As someone who believes that truth in advertising should apply no less to books than to automobiles or toothpaste, I must warn the reader at the outset that *Nature's Metropolis* may appear to be something that it is not. Despite what its subtitle may seem to suggest, it is a comprehensive history neither of Chicago nor of the Great West. It is rather a history of the relationship between those places. My contention is that no city played a more important role in shaping the landscape and economy of the midcontinent during the second half of the nineteenth century than Chicago. Conversely, one cannot understand the growth of Chicago without understanding its special relationship to the vast region lying to its west. Although the persistent rural bias of western history has often prevented us from acknowledging this fact, the central story of the nineteenth-century West is that of an expanding metropolitan economy creating ever more elaborate and intimate linkages between city and country. To see the traditional American “frontier” from this metropolitan perspective, no place furnishes a more striking vantage point than Chicago.

During the second half of the nineteenth century, the American landscape was transformed in ways that anticipated many of the environmental problems we face today: large-scale deforestation, threats of species extinction, unsustainable exploitation of natural resources, widespread destruction of habitat. It was during this period as well that much of the world we Americans now inhabit was created: the great cities that house so many of us, the remarkably fertile farmlands that feed us, the transpor-
tation linkages that tie our nation together, the market institutions that help define our relationships to each other and to the natural world that is our larger home. The nineteenth century saw the creation of an integrated economy in the United States, an economy that bound city and country into a powerful national and international market that forever altered human relationships to the American land. Although this book takes Chicago and the Great West as its immediate focus, its broader ambition is to explore century-old economic and ecological transformations that have continued to affect all of North America and the rest of the world besides.

Few of us, I think, fully understand or appreciate how much our modern landscape is a creation of these nineteenth-century changes. For cultural reasons that date from this same historical period, Americans have long tended to see city and country as separate places, more isolated from each other than connected. We carefully partition our national landscape into urban places, rural places, and wilderness. Although we often cross the symbolic boundaries between them—seeking escape or excitement, recreation or renewal—we rarely reflect on how tightly bound together they really are. Even professional historians often fall into this trap. Urban historians rarely look beyond the outskirts of cities to the hinterlands beyond; western and frontier and even environmental historians usually concentrate far more attention on rural and wild places than on urban ones. As a result, there are few models for a book like this one, which tries to tell the city-country story as a unified narrative. Having struggled with this book for more than a decade, I can well understand why others have shied away from such an approach. The obstacles in its way are many, and I have by no means overcome all of them in trying to make sense of my own topic. Still, throughout it all I have held fast to one central belief: city and country have a common history, so their stories are best told together.

Since my own private passion is to understand environmental change in relation to the actions of human beings, blending as best I can the insights of ecology and economics, I have organized this book around a topic that many will initially find peculiar if not off-putting: commodity flows. In the pages that follow, I have much to say about grain, lumber, meat, and other trade goods as they moved back and forth between Chicago and its hinterland during the second half of the nineteenth century. Therein has been one of my greatest challenges as a writer. Economic history is unfortunately not much read these days, even by many historians, in part because it has come to be dominated by highly mathematical approaches that are far more dedicated to theoretical rigor than to ordinary communication or understanding. Trying to combine economic and
environmental history in a way that will excite rather than squelch the reader's curiosity has been my constant goal, especially since commodity markets have never been a subject that has attracted much public interest or enthusiasm. Most people find them deeply mysterious, and probably deeply boring as well.

These two reactions—mystification and boredom—are certainly understandable, but they nonetheless seem to me unfortunate. I urge you, reader, to resist them both, as I have resisted the urge to load my text with statistical analyses and tables. I write of commodity markets not from some perverse private fascination, but from the conviction that few economic institutions more powerfully affect human communities and natural ecosystems in the modern capitalist world. Even those of us who will never trade wheat or pork bellies on the Chicago futures markets depend on those markets for our very survival. Just as important, the commodities that feed, clothe, and shelter us are among our most basic connections to the natural world. If we wish to understand the ecological consequences of our own lives—if we wish to take political and moral responsibility for those consequences—we must reconstruct the linkages between the commodities of our economy and the resources of our ecosystem. This is what I have tried to do. *Nature's Metropolis* consists of a series of stories, each tracing the path between an urban market and the natural systems that supply it. I intend these stories as contributions to the history of nineteenth-century Chicago and the history of the West, but I intend them as parables for our own lives as well.

Because I spend so much time looking at commodities in this book, I devote little or no space to subjects that many readers and scholars might expect to find treated at some length. I have little to say about most of the classic topics of urban history: the growth of neighborhoods within the city, social conflicts among classes and ethnic groups, the actions of municipal authorities, even the environmental history of public services like sewage disposal or water supply. Readers turning to this book for an account of Chicago's architecture, its labor struggles, its political machines, its social reformers, its cultural institutions, and many other topics are likely to turn away disappointed. Indeed, I have little to say about individual men and women. The few who do show up in these pages are mainly merchants, who enter my narratives less because they are significant in their own right than because they exemplify so well the broader city-country connections I wish to trace. The book might have been better had I given more space to any number of other important subjects; it would certainly have been much longer. I can now understand why Bessie Louise Pierce was never able to finish her famous history of Chicago, even though it eventually encompassed three thick volumes. It is a big city with
a big history, and I have not even tried to do it full justice. Instead, I have kept my compass sights on the paths into and out of town, following the routes that linked the human community called Chicago to the natural world of which the city became so important a part.

I should perhaps define a few key terms that recur in this book and that may seem unfamiliar in the way that I use them. The most important are right in the book’s title. By “the Great West,” I mean a region that no longer exists on the mental maps of most Americans. According to nineteenth-century usage, it was the vast interior region of the nation that was neither the North (the region north of the Mason-Dixon line and east of the Appalachians or Great Lakes) nor the South (the region defined most simply as the losing side of the Civil War). The Great West began either at the Ohio River or at Lake Michigan, and extended all the way to the Pacific Ocean. By the second half of the nineteenth century, many Americans saw Chicago as the gateway to that expansive western territory.

“The Great West” is thus related to a much more controversial word, “frontier.” Some western scholars have recently argued that American conceptions of frontier history are so ideologically loaded, so racist, sexist, and imperialist in their implications, that it would be better not to use the word at all. They offer instead a regional version of western history in which the West begins where it does today, at a not very well-defined line cutting across the Great Plains or the Rocky Mountains. Although I share these scholars’ objections to the ideological distortions of traditional frontier historiography, I do not believe we can escape those distortions simply by changing vocabulary to redefine the historical experience that created them. In *Nature’s Metropolis*, I describe one aspect of the frontier experience on a very macro scale: the expansion of a metropolitan economy into regions that had not previously been tightly bound to its markets, and the absorption of new peripheral areas into a capitalist orbit. Frontier areas lay on the periphery of the metropolitan economy, while cities like New York and London lay near its center. Chicago sat in between, on the boundary between East and West as those regions were defined in the nineteenth century. As such, its story is inextricably bound to American frontier expansion. Much as I may be uncomfortable with the shifting definitions that have plagued scholarly readings of frontier history since the days of Frederick Jackson Turner, I am convinced that regional redefinitions of the field are ultimately not much better, since I am quite confident that for much of the nineteenth century the West began in Chicago, not in Denver or San Francisco. To try to redefine the West to fit our modern vocabulary is to do violence to the way Americans in the past understood that term, since for them it was intimately tied to that other, now problematic word—“frontier.” And so I have compro-
mised by self-consciously using an anachronistic phrase to label Chicago's nineteenth-century hinterland. The very fact that we no longer speak of the Great West suggests its origins in the frontier processes that created—and then dismantled—that region.

But "frontier" and "Great West" are not the most problematic terms I use in this book; that honor is surely reserved for "nature," one of the richest, most complicated and contradictory words in the entire English language. Those who like their vocabulary precise and unambiguous will surely be frustrated by the different ways I use "nature" in this text. To them, I can only apologize: I do not believe the ambiguities can be suppressed, and I regard the word as indispensable to my purposes. The central ambiguity flows from the old dilemma about whether human beings are inside or outside of nature. At times, I use "nature" to refer to the nonhuman world, even though my deepest intellectual agenda in this book is to suggest that the boundary between human and nonhuman, natural and unnatural, is profoundly problematic. I do so because our language really has no good alternative for describing the nonhuman systems which humanity acts upon. I have tried to reduce confusion (but may only have heightened it) by resorting to the Hegelian and Marxist terms "first nature" (original, prehuman nature) and "second nature" (the artificial nature that people erect atop first nature). This distinction has its uses, but it too slips into ambiguity when we recognize that the nature we inhabit is never just first or second nature, but rather a complex mingling of the two. Moreover, the different meanings and connotations of "nature" have a rich cultural history of their own (traced most subtly in the work of Raymond Williams), and no simple definition can hope to control or capture them. Only careful, historically minded usage will do, especially when the thing one wants to convey about the human place in nature is precisely its ambiguity. My hope is that the attentive reader is already familiar with these conceptual problems of a word which is, after all, part of our everyday speech, and that my meaning in any given context will be reasonably clear.

I first conceived this book more than a dozen years ago, while working on a history of energy use in the English city of Coventry and realizing that an environmental history of a single city made little sense if written in isolation from the countryside around it. In the time since, I have incurred innumerable debts to so many people and organizations that I cannot possibly thank them all. Students and colleagues have been immensely generous with their insights and suggestions, giving me the intellectual and emotional support I needed to keep going on a project that often seemed too large and unmanageable ever to reach a satisfactory
Chicago's lumber district. In this immense city within a city, lumber sat on the banks of the South Branch waiting to be shipped by rail out to customers in the grasslands. The stacks of wood dwarfed the lumber merchants' offices, and an aroma of pine mingled with the smell of sewage from the river. Note the masts of ships and the grain elevator on the horizon. Reproduced from Harper's Weekly, October 20, 1883, courtesy Yale University Library.

The Cutover. The lands around Deward, Michigan, had one of the last remaining white pine forests in the Lower Peninsula at the beginning of the twentieth century. Within a decade, they too had become part of the Cutover, that abandoned ghost landscape which Chicago played such an important role in creating. Courtesy Michigan Bureau of History.
Logging railroad near Cadillac, Michigan. As forests began to retreat from riverbanks that were increasingly devoid of trees, railroads allowed lumbermen to continue cutting the remaining pines. More and more of the cut moved by rail, eventually undermining the system of lake transport that had been so central to Chicago's lumber market. Courtesy Michigan Bureau of History.

Chicago's cargo market. At this location, Chicago lumber merchants met the ships from Lake Michigan milltowns, examined their contents, and bought wood by the shipload. This was the greatest lumber market in the world in the decades following 1850. Buyers purchased lumber here at the forks of the Chicago River, and then sent it on to lumberyards lining the South Branch (toward the viewer in this photograph). Courtesy Chicago Historical Society.
Members of the National Association of Lumber Dealers, December 1879
Chicago Lumber Supply, 1879
Percentage Contribution of North Woods Counties to Chicago Lumber Supply

10-20%  
5-9.9%  
1-4.9%  
Less than 1%

Chicago

Milwaukee

Milwaukee

Chicago

Minneapolis

Chicago

Minneapolis

Chicago
Chicago Lumber Receipts, Shipments, and Home Consumption, 1847-1900

Million Feet

Receipts
Home Consumption
Shipments
Counties Shares of Midwestern Debt, 1873-1874

- Over $1,000,000
- $100,000-$999,999
- $10,000-$99,999
- $1,000-$9,999
- $0-$999

*States south and east of the Ohio River contain creditor counties not shown on this map.*
Appendix:
Methodological Note
on the Bankruptcy Maps

The bankruptcy maps in chapter 6 are undoubtedly the hardest-won documents in this book, representing many hundreds of hours in archives and at computer terminals. In the text, I have suppressed the statistical manipulations that went into creating them, and have tried not to trouble readers with the many technical issues and problems they represent. But since historians and geographers have not previously used bankruptcy records to track regional credit relationships in this way, I should offer a few observations about the underlying data and how I manipulated them to create the maps.

Bankruptcy was a much contested terrain in nineteenth-century politics and law, with debtors and creditors struggling with each other about how easily one should be able to declare or be forced into bankruptcy, and with what sorts of penalties. The most useful survey remains that of Charles Warren, Bankruptcy in United States History (Cambridge: Harvard University Press, 1935), though this should be supplemented by Peter J. Coleman, Debtors and Creditors in America: Insolvency, Imprisonment for Debt, and Bankruptcy, 1607–1900 (Madison: State Historical Society of Wisconsin, 1974). Because my regional analysis required me to compare bankrupts across state boundaries, and because the state court records were a more daunting prospect than I was willing to face, I chose to examine only those individuals who went bankrupt under the uniform standards of federal law. Congress passed three bankruptcy laws in the nineteenth century: one in 1841, which quickly proved unworkable; another in 1867, which lasted until widespread protest forced its repeal in 1878; and a final law in 1898, which remains the foundation for bankruptcy as we know it today. Those who wish to understand the legal and political controversies surrounding these laws should consult Warren, but the history of bankruptcy as a cultural phenomenon cries out for further examination by scholars.

Given the time frame of this book, only the 1867 law (39th Cong., 2d sess., chap. 176, "An Act to establish a uniform System of Bankruptcy throughout the United States," March 2, 1867) provided cases from the appropriate period. As I have already explained in the text, I reasoned that bankrupts would be most representative of the population as a whole during a period of general economic depression, when more individuals from a wider variety of backgrounds than usual would find themselves in straitened circumstances. I therefore chose to examine every person who went bankrupt under the 1867 law between August 1, 1873, and April 30, 1874, during the height of the panic of 1873. I drew them from the most populous states of Chicago's western hinterland: Illinois, Iowa, Minnesota, Missouri, Nebraska, and Wisconsin. The less populated territories farther west generated too few cases
to be statistically meaningful; even Kansas and Nebraska produced sparse records, and I was forced to omit Kansas altogether because the courts there for some reason chose not to include summary lists of creditors in their records. The following federal district courts are represented in the dataset: Chicago and Springfield in Illinois, and Madison and Milwaukee in Wisconsin, all housed in the National Archives Regional Record Center in Chicago; and Keokuk, Council Bluffs, Des Moines, and Dubuque in Iowa; the Minnesota U.S. District Court; Omaha in Nebraska; and Jefferson City and St. Louis in Missouri, all housed in the National Archives Regional Record Center in Kansas City. I assumed that the uniform conditions of the federal law would make the bankrupts in these different districts and states roughly comparable with each other. Readers should nonetheless note that these states had their own bankruptcy laws, so differences in leniency between state and federal rules may have encouraged different choices about whether a bankrupt entered the state or the federal court system. For a sense of how contemporaries understood these differences, see “Assignment and Exemption Laws,” Northwestern Lumberman, October 19, 1878, 5.

Since I was less interested in bankruptcy per se than in the geographical relationships among debtors and creditors, a particular bankruptcy proceeding was of use to me only if it contained three key sets of data: a list of creditors, the places where each lived, and the total debts owed to each. Under the 1867 law, people could enter bankruptcy either voluntarily or involuntarily. If voluntarily, they were required to produce a schedule of creditors of the sort I needed; if involuntarily, such a schedule might or might not appear in the court proceedings, so I could include only a portion of involuntary bankrupts in the dataset. In many cases, court cases that lacked schedules probably represent instances in which the debtor escaped bankruptcy, so their exclusion from the dataset is altogether appropriate; there is in any event no way in which they could have been included, given their lack of relevant data. Of the 299 individuals for whom records appear in the Chicago Court District, for instance, 44 percent were involuntary cases that lacked a schedule of creditors; 39 percent were involuntary bankrupts who did leave a schedule of creditors; and 17 percent were voluntary bankrupts for whom a schedule was required by the court. The bankruptcy dataset contains the records of 401 bankrupts, 290 of them involuntary and 110 of them voluntary, with one missing value. Their distribution by state is as follows: 199 from Illinois (116 of these from Chicago and Cook County); 38 from Iowa; 29 from Minnesota; 95 from Missouri (44 of these from St. Louis); 12 from Nebraska; and 28 from Wisconsin.

In coding each bankrupt for computer processing by the Statistical Analysis System, SAS, I created variables for first and last name, court district and case number, filing status (voluntary or involuntary), date of filing, the bankrupt’s place of residence, and the place of residence of the creditor who brought the proceeding if the bankruptcy was involuntary. Since the computer mapping program I used required that this information be aggregated at the county level, I determined the bankrupt’s county of residence and entered that information as well. Because the geography of debt varies so widely depending on a person’s line of work, I also needed to enter each bankrupt’s occupation, but here I encountered a curious problem. Nineteenth-century Americans understood bankruptcy as a process that happened to people who had failed in their occupation: the court proceeding represented a formal recognition that the bankrupt no longer had an economic identity, so the court made no provision for recording the bankrupt’s prior occupation in its records. I therefore faced the task of locating 401 individuals in more than 175 towns in six states, to determine what they had done for a living before finding themselves insolvent in 1873–74.

In a few cases, I could reasonably infer the bankrupt’s prior occupation from debts that appeared in the creditor lists: a bankrupt whose debts were all for shoe purchases, for instance, was almost certainly a boot and shoe dealer. But most cases were much more ambiguous than this, so I chose to make as few inferences as possible from the internal evidence of the court proceeding itself. Instead, I turned to other sources. First among these were various state and city business directories, which eventually yielded occupations for about one-fourth of the bankrupts. The directories on which I relied were as follows: Sixteenth Annual Directory of Chicago (Chicago: Richard Edwards, 1873); Wisconsin Business Directory (Milwaukee: M. T. Platt, 1873); Gould’s St. Louis City Directory (St. Louis: David B. Gould, [c. 1873]); St. Paul Census Report and Statistical Review, Embracing a Complete Directory of the City (St. Paul: Richard Edwards, 1873); Root’s Burlington City Directory (Burlington, Iowa: O. E. Root, 1866); Holland’s Keokuk City Directory for 1873–74 (Chicago: Western Publishing, [1873]); Omaha City Directory, 1872–73 (Briggs & Lowry, [c. 1873]); Corbett, Lowe & Co.’s III Annual City Directory for 1873 of . . . Kansas City (Kansas City: Corbett, Lowe, 1873); and
Davenport City Directory (Davenport: Griggs, Watson & Day, 1873). I examined a number of others, but none yielded information about bankrupts in the dataset.

Most nineteenth-century business directories covered large towns and cities, so they missed most of the widely scattered individuals in the bankruptcy dataset, many of whom lived in small towns or rural areas. The directories were also surprisingly bad even at identifying people in places such as Chicago and St. Louis. I therefore turned to a second source: the credit rating reports of R. G. Dun & Company’s Reference Book (New York: R. G. Dun, January 1872); and of Bradstreet’s Commercial Reports (New York: J. M. Bradstreet & Son, July 1873). R. G. Dun and J. M. Bradstreet began as separate businesses but eventually merged, and historians have been blessed by Dun and Bradstreet’s decision to deposit the nineteenth-century records of R. G. Dun and Company at the Baker Library of Harvard Business School. Credit-rating agencies were an innovation of mid-nineteenth-century commerce, themselves a fascinating example of the metropolitan economic institutions I discuss in this book. Their job was to track the financial reliability of individuals across the nation, so bankers and merchants in distant cities could know whom to trust in making loans or offering credit on business transactions. On their history, see James D. Norris, R. G. Dun & Co., 1841–1900: The Development of Credit Reporting in the Nineteenth Century (Westport, Conn.: Greenwood Press, 1978); on their utility to historians, see James H. Madison, “The Credit Reports of R. G. Dun & Co. as Historical Sources,” Historical Methods Newsletter 8 (1975): 128–31; and on the cultural assumptions behind credit reports, see the fascinating text P. R. Earling, Whom to Trust: A Practical Treatise on Mercantile Credits (Chicago: Rand McNally, 1890).

I looked up each bankrupt in the published reports of Bradstreet and Dun, and then if necessary in the original Dun manuscript records at Harvard. To my surprise, I fared much better there than in the business directories. Of the 401 bankrupts, 239 showed up in Bradstreet, 143 in Dun (for which my published report was a year earlier than it should have been), and an additional 35 in the R. G. Dun manuscript collection at the Baker Library. When I combined what I had learned from the directories with the credit agency reports, I was able to attach definite occupations to all but 80 of the 401 bankrupts, an astonishing 80 percent rate of record linkage that says a great deal about the national coverage of the New York credit agencies by the 1870s. With the internal evidence of the court cases themselves, I felt confident in assigning occupations to 340 of the bankrupts in the dataset. Where available, I also included credit ratings and the credit agency’s assessment of the size of each bankrupt’s business. Although I did not use this information in the text of this book, it offers an opportunity to test the effectiveness of nineteenth-century credit ratings as predictors of financial stability under panic conditions.

With the dataset of bankrupts complete, I turned to the 19,973 creditors to whom they owed money. Much less information was available about these people, so their computer dataset contained fewer variables: their town of residence, how much money they were owed, and the nature of the debt (mainly whether it was secured or unsecured). Each creditor also received an ID variable linking him or her to the appropriate bankruptcy proceeding. The creditors lived in more than fifteen hundred towns, and in order to map these on a computer, I had to determine the county in which they were located and add that to the dataset as well, using a geographical code that SASGRAPH could use in constructing its cartographic output. With the addition of this geographical information, the creditor dataset was complete.

By merging the datasets for bankrupts and their creditors, I produced a master file in which each case represents a single debtor-creditor pair. From this master, I aggregated debt information to the county level. The working datasets which produced the maps in the text contain information about the total debt for individual counties, and how much of each county’s debt was owed to each of the counties in which its creditors lived. By subsetting these working datasets, I produced maps and statistical analyses showing the geographical distribution of debt-credit relationships by place, by occupational groups, by how wealthy bankrupts were, and by other such variables. SASGRAPH overlaid this information onto a map of modern American counties, the boundaries of which have in some cases shifted since the 1870s. To make sure that the maps in this book correspond to the actual county boundaries of the period, a professional cartographer, Jacques Chazaud, transferred my original computer maps onto a new base map showing county boundaries as they existed at the time of the 1870 census. This base map is from Thomas D. Rabenhorst and Carville V. Earle, eds., Historical U.S. County Outline Map Collection, 1840–1980 (Baltimore: University of Mary-
land Department of Geography, 1984), a superb working collection that should be in the library of every historian and geographer who uses census data and other historical statistics at the county level. I am grateful to Carville Earle and his colleagues for producing the county boundary base maps that appear in the text, and to Jacques Chazaud for his work in reproducing my computer maps in more elegant form. In this context, I should also acknowledge the helpful assistance of the staff of the Yale Computer Center, and the unstinting advice and support I received from my good friend Jan Reiff, who taught me most of what I know about doing statistics on a mainframe computer.

The bankruptcy dataset and its associated maps represent a unique resource for examining regional capital and credit flows in the nineteenth century, but they have many problems, some of which I have discussed in the notes to chapter 6. For instance, one can certainly question the representativeness of bankrupts as an economic group, though I would argue that the bankruptcy maps so clearly fit independent theoretical expectations about the urban hierarchy that they do seem representative at this very high level of aggregation. The various controversies associated with state and federal bankruptcy laws in the nineteenth century undoubtedly produced behaviors among debtors and creditors that varied from state to state, undermining the accuracy of cross-state comparisons. An additional source of trouble was the fact that some of the smaller bankrupts in the dataset were mainly carrying very old debts that dated back to the 1860s or even the 1857 panic, making them not very comparable with bankrupts who became insolvent in the midst of an active business; but since there was no clear principle for eliminating such “old debts,” I chose to include them and live with any slight distortions they might introduce. Perhaps most important from a statistical point of view, the data are frustratingly scattered, with too few bankrupts being located in most places to make trustworthy generalizations about those places. I was lucky that Chicagoans had recourse to the federal bankruptcy law more than the citizens of any other place in the region—but it is of course no accident that they did so, given the size of their city and its role in the urban hierarchy. The 111 Chicagoans who went bankrupt under the 1867 law represented more than a fourth of my entire dataset, compared with 44 bankrupts from St. Louis; 19 from Minneapolis-St. Paul; 10 from Kansas City, Missouri; and far fewer from most other places in the region. The small number of bankrupts from any but the largest cities makes it dangerous to draw conclusions except about very broad patterns in regional debt relationships. I have limited my discussion in the text to broad patterns of just this sort, and feel confident that the urban hierarchy they reveal is a genuine reflection of the city system as it existed at that time.