The Destruction of the Bison

For the last twenty years, *The Destruction of the Bison* has been an essential work in environmental history. Andrew C. Isenberg offers a concise analysis of the near-extinction of the North American bison population from an estimated 30 million in 1800 to fewer than 1000 a century later. His wide-ranging, interdisciplinary study carefully considers the multiple causes, cultural and ecological, of the destruction of the species. The twentieth-anniversary edition includes a new foreword connecting this seminal work to developments in the field – notably new perspectives in Native American history and the rise of transnational history – and placing the story of the bison in global context. A new afterword extends the study to the twenty-first century, underlining the continued importance of this ground-breaking text for current, and future, students and scholars.

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Foreword

Twenty years have passed since Cambridge University Press published *The Destruction of the Bison*, and it has been still longer since the book began as my doctoral dissertation. Yet when I started the doctoral program in history at Northwestern University in 1987, I intended neither to write about the bison, nor to specialize in environmental history. As an undergraduate, I had read some environmental history in courses taught by the colonial Mexicanist John Tutino, notably Alfred W. Crosby’s *The Columbian Exchange* and William H. Durham’s *Scarcity and Survival: Ecological Origins of the Soccer War*. Crosby’s attention to epidemic disease and Durham’s analysis of landholding and population was unlike most other history I had read to that point and offered, I thought, compelling arguments. Despite this early interest, when I began graduate school, I was as yet unaware that environmental history had started to coalesce as a discrete field.

My goal, instead, was to become an early Americanist and to focus on the encounter between English colonists and Native Americans. I got my start in a colloquium entitled “Literature of Anglo–American History: 1600–1750,” taught by Northwestern’s early Americanist, T.H. Breen. He assigned us to read works by James Axtell, Daniel Richter, and James Merrell, as well as William Cronon’s *Changes in the Land*. Cronon’s book, as it did for so many people, significantly emboldened my interest in environmental history. Yet while Breen was an admirer of the work of Merrell in particular, he discouraged me from writing a dissertation about the encounter. I cannot remember why he thought

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the subject unfit for a dissertation; it has occurred to me in later years that perhaps he expected me to fight back against his disapproval.

But I had already migrated away from early America and toward environmental history. During my second year of graduate study I found myself enrolled in a foundational seminar in nineteenth-century United States history taught by the environmental historian Arthur F. McEvoy.1 During that term, while up late grading midterm exams for the course in which I was a teaching assistant, the idea of writing a dissertation on the bison came into my mind. At the time all I had of the story was a beginning, when there were millions of bison in the early nineteenth century, and an end, where there were fewer than a thousand at the end of the nineteenth century. I had as yet no idea how I would explain how to get from the beginning to the end of the story, but I knew that I had a historical problem to solve.

Art McEvoy became my graduate mentor and had a decisive influence on what became The Destruction of the Bison. It was more than Art’s encouragement and insights that influenced me; he articulated a methodology for environmental history that guided my writing of the book. In his 1986 book, The Fisherman’s Problem, Art had advanced the idea that there are three equally important, interacting agents of change in environmental history: ecology, production, and cognition. Those three elements, he wrote, “evolve in tandem, each part according to its particular logic, and partly in response to changes in the other two.” It was an approach that saw culture, economics, and the non-human natural environment as inter-embedded. It simultaneously embraced the Crosbysque idea of the environment as an agent of historical change, the work of cultural and intellectual historians about the importance of ideas of nature, and historical writing on material causes of environmental changes (much of which was inspired by Annales and Marxian scholarship). It was thus an approach that drew on the three most important types of interpretive work in environmental history, without giving primacy to any one of them.2


3 Studies of ecological invasions in history that I read when I was conceiving and writing the first draft of The Destruction of the Bison included Andrew Clark, The Invasion of New Zealand by People, Plants, and Animals (New Brunswick: Rutgers University Press, 1949); Charles Elton, The Ecology of Invasions by Animals and Plants (London: Chapman and Hall, 1958); William H. McNeill, Plagues and Peoples (Garden City: Anchor, 1976); Crosby, The Columbian Exchange;
This non-hierarchical approach to ecology, economy, and culture was more than an abstract concern for me. At the very moment when I was writing my dissertation prospectus, the March 1990 issue of the *Journal of American History* landed in my mailbox. Included in that issue was a roundtable on environmental history in which Donald Worster, Alfred Crosby, William Cronon, Richard White, Carolyn Merchant, and Stephen Pyne debated their contrasting visions for the future direction of the field. At the center of the debate was an animated dispute between Worster, who staked out a strikingly materialist conception of the future of environmental history, and Cronon and White, who urged that environmental historians follow the direction of the rest of the historical profession in the 1990s and take the “cultural turn.” For more than a decade following the roundtable, the field remained deeply divided between these materialist and idealist environmental history methodologies. This divide seemed to me then, and still seems to be now, both unnecessary and unhelpful. Environmental history, I thought, should embrace both cultural and material history. I could not help but notice that in their books, the antagonists in the debate had all embraced both material and cultural approaches to environmental history. I tried to do something similar: careful readers of *The Destruction of the Bison* will see that I divided each chapter following the first into three equal sections, one devoted largely to culture, one to production, and one to ecology; I did so to try to demonstrate how these forces interacted without slighting the analysis of any one of the three.

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on ethnohistory’s central idea of cultural persistence, rebutted him in an article titled “The Indians’ Old World,” which argued that “certain patterns and processes originating before the beginnings of contact continued to shape the continent’s history.” While The Destruction of the Bison is indebted to Merrell’s original article, I sought to do justice to both change and persistence by paying attention to the “protohistoric” period. The term, which I adopted from anthropology, refers to the period when Native Americans had begun to feel the impact of the encounter, largely through trade or disease, without having yet encountered European colonists themselves. Indeed, in The Destruction of the Bison, this protohistoric period in the eighteenth century, when numerous native groups encountered the horse and made the transition to horse-mounted, bison-hunting nomadism, was critical to the history of the bison. One of the ideas I was trying to communicate in this section of the book is that natives were not simply passive subjects of a historical process in which colonists were the only agents of change. Rather, natives in the Great Plains had their own history, in which cultural traditions were powerful but not determinative.

I was particularly interested in exploring the unforeseen consequences of these protohistoric changes. The protohistoric period was particularly important to answering one of the questions that I tackled in The Destruction of the Bison: Why did the nomads so avidly hunt bison for the market by the 1830s? The question of why Indians participated in the fur trade is one that Cronon, White, and Calvin Martin, among others, had addressed. As I considered their work, it seemed to me that all of them largely attributed Native Americans’ participation in the trade in animal products to exogenous forces: notably epidemic diseases that destabilized native societies and the lure of traders who offered a panoply of manufactured goods. Yet when I considered the Great Plains, while smallpox had devastated the villages along the Missouri River in the 1780s, the nomads had largely escaped the destructive effects of epidemic disease. Nomads in the northern grasslands had participated in the trade in beaver pelts in the late eighteenth century, but the beaver trade had petered out in the Great Plains decades before the bison robe trade emerged in the 1830s. Rather that external forces, I looked to changes internal to the nomadic societies to explain their participation in the commerce in bison robes. This drew me to focus on the protohistoric shift to equestrian nomadism. The change was not as simple as abandoning agriculture and the hunting of smaller game in favor of reliance on bison hunting and, to a lesser extent, gathering wild plants. The protohistoric adoption of nomadism occasioned two changes in particular that were important to the nomads’ later adoption of commerce: the splintering of the nomads into small foraging groups for the colder months of the year (which brought an attendant atomization of the

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Indians’ political structures), and, particularly among planting societies such as the Cheyenne and Lakota, in which women had contributed the majority of food to group subsistence from their gardens, a decline in the status of women (which facilitated women’s eventual role as preparers of robes for commerce). Twenty years after publication, I think that, of the two arguments, I developed the former more fully. One of my regrets about The Destruction of the Bison is that I did not amplify my argument about how the robe trade, in creating a demand for laborers to prepare green robes for the market, led to a decline in the status of women and initiated a market in captive women as laborers in the robe trade. The extent of natives’ trade in captives only became apparent to me two years after The Destruction of the Bison was published, when two books appeared that made compelling arguments for the importance of captivity and slavery in indigenous societies both before and after the encounter: James Brooks’ Captives and Cousins and Alan Gallay’s The Indian Slave Trade.

Probably the most controversial arguments in The Destruction of the Bison concern indigenous hunters. I argued that natives’ harvest of the bison for subsistence was sustainable only in years when wolves, fire, competition from other grazers, and accidents claimed only a moderate number of bison. During periods of severe drought the destruction of forage was probably so extensive that it rendered depletive any harvest of the bison, even if only for bare subsistence. Moreover, I argued, beginning in the 1830s, when natives started to harvest the bison not only for subsistence but for trade with whites, their consumption of the animal became unsustainable. Native scholars in particular have criticized these arguments. In 2014, Tasha Hubbard wrote that I “render the government, army, and hide hunters inculpable by reinforcing notions of Indigenous culpability.” In 2018, the historian Phil Deloria said, “People hear only ‘Indians were involved, too’ … and that has the effect of letting the others off the hook, and of letting the explicit military strategy of destroying Native American resources off the hook.” Certainly no one who has actually read The Destruction of the Bison would think that I let white hide hunters or federal authorities in the 1870s “off the hook”; I share Deloria’s frustration that some people have read the book selectively in order to arrive at that conclusion. What such readers miss — intentionally or not — is the book’s central argument that colonization created new kinds of bison hunters on both sides of the encounter. Nomads hunted bison from the backs of horses descended from animals introduced by European colonists. White hide hunters nearly exterminated the species, partly

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to deny the use of the bison to natives. Both groups were created and sustained by the encounter.

And both groups were part of a modern capitalist economy. Nomadic hunters delivered bison robes to dealers, who shipped them east by steamboat. White hide hunters employed powerful rifles developed during the Civil War and shipped hides east by rail. I was keenly aware, during the writing of The Destruction of the Bison, that while they shared this quality, that did not mean that Native Americans’ effect on the bison was equivalent to that of white hunters. I took pains to emphasize, in the third chapter of the book, the various nomadic groups’ cultures of restraint in the hunting of the bison (while I was also at pains to make sure that I did not depict Indians as noble savages with an innate ecological sensibility). Nomads’ marginal over-exploitation of the bison over the course of several decades was different in both style and substance from the white hide hunters who, with the endorsement of U.S. authorities, nearly extinguished all of the several million animals remaining in the Great Plains during the 1870s. No indigenous people in the nineteenth-century Great Plains ever gleefully contemplated the extinction of the bison as some U.S. authorities did.

If I was careful to show that natives were not simply passive subjects who were acted upon by settlers, I was also determined to show the environment as not merely a passive backdrop to a human drama but as an active, unpredictably changing agent in history. In the course of revising the dissertation into a book, that determination led me to the work of theoretical ecologists such as Robert May, who challenged the work of mid-twentieth-century ecologists who argued that natural systems strive toward stability. I was persuaded by the arguments of May and others that disequilibrium is inherent in nature. Theoretical ecologists, I learned, had a term for this unpredictable change: chaos. Emphasizing the complexity and interconnectedness of natural systems, chaos theory supposes that the great number of ever-changing factors that make up systems make outcomes unpredictably complex. The theory had its origins in the 1960s in the work of the meteorologist Edward Lorenz, who argued that the weather was a chaotic system. Owing to just a few differences of micro-degrees in temperature, barometric pressure, and wind speed, Lorenz argued, a pleasant spring day might be followed by a similarly pleasant day, or by a tornado. Lorenz’s work inspired the term “butterfly effect” to suggest this sensitive dependence on small changes.  

Some of the formative work within theoretical ecology on chaos theory dealt with how climatic change and reproduction dynamics produce disequilibrium between grazers and grassland forage. Rather than proceeding through a series of stages toward equilibrium, ecologists who studied the “irruptive paradigm” in grassland–herbivore relations suggested that grasslands and the mammals that graze on them are inherently at disequilibrium. When cattle or sheep are introduced to a previously ungrazed pasture, for instance, their populations, if left unmanaged, rise sharply in the resource-rich environment, only to crash when populations exceed the carrying capacity of the land. Ungulate populations are thus always moving upward or downward—sometimes quite rapidly so—and are never at equilibrium.\(^1\) Chaos theory transformed my understanding of the grassland environment. Like other environmental historians in the 1990s who were studying the bison, such as Dan Flores, I extrapolated from twentieth-century, range carrying capacity data to try to determine the maximum sustainable bison population in the historic Great Plains. Flores based his estimate of between 28 and 30 million bison on the number of livestock enumerated in the 1910 Agricultural Census; I based my estimate of between 24 and 27 million on the bison population at the National Bison Range in Montana in the 1920s.\(^2\) What chaos theory taught me, however, was the population must have been perpetually in flux—depressed by drought or other environmental factors only to irrupt when conditions improved, perhaps then rising to a level that the range could not support, and then, therefore, declining abruptly.

The environmental historian Elinor Melville applied the irruptive paradigm in *A Plague of Sheep*, her 1994 study of the introduction of sheep to New Spain, but she was exceptional in this respect.\(^3\) For the most part, environmental historians were, and have continued to be, slow to embrace chaos theory. Donald Worster, who at the time of the publication of *The Destruction of the Bison* was one of the editors of the Studies in Environment and History series at Cambridge University Press, was unalterably opposed to the idea. Ecology, Worster wrote in 1992, was once “a study of equilibrium, harmony, and order.” By the 1990s, however, “in many circles of scientific research, it has become a study of disturbance, disharmony, and chaos.” Worster’s concern was political. He did not exactly say that the new scientific approach was wrong, but he feared, much as Deloria feared that acknowledging indigenous people’s contribution to the near-extinction of the bison would exculpate white hunters, that it would render conservation “not even a remote concern.”\(^4\) My deepest regret about *The

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_Destruction of the Bison_ is that, as an untenured assistant professor counting on the publication of the book to advance my career, because of Worster’s opposition, I did not highlight how chaos theory had informed my understanding of the grasslands environment and instead left the notion implicit. Over the last two decades, I have only come to believe yet more strongly that environments are characterized not by stability but by unpredictable change. For environmental historians, chaos theory allows us to acknowledge the agency of the environment without veering into environmental determinism. Because chaos theory conceives of environments as changing, it allows us to imagine a sustainable relationship with nature that does not require human society to somehow arrest historical change. It also reminds us that neither sustainability nor catastrophe are inevitable, because nothing, either in human history or in the non-human nature world, is inevitable.

Were I to write _The Destruction of the Bison_ now, I would also do more to try to place the history of the bison in a transnational context. A few months before _The Destruction of the Bison_ was published, in an important essay in the December 1999 issue of the _Journal of American History_, David Thelen called for American historians to incorporate transnational perspectives into their work.20 I like to think that if I had completed the book a year later, with adequate time to digest Thelen’s article, I would have taken a more explicitly transnational perspective on the bison. But this is probably just wishful thinking on my part: one of the central chapters of the book, on the near-extinction of the bison in the 1870s, focuses almost entirely on the U.S. In any event, I had sent the manuscript to Cambridge a year before Thelen’s essay appeared. The book thus reflects a period when transnational history was in its early stages and its few gestures toward transnational history seem, by the standards of 2020, glancing at best. I noted the spread of smallpox from New Spain north to the Great Plains, the flow of commodities from British and French traders south to the Great Plains, and, in the final chapters, I made nods toward the rise of cattle ranching, commercial bison hunting, and efforts to preserve the bison in Canada. Nonetheless, my definition of the grasslands more or less ended at the U.S. borders. In a 2003 state-of-the-field essay, J.R. McNeill complained, quite justifiably, that “Isenberg considers the Canadian contingent of the North American bison herd most cursorily.” He compared _The Destruction of the Bison_, together with William Cronon’s _Nature’s Metropolis_, to “some American TV weather maps, where everything, including advancing thunderstorms and high pressure cells, stops at the border.”21

In retrospect, I would have liked to have gone beyond Canada to show that colonization and capitalism affected grasslands in other parts of the world. One of the arguments that runs through _The Destruction of the Bison_ is the domestication of the grasslands: it began, I argued, with the arrival of domesticat-

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ed horses, continued with the replacement of bison by domesticated livestock, and affected the installment of bison in preserves that left them as semi-domesticated animals. Attempts to domesticate grasslands transcended North America. Throughout the temperate grasslands of the world, European colonists decimated indigenous grazing animals and introduced domesticated livestock in their stead. In the Argentine Pampas, heavy trampling and grazing by millions of wild or semi-wild cattle and horses destroyed many native grasses. By the early twentieth century, only one-quarter of the Pampas grasses were native species. In the southern African veld, Dutch and, later, British colonists nearly exterminated the blue buck and the quagga and significantly depleted the numbers of elands and springboks. In their place they introduced merino sheep: 12 million in the Cape colony in 1890; 24 million by 1930. A few sheep introduced into Australia in 1792 had become 9 million by 1845 and 12 million by 1854. By the end of the nineteenth century, tens of millions of sheep grazed in Australia. By the 1930s, there were 300 million sheep in the Southern Hemisphere – most of them in the grasslands of Australia, New Zealand, South Africa, and South America.

The Destruction of the Bison showed the damage that a capitalist, colonizing society can do to the environment. But twenty years after it first appeared, the ideas that remain most important to me are those that suggest that power resides not just in such societies but in unexpected places. White settlers, for all their numbers and technology, did not always dictate the direction of change. In The Destruction of the Bison, the environment itself – microbes, grasses, rainfall – possesses enormous power. Indigenous people charted their own courses; like all people, their decisions were not always innately wise. In the old story of the near-extermination of the bison, which placed all of the responsibility on white hunters, there was a certain comfort to some modern readers in believing that the forebears of our modern society had possessed so much power, even if (in a presumably more benighted age) they had used that power for ill. It is considerably more discomfiting, especially for those of us who are heirs to the capitalist society of the nineteenth century (which includes everyone reading these words), to view them as merely one of many agents of change.

In this book I have tried to account for the often unacknowledged interconnections among living things, and I therefore take special pleasure in acknowledging the many people who have contributed to its making.

I began work on this book as a doctoral candidate at Northwestern University, where, to my immense good fortune, my adviser was Arthur McEvoy. I determined then, and remain convinced now, that no graduate student ever had a better mentor. I cannot begin to recount the insights I have learned from Art, or the number of times I have returned to them. I am also thankful to James Oakes, who held me to his own high standards and believed that I could achieve them. Frederick Hoxie was a patient and generous teacher who gave this manuscript a close, insightful reading that strengthened it considerably.

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