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Introduction

THEY FOUND THE boys standing in a stream, starving, trying to catch catfish with their bare hands. One of them gave his name as Joseph Burke; he was a Chicago boy, the son of a sheet metal worker. It was obvious what they were doing here, out in the wheat fields of Kansas, but their interviewer, P. A. Speck, asked them anyway. "Chasing the harvest," came their reply—the hobo term for a south-to-north migration, taking job after job on successive farms, following the ripening wheat. "15,000 men were wanted for the harvest fields in South Dakota," Burke had read in the paper: "$3 a day and up, and board." With luck, the season might last months. It was the best money a common laborer could hope to earn.

But things had not gone well since they had seen that ad, as Speck's notebook reads: "Freighted here, Redfield. 5 days here without work. All money is gone. They get their livelihood by begging and fishing, have not stolen anything. Both boys depressed. No work, no money, can't go back; they could freight Westward, but not Eastward." They had stolen their way here, hiding in boxcars, and no one had much cared. But after the harvest, presumed flush with cash, they would be expected to

bribe their way back. "$1 for every division," they said. They had no cash. The year was 1922. Joseph was nineteen years old.[1]

Imagine a "hobo." For many Americans, this is not difficult even today: Popular media occasionally features lonesome railroad travelers, stooped over tin can fires, their beards long and scraggly and the fingers of their gloves cut out—or maybe worn away. They are forever on the move, having cut all ties that bound them to a normal life. Most real hobos were far different—more like Joseph and his companion—cleanshaven, washed, well-dressed, and heartbreakingly young. They were on the road not for the romance of adventure or "finding oneself." Rather, they were there because economic circumstances and environmental disasters had pushed them there.

A roving, itinerant, and usually anonymous poor worker, a hobo was not easy to find. If you knew where to look, though, you would see them all across North America. Hobos risked life and limb working in some of the most dangerous jobs of the industrial United States and Canada. They often drifted from place to place with no apparent purpose or direction. Working for a few days a month, they wandered, hungry, for many more. They often ended up on the wrong side of the law: beaten, arrested, and sentenced in sham trials for no obvious crime beyond looking suspicious. They spoke equally fluently about poetry, Shakespeare, and the impending socialist revolution; their habits and stories captivated, confused, and infuriated readers then and now.

Hobos were also an environmental patch, a safety valve for an industrial America colliding with an unfamiliar climate. And though no one recognized it at the time, they rose with one energy transition and fell with another. Hobos emerged around 1870, alongside the adoption of coal and the steam engine. They faded after 1930, alongside the rise of new internal combustion

engines that relied on oil. Neither of these was a coincidence. Contemporaries thought steam engines were displacing manual labor, but in fact, the practical limitations of steam engines meant they were useless in a dozen different industries. Hobos powered the periphery of the Industrial Revolution. The steam age *intensified* muscle power.

All this might sound quite surprising if one is used to thinking of climate disasters as a present-day, anthropogenic phenomenon or energy as something concerning machines and fossil fuels, not humans. But while the scales involved are quite different, the events in this book follow courses eerily familiar to readers today. Hobos emerged because industrial society needed more manual laborers than ever before in hard-to-reach places with unpredictable environments. They were forever on the move because these needs were only ever temporary, dictated by the vagaries of an unpredictable climate. And they declined when fossil fuels could replace their power in those places—when oil remade worksites to be more predictable and less reliant on manual workers, attenuating muscle power.

This is a history of hobos—an eclectic group of homeless wanderers whose troublemaking, philosophizing, and lawlessness made them a compelling cast of characters. But their lives also challenge some of our basic assumptions about industrial capitalism and, more generally, about how environments shape our societies. The years they were most prominent—1870 to 1930—were some of the most consequential in American history. Though this period gets less attention than the Civil War on one side and World War II on the other, it was just as important—maybe more important—in changing how Americans worked and lived. Through their work, their lives, their travels, and their politics, hobos were at the heart of these changes. Then, very suddenly, they vanished.

The United States' First Migrant Workers

In the United States of the nineteenth and twentieth centuries, migrant work, homelessness, and radicalism intertwined. People had moved for work before, but never on this scale. The speed and frequency of the railroad allowed workers to have truly transcontinental—and intercontinental—ambits. The hobo was a figure unique to American capitalism of this period, created by a particular arrangement of technology, culture, economy, and environment; they were part of a vast remaking of the working class. And these hobos became vital cogs in the system that created a glut of mass-produced material of every kind—industrial capitalism.

From the nineteenth century onward, the United States could be divided into a heavily urbanized core and a much larger, mostly rural periphery. Located in the Midwest and on the East Coast, the core had the vast majority of the steam power and factories; it was wealthier and generally dominant politically; and historians have usually focused most of their accounts of American industrialization on this region. That core contrasted heavily with the South and West—places whose economies were almost entirely reliant on the extraction of natural resources from recently conquered territory, centered on agriculture, mining, and logging. This extraction was inherently settler colonial—based on the seizure of land and extermination of its prior inhabitants, which made the industries both cheap to set up and far more profitable than long-established European farmland, forest, or mineral deposits.[2] But that periphery and those industries were still aggressively industrial and capitalist—that is, they still operated at large scales aided by heavy mechanization, with workplaces organized around wage labor and geared toward profit-maximization. Indeed, cities and the American

core needed a periphery that was specifically industrial, to sate their roaring appetite for raw materials.[3]

The popular idea that the American West resisted modern life and lagged far behind eastern cities is therefore mostly bunk. For one thing, the West was highly urbanized, but moreover, rural spaces transformed at the same time and for many of the same reasons as urban ones, adopting new technologies and seeing wholesale transformations of the workforce and social life.[4] Hobos were part of this change, alongside other laborers who seem similarly quaint, such as cowboys and lumberjacks (and many hobos enjoyed stints as cowboys or lumberjacks in turn).[5] Despite historical fiction casting them as exceedingly old-fashioned, all of these workforces were recent inventions, downtrodden and exploited; they saw themselves as cogs in a capitalist machine and unionized, went on strike, and faced brutal repression as surely as any steelworker.[6] The Wild West and the hobo were both parts—critical parts—of the American Industrial Revolution.

There were perhaps one to two hundred thousand hobos. It is difficult to say exactly how many, not just because few people tried counting but also because the boundaries of the group were porous and highly artificial. It was easy for a poor American to lose their home and become a hobo, and it was fairly common for a hobo to find steady work and rejoin the ranks of the rest of the poor. Hobos were defined by their itinerancy, by stealing rides on rails to find work; they made up a huge segment of the workforce in agriculture, logging, mining, construction, and virtually every other industry in the American periphery (see Figure 1). They paid little attention to state or even international borders. As a result, though their travels mostly concentrated in the American West (between the Mississippi and the Pacific), it was not unusual to see them travel

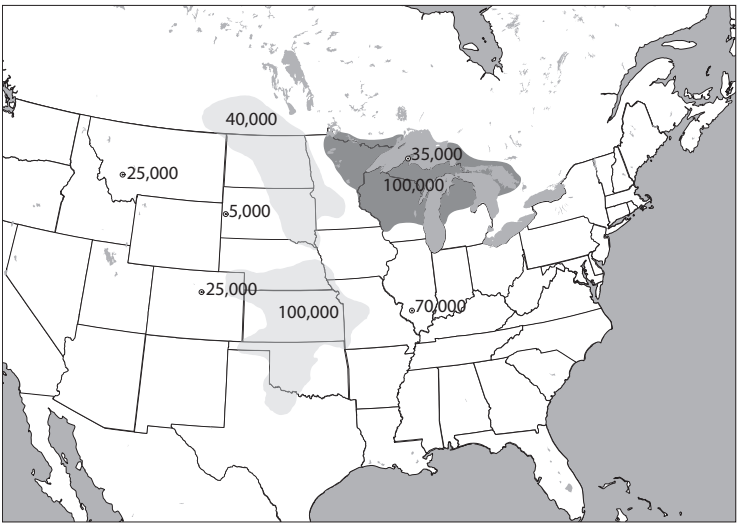

FIGURE 1. Hobo industries, ca. 1910. Areas where wheat growers advertised for hobo harvest hands are shaded in light gray; areas of intensive timber cutting are shaded in dark gray; areas of hobo-employing mines are marked with circles. All numbers indicate employment in an area for an average year in the 1910s, with one hundred thousand in American wheat-growing areas, 40,000 in the Canadian Prairies, one hundred thousand in the North Woods, 55,000 in western mines, 35,000 in Upper Peninsula mines, and 70,000 in southern Illinois coal mines. The much less predictable construction market is not included in this map. Image by author.

to the East Coast or Midwestern cities to find factory work, to the Canadian Prairies or the Yukon, or even across the Atlantic or around Cape Horn on steamers. Perhaps the only part of the United States where the hobo was rare was the South, where agriculture instead relied on the white supremacist structures of sharecropping and Jim Crow—though even here, hobos could be found. Everywhere else, they were vital.

Without hobos, extraction industries simply could not have functioned.[7] Virtually everyone recognized this—bosses and

newspapers often recruited them from hundreds of miles away to work in their camps, and railroads usually turned a blind eye to hobos riding to the harvest or winter logging sites. But communities reviled hobos, seeing them as dangerous and inherently suspicious outsiders, bringing strife to peaceful rural communities. Hobo life became something of a contradiction: "indispensable outcasts" welcomed when there was work and rejected when there was not.[8]

When asked to define themselves, hobos often said a hobo had to be homeless, migrant, and actively working or seeking work. But they feared that if they were not careful, they could easily become "tramps"—nonworking migrants—or "bums"—nonmigrant homeless.[9] Just as easily, someone might stop being a "hobo" if they were hired onto a job for the long term. A diverse group, hobos roughly reflected the ethnic makeup of the country at large and appear to have had a complicated relationship with race. They were also overwhelmingly men. But this latter fact reflects artificial definitions more than anything else; we know that women became migrant workers in the same period, often to feed and clothe the migrant workers who traveled to the harvest or logging camps. Some hobos embraced women in their ranks—and women occasionally rose to infamy or organized labor among the hobo workforce.[10] In general, it does not seem to have taken much for destitute Americans to be pulled onto the road in pursuit of work—or to leave the road and settle in one place.

Yet hobos stood largely apart. They nurtured a rich subculture of storytelling, literature, and song; they harbored extraordinarily radical politics; and of course, they traded techniques for evading police, railroad security, and wider society. Some embraced the life out of a sense of youthful adventure—it was a way to see the country. Others explicitly advocated a

countercultural rejection of wider American society; others still joined the hobo life simply to find work. Men in all these groups lamented their circumstances: Life on the road was difficult and precarious, a constant grind on the body and the mind.

Hobos were unwilling foot soldiers of capitalism. They waged a war they had not planned, for ends that would not benefit them, largely out of social and economic pressures to provide for themselves. By their efforts, industrial society incorporated vast regions in the western half of North America and their natural resources, extracting them with unbelievable speed and rapidity; these resources became pillars of a growing economy and startling technological advances. For all of this, they were paid handsomely but rarely and were beaten and turfed from a town the second they were no longer necessary. They were one of many vast flows of manual labor to peripheries—agricultural, mineral, or forest frontiers—in an era when capitalist industry incorporated many of the last relatively untouched parts of the world.

Steam, Muscle, and Climate Precarity

This book is about the rise and fall of hobos, but it is also about a much larger story of which they are just a part. Both at the time and in retrospect, hobos seemed unusual. But if their wandering set them apart from other workers, it also serves the historian quite well. The changing workplaces explored in this history have been written about before, but disconnected from one another. Hobos connected them, literally and narratively; they make it clear that what appeared to be peculiarities of farming individual crops or lumberjack life or oil drilling are in fact common to virtually all rural work. Energy transitions and climate precarity shaped labor, from the actual nature of

physical toil to the organization of workplaces. Combined, the age of steam and the American West produced a world of migrant manual labor. But so, too, were hobos integral to the age of steam and coal.

Steam transformed human history. For the first two hundred thousand years of the species' life, power had come from muscles, food calories metabolized into power. Even the largest waterwheels, sails, and windmills barely put a dent in energy statistics—if you wanted to get something done, you usually had to convince or compel an animal to do it. The steam engine, by contrast, could instead transform simple heat into movement. Coupled with fossil fuels, that meant cheap power at previously unimaginable scales.[11] This is the basic story—that the Industrial Revolution was one of the most consequential moments in human history. But looking instead at the limits of steam power reveals some very different consequences.

Steam engines were massive. Too heavy to move on roads or over rough terrain, slow to start and stop, they were horrendously unsuited for work in the periphery, where the job often moved over large distances to access new resources (as in forestry), operated in confined spaces (as in mining), required constant adaptability (as in construction), or worked on soft soils (as in agriculture). This did not stop industrialists and inventors from trying—often with comical results. As a result, steam did not eliminate hard labor from the economy—as much as people wished that it would.[12]

But we can actually be much bolder: Steam power transformed manual labor even in places that did not employ it, far from the factory or railroad. Easing transportation and powering ever-larger factories that demanded ever more raw materials, steam power compelled people to work faster and harder to keep up. Workplaces became the sites of astonishing feats of

physical labor; estimates suggest that lumberjacks around 1900 burned 5,000–8,000 calories per day, the equivalent of modern Olympic athletes—and there is good reason to suspect this was true of extraction industries and hobos more generally.[13] Human and animal bodies were reshaped in the pursuit of power and profit, with catastrophic results for the health of individual workers.

These same labor-heavy extraction industries were also highly vulnerable to environmental catastrophe. North American climates are highly variable, particularly toward the center and west; the continent's topography leaves it equally wide open to equatorial and polar air masses, while the western mountains block moisture from the Pacific that might stabilize it. The result is chaos on any scale. Temperature swings of 80 degrees Fahrenheit (roughly 45 degrees Celsius) in a couple of hours are not unheard of on the Great Plains, and rain clouds can famously water one farmer's fields and leave their neighbor's bone dry. Over the long term, droughts are common but unpredictable, lasting years or decades with no apparent pattern to their coming and going.[14] By the same token, one winter might be snowbound and frigid, while the very next might be mild and easy. Far from shelter and reliant on human exertion, every hobo worksite was vulnerable to these shifts. Thus, while the climate of the American West in the nineteenth and twentieth centuries looked very different from the climate catastrophe twenty-first-century readers know, it still played havoc with working conditions, labor markets, and the lives of hobos. In many cases, hobos traveled on a wing and a prayer, stealing rides on the rails out to places where they knew seasonal work *usually* was with little certainty that it actually would be there. Reports of hobos stranded in harvest or lumber towns with no work are common—and they were usually climatically driven.

Might we then reasonably call hobos climate migrants? The label is apt in many ways, and although they moved for other reasons, climatic fluctuations underlay the perpetual mobility of hobo life. A still more precise term for their situation might be "climate precarity." An energy system dependent on mass manual labor and a climate that made those labor needs unpredictable created a periphery with unpredictable, unsteady labor markets. The seemingly aimless wandering of hobos was not senseless; rather, it was a sensible adaptation to labor markets where one could never be sure where the next job came from. This was shaped and exacerbated by the technological, socioeconomic, and legal regimes in place across the American West: Steam railroads facilitated illicit passage, liberal capitalism left workers no social safety net against unemployment, American society valued work ethic to the point of ignoring what might have driven someone to homelessness, and local towns weaponized vagrancy laws to ensure workers moved on when they were no longer welcome. There were other ways to square labor needs with climatic instability, and indeed, other places similar to the American West—notably the east of imperial Russia—employed migrant workers under different political economic systems.[15] In the West, though, hobos had little choice.

Hobo life finally vanished with the next energy transition. Oil-powered internal combustion engines transformed worksites again—engines that used petroleum products rather than steam could be made much more compact, allowing the use of relatively small self-powered machines such as tractors and trucks and eventually even handheld tools. The physical nature of work shifted, as individual workers needed to put far less muscle into their jobs, but so did workplace organization, as specialized training with machines created a gap between "skilled" and "unskilled" work (though of course the latter was

a misnomer—even menial labor has always given ample opportunities for the application of skill and ingenuity in the workplace).[16] The result was growing wage gaps, more hierarchical workplaces, and the general racialization of work in extraction industries. Mexican American labor came to dominate migrant labor circuits in the mid-twentieth century, and though they fought just as hard to resist the denigration and exploitation of their labor, unions abandoned them and explicitly excluded them and the new generations of migrant workers from their ranks. This segregation coincided with the apex of union power in national politics.[17] An energy transition had started to lever apart the rural working class—ultimately with disastrous consequences for poor Americans of nearly every stripe.

Parts of this history very nearly vanished forever. Hobos rarely stayed in one place long, and they often worked without formal contracts or even employer records. Hiring and firing at a moment's notice to meet environmentally driven labor needs, the whole system was extremely ad hoc. Tracing hobos' movements or understanding their lives through the historian's usual documents would be impossible. By the same token, while some hobos wrote novels and autobiographies—most famously Jack London and Leon Ray Livingston—and a few journalists and social workers wrote of their experiences with hobos, the average hobo had no time to write and left little trace in the communities they passed through. A handful of writers traveled among migrants and recorded oral histories from them—giving us a priceless window into the thoughts and everyday lives of individual men and women. Adding to these, this book finds hobos in a few more unusual places, trawling newspaper databases and environmental and economic data to better understand hobo precarity. While newspapers were overwhelmingly hostile to migrant workers, casting them as a

threat to their communities, the sheer ubiquity of these digital sources across space and time gives us a startling new window into hobo movement and work.

Together, they show us that energy transitions had radically reshaped hobo work and life and an unstable climate pushed them into economic and social precarity. The resulting subculture provided opportunities for some—it opened cracks where some could escape the strictures broader society had placed on them. Hobos lived in the physical and economic interstices of capitalism—boxcars and railside camps, odd jobs and informal contracts—places where they could take root and thrive. Hobo life became a haven for queer and gay men, for women hoping to rebel against the patriarchy, and for children hoping to escape abusive homes. But for the majority of hobos, seeking work on the industrial periphery, it was a struggle to merely survive.

And when the age of oil came, it was one without space for hobos in it. Manual labor, certainly, persisted. Muscle power remained a part of American life through the century of oil, an essential underpinning of the vast expansion of standards of living of the twentieth century. Migrant farmworkers harvested the fruit and vegetables that were too delicate for oil-powered machines to pull from the ground. But where the limits of steam had amplified these demands in the age of coal, the specific materiality of oil instead dampened them, and so manual labor retreated to more niche parts of the economy, ones that could not sustain a permanently mobile workforce like the hobo.

Historians like to say that there is no such thing as a true "energy transition"—muscle power, wood, and coal have all continued to play a crucial role in our economies, and so the overall energy history of the United States (and elsewhere) is one of energy additions rather than substitutions.[18] But the history of the hobo suggests that our society does experience

shifting energy usage quite acutely, as types of work can be entirely erased or elided by new fuels and technologies. Perhaps fuels have not been eliminated, but human relationships with them have certainly changed.

Reading Holocene Histories in the Anthropocene

Human history stretches across three geological epochs.[19] The Pleistocene, when the first humans evolved, began about 2.6 million years ago. It was a time of dramatic change—of glaciers advancing and retreating and temperatures tipping from cold to warm to cold again. Then, most of the way through human history, about ten thousand years ago, the Holocene began: a period when the Earth's temperature stabilized around the warmer end of that spectrum. For these ten millennia, the global climate has been unusually steady, providing perfect conditions for agriculture. Finally, sometime in the last few centuries, humanity shifted from being one of many shapers of the Earth to the most prominent one. So ended the stability of the Holocene, and so began the era of the "Anthropocene"—a term that literally means the "human epoch" (though it is hardly an era that was created by all humans equally).

This book is a Holocene history for an Anthropocene reader. In part, that is because although this history predates anthropogenic global warming, environmental effects remained inescapable. The way Americans chose to organize and structure their systems of harvesting, distributing, and consuming energy fundamentally reordered their lives; it changed how much work people needed to do and who ended up doing that work; it changed the relationship of boss to expert worker to common

laborer. Far more than simply choosing the optimal fuel and engine to perform a task, humans found their lives shaped by the things they were working with, rather than the other way around. In researching the lives of hobos, I have come to argue that even a relatively subtle and obscure energy transition—in this case the switch from steam to oil—altered work, home life, travel, urban and rural layouts, and even Americans' relationships with our own bodies.

Much of this follows a new strain of research and thinking in environmental history and the environmental humanities more broadly—neomaterialism. Drawing on fields from neuroscience to Indigenous knowledge, the core idea is that the materials and nonhuman life that a civilization uses are not passive. Put more simply, when you push on the environment, it pushes back.[20] Of course, science, art, architecture, and tools are limited and shaped by the materials we can work with. But the structures of our world also shape our thoughts and even our ideologies. The human mind seems to build ideas through metaphor, symbols, and analogy coupled with pattern recognition, and so the toolbox of metaphor is broadened by exposure to new ideas. Give a person silk for the first time, and the idea of "softness" is forever altered.[21] Make a person work in confined quarters, like a coal mine, and they will think of work and labor struggles far differently than if their only experience of work is an office job.[22] Perhaps, then, as some scholars suggest, societies think very differently about capitalism, socialism, and welfare if a large number of people are engaged as coal miners than if virtually no one is.[23] What, then, did it mean for a society based on steam engine and human muscle power to suddenly be based on something else? What did the physical nature of steam and oil do not just to the economy but to human life?

The last part of this book is devoted to answering those questions. In the process, I hope it adds to the ongoing scholarly conversations around materiality and neomaterialism. One of the principal ways matter shapes our lives is in its many roles as energy carriers and its intersections with our working lives. Energy carriers make up a huge quantity of the stuff we use: Even in the middle of a global shift away from it, we mine more coal by weight than anything other than sand and gravel; the sheer mass of oil and natural gas used in the world is similarly mind-boggling. Crucially, I focus on the ways energy *consumption* reshapes society—affecting workers not only in places like coal mines and oil fields but in places ranging from urban factories to remote forests and wheat fields. Changing energy carriers made (most) rural work less physically demanding and less egalitarian, made us more removed from our energy supply and generally more removed from the dirty world of work (both our own and others'), and seems to have altered how we code masculinity. The material changes in energy consumption, I argue, had a large effect on politics and power in the twentieth-century United States, playing a significant role in its leftward turn in the first half of the twentieth century and its rightward lurch after.

All this, at times, wanders quite far afield from the humble hobo. I do not intend this book to be a comprehensive chronicle of this era of migrant labor, and some delightful episodes in hobo history are given short shrift or omitted entirely. But in their many guises—as harvest hand, lumberjack, railroad stiff, tramp, homeless vagabond, storyteller, labor organizer, and more—the hobo allows us to understand things about American society that more sedentary subcultures simply would not. Hobos delighted in the sheer pleasure of traveling but were not particularly attuned to the wider environment. Still, their work gives us eyes to see virtually everywhere.

Hobos lived in a globally stable climate. And though their work contributed greatly to the carbon emissions that would eventually prove catastrophic, the climate disasters they faced had nothing to do with this. They resulted from the fact that North American atmospheres blended a cacophony of winds and air masses into a single, highly variable whole. By the same token, the energy systems that employed hobos did not much resemble the ones we have today. But just as hobos found their work, their lives, and even their ideologies reshaped by their environment, in unpredictable and unforeseeable ways, so, too, do we.

The very things that made hobos oddities in their own time would make them at home in the world we appear to be building. The hobo offers us an example of how societies adapt to environmental stresses in a legal and economic system quite similar to the present. Their adaptations that were most successful—mutual aid and organizing within and beyond the workplace—and their greatest weaknesses—racial divisions and an incomplete welfare bargain—are valuable in themselves, as testament to how people in the past struggled and survived. But they might also tell us something more. Because while direct analogies may be imperfect, it is these pieces of the Holocene, times and places most like our own, that are most likely to give us a sense of what climate precarity looks like. In this time and this place, the climate was dangerously variable, the energy system in transition, and workers bore the brunt of the costs. Stay cognizant of the differences, because the similarities are hard to miss.

There is an unfortunate note of inevitability that creeps in whenever a historian proposes that environmental, nonhuman forces have agency apart from our own and influence our lives. In this story, it is possible to read hobos (and the working class)

as being buffeted by winds of change from the material world and a chaotic climate. In this pessimistic reading, capitalists and employers had some control, perhaps, but the workers had none—which is hardly encouraging for those reading it from the present day. But I do not think this is correct.

Rather, the environmental and economic changes detailed here opened up new and different sites of political contest than before. Hobos fought tooth and nail to secure labor rights, and they were at times quite successful (lumber camps being the most spectacular example). Climate precarity in work and the later atomization of workplaces by oil shifted the lines of battle, but they did not put the struggle out of reach. Instead, labor and the Left ultimately failed in the twentieth century for entirely political reasons—they refused to organize across racial and gender lines. Tragically, this stubbornness coincided with environmental shifts that had pushed these divisions to the fore.

When I began writing this book, the world felt far different than it does today. The unfolding climate catastrophe has fallen quite close to home for me, with my hometown, once rated as one of the most insulated places from environmental disaster, experiencing an accelerating cascade of freak weather events that have made it easier than ever to read apocalypse into the landscape. In our own era of climate catastrophe and energy transition, precarious labor and worn-out bodies, the hobo seems startlingly relevant. As a rule, historians do not like to use the past to forecast the future, but the ramifications that climate and energy had on hobos—often unexpected, almost always amplifying some of the worst tendencies of industry and the existing labor markets—are worth understanding. It is unlikely that they will be repeated exactly today. But the question is well worth asking whether the same conflicts, patterns, and problems will surface once again.

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