loss: the short-lived euphoria over its apparent ecological resurrection has faded into an intensified sense of doubt, ecological malaise, and environmental apprehension. In the nearby town of Brinkley, which had anticipated an ecotourism boom, the only trace of the "woodpecker mania" that I could find was one faded sign. We are now left with a kind of ornithological haunting: it is ironic that the recent acoustic "double rap" recordings from the Delta, that

played such a significant role in the ornithological disputes of the mid-2000s, are almost certainly the sound of gunshot echoes.

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Notes

1. The poem by Danusha Laméris, first published in 2009, is titled "The Lord God Bird," which is the vernacular African American name given to the ivory-billed woodpecker. The poem is included in a special issue of the journal *Rattle* devoted to African American poetry. See Laméris (2009).
2. See Mbembe ([2013] 2017, 180). In *Critique of Black Reason* Mbembe sketches lines of intersection between the historical construction of race under capitalist modernity and the destruction of nature so that the boundary between human and "not human" becomes a fundamental point of conceptual departure.
3. The Orbis Spike thesis was first formally proposed by Lewis and Maslin (2015).
4. See, for example, Saikku (1996) on archaeological reconstructions of pre-European cultures of nature in the Delta.
5. An editorial titled "The Lord God Bird" (2005) appeared in the *New York Times* and coincided with the publication of the paper in *Science* (see Fitzpatrick 2005). A number of books and articles have appeared retracing the bird's demise or speculating on its possible continuing presence in the more remote swamp forests of the Delta and elsewhere. See, for example, J. A. Jackson (2004; 2006), Gallagher (2005), Hill (2007), Steinberg (2008b), and Bales (2010).
6. On 11 February 2004 a lone kayaker, Gene M. Sparling, reported seeing an ivory-billed woodpecker in the Big Woods region of eastern Arkansas. On 27 February Sparling guided ornithologists Tim W. Gallagher and Bobby R. Harrison near the original site, leading to a series of further claimed sightings. On 27 April ornithologist M. David Luneau managed to capture a brief video sequence that forms the empirical basis for the paper published in *Science* by Fitzpatrick (2005).
7. A notorious recent example is the mural painted in 2001 for the Baker County Courthouse near Jacksonville, Florida, that depicts three hooded members of the Ku Klux Klan with an ivory-billed woodpecker in the foreground.
8. On ghost species and conservation practice see, for example, McCorristine and Adams (2020) and Searle (2021).
9. The Orbis Spike thesis has become an important element in critical Anthropocene discourse. See, for example, H. Davis and Todd (2017), Yusoff (2018), and Saldanha (2020).
10. On extractive frontiers and lighting technologies see, for example, Gandy (2017) and Zallen (2019).
11. American conservationists had already acknowledged by the 1920s that other species such as the Carolina parakeet, *Conuropsis carolinensis*, and the passenger pigeon, *Ectopistes migratorius*, had been extirpated by hunting alone (see Barrow 1998).
12. On aspects of hunting, violence, and masculinity see, for example, Smalley (2005), Beaver (2008), Bederman (2008), and Howell (2019).
13. The term *ferae naturae* is taken from the antebellum planter-hunter William Eliot's characterization of the unenclosed commons of Carolina. See Marks (1991, 32).
14. The status of posthumanism in relation to critical Black studies is a focus of sustained scrutiny. See, for example, King (2017).
15. New global histories of cotton and the plantation system include Beckert (2014).
16. A number of more recent environmental histories of the Delta put questions of race and environmental justice center stage in their analysis. See, for example, Saikku (2005), T. M. Davis (2011), Johnson (2013), and B. Williams (2018). On the African American experience of visiting American wilderness areas see, for example, Smith (2005) and Finney (2014).
17. What the original delta forest was really like is still a matter of some conjecture, with varying degrees of emphasis placed on the role of extinct herbivores in creating more open types of woodland structure. During the late Pleistocene and early Holocene, with an expansion in hunting activity, there was a dramatic loss of large mammals across much of the globe: In North America alone, for example, twenty-three out of thirty-six large herbivore species were lost during this period (see Malhi et al. 2016).
18. Audubon was consistently evasive about his creole plantation origins. See, for example, Nobles (2017).
19. The Elaine massacre took place between 30 September and 1 October 1919 in Phillips County, Arkansas. By some estimates several hundred African Americans were indiscriminately murdered to prevent the unionization of Black farmers, although the exact number of deaths is still not known. A memorial willow tree was planted in 2019 but cut down a few months later.

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